



Report and Recommendation of the President to the Board of Directors

Project Number: 35197
October 2005

Proposed Loan
Democratic Socialist Republic of Sri Lanka: Technical
Education Development Project

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 14 October 2005)

Currency Unit	–	Sri Lanka rupee/s (SLRe/SLRs)
SLRe1.00	=	\$0.009
\$1.00	=	SLRs101.25

ABBREVIATIONS

ADB	–	Asian Development Bank
A/L	–	advanced level
B.Tech.	–	bachelor of technology
B.Tech.Ed.	–	bachelor of technical education
CBT	–	competency-based training
CoT	–	college of technology
DTET	–	Department of Technical Education and Training
EMIS	–	education management information system
FTEP	–	First Technical Education Project
GCE	–	general certificate of education
HNDE	–	higher national diploma in engineering
ISC	–	industry sector council
M&E	–	monitoring and evaluation (M&E)
MSDVTE	–	Ministry of Skills Development, Vocational and Technical Education
MTR	–	midterm review
NAITA	–	National Apprentice and Industrial Training Authority
NDT	–	national diploma of technology
NITESL	–	National Institute of Technical Education Sri Lanka
NVQ	–	national vocational qualifications
O&M	–	operation and maintenance
O/L	–	ordinary level
OBB	–	output-based budgeting
OUSL	–	Open University of Sri Lanka
PIU	–	project implementation unit
PSC	–	project steering committee
SDP	–	Skills Development Project
SLIATE	–	Sri Lanka Institute of Advance Technical Education
SOE	–	statement of expenditure
STEP	–	Second Technical Education Project
TC	–	technical college
TEDP	–	Technical Education Development Project
TEVT	–	technical education and vocational training
TOR	–	terms of reference
TVEC	–	Tertiary and Vocational Education Commission
Univotec	–	University of Vocational Technology
VTA	–	Vocational Training Authority

NOTES

- (i) The fiscal year of the Government ends on 31 December.
- (ii) In this report, "\$" refers to US dollars.

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- B. Economic and Financial Analysis
- C. Ethnic Minority Development Framework
- D. Resettlement Framework
- E. Gender Action Plan

LOAN AND PROJECT SUMMARY

Borrower	Democratic Socialist Republic of Sri Lanka
Classification	Targeting classification: General intervention Sector: Education Subsector: Technical education, vocational training, and skills development Themes: Inclusive social development Subtheme: Human development
Environment Assessment	Category C
Project Description	<p>The Project supports the Government's strategy to close the gap between supply of and demand for technicians and technologists by (i) strengthening colleges of technology (CoTs) to offer technician education; (ii) strengthening the Ministry of Skills Development, Vocational and Technical Education (MSDVTE) and relevant institutions to support a market-responsive technical education and vocational training (TEVT) system; and (iii) establishing the University of Vocational Technology (Univotec), which will focus on technical and technological education. The Project will build on the outputs of the Asian Development Bank (ADB)-assisted Skills Development Project (SDP), particularly the national vocational qualifications (NVQ) framework.</p> <p>The Project will develop new technician diploma programs within the NVQ framework and upgrade six technical colleges (TCs) to CoTs in six out of nine provinces to conduct the programs. The Project will strengthen MSDVTE and relevant institutions so they can facilitate, support, and ensure quality, efficient, and sustainable TEVT, focusing on NVQ levels 5–7. The Project will help the Government establish Univotec, which will address the shortage of technologists and qualified instructors for TEVT, and provide an alternative education and career pathway for students and TEVT sector personnel, leading to a degree. The Project will, among others, develop degree programs leading to a bachelor of technical education (B.Tech.Ed.) and a bachelor of technology (B.Tech.), and upgrade the facilities and equipment of institutions comprising Univotec so it can offer these programs.</p> <p>The Project complements the assistance of development partners in upgrading TCs in other provinces to offer technician diploma programs, and in establishing Univotec.</p>

Rationale

The Government is reducing unemployment and responding to the changing labor market by combining short- and medium-term strategies. In the short term, the Government is exploring the possibility of expanding local and foreign skilled and semiskilled employment while, over the medium term, according high priority to manufacturing-based growth with increased foreign investment. This strategy requires highly trained labor, including technicians and technologists, who are in short supply.

Locally, the supply of technicians and mid-level professionals is falling short of demand, while Sri Lanka has been unable to fill a significant portion of job orders abroad for mid-level and skilled (and higher-wage) worker categories, whose proportion among overseas Sri Lankans is increasing.

Despite the large supply–demand gap, unemployment, especially among educated youth, is high. The large number of school leavers lack the skills for jobs or self-employment. These youths could be employed in industry if they were trained in relevant technical and vocational skills.

TEVT at the technician and technologist levels is underdeveloped and cannot produce enough qualified skilled workers for either the domestic or foreign market. TEVT needs to expand access to training programs throughout the country while increasing the quality and market relevance of its programs; improving the qualifications and numbers of TEVT teaching-training personnel, particularly for technician and technologist programs; allocating financial resources to run training programs after the Project; and upgrading TEVT's social image.

Impact and Outcome

The Project will develop more mid-level and highly skilled human resources to contribute to economic growth and social development.

The Project's envisioned outcome is improved access and strengthened capacity of TEVT to meet labor market needs.

Cost Estimates

The total project cost is estimated at \$26.7 million equivalent, including taxes, duties, interest charges on the ADB loan, and physical and price contingencies. The foreign exchange cost is estimated at \$9.9 million (37%), and the local currency cost at \$16.8 million (63%) equivalent. The loan will cover 75% of the total project cost. ADB will fund 100% (\$9.9 million) of the foreign currency cost and 60% (\$10.1 million equivalent) of the local currency cost. Interest during project implementation will be capitalized. The remaining \$6.7 million equivalent of the local currency cost will be provided by the Government.

Financing Plan

Source	(\$ million)			Percent
	Foreign Exchange	Local Currency	Total Cost	
ADB	9.9	10.1	20.0	75
Government	0.0	6.7	6.7	25
Total	9.9	16.8	26.7	100

ADB = Asian Development Bank.

Source: ADB estimates.

Loan Amount and Terms

A loan of SDR13,605,000 (\$20 million) equivalent from the Special Funds resources of ADB will be provided. The loan will have a term of 32 years, including a grace period of 8 years, an interest rate of 1.0% per annum during the grace period and 1.5% per annum thereafter, and such other terms and conditions set forth in the draft loan agreement.

Estimated Project Completion Date

28 February 2011

Period of Utilization

31 August 2011

Executing Agency

Ministry of Skills Development, Vocational and Technical Education (MSDVTE)

Implementation Arrangements

A project steering committee (PSC) will direct the Project, monitor its activities and outputs, guide the project implementation unit (PIU), and coordinate and liaise with other government agencies and departments.

The MSDVTE secretary will chair the PSC, whose members will comprise representatives from the Ceylon–German Technical Training Institute; Department of Technical Education and Training; National Apprentice and Industrial Training Authority; National Institute of Technical Education of Sri Lanka; Tertiary and Vocational Education Commission; Vocational Training Authority; Univotec; Ministry of Education with responsibility for higher education; and External Resources Department, Department of National Planning, and Department of National Budget of the Ministry of Finance and Planning. The PSC will have at least four representatives from industry and employers, as well as two rotating representatives of project CoTs. The SDP PIU will continue to exist and will be responsible to the PSC for day-to-day project implementation. The PIU will be led by a project director.

Procurement

ADB-financed goods, related services, and civil works will be procured in accordance with ADB's *Guidelines for Procurement*, reflecting ADB's anticorruption policy and mandatory use of ADB's standard bidding documents.

Consulting Services

The selection and engagement of all project-financed consulting services will be in accordance with quality- and cost-based selection using ADB's *Guidelines on the Use of Consultants* and other arrangements satisfactory to ADB for the engagement of domestic consultants. A team of consultants will provide services in a range of specializations, with estimated international inputs of 99 person-months and domestic inputs of 270 person-months. These services will be provided by a consulting firm and will be selected according to ADB guidelines.

Project Benefits and Beneficiaries

The Project will strengthen and expand the capacity for technician and technological education. The Project will raise the quality, relevance, and sustainability of the programs for technicians and technologists by developing training and program standards; upgrading selected TCs to CoTs; and strengthening the capacity of TEVT teachers, trainers, personnel, and administrators.

The development of the NVQ for technicians and technologists will help institutionalize an alternative education and career path, particularly for school leavers, in technical and technology education leading to a degree. Establishing a voluntary national association of TEVT providers and industry sector councils will increase the market orientation of training programs.

The Project will help reduce high unemployment and underemployment among the educated youth, and increase access to postsecondary education and training by establishing Univotec and CoTs, and by upgrading TCs to CoTs outside Colombo.

Social marketing and career guidance will focus on promoting technology-based employment, increasing public awareness of technological career paths, and marketing training programs to women. The introduction of new training programs, including fields that are not traditionally male-oriented, will attract women to technician programs. The new degree and diploma programs will be alternative career options to fulfill personal aspirations for higher education, particularly for those who do not qualify for university admission.

Coupled with MSDVTE's strengthened capacity to ensure relevance, quality, and efficiency of TEVT, technician and technological education will create skilled workers for domestic industries and the foreign labor market. The direct economic benefits are (i) increased domestic production because of the greater use of human capital, which will be reflected in wage increases of the graduates employed in domestic industries; and (ii) increased remittances in foreign exchange from graduates employed abroad.

Annual enrollment intake capacity of technician diploma programs is expected to increase by about 2,400 full-time and part-time students. Similarly, Univotec is expected to have an annual enrollment intake capacity of about 600 full-time and 600 part-time students in the technologist program, and about 300 full-time and 300 part-time students in the technical teacher education program. Over the 15-year evaluation, about 15,300 more youths are expected to graduate with a B.Tech. (9,900) and a B.Tech.Ed. (5,400) from Univotec, and about 22,500 with CoT diplomas.

Risks and Assumptions

The political conflict is a major risk to achieving the Project's goals. Without peace and stability, the local economy may not advance and could cause local demand for technicians and technologists to stagnate. However, demand for mid-level and skilled workers overseas would remain strong.

The turnover of personnel in MSDVTE and its institutions contributes to unstable, sometimes weak, TEVT leadership and administration. The project design includes strengthening the capacity of officials to ensure continuity in leadership. Private sector participation in various councils will help them sustain TEVT programs while making training programs more relevant.

As the Government provides free training programs and small stipends to trainees, the sustainability of the project investment after implementation depends on the Government's provision of an adequate operation and maintenance budget. The Project will thus support a policy dialogue on financially sustaining project activities after implementation. The capacity of CoT heads for strategic planning to generate TEVT revenues will be strengthened.

The implementation of TEVT loan projects suffered from, among others, delays and complex problems brought about by the transfer of project responsibility from one ministry to another, lack of counterpart funds, and slow appointment of qualified project staff. The Government has reassured ADB that it is committed to the Project and will allocate the necessary counterpart funds. The SDP PIU staff may continue with the Project, minimizing the risk of slow implementation. Qualified instructors and trainers are assumed to be available. The Project includes flexible upgrading of staff skills and knowledge. Government can hire temporary staff as needed. The implementation of Univotec activities risks delayed approval, if not non-approval, of the University Act by Parliament. The Government has reassured ADB that it is deeply committed to support the Univotec charter.

The Project's environmental impacts were reviewed and no adverse impacts are anticipated. The Project is unlikely to trigger ADB's involuntary resettlement policy. No adverse impacts on indigenous peoples are anticipated.



I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to the Democratic Socialist Republic of Sri Lanka for the Technical Education Development Project (the Project).

II. RATIONALE: SECTOR PERFORMANCE, PROBLEMS, AND OPPORTUNITIES

A. Performance Indicators and Analysis

2. Sri Lanka's human development indicators are the highest in South Asia. The adult literacy rate is 91%, and the net enrollment rates are 95% in the primary and 85% in the secondary grades. Half of all students are female. However, despite these significant achievements and having an educated and highly trainable population, the unemployment rate among those educated to general certificate of education (GCE) ordinary level (O/L) is 13% and to GCE advanced level (A/L) 17%, which are greater than the national average of 8.5%. Most Sri Lankans (85%) live in rural areas. As of 2002, poverty was more prevalent in rural areas (25%) and in the estates (30%) than in urban areas (8%).

3. Over 300,000 GCE O/L and GCE A/L students annually are not able to continue their education because of limited places in colleges and universities.¹ Grade-11 and -13 school leavers lack the skills to get jobs or be self-employed. Students who are unable to continue to grade 12 (A/L) can directly apply for admission into technical education and vocational training (TEVT) programs, such as craft courses, where the entry requirement is GCE O/L pass. With GCE A/L examination passes in the required subjects, students can apply to programs leading to national diplomas and a degree in technological education. However, GCE A/L graduates are less likely to acquire technical skills as their goal is to acquire traditional university education qualifications. GCE O/L graduates are more likely to go into trades and technical training.

4. Armed hostilities ceased in 2002, increasing political stability and accelerating rehabilitation, reconstruction, and recovery. From negative growth in 2001, Sri Lanka posted an annual average of 5.1% real economic growth rate in 2002–2004. The four largest economic sectors, by contribution to the gross domestic product (GDP), are trade and hotels, manufacturing, agriculture, and transport and communications. Over the past 6 years, the share of agriculture has decreased while that of transport and communications has trended up. Trade and services has remained steady at 25.7% and manufacturing at 17.4%, and grew faster than the general economy in 2003–2004. Sri Lanka receives significant income in the form of remittances from Sri Lankans working as expatriate workers—7.5% of GDP in 2004.

5. As the share of agriculture shrinks, available jobs are declining and pressure is mounting to create jobs in other domestic sectors, which require higher skills. However, labor market data and projections point to short supply of technicians and associate professionals. Projections for 2006–2007 indicate a total shortfall of over 14,000 positions in manufacturing, construction, transport and communications, and other sectors. Abroad, competition between Sri Lankan and domestic workers seems to be fierce. At the same time, Sri Lanka is unable to fill job orders for mid-level and highly skilled (and higher-wage) worker categories, whose share of the job orders is increasing. In 2003 alone, of the job orders for 20,980 skilled positions, only 8,987 were filled.

¹ In 2001, of the 456,829 who sat for O/L examinations, about 273,000 (60%) did not qualify to continue on to A/L education. Of the 198,509 candidates who sat for the A/L examinations, 98,329 (50%) qualified for university, but only 11,962 were admitted; thus, 186,547 of the A/L candidates could not proceed to university.

About 1 million Sri Lankans, or 15% of the employed, are abroad, most of whom are working as unskilled and semiskilled workers, particularly as housemaids.

6. The Government is responding to unemployment and the changing labor market by combining short- and medium-term strategies. In the short term, the Government is exploring the possibility of expanding skilled and semi-skilled foreign employment while, over the medium term, according high priority to manufacturing-based growth with increased foreign investment. This strategy requires highly trained labor, including technicians and technologists, who are in short supply.

B. Analysis of Key Problems and Opportunities

7. To meet the need for technicians and technologists and for higher education, TEVT, particularly technician and technological education programs, needs to be more accessible. Programs need to be of better quality, more relevant, and more sustainable, and their social image must be enhanced. The TEVT sector analysis is in Appendix 1.

8. **Provision of Technical and Technological Education.** Postsecondary technical and technological education is relatively underdeveloped. The large investments needed to put up such facilities hinder the establishment of more institutions, both public and private. Diploma programs cater to those who have GCE A/L qualifications, with good marks in mathematics, physics, and chemistry. These programs are 3–4 years long, including on-the-job training. Diploma programs in technical and technological education are conducted by at least four recognized institutions, all clustered in Colombo and not accessible to many potential student-trainees. These programs are funded by the Government and include nominal daily allowances to students. Although training institutions outside Colombo do not offer technician- and technology-related diploma programs, some technical colleges (TCs) can be upgraded to do so. There are 37 TCs throughout the country's nine provinces.

9. Excluding the Open University of Sri Lanka, institutions offering technician programs in 2003 took in about 700 students-trainees and graduated 563 technicians. The technologist program is offered by the university and, in 2002 and 2003, took in a total of 522 students and graduated 29. The numbers of graduates are much lower than the local labor market requirements for technicians and higher-level skills, not to mention overseas demand for technicians. The training output for higher-level technical skills is disproportionately low compared to the enrollment in craft and operator courses, or a ratio of about 1:50 to craft skills, which is far from the normal proportion (1:5 to 1:10). Capacity to develop higher-level technical skills is low and cannot respond to private sector requirements and global competition. The development and promotion of the technical education system must be accelerated.

10. **Technician Standards and Quality Assurance Mechanisms.** There are no operational program standards for technicians that can be used as curriculum bases in TEVT institutions; there are also no institutional standards for TEVT institutions, private or public. Levels 5–7 of the national vocational qualifications (NVQ) framework are yet to be developed. Quality assurance mechanisms for the technician and technologist programs need to be put in place. Although there is a registration system for training providers, it requires refinement and wider implementation. The Tertiary and Vocational Education Commission (TVEC), which is mandated to provide quality assurance to the TEVT system, needs to be strengthened in audit of programs and institutions to ensure that they comply with TEVT accreditation standards.

11. When they complete their training, trainees should be able to find jobs. Training programs should be relevant, responding to the needs of the industry and employers. However,

during project preparation, employers and their associations were dissatisfied with TEVT at most levels. Industry and employers must be closely involved in identifying training program offerings, setting program standards, validating curricula, and making other decisions relating to TEVT. This would raise their interest in recruiting graduates from government TEVT institutions. Heads of training institutions should undertake strategic planning and management and collaborate more with industry and employers to make programs more responsive to the market. Government regulations affecting the decision making of upgraded training institutions should be reviewed, to identify responsibilities that can be decentralized.

12. **Number and Qualifications of Teaching Personnel.** Overall, teaching personnel are neither sufficient in number nor sufficiently qualified, particularly for technician programs. In 2002, only 62% of the allocated posts in the four major TEVT providers were filled, mainly because of the hiring freeze in the Government. Visiting or part-time staff are hired to augment academic staff. The student–teacher ratio based on enrollment is about 32:1, which needs to decrease to improve quality.² A recent study conducted by TVEC³ on the training staff in major public providers, including TCs, revealed that about 79% of staff members have a diploma or lower and possess mainly a 6-months technical certificate or a 2-year technical diploma. Half had teacher training of less than 3 weeks and about 36% had no pedagogical training. Only 13% had industrial training after joining the public service. Most teachers lack trade skills and industrial experience, methods and psychology of learning, student assessment and evaluation methodologies, and teaching practicum. The facilities for technical teacher training are limited and are only in Colombo. No institution addresses preservice education of TEVT teachers. No degree programs raise the qualifications of technical teachers to the professional level to address the lack of teaching skills, the need to upgrade technical knowledge, and the need to improve qualifications for higher pay. In mid-2005, as part of the Government's mass recruitment, MSDVTE recruited degree holders, some of whom will be instructors in training programs, helping fill posts, but many require pedagogical training. Recruitment and retention of teachers and instructors is hampered by low pay, which is aggravated by the lack of opportunities to improve qualifications.

13. **Financial Sustainability.** As the Government provides free training, expanding TEVT through new technician and technologist programs will require more money. A strategy should ensure that training programs receive adequate resources, run efficiently, and are conducted in a sustainable manner. Resources should be linked to outputs to ensure that the quality of training programs and trainees is not compromised and that TEVT investments in facilities and equipment are not wasted. More resources are needed to purchase consumable training materials; run, maintain, and repair training equipment; and procure learning materials.

14. **No Alternative Paths to Higher Education.** The problem of upgrading teachers' knowledge and qualifications is aggravated by the absence of options for upward mobility within the TEVT system, hampering its potential to create jobs, build skill-based competitiveness and human capital, and attract and develop students with vocational aptitude and the appropriate attitude. The capacities of conventional universities are limited and mostly oriented toward academic pursuits leading to white-collar jobs. In general, there is no systematic link between TEVT and the higher education system for vertical mobility toward life-long learning and

² ADB. 1999. *Impact Evaluation of the Technical and Vocational Education Projects in Malaysia, Pakistan, Papua New Guinea, and Sri Lanka*. Manila.

³ Tertiary and Vocational Education Commission, Ministry of Tertiary Education and Training. 2003. *The Study on Manpower Situation and Training Needs Analysis of the Trainers in Major Public Sector Training Agencies*. Colombo. The study had 1,774 respondents.

alternative career paths. The adoption by the Government of the NVQ framework⁴ in TEVT allows O/L and A/L students to pursue technical-oriented careers and receive higher education while employed. The NVQ classifies TEVT courses according to skills standards; the NVQ's apex is the achievement of a degree by an O/L student. Appendix 2 summarizes the NVQ framework.

15. **Social Image.** TEVT has a poor social image. As potential applicants into the current technician training system have completed GCE A/L, most are qualified for university admission. Technician training in whatever form under the current system does not lead to a degree. The demand for degrees is high, which is unlikely to be filled by the current university system. During project preparation, discussions with students focused on degrees and not on technology or work. GCE O/L students, however, are not eligible for diploma studies and are not informed of their alternatives. Families need to know the economic opportunities awaiting technicians. To attract more women to training programs that will allow them to earn higher incomes, the attitude toward female participation in the technician profession needs to be improved.

16. **Government Strategy.** The Government recognizes the need to develop skills and adopt international best practices to increase Sri Lanka's competitiveness and improve the employability of its workforce locally and abroad. The Government has planned to strengthen the intake and output of education and TEVT institutions. To upgrade TEVT personnel's knowledge and skills, and to provide alternative higher education, the Government is planning to (i) upgrade one TC in each of the nine provinces to a college of technology (CoT), which will offer technician diploma programs; and (ii) develop an alternative higher education pathway, focusing on technical education and technology, by establishing the University of Vocational Technology (Univotec), which will be the apex TEVT institution in the country.

17. **ADB Strategy.** ADB's education and training strategy in Sri Lanka⁵ is consistent with the Government's priorities. ADB's country strategy supports the development of TEVT to reduce high youth unemployment and develop high-level human resources to achieve skill-based competitiveness. ADB supports the improvement of relevance, effectiveness, and efficiency of the technical and skilled workforce.

18. **External Assistance.** ADB is one of the largest providers of external assistance to education and training, with investments of about \$233 million in eight projects over the past 23 years. Three of the projects were for technical education and skill development (Appendix 3). They were designed to address problems confronting TEVT and have helped build and strengthen TEVT capacity to serve expanding training requirements. Past projects developed standards and training programs, built capacity of training-teaching staff and administrators, established technical teacher training facilities, and updated training facilities and equipment.

19. Development partners have committed to upgrade four CoTs and develop Univotec. TC-Jaffna will be upgraded by the Korean International Cooperation Agency (KOICA), and three technologies will be upgraded in TC-Maradana by the Japan International Cooperation Agency (JICA), while one CoT each in the Eastern and Southern provinces will be confirmed for assistance by other development partners. Univotec will receive assistance from the German Technical Cooperation (GTZ) in applied advanced technologies.

⁴ NVQ framework development was one of the activities of the ongoing Skills Development Project; ADB. 1999. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Democratic Socialist Republic of Sri Lanka for the Skills Development Project*. Manila.

⁵ ADB. 2004. *Sri Lanka: Country Strategy and Program Update (2005–2006)*. Manila; ADB. 2003. *Sri Lanka: Country Strategy and Program (2004–2008)*. Manila.

20. **Lessons Learned.** ADB's assistance to TEVT started in 1982. Two projects⁶ have been completed while the Skills Development Project (SDP) is ongoing; the proposed Project is the fourth TEVT project. Appendix 4 summarizes lessons learned from TEVT projects in other countries and in Sri Lanka, which have been incorporated in the proposed project design.⁷ While the SDP supports programs in vocational training, the lower half of the qualifications framework, the Project will assist the upper half. The Project builds on the NVQ framework developed with the SDP's support. To ensure the relevance of training programs, project preparation included consultations with industries in different regions to identify their current and emerging needs. The Project proposes to develop the technician programs with industry and employer input to ensure that relevant skills and knowledge are imparted. As the Government provides free education and training until the first degree, and fee-levying is a sensitive issue, charging fees from students and trainees will not necessarily be the first recourse for financial sustainability. The Project will review the regulations of the Government; of the Ministry of Skills Development, Vocational and Technical Education (MSDVTE); and of the Department of Technical Education and Training (DTET) to identify which responsibilities can be decentralized to help make training programs more efficient and sustainable. The Project will train senior personnel of CoTs in strategic planning, industry partnerships, and training needs assessments, and develop and implement output-based budgeting (OBB) for CoTs.

III. THE PROPOSED PROJECT

A. Impact and Outcome

21. The Project's impact will be the development of more mid-level and highly skilled human resources who will contribute to economic growth and social development. The Project supports the Government's poverty reduction strategy and economic goals by improving the country's skill-based competitiveness.

22. The Project's envisioned outcome is improved access and strengthened capacity of the TEVT system in technical and technological education to meet labor market needs. The Project will help the Government close the gap between the supply of and demand for technicians and technologists by helping (i) upgrade TCs to CoTs to offer new technician diploma programs, and (ii) establish Univotec to offer new technical education and technology degree programs.

B. Outputs

23. The Project will have three outputs: (i) CoTs strengthened to offer technician education, (ii) MSDVTE and relevant institutions strengthened to support market-responsive TEVT, and (iii) Univotec established and made operational. The design and monitoring framework is in Appendix 5.

24. The Project complements and builds on the SDP outputs. The Project will develop the NVQ framework by adding the program standards of NVQ levels 5–7 (technician to technologist) to the SDP-initiated skills standards of levels 1–4. The Project will involve industry

⁶ ADB. 1982. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Democratic Socialist Republic of Sri Lanka for the Technical Education Project*. Manila; ADB. 1988. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Democratic Socialist Republic of Sri Lanka for the Second Technical Education Project*. Manila.

⁷ Footnote 2; and ADB. 2004. *Improving Technical Education and Vocational Training: Strategies for Asia*. Manila.

in standard and curriculum development and in providing direction to training institutions by establishing industry sector, advisory, and sectoral councils, among others.

1. Component 1: Strengthening Colleges of Technology in Technician Education

25. This component will support the Government's strategy of upgrading one TC in each province to a CoT, which will offer technician diploma programs and make technical education more geographically accessible. The proposed education and training pathway to technician diplomas is illustrated in Appendix 6. CoTs will have delegated authorities and, as the flagship TEVT center in its province, provide technical support to the smaller TCs with less resources. Training programs will primarily meet domestic labor market needs and, secondarily, foreign demand. The Project will help upgrade six CoTs (project CoTs), namely, Anuradhapura CoT, Badulla CoT, Kandy CoT, Kurunegala CoT, Maradana CoT, and Rathnapura CoT. Development partners will help upgrade three CoTs in the three other provinces. The annual enrollment intake capacity of technician diploma programs is expected to increase from the current 600 students to about 1,500 full-time and 1,500 part-time students; the additional students will not be required to have GCE A/L qualifications for admission.

a. Strengthening Administration and Operations Systems

26. To improve the operational efficiency of CoTs, the Project will help develop and install systems and procedures, including related manuals and handbooks, on governance and administration, planning, monitoring, and management and information systems according to the institutions' vision and goals. The systems and procedures will cover budgeting, student registration, and alumni registration. The Project will train about 24 nonacademic and administrative staff in these systems and procedures and in budgeting, planning, and financial management. CoTs are expected to develop, among others, their own annual budgets, calculate their unit costs, and eventually implement OBB. The Project will provide the project CoTs with consultancies; training and workshops; and procurement of equipment, software, and materials.

b. Strengthening Strategic Management

27. The objective of this subcomponent is to strengthen the capacity of each CoT to develop and implement strategic plans in response to the needs of employers, the manufacturing and services sectors, industry, and the region it is serving. Advisory councils will be established for each CoT and will have at least 60% representation from employers, the manufacturing and service sectors, and industry. The Project will orient members of advisory councils in strategic planning for TEVT. The Project will strengthen the capacity of about 18 CoTs officials to undertake strategic planning, business development, and entrepreneurial management, to serve economic and investment needs and priorities, in close consultation with regional development bodies and businesses. The training will include (i) management and planning for a market-responsive institution, (ii) development and promotion of demand-driven part-time education and training programs, (iii) training needs assessment in industries and communities, (iv) building partnerships with employers for training, exploring subcontracted production to enhance training, and (v) writing project proposals and bidding documents. The Project will provide for consultancy and study tours to model institutions abroad for international benchmarking and networking.

c. Developing Student Selection Procedures and New Curricula

28. CoTs will be offering new technician diploma programs within the NVQ framework. These programs will not require GCE A/L passes for admission; thus, students may come from diverse academic and training backgrounds. The Project will help develop a student selection system that will consider the varied backgrounds of applicants. This will include identifying knowledge gaps and recommending bridging programs to be offered by CoTs and other training providers. The system will include a technician aptitude test, which the Project will develop and validate. The Project will provide consultancies, training and workshops, equipment, and materials.

29. The Project will help develop 12 new technician program curricula according to TVEC-approved standards and the NVQ framework. The indicative list of technologies in which technician programs may be offered includes biomedicine, ceramics and clay, civil technology, electricity and power, electronics and communication, electronic imaging and printing, farm machinery, food technology, information and communication, jewelry design and manufacturing, marine technology, refrigeration and air-conditioning, and welding and fabrication. Appropriate benchmarked curricula from the international technician training market will be identified and acquired; where necessary, curricula will be developed according to program standards. Three bridging programs will be developed. The Project will establish sectoral councils to validate technician curricula. A system to monitor and evaluate the performance of programs and students will be developed. The Project will provide for consultancies, the development and acquisition of curricula, learning and multimedia materials, software, and office equipment.

30. Training partnerships with industries may involve the development of part-time and modular training programs for employees and managers to upgrade their skills and qualifications. Part-time courses will be an important source of revenue for TEVT. In collaboration with industries, the Project will help develop training modules of varying duration to be offered as fee-charging part-time courses.

d. Upgrading Facilities and Equipment

31. The Project will provide for the procurement and installation of equipment in project CoTs that will match the curricular requirements of technician programs and meet TVEC-endorsed skill and program standards. The programs' equipment needs will be reviewed vis-à-vis the equipment stock of these institutions, after which a list of necessary curricular training equipment will be prepared. Equipment will be of the generic type approved by industry sector councils (ISCs). A facilities and equipment operation and maintenance (O&M) plan will be developed. Teaching and technical staff will be trained in O&M of equipment and facilities in project CoTs.

32. The Project will support the renovation of physical facilities of each project CoT. A physical facilities development plan will be developed. It will identify minor facilities renovations, if any, needed to provide technician training as per the endorsed standards, curricula developed to meet those standards, and equipment purchased to support the curricula. The Project will support these renovations, which will be minor and may cover workshops, laboratories, offices, electrical power, water supply, and lighting.

e. Upgrading the Skills of Teaching Personnel

33. The qualifications, knowledge, and skills of CoTs teaching personnel will be upgraded to teach new curricula in the context of any new equipment acquired or new training program

areas offered. The Project will provide consultancies and financial resources to prepare and implement a staff development plan. The Project will support upgrading of (i) educational qualifications of teaching and training staff and (ii) technical and industrial skills of technical teachers in existing and new technologies. Activity (i) will include upgrading educational qualifications to a bachelor of technical education (B.Tech.Ed.) or its equivalent, including through in-service training at Univotec. If the establishment of Univotec is delayed, students will enroll in flexibly-delivered programs in other institutions.

2. Component 2: Strengthening MSDVTE and Relevant Institutions

34. The Project will strengthen MSDVTE and relevant institutions to facilitate, support, and ensure a relevant, quality, and sustainable TEVT system, with focus on NVQ levels 5–7. The Project will consolidate the progress made under the SDP and build on its completed activities. This component will include (i) the development and implementation of OBB, (ii) a refined education management information system (EMIS), (iii) training standards for higher-level technical skills, an operational NVQ system, (iv) a quality assurance system, and (v) a TEVT social marketing strategy.

a. Developing Output-Based Budgeting

35. OBB will link institutions' resources and outputs, which will help improve the use of facilities and equipment, and thus increase the cost-effectiveness of programs. The Project will help develop OBB for MSDVTE training institutions. Training workshops on OBB will be offered to MSDVTE planning, budgeting, and accounting personnel, and to related staff of the Ministry of Finance and Planning. The Project will support consultancies, training and workshops, software, materials, and office equipment in relevant offices.

b. Strengthening TEVT Sector Policy Analysis and Planning

36. The Project will refine MSDVTE's EMIS to include information on the CoTs and Univotec and on the OBB requirements. The refined EMIS will be installed at MSDVTE, TVEC, Univotec, and CoTs. The Project will help MSDVTE comprehensively map government and nongovernment TEVT institutions using a geographic information system (GIS). The Project will train about 12 staff members of MSDVTE, TVEC, Univotec, and CoTs in the use of EMIS and GIS data for policy analysis, planning, and decision making.

37. The Project will help TVEC conduct and disseminate information and studies on TEVT issues and policies. The studies' topics include (i) mechanisms to ensure the financial sustainability of relevant quality training programs, (ii) the efficiency of the present system of Government and nongovernment TEVT provision, (iii) the administrative and regulatory environment of private TEVT provision, (iv) quantification of economic benefits contributed by the TEVT sector, and (v) employment of trainees and tracer studies. Under (i), specific recommendations will be made, some of which will be piloted in project CoTs.

38. The Project will provide for consultancies, training, consultation workshops, research assistance, software, computers, reproduction of study papers and reports, web page development and maintenance, and workshops to inform policy makers and the public of TEVT issues.

c. Developing the NVQ and Program Standards for Technologists and Technicians

39. The Project will support the continued articulation of the NVQ, with focus on the higher-level qualifications for technicians and technologists. The related program standards and sample curricula for NVQ levels 5–7 will be developed. TVEC will be assisted to establish ISCs, which will adapt and validate international and locally developed training standards in selected technology and crafts programs. ISCs will provide guidance on the estimated human resource requirements of sectors. The Project will develop at least 12 technician and technology program standards in new and emerging technologies. These standards will provide for horizontal and vertical mobility in TEVT. The related skills standards of these technologies at NVQ levels 1–4 will be reviewed, and refined as needed, for seamless progression to levels 5–7. About 30 skills standards will be developed and validated at levels 1–4. The Project will help disseminate these standards to stakeholders, including Government and nongovernment training providers. The Project will support consultancies, workshops, materials, reproduction, and dissemination.

d. Strengthening the TEVT Quality Assurance System

40. The Project will develop and implement a TEVT quality assurance mechanism for technician and technological education programs to ensure that ISC-validated program standards endorsed by TVEC are achieved and maintained by all training providers. TVEC registration procedures and standards for nongovernment training providers will be reviewed and refined as needed by the Project. Accreditation standards and transparent accreditation procedures will be developed and implemented. Database systems for registration and accreditation will be developed and installed. To assist the accreditation process, and also facilitate government–private training provider interactions, TEVT providers will be organized into a national association. About 15 TVEC staff members and 40 prospective accreditation auditors, including members of the association of training providers and professional organizations, will be trained in the accreditation process. The Project will help TVEC undertake sample compliance audits. The Project will provide for 10 institutional audits in the first year of the program, 15 in the second year, and 25 in the third year. The Project will support consultancies, workshops, materials, software, office equipment, reproduction, and dissemination.

e. Enhancing the Social Image of TEVT

41. Diploma programs will require social marketing to attract workers, students, and school leavers, particularly women, with the aptitude and attitude for technical and vocational education and a career in technology. The Project will raise the public's awareness of the NVQ framework and technical education. In collaboration with national industry sector associations, career guidance and counseling units, and JobsNet,⁸ the Project will develop and implement a social marketing strategy. The strategy will include information to be disseminated through mass media, in the JobsNet system, and in the career centers established through the SDP. The Project will support consultancies; material development, procurement, and dissemination; and mass media campaigns.

⁸ JobsNet is an initiative of the Ministry of Labour Relations and Foreign Employment that is being managed by the Ceylon Chamber of Commerce. JobsNet does not only provide information on available employment opportunities, but also an interface for employers and job-seekers.

3. Component 3: Establishing the University of Vocational Technology

42. Upon the passage of the University of Vocational Technology Act (Univotec Act), the Project will help the Government establish Univotec, which will address the shortage of technologists and qualified instructors for technical education, and provide an alternative higher education pathway leading to a degree for students and TEVT personnel. By providing access to tertiary education, this component will help improve the sector's social image. Univotec will offer new degree programs, starting with a B.Tech.Ed. and a bachelor of technology (B.Tech.). It will have various campuses using the physical facilities of various TEVT institutions. The premises of the National Institute of Technical Education of Sri Lanka (NITESL) will be upgraded to be the main campus, and NITESL will be strengthened to become a faculty of training technology. Other technical institutions of MSDVTE, including TC-Ratmalana, will become part of the faculty of vocational technology. Univotec is expected to have an annual enrollment intake capacity of about 600 full-time and 600 part-time students in the technologist program, and about 300 full-time and 300 part-time students in the technical teacher education program.

a. Developing University Administration and Technical Capacity

43. The Project will support the development and implementation of university systems and procedures, including manuals and handbooks, on university governance and administration, planning, monitoring, and management and information systems. The latter will include (i) student administration, (ii) human resource management, (iii) budgeting and finance, and (iv) alumni tracing. This will be achieved by consultancies; procurement of equipment, software, and materials; and training and workshops. The Project will train about 15 Univotec staff members to use these systems.

44. To develop the capacity of Univotec officials in university leadership and administration, the Project will support up to 22 officials for executive leadership training and regional and overseas study tours of similar institutions for international benchmarking and development of university linkages. About 60 academic and technical staff members will train in emerging or new technologies to be offered at the diploma and degree levels, teacher education, curriculum and multimedia material development, appropriate nontraditional content delivery modes, and applied research and extension. The Project will provide consultancies, international and local training, workshops, and materials.

b. Developing Student Selection Procedures and New Curricula

45. The Project will help develop curricula in degree programs leading to a B.Tech.Ed. and a B.Tech., and develop and acquire related curriculum materials, including multimedia. The Project will help develop and validate student admission and selection standards and requirements, which consider the varied academic and training backgrounds of applicants. This will include assessment of various diploma programs, identification of academic and training gaps, and recommendations for bridging programs to be offered by diploma institutions and Univotec. The Project will help develop bridging programs for Univotec. To achieve all these, the Project will provide consultancies, workshops, and curricular and learning materials.

c. Upgrading Facilities and Equipment

46. With new programs to be conducted and more students and trainees to be served, additional facilities and equipment will be required. The Project will support a consultant who will develop a rational phased infrastructure development plan for the university, considering the

available infrastructure and facilities of MSDVTE institutions that could be used as campuses. The plan will identify facility gaps and develop the master plan and architectural drawings of essential infrastructure based on approved resources for this purpose. The Project will support the upgrade and construction, if necessary, of classrooms, light and heavy laboratories, workshops, and communal and administrative accommodations. New equipment and furniture will be provided based on the set minimum standards of the new curricular programs and technology specializations. Office, communication, and reprographic equipment will be procured. A facilities and equipment O&M manual will be developed. About 24 academic and technical staff members will be trained in O&M of these equipment and facilities.

C. Special Features

47. Admission Eligibility of GCE O/L-Educated Youth and Employed Workers.

The Project provides an opportunity to GCE O/L-educated youth and employed workers, who have satisfactorily completed and been awarded a national certificate or its equivalent, to be admitted to a diploma program upon meeting some equivalency requirements.

48. Laddered Training System with an Alternative Pathway to Diploma and Degree Programs.

The Project supports a laddered training system for vertical progression and continuing education of technical and technician graduates. This opens options to link and articulate the TEVT programs with technology and technical education to the degree level. This will be made possible by using established standards to develop bridging modules to compensate for content deficiencies. Univotec will provide an alternative pathway to a degree, improve access to tertiary education, and provide vertical mobility within TEVT.

D. Cost Estimates

49. The total cost of the Project is estimated at \$26.7 million equivalent, including taxes, duties, interest charges on the ADB loan, and physical and price contingencies. The foreign exchange cost is estimated at \$9.9 million (37%), and the local currency cost at \$16.8 million (63%) equivalent of the total cost. A summary of the cost estimates is in Table 1. The detailed cost estimates and the financing plan are in Appendix 7.

Table 1: Cost Estimates
(\$ million)

Category	Foreign Exchange	Local Currency	Total Cost
A. Base Costs			
1. Strengthening CoTs in Technician Education	4.8	5.7	10.5
2. Strengthening MSDVTE and Relevant Institutions	0.5	1.3	1.8
3. Establishing the University of Vocational Technology	2.8	4.9	7.7
4. Project Implementation	0.0	0.6	0.6
5. Taxes and Duties	0.0	2.2	2.2
Subtotal (A)	8.1	14.7	22.8
B. Contingencies			
1. Physical Contingencies	0.7	0.7	1.4
2. Price Contingencies	0.2	1.4	1.6
Subtotal (B)	0.9	2.1	3.0
C. Interest Charges	0.9	0.0	0.9
Total	9.9	16.8	26.7

CoTs = college of technology, MSDVTE = Ministry of Skills Development, Vocational and Technical Education.

Source: Asian Development Bank estimates.

E. Financing Plan

50. The Government has requested a loan of \$20 million equivalent from ADB's Special Funds resources to help finance the Project. The loan will have a term of 32 years, including a grace period of 8 years, with an interest charge at the rate of 1.0% per annum during the grace period and 1.5% per annum thereafter. The loan will cover 75% of the total project cost. ADB will fund 100% (\$9.9 million) of the foreign currency cost and 60% (\$10.1 million equivalent) of the local currency cost. Interest during project implementation will be capitalized. The remaining \$6.7 million equivalent of the local currency cost will be provided by the Government. The financing plan is summarized in Table 2.

Table 2: Financing Plan
(\$ million)

Source	Foreign Exchange	Local Currency	Total Cost	Percent
Asian Development Bank	9.9	10.1	20.0	75.0
Government	0.0	6.7	6.7	25.0
Total	9.9	16.8	26.7	100.0

Source: Asian Development Bank estimates.

F. Implementation Arrangements

1. Project Management

51. MSDVTE will be the Executing Agency. A project steering committee (PSC) will be organized to direct the Project, monitor its activities and outputs, guide the project implementation unit (PIU), and coordinate and liaise with other government agencies and departments. The secretary of MSDVTE will chair the PSC, whose members will comprise representatives from TVEC; Ceylon-German Technical Training Institute; DTET; National Apprentice and Industrial Training Authority; NITESL; Vocational Training Authority; Univotec; Ministry of Education with responsibility for higher education; and External Resources Department, Department of National Planning, and Department of National Budget of the Ministry of Finance and Planning. The PSC will include at least four representatives from industry and employers, as well as two rotating representatives of project CoTs. The PSC will meet as needed but not less than quarterly to review project progress and to make decisions. The MSDVTE policy working group will provide TEVT policy guidance and technical advice to the PIU, and ensure the continuity and consistency of reforms and changes to TEVT policy and MSDVTE institutions. The project director will be a member and the PSC secretary.

52. The SDP PIU will be retained to ensure continuity between the SDP and the Project. It will be responsible to the PSC for day-to-day project implementation and will be headed by a project director. Specialists in administration and finance, procurement, civil works, and project performance monitoring and reporting will assist the project director. Focal persons will be appointed in each project CoT and institution receiving project support and implementing project activities. The PIU will coordinate with DTET in implementing component 1, and with TVEC and the MSDVTE planning division for component 2. While the Univotec Act is awaiting passage by Parliament, the MSDVTE planning division will coordinate component 3; after passage of the act, Univotec will take over. To ensure the smooth implementation of project activities in each project CoT, the CoT head will be appointed as the focal person and will be responsible to the PSC and PIU for project implementation in that CoT.

2. Implementation Period

53. The Project will be implemented over 5 years, from March 2006 to February 2011. The indicative implementation schedule is in Appendix 8.

3. Procurement

54. All ADB-financed goods and services will be procured in accordance with ADB's *Guidelines for Procurement*. Each contract for goods and services of more than \$500,000 will be awarded on the basis of international competitive bidding procedures, while contract packages of \$500,000 equivalent or less will follow international shopping procedures. All civil works contracts will be awarded through local competitive bidding among prequalified contractors in accordance with Government standard procedures and other requirements satisfactory to ADB. Minor items valued at less than \$50,000 equivalent will be procured directly following Government procedures. Appendix 9 includes the indicative procurement packages and modes of procurement.

4. Consulting Services

55. The selection and engagement of all consulting services to be financed under the Project will be in accordance with *Guidelines on the Use of Consultants* and other arrangements satisfactory to ADB for the engagement of domestic consultants. A team of consultants to provide services in a range of specializations, with estimated international inputs of 99 person-months and domestic inputs of 270 person-months, will be engaged through a firm using the quality- and cost-based selection method. Appendix 10 summarizes the required consulting services, and Appendix 11 provides the outline terms of reference.

56. ADB's *Anticorruption Policy* (1998) was explained to and discussed with the Government and MSDVTE. Consistent with its commitment to good governance, accountability and transparency, ADB reserves the right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive or coercive practices relating to the Project. To support these efforts, relevant provisions of ADB's *Anticorruption Policy* are included in the loan regulations and the bidding documents for the Project. In particular, all contracts financed by ADB in connection with the Project shall include provisions specifying the right of ADB to audit and examine the records and accounts of the Executing Agency and all contractors, suppliers, consultants and other service providers as they relate to the Project.

5. Staff Development and Training

57. International fellowships and local training will be provided under the Project to about 1,022 people, equivalent to 4,475 person-months of training: 226 person-months for international fellowships and 4,249 person-months for local training and industrial attachments. Selection of candidates will follow the Government's policy and implementing guidelines under foreign and local training. ADB approval will be required before the award of international fellowships. ADB will be provided with a list of (i) the nominated candidates, (ii) their qualifications, and (iii) detailed cost of proposed courses. For training recipients, a bonding arrangement, in accordance with Government procedures and requiring recipients to remain in their institutions for a minimum period, will be required. A summary of indicative areas for international staff development and local staff training is in Appendix 12.

6. Disbursement Arrangements

58. MSDVTE will be responsible for preparing disbursement projections and for requesting budgetary allocations for counterpart funds. To ensure the timely release of loan funds, an imprest account will be established in the Central Bank of Sri Lanka in Colombo. The initial amount will be no more than a 6-months projected disbursement or 10% of the total loan amount, whichever is less. The imprest account will be established, managed, and liquidated in accordance with ADB's *Loan Disbursement Handbook*, and detailed arrangements agreed to by the Government and ADB. ADB's statement of expenditure (SOE) procedures may be used to reimburse eligible expenditures and to liquidate advances made into the imprest account in accordance with ADB's loan disbursement guidelines. Any individual payment to be reimbursed or liquidated under the SOE procedure will not exceed the equivalent of \$50,000. MSDVTE will coordinate the timely release of funds. Auditors acceptable to ADB will audit the use of the imprest account and SOE procedures. A separate audit opinion should be included in the annual audit report.

7. Accounting, Auditing, and Reporting

59. The Government, acting through MSDVTE, will maintain records and accounts adequate to identify goods and services financed from the loan proceeds. MSDVTE will maintain separate records and accounts for the Project, and ensure that accounts and financial statements are audited annually by independent external auditors acceptable to ADB. The auditor's report and copies of the certified accounts and related financial statements, including the auditor's opinion on the use of loan proceeds, compliance with loan covenants, and use of the imprest account under ADB's SOE procedure, will be submitted to ADB in English not later than 6 months after the close of the Government's fiscal year. The independent external auditing services will be financed from the loan proceeds.

60. The PIU will prepare quarterly reports on the status and progress of project implementation and submit them to ADB within 30 days after each quarter. The reports will have a format acceptable to ADB and indicate (i) progress made against established targets, (ii) status of performance indicators, (iii) problems encountered and actions taken to address them, (iv) compliance with loan covenants, and (v) program of activities proposed for the following quarter. Within 3 months after project completion, the PIU will prepare and submit to ADB a project completion report describing project implementation, accomplishments, benefits, and impact.

8. Project Performance Monitoring and Evaluation

61. **Annual Operational Plans.** To ensure efficient project implementation, the Government will prepare and provide ADB with the next fiscal year's project operational plan at least 30 days before the start of the next fiscal year. The operational plan will mainly include (i) project activities with cost estimates proposed for each component/subcomponent with performance targets; (ii) a plan for complying with outstanding loan covenants; (iii) a breakdown of financial requirements, including loan proceeds withdrawal and counterpart funds from the Government; and (iv) details of how project activities are to be integrated into other ongoing programs.

62. **Monitoring and Evaluation.** Project monitoring and evaluation (M&E) will be the responsibility of MSDVTE through the PIU and will build on the SDP M&E system. In the first year of implementation, a baseline indicator study will be conducted to refine and expand verifiable indicators of project inputs, outputs, and impact, including internal efficiency of project institutions, external efficiency of technician and technology programs, cost-effectiveness of

training programs, and gender disaggregation. MSDVTE, primarily TVEC and the planning section, will be responsible for output and impact M&E. The Project will refine EMIS to regularly collect information and monitor the implementation of project activities in CoTs and Univotec, and to provide information for OBB. Project M&E data, including from EMIS, will be regularly reported and analyzed in quarterly and annual reports submitted to ADB. The Project will include strengthening MSDVTE capacity for policy analysis. MSDVTE will conduct studies on TEVT issues and policies, including tracing trainee-graduates.

9. Project Review

63. Besides regular reviews, the Government and ADB will jointly undertake a midterm review during the Project's third year. Among other things, they will (i) review the project scope, design, implementation arrangements, institutional development, and capacity-building processes; (ii) review changes in Government policies and institutional framework since appraisal and evaluate their impact on the Project; (iii) assess project implementation against performance indicators; (iv) review compliance with loan covenants; (v) identify critical issues and constraints; and (vi) recommend changes in project design or implementation as needed. Specific attention will be given to a review of (i) the number of staff members who have received overseas training and have been retained, (ii) access of minority groups and women to CoTs and Univotec, and (iii) the impact of OBB on the overall efficiency of CoTs. One month at most before the review, the PIU will submit to ADB a comprehensive report on each of the above-mentioned issues. The review will recommend changes in project design and implementation as needed.

IV. PROJECT BENEFITS, IMPACTS, ASSUMPTIONS, AND RISKS

A. Project Benefits and Impacts

64. **Institutional and Sectoral Benefits.** The Project will strengthen and expand the capacity for technician and technological education. The quality, relevance, and sustainability of these education programs will be improved by (i) developing training and program standards for technicians and technologists; (ii) upgrading selected TCs to CoTs; and (iii) strengthening the capacity of TEVT teachers, trainers, personnel, and administrators. Developing the NVQ for technicians and technologists will help institutionalize an alternative education and training pathway, particularly for school leavers, in technical and technology education leading to a degree. The establishment of a voluntary national association of TEVT providers and ISCs will increase the market orientation of training programs.

65. **Social Benefits.** The Project will help the Government reduce the high rate of unemployment and underemployment among the educated youth, and increase access to postsecondary education and training. Univotec and the CoTs will provide more education and training opportunities and options to the youth and unemployed. By upgrading TCs to CoTs outside Colombo in all provinces, postsecondary education and training will be made accessible to more potential student-trainees, including those who cannot afford to travel to Colombo. With the medium of instruction proposed to be English, ethnicity and local language-related prejudices will be minimized and cross-cultural communication strengthened among the students and staff. Bridging programs will help minimize knowledge gaps arising from differences in education quality across schools.

66. Social marketing and career guidance services will focus on promoting technology-based employment; increasing public awareness of technological career paths; and promoting

trade, technician, and technology programs to women. The introduction of new training programs, including in fields that are not traditionally male-oriented, will help attract women to technician programs. The degree and diploma programs will not only increase the employability of the youth and other groups but will also serve as an alternative education and training pathway for fulfilling their personal aspirations. The programs will allow youth to develop their generic and technical skills, which are useful for employment as well as for social participation.

67. **Economic Benefits.** Coupled with MSDVTE's strengthened capacity to ensure relevance, quality, and efficiency of TEVT, the B.Tech., B.Tech.Ed., and technician diploma programs will increase the number of skilled workers who can fill the supply–demand gap in various domestic industries as well as in the foreign labor market. The direct economic benefits of the Project are (i) increased domestic production because of the greater use of human capital that will be reflected in wage increases of the graduates employed in domestic industries, and (ii) increased remittances in foreign exchange from graduates employed abroad. See Appendix 13 for the economic and financial analysis.

68. The Project is envisioned to increase annual enrollment intake capacity of technician diploma programs by about 2,400 full-time and part-time students. Similarly, Univotec is expected to have an annual enrollment intake capacity of about 600 full-time and 600 part-time students in the technologist program, and about 300 full-time and 300 part-time students in the technical teacher education program. Over the 15-year evaluation, about 15,300 more youths are expected to graduate—9,900 with a B.Tech. and 5,400 with a B.Tech.Ed from Univotec, and about 22,500 with technician diplomas from CoTs. With higher skill qualifications in the TEVT sector, graduates from the project institutions will be rewarded with higher wages and faster promotion. The economic internal rate of return is estimated at 20.4% in the base-case scenario.

B. Project Risks and Assumptions

69. The political conflict in Sri Lanka presents a major risk to achieving the Project's development goal. Without peace and stability, the local economy may not develop and/or advance, and local demand for technicians and technologists may stagnate. However, even if local demand were stagnant, overseas demand for skilled and highly skilled Sri Lankans would remain strong.

70. **Institutional Risk.** MSDVTE requires capacity strengthening to build a private–public partnership-based TEVT system. The high turnover of personnel has contributed to unstable, sometimes weak, leadership and administration. The project design includes capacity strengthening of TVEC, CoTs, and Univotec officials to ensure continuity when the leadership changes. Private sector participation in CoT advisory councils, national association of training providers, and ISCs will encourage the private sector to play a key role in promoting, patronizing, and sustaining TEVT, while contributing to greater market relevance of training programs.

71. **Sustainability of Project Investment.** Because the Government fully finances the cost of training programs and provides small stipends to trainees, the sustainability of project investment after implementation depends on the Government's commitment to funding TEVT as evidenced by adequate provision of an O&M budget, including updates of curricula, learning materials, and software. The Project will develop and implement OBB for CoTs and assess the powers that may be decentralized to CoTs to encourage them to be more efficient. The capacity of heads of CoTs for strategic planning to generate TEVT revenues will be strengthened.

72. **Implementation Risk.** The implementation of the first and second loan projects suffered from, among others, delays and complex problems brought about by the transfer of project responsibility from one ministry to another, lack of counterpart funds, and slow appointment of qualified project staff. The Government has reassured ADB that it is committed to the Project that it will allocate the necessary counterpart funds, and that SDP PIU staff will continue under the Project, subject to satisfactory performance. Qualified instructors and trainers are assumed to be available. The Project includes upgrading staff skills and knowledge, which will be delivered flexibly. The Government can hire temporary staff as needed. Parliament could delay the approval of or not approve the Univotec Act. The Government has given its reassurance that it is deeply committed to supporting the Univotec charter.

73. **Safeguard Measures.** The summary poverty reduction and social strategy is in Appendix 14. The Project's environmental aspects were reviewed; no adverse impacts are anticipated. The amount of waste generated under the Project is expected to be small, particularly hazardous substances, which should be negligible. Nevertheless, environmental considerations will be incorporated into the project activities to avoid any minor environmental impacts during refurbishment of training institutions and in the disposal of training waste materials. Where substances designated as hazardous or toxic under national law are to be used as part of training activities in laboratories, waste management plans will be formulated to protect human health and the environment, and to ensure the safe collection, transport, treatment, storage, and disposal of such substances. The plans will highlight segregation of toxic substances at source, recovery and use of recovered materials, and safe disposal in designated hazardous waste landfill sites. The Project will have positive impacts on all ethnic groups without favoring any. However, in the event of any negative project impact on an ethnic minority or any positive impact not accruing to an ethnic group, safeguard measures will be included either in an ethnic minority development plan as per the approved ethnic minority development framework, or as specific action in resettlement plans. With no planned land acquisition, the Project is unlikely to trigger ADB's involuntary resettlement policy.

V. ASSURANCES

A. Specific Assurances

74. In addition to the standard assurances, the Government has given the following specific assurances, which will be incorporated into the legal documents:

- (i) The Government will ensure that heads of the CoTs will be selected through a process of open application and selection will be based on merit.
- (ii) The Government will ensure that advisory councils are established within 3 months of loan effectiveness, are composed of at least 60% representation from employers, manufacturing and service sectors, and industry, and will have held its first meeting.
- (iii) Within 2 years of loan effectiveness, MSDVTE will have developed, approved, and introduced new technician curricula with various technology specializations, including bridging programs. The Government will ensure that all technician programs in the nine CoTs will conform to the same program standards and will not vary in structure.
- (iv) Within 1 year of loan effectiveness, MSDVTE will have developed and institutionalized a procedure for the selection of applicants to the technician education program, including an admissions test. GCE A/L will not be made an entry criterion and NVQ will receive equal consideration.

- (v) The Government will ensure that the Ministry of Public Administration will recognize the diplomas issued by CoTs for entry into the public service within 3 years of loan effectiveness.
- (vi) MSDVTE will ensure that CoT staff who participate in staff development activities will be replaced on an interim basis.
- (vii) If the B.Tech. Ed. program does not start within 2 years of loan effectiveness, the Government will ensure that an equivalent program arrangement for upgrading the qualifications of staff is developed and entered into. The equivalent program will start within 3 years of loan effectiveness.
- (viii) Within 1 year of loan effectiveness, the Management Services Department of the Ministry of Finance and Planning and MSDVTE will have approved the cadre of trainers, instructors, as well as technical and administrative staff needed for the effective and efficient operation of the nine CoTs and Univotec. Within 2 years of loan effectiveness, at least 90% of such cadre will have taken up their position. Females will comprise at least 20% of the academic staff by the end of the third year of implementation.
- (ix) Within 2 years of loan effectiveness, MSDVTE will have approved and fully institutionalized OBB for the CoTs, including its related management information system. MSDVTE will ensure that all budgetary allocations for the CoTs as of year 3 of project implementation will be in accordance with OBB.
- (x) Studies of cost recovery mechanisms in the TEVT sector will be completed by the second year of project implementation and piloting of some will have been initiated by midterm in at least 3 project CoTs.
- (xi) By the end of the third year of project implementation, MSDVTE will have developed a 5-year budget and sustainability plan for the CoTs and Univotec and relevant authorities will have approved such a plan. The approved plan will include clear budgetary allocations for consumables on an expanding basis, as well as a decision to move the O&M costs for the CoTs and Univotec from the development budget to the recurrent budget by the end of the Project.
- (xii) Within 3 months of the passage of the Univotec Act, the members of its governing body will have been notified by MSDVTE and will have held their first meeting.
- (xiii) Within 1 year of the effectiveness of the Act creating Univotec, a transparent procedure for the selection of applicants to the degree programs will have been developed and institutionalized. The requirements will include NVQ levels 5 and 6 and similar qualifications.
- (xiv) Within 2 years of loan effectiveness, MSDVTE will have developed, approved, and introduced new curricula leading to B.Tech. and B.Tech.Ed. at Univotec.
- (xv) Within 4 months of loan effectiveness, the baseline M&E study will have been completed.
- (xvi) Throughout project implementation, the Government will allocate sufficient budget in its recurrent budget to maintain the 2005–2006 level of operation and maintenance of the technical and vocational schools funded by the ADB under the SDP.
- (xvii) Within 1 year of loan effectiveness, MSDVTE will develop and approve a policy and action plan to ensure equal access for different population groups to CoTs and Univotec. The Government will ensure that the governing bodies of Univotec and of each CoT will adopt such policy and implement them by year 2.
- (xviii) The Government will ensure that the Project will be implemented in accordance with the ethnic minority development framework, resettlement framework, and the gender action plan.

- (xix) The Government will ensure that civil works contractors comply with all applicable labor laws, do not employ child labor for construction and maintenance activities, and do not differentiate wages between men and women for work of equal value.
- (xx) The Government will ensure compliance with existing environmental laws and regulations of Sri Lanka, the environmental policy of ADB,⁹ and the actions listed in para. 75.
- (xxi) Within 6 months of loan effectiveness and in accordance with relevant labor legislation, each institution involved in delivering training courses will prepare and approve an occupational health and safety plan (OHSP) covering work-related safety and health issues of personnel and public. The OHSP will include an emergency plan for accidents and calamities.

B. Conditions for Loan Effectiveness

75. The following conditions will be met by the Government before the loan becomes effective: (i) the PSC shall have been established, its members notified, and shall have met once; (ii) the Government will have approved the establishment of the Project CoTs; (iii) MSDVTE will have confirmed the technical areas for support; and (iv) DTET will have issued a circular delegating authority to CoTs in the areas of revenue generation, spending, and selection of course offerings.

C. Conditions for Disbursement

76. Until the Univotec Act has been passed by Parliament and made effective, no withdrawal will be made from the loan for any project activity under subcomponents 3.A(i), 3.A(ii), 3.A(iii), and 3.C.

VI. RECOMMENDATION

77. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan in various currencies equivalent to Special Drawing Rights 13,605,000 to the Democratic Socialist Republic of Sri Lanka for the Technical Education Development Project from ADB's Special Funds resources with an interest charge at the rate of 1.0% per annum during the grace period and 1.5% per annum thereafter; a term of 32 years, including a grace period of 8 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft Loan Agreement presented to the Board.

Haruhiko Kuroda
President

26 October 2005

⁹ ADB. 2002. *Environment Policy*. Manila.

TECHNICAL EDUCATION AND VOCATIONAL TRAINING SECTOR ANALYSIS

A. Overview of the Technical Education and Vocational Training System

1. The postsecondary courses of the technical education and vocational training (TEVT) system encompass various forms and levels of training, which generally start after completion of the senior secondary level of schooling (grade 11, age 16 years) and go up to the diploma level (see Figure A1 below). The first tier of training programs consists of certificate courses, which are designed to produce semi-skilled to crafts-level workers, and usually require a pass in the General Certificate of Education (GCE) ordinary level (O/L) examination in the required subjects. These courses range in duration from 6 months to 4 years. The next tier of courses consists of diploma programs, which currently cater to students who passed their GCE advanced level (A/L) examination with relatively good marks in mathematics, physics, and chemistry. The objective of these programs is to prepare the students to become versatile technicians capable of performing a broad spectrum of work between that of an engineer and a skilled worker. These programs vary in duration from 3 to 4 years.

2. Certificate programs are offered by major public providers under the purview of the Ministry of Skills Development, Vocational and Technical Education (MSDVTE). These major public providers are the National Apprentice and Industrial Training Authority (NAITA), the Vocational Training Authority (VTA), the Department of Technical Education and Training (DTET), and the Ceylon-German Technical Training Institute. The National Youth Services Council (NYSC) and other ministries also offer craft-level and certificate courses. DTET is the lead agency for technical education programs. About 320 public TEVT institutions throughout the country are operated by these major public TEVT providers. A number of ministries are involved in TEVT, either as part of their mandated functions or as part of serving their respective sectors. The distribution of other public TEVT providers and operators is as follows: 379 statutory bodies, 209 government institutions, and 21 special institutions. The National Certificate in Engineering (Craft Courses) is the main technical education program. The full-time program is 2 years long. The curriculum has 60–70% practical content and 30–40% theoretical content, with credits given for every subject every semester.

3. Diploma programs are offered by at least four recognized institutions in Sri Lanka: the Technician Training Institute (TTI) under NAITA, the Mattakuliya Advanced Technical Institute with the Sri Lanka Institute of Advanced Technical Education (SLIATE), the Institute of Technology-Moratuwa University (ITUM), and the Open University of Sri Lanka (OUSL). Each of these institutions has its own curriculum. Generally, the curriculum is about 60% practical content and 40% theoretical. After completing the program, students are awarded a diploma such as a Higher National Diploma in Engineering (HNDE), a National Diploma of Technology (NDT), a National Diploma in Engineering Sciences (NDES), or a Diploma of Technology (DT).

4. Postsecondary higher technical education is relatively underdeveloped. Only a limited number of mandated public providers and a few enterprising private technical institutions with foreign affiliations are engaged in higher technical skills development. This is one of the major reasons for the bottleneck in responding to labor market demands. In addition, there is a need to provide vertical mobility to the holders of Higher National Diplomas in Science and Technology in order for them to aspire to higher education and enhance their productivity, and to ensure their life-long employability and self-fulfillment. So far, only one institution of higher learning in the country has addressed this need, the OUSL, which offers distance-learning programs.

5. The Government is the main financier and provider of TEVT in Sri Lanka. As the TEVT system has expanded, activities are being duplicated and the system is facing operational and

financial constraints. These affect the efficiency, relevance, and quality of TEVT. There is a shortage of qualified teachers and conditions of facilities are poor. Most of the TEVT institutions are not motivated to improve or to broaden their financial base because of the lack of a facilitating policy environment. Public–private partnership in TEVT is yet to be fully realized and the private sector could play a greater role.

6. There are a growing number of private providers of TEVT courses, but these mostly focus on information technology. They award an assortment of certificates and diplomas with no assurance of quality or national recognition. From consultations, there appears to be tremendous variation in their training quality, from outstanding to very poor. This may compound the unemployment situation and discourage youth from pursuing TEVT programs. By law, the provision of TEVT by the private sector and by nongovernment organizations requires registration, accreditation and approval by the government through the Tertiary and Vocational Education Commission (TVEC). About 350 private TEVT institutions are registered with the TVEC. There are wide gaps in the enforcement of the present system, which need to be filled before consistent training quality becomes a reality. There are no professional associations such as private accrediting bodies and no peer or professional evaluation of institutions and programs. It is very difficult to determine the supply capacity of the private sector.

7. In addition, there are a considerable number of international nongovernment organizations (INGOs) and nongovernment organizations (NGOs) operating in the country, only 128 of which are registered with TVEC. Training by these organizations is undertaken mainly to support farming, micro-enterprise development, or basic craft skills. On occasion, these organizations ask public providers to recognize their training programs.

B. Planning and Development of Technical Education and Vocational Training

1. Tertiary and Vocational Education Commission

8. TVEC serves as the main arm of MSDVTE in planning, coordinating, and monitoring tertiary education and training. TVEC was established as a statutory body with the following general objectives: (i) the planning, coordination and development of tertiary education and vocational education at all levels in keeping with the human resource needs of the economy; (ii) the development of nationally recognized systems for the granting of tertiary education awards, including certificates and other academic distinctions; and (iii) the maintenance of academic and training standards in institutes, agencies and all other establishments that provide tertiary education and vocational education. However, the TVEC is failing to carry out its functions because of lack of resources and consequent weak capacity. The ongoing Asian Development Bank (ADB) Skills Development Project (SDP)¹ provides support to TVEC in skills standards development, establishment of the National Vocational Qualification (NVQ) Framework, and the development accreditation system, which will partly address these constraints. The NVQ Framework has been finalized. It has seven levels, of which only levels 1 to 4 have been developed. About 45 skills standards for selected trades have been developed and are now being implemented in a number of TEVT institutions. The full operation of an accreditation system, however, may not be realized within the implementation period of SDP.

2. National Institute of Technical Education Sri Lanka

9. The National Institute of Technical Education Sri Lanka (NITESL) is another important arm of the MSDVTE, particularly for technical teacher education and staff development. It was

¹ ADB. 1999. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Democratic Socialist Republic of Sri Lanka for the Skills Development Project*. Manila.

established in 1998 as a statutory body to assist the ministry and TVEC to formulate TEVT policy and to promote teacher education, research and development. Among its mandated functions are to (i) provide training programs and services in technical and vocational education; (ii) implement and maintain a system for examination and accreditation; (iii) initiate and promote practices connected with training teachers in technical and vocational education, including the adaptation of appropriate technology for training purposes; (iv) provide professional services in the various functional areas of technical and vocational education and training, human resource development, curriculum development, teaching methodology, educational technology, vocational guidance and counseling; (v) provide and promote graduate and postgraduate level technical and vocational education and training; (vi) undertake and promote research and other studies on all aspects of technical and vocational education and training; and (vii) sponsor and hold conferences, seminars and workshops, and publish books, journals and magazines in connection with all aspects of TEVT. NITESL needs to do much more to address the acute shortage of TEVT teachers, including updating their knowledge, improving their teaching skills, and raising their qualifications. There is a need to update its resources and strengthen its capacity for technical teacher training, curriculum development, flexible training delivery, and multimedia learning.

C. Operation and Constraints of Major Technical Education Providers

10. DTET and NAITA are under MSDVTE. SLIATE was formerly with MSDVTE but is now under the Ministry of Education; ITUM and OUSL are autonomous bodies that offer technical education. Most of these are corporate bodies with specific mandates, separate and independent governing bodies, and diverse organizational structures. Close scrutiny of public TEVT organizations reveals functional and resource duplication. The organizations are supply-oriented and their programs overlap. Moreover, major TEVT providers under MSDVTE need to be reoriented toward a unified, sustainable, and market-driven TEVT system. All of the institutions offering technician-level and diploma programs require GCE A/L qualifications for admission, which hampers their response to the demand for technicians and technologists. Technician programs in the current system have diverse admission requirements, duration, curriculum design and content mix, training arrangements and delivery, and award and program accreditation.

11. **Department of Technical Education and Training.** DTET has the mandate to develop skilled workers and craftsmen. Under its direct supervision and control are 37 technical colleges throughout the country that offer courses up to the certificate level. The total enrollment in 2003 was 18,265 and the dropout rate averaged about 25% over the last 5 years. More than any of the other line agencies, DTET has, over time, gone through various institutional arrangements. In 2004, it came under the authority of MSDVTE. As a government agency, DTET faces the major constraint of lacking autonomy or corporate powers that are vested in statutory bodies such as NITESL, TVEC, SLIATE, and VTA. Students with GCE O/L qualifications are eligible for admission into its certificate programs. Currently, the DTET capacity to fulfill its mandate is constrained by a lack of funds for operation and maintenance, lack of qualified teaching staff, and outdated programs and equipment.

12. **Sri Lanka Institute for Advanced Technical Education.** SLIATE is mandated to offer diploma programs in technical education. It has 18 advanced technical institutes (ATIs), 11 independent and 7 attached, located throughout the country. Of these, only the Mattakuliya ATI is engaged in technical/technician training. It offers the HNDE and has an annual intake of about 150 students. The administration, management, and control of the affairs of the SLIATE are vested in its governing council, which is composed of 15 members representing mostly government line agencies, professional bodies, the federation of chambers of commerce and industry, and persons of recognized competence and eminence in the relevant areas of studies.

The Director-General serves as the principal executive and academic officer, under the general direction of its Governing Council, and is appointed by the minister with 5-years tenure of office. The institute is poorly equipped, lacks sufficient qualified full-time and motivated teaching staff, and lacks resources for operation and maintenance.

13. **National Apprentice and Industrial Training Authority.** NAITA conducts training in apprenticeable trades and operates highly specialized institutes such as the Technician Training Institute and the Automotive Training Institute. NAITA places its trainees in industry. It operates 49 training centers (4 national and 45 small centers), with a total enrollment of 16,448 and a dropout rate of about 29% in 2003. NAITA is a corporate body established under TVEC provisions (Part II, Act No. 20 of 1990, as amended by Act No. 50 of 1999) and is the successor to the National Apprenticeship Board, which was incorporated under the National Apprenticeship Act No. 49 of 1971. The Authority has the following objectives: (i) planning, organizing and providing training; (ii) specifying standards in relation to vocational training; (iii) conducting national trade tests; (iv) conducting research and development in vocational training; (v) holding competitions to promote the development of various skills; (vi) developing the training capacities of establishments and other institutions providing vocational training; (vii) advising the TVEC on vocational training; and (viii) linking up with institutions in Sri Lanka and abroad that have similar objectives and equating and/or validating certificates, diplomas and degrees in allied subjects and courses. NAITA is governed by a board of management, which consists of not more than 15 members representing government institutions, trade unions, commerce, and industry. NAITA has established strong links with industry through its enterprise-based apprenticeship programs, despite shortages of funding and staffing, and outdated facilities.

14. **Institute of Technology–University of Moratuwa.** ITUM offers technician education programs leading to an NDT. The program consists of 2 years of full-time studies and 1 year of industrial training under the supervision of NAITA. The program operates on an annual system. The available fields of NDT specialization are civil, chemical, electrical, electronics and telecommunications, marine, mechanical, nautical, polymer, and textile and clothing. The entry qualification for these courses is a GCE A/L pass in mathematics and age between 18-24 years. In addition, an aptitude test is given. A special feature of the curriculum is that all students are required to pass basic courses held 4 hours a week for 1 year. Currently, the facilities and equipment used for instruction and laboratory work of students are shared with the Faculty of Engineering. Only a few courses have separate buildings for workshops and laboratories.

15. **Open University of Sri Lanka.** OUSL is the only institution in Sri Lanka which offers technician and technological education programs leading to a diploma and a degree in engineering technology. The Faculty of Engineering Technology is responsible for carrying out these programs. OUSL differs from conventional universities, technical colleges, and institutes in that it makes use of flexible delivery and distance learning modes. This provides greater opportunities for employed persons without age or educational restrictions. The OUSL has a student population of about 20,000, spread across 21 regional and study centers throughout the country. The OUSL, unlike most government universities and technical colleges, charges fees, including a registration fee, a facilities fee, an exemption fee, and a tuition fee.

16. The areas of specialization are agriculture, automobile, civil, computers, electrical, electronics and communications, manufacturing, and textile engineering. Each course is assessed through continuous assessment and final examinations. Continuous assessment includes laboratory work, field classes, assignments, presentations, and tests. The DT of OUSL is comparable to the NDT, NDES and HNDE programs of the other institutions above. It is one of the avenues for entry to mid-level technical grades within the engineering profession. The minimum program duration is 4 years. The minimum completion time for the Bachelor of

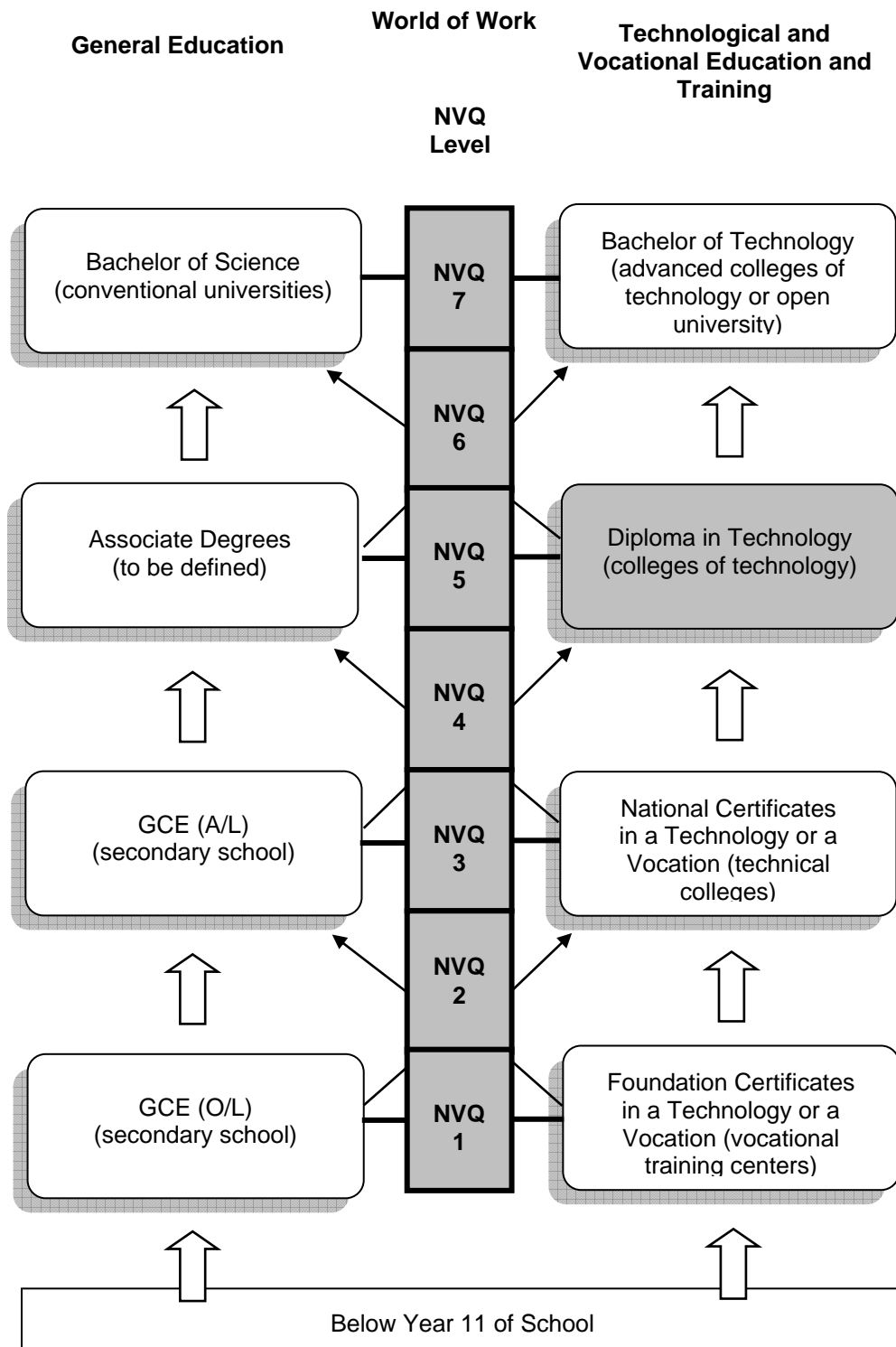
Technology (B.Tech.) degree is 7 years, although in practice it takes longer. Holders of the B.Tech. degree are expected to develop their creative, analytical and innovative thinking capabilities and to increase their ability to access knowledge. Normally, entry into this program is through the DT, although other paths are also possible.

Figure A1: Education and Training Systems in Sri Lanka

Year of Schooling	Vocational Certificate	Craft-level / Higher Certificate	Technician Diploma	Professional Degree	Level of Education	Age
20						25
19						24
18						23
17						22
16					University and Higher Education	21
15						20
14						19
13		NAITA Apprentice (1-3 yrs.)			GCE A/L	18
12	Etc. 1-2 yrs.	VTA (6 mos. 2 yrs.)	DTET (Cert.-2 yrs.)	CGTTI 3-4 yrs. (Higher Certificate)		COLLEGIATE LEVEL
11		SENIOR SECONDARY SCHOOL			GCE O/L	16
10	Basic Skills Training					15
09	JUNIOR SECONDARY SCHOOL				SECONDARY EDUCATION	14
08						13
07						12
06						11
05	PRIMARY SCHOOL				PRIMARY EDUCATION	10
04						09
03						08
02						07
01						06

A/L = advanced level, CGTTI = Ceylon German Technical Training Institute, DT = diploma of technology, DTET = Department of Technical Education and Training, GCE = general certificate of education, HNDE = higher national diploma in engineering, ITUM = Institute of Technology-Moratuwa, NAITA = National Apprentice and Industrial Training Authority, NDES = national diploma in engineering sciences, NDT = national diploma of technology, O/L = ordinary level, OUSL = Open University of Sri Lanka, VTA = Vocational Training Authority.
 Source: ADB. 2005. *Final Report on Human Resource Investment Project in the Democratic Socialist Republic of Sri Lanka*. Manila.

NATIONAL QUALIFICATIONS FRAMEWORK FOR SRI LANKA



A/L = advanced level, GCE = general certificate of education, NVQ = national vocational qualification, O/L = ordinary level.

Source: Tertiary and Vocational Education Commission (TVEC). 2004. *Draft National Development Plan*. Colombo.

SUMMARY OF ASIAN DEVELOPMENT BANK AND DONOR ASSISTANCE TO THE TECHNICAL EDUCATION AND VOCATIONAL TRAINING SECTOR OF SRI LANKA

1. The Asian Development Bank (ADB) has extended loan assistance to three projects in the technical education and vocational training (TEVT) sector.¹

2. **First Technical Education Project.** The First Technical Education Project (FTEP) aimed to improve the quality and efficiency of craft and technician education and training provided at the technical colleges (TCs) under the Ministry of Higher Education (MOHE). The FTEP assisted in (i) establishing the National Technical Teacher Training College (now the National Institute of Technical Education Sri Lanka [NITESL]); (ii) updating equipment and facilities of 20 selected TCs; and (iii) upgrading management of the technical education system through the establishment of the Technical Education Division, which was upgraded into the Department of Technical Education and Training (DTET) and later transferred to the Ministry of Labor and Vocational Training in 1994. The Project closed in 1988.

3. **Second Technical Education Project.** The Second Technical Education Project (STEP) was intended to enhance the quality and efficiency of technical education by complementing the achievements and addressing the shortcomings of the FTEP. STEP consisted of two main components, (i) an educational development program, and (ii) the rehabilitation and augmentation of facilities in institutions under the former Technical Education Division of MOHE. The educational development program component was focused on improving the administration of the Technical Education Division and TCs, the functions of the National Technical Teachers' Training College, the further development and implementation of TC courses, and staff training and career development. The other component dealt mainly with upgrading facilities in 12 TCs that were not included under the FTEP; the provision of new equipment; and the provision of limited staff accommodation and a hostel for women. The project was executed initially by MOHE and was later transferred to the Ministry of Labor and Vocational Training (MOLVT) in 1994. STEP was completed in 1995.

4. **Skills Development Project.** The ongoing Skills Development Project (SDP) was designed to improve the quality and relevance of skills training by reorienting the vocational training system through the introduction of competency-based training to ensure a closer partnership between vocational institutions and the private sector. SDP is increasing both the efficiency and the competence of Government in the provision of skills training programs. Although it specifically addresses the operations of DTET technical colleges and the vocational training centers (VTCs) of the Vocational Training Authority (VTA), it addresses all of TEVT by initiating a national vocational qualification (NVQ) system.

5. SDP has: (i) developed a policy framework for the institutionalization of competency-based training (CBT); (ii) established a national CBT learning resources development centre at the Ministry of Skills Development, Vocational and Technical Education (MSDVTE), learning source utilization centers and career guidance and counselling centers at TCs and other centres; (iii) upgraded VTC facilities; (iv) developed 20 new courses and converted 25 existing courses into CBT format; (v) introduced entrepreneurship and basic management

¹ ADB. 1982. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Democratic Socialist Republic of Sri Lanka for the Technical Education Project*. Manila; ADB. 1988. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Democratic Socialist Republic of Sri Lanka for the Second Technical Education Project*. Manila; and ADB. 1999. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Democratic Socialist Republic of Sri Lanka for the Skills Development Project*. Manila.

skills courses; (vi) developed skills standards up to craftsmen level; and (vii) established the NVQ Framework. SDP has provided support for the upgrade of facilities and capacity building of selected vocational training institutions, including six national vocational training institutions, 37 TCs, 239 selected vocational training centers and private sector and nongovernment organization (NGO)-managed vocational training in eight provinces and 25 districts.

6. SDP has finalized basic policy documents for the unified TEVT system. These include operations manuals for the National Vocational Qualifications Framework of Sri Lanka, national skills standards, assessment and certification, and a guide for CBT in Sri Lanka. The NVQ framework is now established and the relevant policy documents and operation manuals on CBT, course accreditation procedures, quality management checklist for the training providers, and policy guidelines for institutionalization of career guidance and counseling services have been provided to, and are being used at, all project institutions. MSDVTE has endorsed the policy establishing the NVQ Framework. TVEC has prepared an action plan for effective implementation of the NVQ, quality management system (QMS), and accreditation procedures, and a national committee has been established to review the progress of the NVQ system.

7. Through SDP, 45 skills standards have been developed and recommended by the National Industrial Training Advisory Committee (NITAC). Forty-five curricula are ready for implementation, and assessment materials and other supporting documents have been prepared. However, skills standards have to be reviewed; 45 have already been reviewed. SDP is supporting the implementation of 21 CBT courses in 75 centers and will implement more during the implementation period.

8. SDP has developed a quality management system consisting of a framework, handbooks, formats, and procedures. The quality management self-assessment system has been pilot-tested and quality audits have been initiated in several vocational training (VT) centers. SDP has established career guidance and counseling centers and trained staff to provide support services. Learning resource utilization centers have been established in 50 training centers. A training management information system has been developed and installed in 91 centers.

9. **Building on Past Assistance.** The proposed Project will build on the work of the ongoing SDP. The Project will build on the National Vocational Qualifications framework by adding NVQ levels 5, 6 and 7 (technician to technologist) to the SDP-initiated NVQ 1 to 4 program standards. The proposed Project will further involve industry and employers in the institutional transformation for identified growth areas and global competition through advisory councils and industry sector councils, among others.

10. **World Bank-Financed TEVT Projects.** The World Bank supported two TEVT projects in the 1980s: (i) the Vocational Training Project, which was aimed at increasing the supply of trained manpower and improving management expertise; and (ii) the Second Vocational Training Project, which established the Institute for Construction Training and Development and supported an intensive management training program.

11. **Sri Lanka-Germany Development Cooperation.** Sri Lanka and Germany have cooperated with each other for 40 years. At present, there are 44 Sri Lanka–Germany projects, in implementation or planning stages. Two prominent projects relate to vocational training: (i) Strengthening of Vocational Training Project (SVTP); and (ii) Vocational Training for Rural Women and Youth Project (VTW). The SVTP was started in early 1997 with the National Apprentice and Industrial Training Authority (NAITA) and VTA, in support of technical training, at the Ceylon-German Technical Training Institute (CGTTI), the Apprenticeship Training Institute

(ATI) and the Sri Lanka German Railway Technical Training Centre (SLGRTTC). The VTW Project was started in 1998 in collaboration with NAITA and VTA. It sought to enhance the capacities of local training providers by helping them to identify their training needs; develop curricula; implement training programs; impart entrepreneurship, gender sensitivity, and environmental awareness; provide on-the-job training; and monitor employment after training. The project focused on upgrading the skills of women and men for self-employment, while encouraging women to take on nontraditional vocations.

12. **Donor Assistance Complementing Technical Education Development Project (TEDP).** The Government will be helped to develop TCs into Colleges of Technology (CoTs) by the Korean International Cooperation Agency (KOICA), which will support the strengthening of the Jaffna Technical College; and Japan International Cooperation Agency (JICA), which will help Maradana Technical College. Negotiations are underway to provide assistance for a proposed CoT in the Eastern province and in the Southern province.

Table A3.1: External Assistance to the Education Sector and the Technical Education and Vocational Training Subsector

Source	Amount (\$ million)	Loan/ Grant	Year of Approval
A. Asian Development Bank			
1. Loans			
a. Technical Education Project	16.10	Loan	1982
b. Second Technical Education Project	36.00	Loan	1988
c. Financial Management Training	13.10	Loan	1993
d. Secondary Education Development Project	31.00	Loan	1993
e. Science and Technology Personnel	20.00	Loan	1997
f. Skills Development Project	18.80	Loan	1999
g. Secondary Education Modernization Project I	47.90	Loan	2000
h. Distance Education Modernization Project	45.00	Loan	2003
Subtotal (A1)	227.90		
2. Technical Assistance			
a. Scientific and Technical Personnel Development	0.40	Grant	1995
b. Study on Financing of Social Services	0.40	Grant	1995
Resource Rationalization Action Plan under the Department of Technical Education and Training	0.10	Grant	1996
c. Skills Development Project	0.60	Grant	1998
d. Improving Education Planning	0.80	Grant	1998
e. Capacity Building for the Ministry of Vocational Training and Rural Industries Project Implementation Management	0.20	Grant	1999
f. Secondary Education Modernization Project I	0.30	Grant	1999
g. Postsecondary Education Modernization Project	0.50	Grant	2000
h. Secondary Education Modernization Project II	0.50	Grant	2003
i. Community Information Services for the Poor	0.80	Grant	2003
j. Human Resource Investment Project	0.60	Grant	2003
Subtotal (A2)	5.20		
B. Other External Sources			
1. Bilateral			
a. Sweden Implementation of Administrative Procedures System in Support of NORAD with Software	2.40	Grant	1990

Source	Amount (\$ million)	Loan/ Grant	Year of Approval
b. Australia	0.60	Grant	1996
c. Republic of Korea, Upgrading Engineering Equipment of University of Peradeniya	1.00	Grant	1996
d. Canada CIDA: Project for Rehabilitation through Educational Training (PRET)– NAITA, VTA, Ministry of Labour and Vocational Training			
(i) Phase I	4.20	Grant	1989
(ii) Phase II	4.20	Grant	1992
(iii) Phase III	3.60	Grant	1997
(iv) Phase IV	3.60	Grant	2003
e. Sweden Support for Bachelor of Information Technology Degree at the Institute of Computer Technology, University of Colombo	2.40	Grant	1998
f. Government of Japan	14.50	Grant	1998
g. Government of United Kingdom	2.70	Grant	1998
h. Government of Germany	3.40	Grant	1998
i. Government of Japan	8.20	Grant	1999
j. Norway NORAD: Design of Administrative Procedures for Universities	4.80	Grant	2000
k. JICA Project for Improvement of Junior Schools, Phase I	11.17	Grant	2000
l. Basic Education Sector Programme (GTZ)	5.80	Grant	2001
m. JICA Project for Improvement of Junior Schools, Phase II	9.41	Grant	2001
n. Education Plan for Development of Mathematics and Science in Primary and Secondary Schools (JICA)	3.00	Grant	2003
o. Japan Bank for International Cooperation (JBIC) Small-Scale Infrastructure Rehabilitation and Upgrading Project II (for education subprojects)	50.00	Loan	2003
Subtotal (B1)	145.18		
2. Multilateral			
a. ILO: Support for JobsNet at Ministry of Labour	2.00	Grant	2002
b. WB–ODA			
i. General Education Project	49.00	Loan	1989
ii. Teacher Education and Teacher Development	64.10	Loan	1996
iii. Second General Education Project	70.30	Loan	1997
iv. Distance Learning Project	2.00	Loan	2001
v. Improving Relevance and Quality of Undergraduate Education	40.30	Loan	2003
Subtotal (B2)	227.70		
Total	605.98		

CIDA = Canadian International Development Agency, GTZ = Deutsche Gesellschaft für Technische Zusammenarbeit (German Agency for Technical Cooperation), ILO = International Labour Organization, JBIC = Japan Bank for International Cooperation, JICA = Japan International Cooperation Agency, NAITA = National Apprentice and Industrial Training Authority, NORAD = Norwegian Agency for Development Cooperation, ODA = Overseas Development Administration, PRET = project for rehabilitation through educational training, VTA = Vocational Training Authority, WB = World Bank.

Source: ADB. 2005. *Final Report on Human Resource Investment Project in the Democratic Socialist Republic of Sri Lanka*. Manila.

LESSONS LEARNED

Lessons Learned	Incorporating Lessons Learned in Project Design
A. Lessons Learned from Past ADB TEVT Projects	
<p>1. One-shot projects do not work</p> <p>2. Need industry linkage</p> <p>3. Leadership spells difference in performance</p>	<ul style="list-style-type: none"> • The Project is the fourth ADB TEVT project assistance in Sri Lanka in 25 years. The Project builds on the ongoing SDP. SDP focused mainly on setting up the NVQ framework and supporting VT. The Project continues the development of the NVQ at the technician and technologist levels and the capacity-building needed to deliver these programs. • Industrial sector councils will be established and will validate standards and equipment. CoTs will have advisory councils that will be mostly from industry. A sectoral council will be established in CoTs to validate technician curricula. Heads of CoTs will be strengthened in strategic planning and partnerships. • The Project provides for strengthening of heads and senior officials of CoTs. Part of the dialogue with Government is the assignment of dynamic leaders.
B. Lessons Learned for Project Design	
<p>1. Projects should not attempt to do too much, particularly sweeping reforms, as these would probably be beyond the national implementation capacity.</p> <p>2. Labor market analysis and tracer studies are important for proper direction and feedback to training systems.</p> <p>3. In the area of private training provision, obstacles to growth and improvement, including regulatory constraints, should be examined.</p> <p>4. Devolution of authority must be designed with a prior assessment of administrative and regulatory framework and the requirements for it to succeed.</p> <p>5. Financial sustainability is big challenge for training projects. More emphasis should be given to analyses of sustainability, while at the same time being realistic as public training projects also have equity objectives.</p> <p>6. Where reform of training systems is undertaken, the establishment of national qualification frameworks will facilitate labor mobility and more efficient use of training resources.</p>	<ul style="list-style-type: none"> • The Project is focused on the strengthening of technician and technological education. In view of the political environment, no sweeping policy reform is proposed. • Labor market demand analysis will be undertaken for each of the programs. CoTs will develop institutional development plans. CoTs will have advisory councils that will be mostly from industry. Heads of CoTs will be strengthened in strategic planning and partnerships. • The Project will support a study to assess the administrative and regulatory environment of private TEVT provision and to recommend an action plan for their greater participation. • For CoTs, the Project will examine the administrative and regulatory framework to identify powers and responsibilities that can be decentralized to facilitate improved relevance and sustainability. • The Project will support a study on financial sustainability mechanisms. The Project will (i) review rules and regulations of the Government, MSDVTE, and DTET to assess which regulations could be delegated or decentralized to make training programs more efficient and sustainable; (ii) with a view to being more responsive to the needs of employers and to generate some revenues, CoT senior personnel will be given training in strategic planning, industry partnerships, and training needs assessments; and (iii) for more efficient allocation of resources, an output-based budgeting system for the CoTs will be developed and implemented. • The Project supports the further development of the National Vocational Qualifications Framework, particularly the articulation of levels 5–7.

Lessons Learned	Incorporating Lessons Learned in Project Design
C. Lessons Learned from TEVT Projects	
1. Implementation weakness of the EA	<ul style="list-style-type: none"> The Project proposes to continue with the current PIU staff of the ongoing SDP. According to the schedule, Technical Education Development Project (TEDP) will overlap with the final implementation months of SDP.

ADB = Asian Development Bank, CoT = College of Technology, DTET = Department of Technical Education and Training, EA = executing agency, MSDVTE = Ministry of Skills Development, Vocational and Technical Education, NVQ = national vocational qualification, PIU = project implementation unit, SDP = Skills Development Project, TEDP = Technical Education Development Project, TEVT = technical education and vocational training, VT = vocational training.

Sources: ADB. 1999. *Impact Evaluation of the Technical and Vocational Education Projects in Malaysia, Pakistan, Papua New Guinea, and Sri Lanka*. Manila; and ADB. 2004. *Improving Technical Education and Vocational Training: Strategies for Asia*. Manila.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/ Indicators	Data Sources/Monitoring Mechanisms	Assumptions and Risks
<p>Impact</p> <p>Skilled and highly skilled human resources developed to contribute to economic growth and social development</p>	<ul style="list-style-type: none"> • Graduation of technicians increased from about 600 technicians annually to about 2,200 • About 1,000 technologists within the NVQ framework graduate annually • Employment rate of CoT technician graduates increased by 30% over 2002 rate of certificate graduates • Females comprise at least 20% of CoTs enrollees • Females comprise at least 20% of Univotec enrollees 	<ul style="list-style-type: none"> • Project completion report • MSDVTE EMIS data • MoE data 	<p>Assumptions</p> <ul style="list-style-type: none"> • Political and socioeconomic conditions remain stable • Economy continues to create jobs and to require new and higher level skills • Government allocates sufficient budget to the TEVT sector
<p>Outcome</p> <p>Improved access and strengthened capacity of the TEVT system in technical and technological education to address labor market needs</p>	<ul style="list-style-type: none"> • Six TCs strengthened to enable them to become CoTs • 10 technician diploma programs in different technologies that do not require A/L qualifications for admission developed • Annual enrollment intake capacity of technician diploma programs increased from 600 to 1,500 full-time and 1,500 part-time students • Univotec established • Two degree programs (B.Tech.Ed and B.Tech.) that do not require A/L qualifications for admissions developed • Technical teacher education (B.Tech.Ed.) institutionalized with annual enrollment intake capacity of 300 full-time and 300 part-time students • Annual enrollment intake capacity of 600 full-time and 600 part-time students in technologist programs (B.Tech.) developed • 100 TEVT teachers and trainers strengthened 	<ul style="list-style-type: none"> • Project completion report • MSDVTE EMIS data • MoE data 	<p>Assumption</p> <ul style="list-style-type: none"> • MSDVTE is effective in leading the TEVT sector and a market-responsive TEVT system is maintained
<p>Outputs</p> <p>1. Capacity of selected public sector TEVT institutions strengthened to offer technician diploma programs</p>	<ul style="list-style-type: none"> • School management systems and procedures developed and installed • 24 nonacademic and administrative personnel trained in these systems and procedures • Advisory councils of CoTs established • Up to 18 CoTs officials strengthened in strategic planning and entrepreneurial management • Institutional development and strategic plan developed • 12 curricula developed for the technician program • 8 sectoral curriculum councils established • 15 CoT staff trained in curriculum implementation • 30 non-CoT staff trained in curriculum 	<ul style="list-style-type: none"> • Baseline data • Quarterly progress reports • Review missions • Midterm review • Field visits • EMIS • Tracer studies • Project completion reports • Copies of manuals, and curriculum and programs documents 	<p>Assumptions</p> <ul style="list-style-type: none"> • Government supports the establishment of CoTs that are accountable and have some authority for revenue generation, spending, and selection of course offerings • Some decisions are decentralized to CoTs • Active participation by the private sector in the Councils • Timely appointment of qualified and dynamic heads • Leaders of institutions think strategically and

Design Summary	Performance Targets/ Indicators	Data Sources/Monitoring Mechanisms	Assumptions and Risks
	<p>implementation</p> <ul style="list-style-type: none"> • Manual of student selection procedures and standards developed • Aptitude test for technicians developed • 3 technician education bridging programs developed • 12 part-time program modules developed • Facilities and equipment operations and maintenance plan and manual developed for each CoT • Training provided by suppliers of equipment to 40 staff • 6 TCs renovated and curricula training equipment provided • Staff development plan for CoT staff under the Project developed and implemented • B.Tech.Ed. degree completed by 67 teachers • Industrial attachment and other training completed by 100 technical teachers 		<p>innovatively.</p> <ul style="list-style-type: none"> • Qualified instructors are available • Staff trained and committed to contribute to CoT development
<p>2. MSDVTE and relevant institutions under its purview strengthened to support a market-responsive TEVT system</p>	<ul style="list-style-type: none"> • OBB developed and implemented in CoTs • EMIS refined to include information from CoTs and Univotec, particularly OBB-related • GIS mapping of TEVT institutions completed • 12 staff strengthened in EMIS and GIS for policy analysis and planning • Different TEVT financial sustainability mechanisms designed • Pilot implementation of selected mechanisms completed • NVQ levels 5 to 7 developed • NVQ levels 1 to 4 refined for seamless progression to levels 5 through 7 • ISCs established • 12 technician and technology program standards developed • 55 TVEC, NAITA, and NITESL staff trained • Registration standards and procedures of TEVT institutions reviewed and refined • Accreditation standards and transparent procedures developed, quality assurance manual written • National association of training providers established • 40 prospective auditors trained • At least 50 audits conducted • Social marketing strategy and plans developed in collaboration with industry sector associations, JobsNet, and CGCCs • 50 MSDVTE, TVEC, and CoTs staff trained in social marketing and career guidance 	<ul style="list-style-type: none"> • Baseline data • Quarterly progress reports • Review missions • Midterm review • Field visits • EMIS • Tracer studies • Project completion report • Copies of standards and manuals 	<p>Assumptions</p> <ul style="list-style-type: none"> • Institutional culture supports output-based budgeting • Data submitted in a timely manner • Program standards are achievable • Low turnover of trained personnel • Industries commit to sectoral councils and contribute to development of standards • Consultants are recruited in a timely manner • Sociocultural factors support voluntary accreditation and quality monitoring • Training providers are open to being audited

Design Summary	Performance Targets/ Indicators	Data Sources/Monitoring Mechanisms	Assumptions and Risks																																		
	<ul style="list-style-type: none"> Information disseminated through mass media, JobsNet, and career centers 																																				
3. University focusing in technical education and technology established and operating	<ul style="list-style-type: none"> University management systems developed, installed, and implemented University corporate plan developed 30 nonacademic and administration personnel trained in these systems and procedures Study tours by 10 senior officials, 12 deans and heads undertaken 61 academic staff trained in emerging/new technologies, curriculum development, flexible delivery modes, multimedia development, and applied research and extension B.Tech.Ed. curriculum developed B.Tech. curriculum developed Bridging modules developed Phased and rationalized infrastructure development plan, within the Project budget, developed Infrastructure renovated and constructed, as necessary Training equipment procured Facilities operations and maintenance plan and manual written 	<ul style="list-style-type: none"> Baseline data Quarterly progress reports Review missions Midterm review Field visits EMIS Project completion report Copies of manuals, tests, and materials 	<p>Assumptions</p> <ul style="list-style-type: none"> University of Vocational Technology Act is approved in a timely manner Consultants are recruited in a timely manner Public Service Commission recognizes these programs in the government pay scale Teachers and visiting instructors are available Trained personnel have a low turnover Reliable suppliers/bidders/contractors bid 																																		
Activities with Milestones			Inputs (\$ '000)																																		
<ol style="list-style-type: none"> 1.1. Establish governing councils and leadership of CoTs by Q3 2006 1.2. CoTs' administration and operations systems strengthened by Q2 2007 1.3. Council members, CoT heads, and key staff oriented in strategic planning and business development by Q2 2008 1.4. Staff trained in performance-based budgeting by Q4 2007 1.5. Sectoral curriculum councils established by Q2 2006 1.6. Technician program curricula developed by Q3 2006 1.7. New curricula validated by sectoral councils by Q4 2006 1.8. Bridging courses developed by Q4 2006 1.9. Technician programs started by Q1 2007 1.10. In-industry and skills upgrading training program module development started by Q3 2006 1.11. Pre-technician qualifications assessed by Q3 2006 1.12. Gender and ethnic minority policy and action plan developed and adopted by Q2 2006 1.13. Student selection procedures developed by Q3 2006 1.14. Technician aptitude test developed by Q3 2006 1.15. Staff development plan prepared by Q2 2006 1.16. Staff capacity-strengthening started by Q3 2006 1.17. Equipment lists drawn up and reviewed by Q3 2006 1.18. Procurement packages developed by Q3 2006 1.19. Equipment and facilities upgrade started by Q1 2007 1.20. Preparation of facilities operations and maintenance manual started by Q1 2007 2.1. Review of financial rules and regulations affecting TEVT sector operations started by Q3 2006 2.2. OBB developed by Q3 2007 2.3. Staff training in OBB started in Q3 2007 2.4. OBB implemented in CoTs by Q4 2007 2.5. EMIS review and refinement started by Q3 2007 2.6. GIS mapping started by Q4 2007 2.7. Review and design of different mechanisms leading to financial sustainability started in Q3 2006 and completed by Q4 2006 2.8. Pilot implementation of selected mechanisms started by Q2 2007 			<table border="0"> <tr> <td>ADB</td> <td>20,000</td> </tr> <tr> <td>Government</td> <td>6,700</td> </tr> <tr> <td colspan="2">A. Base Cost</td> </tr> <tr> <td>Civil Works</td> <td>2,255</td> </tr> <tr> <td>Equipment, Furniture, and Vehicles</td> <td>6,835</td> </tr> <tr> <td>Learning Materials</td> <td>742</td> </tr> <tr> <td>International Consultants</td> <td>2,412</td> </tr> <tr> <td>Domestic Consultants</td> <td>1,056</td> </tr> <tr> <td>International Training</td> <td>1,017</td> </tr> <tr> <td>Local Training</td> <td>2,190</td> </tr> <tr> <td>Studies, Audits and Workshops</td> <td>313</td> </tr> <tr> <td>Service Packages</td> <td>630</td> </tr> <tr> <td>Incremental Recurrent Cost</td> <td>3,186</td> </tr> <tr> <td>Tax and Duties</td> <td>2,242</td> </tr> <tr> <td>B. Contingencies</td> <td>2,890</td> </tr> <tr> <td>C. Interest Charges</td> <td>889</td> </tr> <tr> <td>Grand Total</td> <td>26,656</td> </tr> </table>	ADB	20,000	Government	6,700	A. Base Cost		Civil Works	2,255	Equipment, Furniture, and Vehicles	6,835	Learning Materials	742	International Consultants	2,412	Domestic Consultants	1,056	International Training	1,017	Local Training	2,190	Studies, Audits and Workshops	313	Service Packages	630	Incremental Recurrent Cost	3,186	Tax and Duties	2,242	B. Contingencies	2,890	C. Interest Charges	889	Grand Total	26,656
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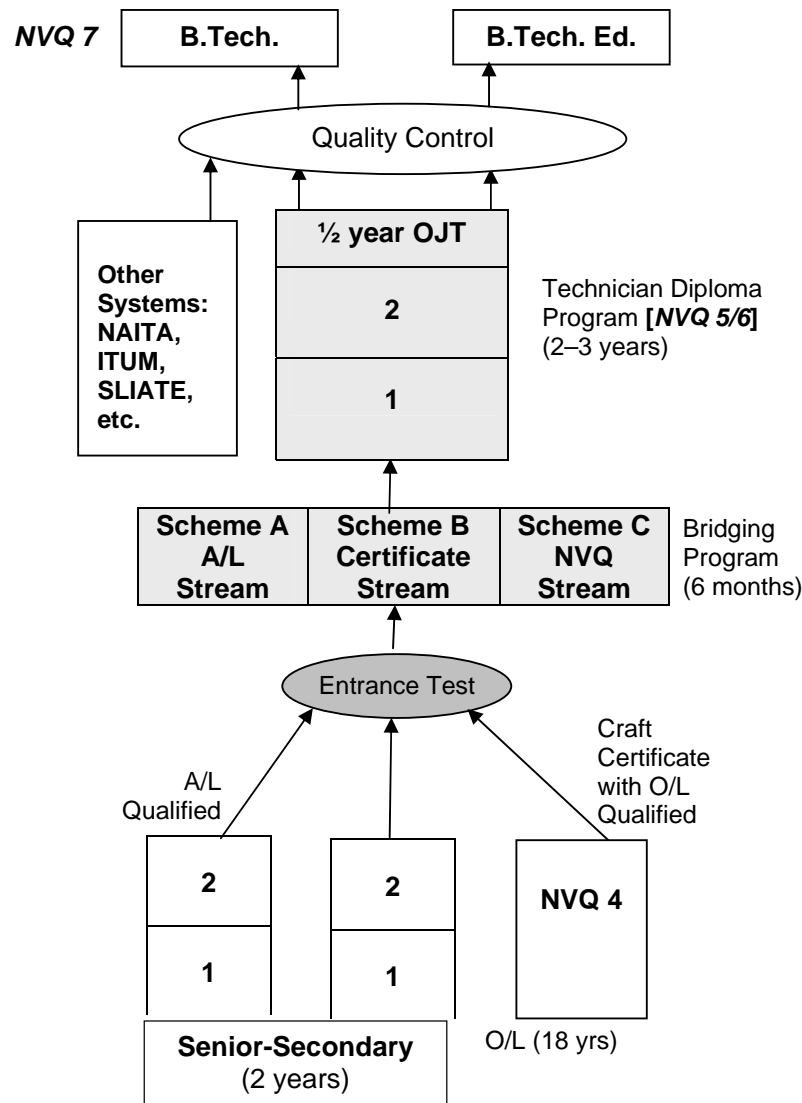
Activities with Milestones	Inputs (\$ '000)
<p>2.9 Industry sector councils established by Q3 2006</p> <p>2.10. NVQ and standards for technologists and technicians developed by Q2 2007</p> <p>2.11. Staff training in NVQ and standard setting started by Q3 2007</p> <p>2.12. National association of training providers established by Q3 2006</p> <p>2.13. Registration standards and procedures reviewed and refined by Q4 2006</p> <p>2.14. Accreditation standards and transparent procedures developed by Q2 2007</p> <p>2.15. Training of prospective auditors started by Q2 2007</p> <p>2.16. Audits started by Q3 2007</p> <p>2.17. Social marketing strategy developed by Q1 2007 and implementation started by Q2 2007</p> <p>3.1. Academic, business, and operational systems, including corporate capacity, developed by Q2 2008</p> <p>3.2. Staff development plan for senior administration officials prepared by Q1 2007 and implementation started by Q2 2007</p> <p>3.3. Staff development plan for academic staff prepared by Q1 2007 and implementation started by Q2 2007</p> <p>3.4. Staff development plan for non-academic staff prepared by Q1 2007 and implementation started by Q2 2007</p> <p>3.5. Curricula of degree programs in technical education and technology developed by Q2 2007 and implemented by Q1 2008</p> <p>3.6. Various diploma programs assessed by Q1 2007 to identify gaps to be bridged before or upon admission</p> <p>3.7. Menu of bridging modules developed by Q3 2007</p> <p>3.8. Curriculum materials development started by Q2 2007</p> <p>3.9. Physical infrastructure assessment completed by Q3 2006</p> <p>3.10. Physical infrastructure development plan completed by developed by Q4 2006</p> <p>3.11. Civil works started by Q2 2007</p> <p>3.12. Equipment upgrade started by Q4 2007</p> <p>3.13. Facilities operations and maintenance plan and manual developed by Q1 2008</p> <p>4.1. Semi-annual project reviews</p> <p>4.2. Mid-term review</p> <p>4.3. Tracer study after the mid-term review</p>	

A/L = advanced level, ADB = Asian Development Bank, B.Tech. = bachelor of technology, B.Tech.Ed. = bachelor of technical education, CGCC = Career Guidance and Counseling Center, CoT= College of Technology, EMIS = education management information system, GIS = geographic information system, ISC = industry sector council, MIS = management information system, MoE = Ministry of Education, MSDVTE = Ministry of Skills Development, Vocational and Technical Education, NAITA = National Apprentice and Industrial Training Authority, NITESL = National Institute of Technical Education Sri Lanka, NVQ = national vocational qualification, OBB = output-based budgeting, Q1 = first quarter, Q2 = second quarter, Q3 = third quarter, Q4 = fourth quarter, TC = technical college, TEVT = technical education and vocational training, TVEC = Tertiary and Vocational Education Commission, Univotec = University of Vocational Technology.

CONCEPTUAL MODEL OF THE CURRICULUM STRUCTURES AND CAREER PATH OPTIONS IN TECHNOLOGICAL AND TECHNICAL EDUCATION

Scheme 1: 1.5–2 Years Full-time
 Scheme 2: 3 Years Part-time

Scheme 1: 1.5–2 Years Full-time
 Scheme 2: 3 Years Part-time



A/L = Advance Level, B.Tech. = Bachelor of Technology, B.Tech.Ed. = Bachelor of Technical Education, ITUM = Institute of Technology-Moratuwa, NAITA = National Apprentice and Industrial Training Authority, NVQ = National Vocational Qualification, OJT = on-the-job-training, O/L = Ordinary Level, SLIATE = Sri Lanka Institute of Advance Technical Education.

Source: ADB. 2005. *Final Report on Human Resource Investment Project in the Democratic Socialist Republic of Sri Lanka*. Manila.

DETAILED COST ESTIMATES AND FINANCING PLAN

Table A7.1: Cost Estimated by Item of Expenditure^a
(\$'000)

Item	Total Cost			Financing Source					
							ADB		
	Foreign Exchange	Local Currency	Total				Foreign Exchange	Local Currency	Total
A. Base Cost									
1. Civil Work	0	2,255	2,255	0	2,255	2,255	100	0	0
2. Equipment, Furniture, and Vehicles	4,553	2,283	6,835	4,553	1,944	6,497	95	338	5
3. Learning Materials	491	251	742	491	251	742	100	0	0
4. Consulting Services									
a. International	1,830	0	1,830	1,830	0	1,830	100	0	0
b. Domestic	0	1,080	1,080	0	1,080	1,080	100	0	0
5. Staff Development									
a. International Training	1,202	0	1,202	1,202	0	1,202	100	0	0
b. Local Training	0	2,477	2,477	0	2,477	2,477	100	0	0
6. Studies, Audits, and Workshops	0	313	313	0	313	313	100	0	0
7. Service Packages	0	630	630	0	630	630	100	0	0
8. Incremental Recurrent Cost	0	3,186	3,186	0	0	0	0	3,186	100
Base Costs before Taxes and Duties	8,076	12,473	20,549	8,076	8,950	17,025	83	3,524	17
9. Tax and Duties	0	2,253	2,253	0	0	0	0	2,253	100
Base Costs after Taxes and Duties	8,076	14,727	22,802	8,076	8,950	17,025	75	5,777	25
B. Contingencies									
1. Physical Contingencies	713	682	1,396	713	528	1,241	89	155	11
2. Price Contingencies	179	1,407	1,586	179	652	831	52	755	48
Subtotal	8,968	16,816	25,784	8,968	10,129	19,097	74	6,687	26
C. Interest Charges									
	883	0	883	883	0	883	100	0	0
Total^b	9,851	16,816	26,667	9,851	10,129	19,980	75	6,687	25

ADB = Asian Development Bank.

^a Exchange rate of SLR100 = \$1 has been used throughout the project period.

^b Totals may not add up due to rounding.

Source: Asian Development Bank estimates.

Table A7.2: Detailed Cost Estimates and Financing Plan by Component and Item of Expenditure
(\$'000)

Item	Total Cost			Financing Source				Government	
	Foreign Exchange	Local Currency	Total	ADB		Total	% Share	Local	
				Foreign Exchange	Local Currency			Currency	% Share
A. Base Cost									
1. Strengthening Colleges of Technology									
a. Civil Works	0	873	873	0	873	873	100	0	0
b. Equipment, Furniture, and Vehicles	3,134	1,472	4,605	3,134	1,283	4,416	96	189	4
c. Learning Materials	104	64	168	104	64	168	100	0	0
d. Consulting Services									
(i) International	984	0	984	984	0	984	100	0	0
(ii) Domestic	0	552	552	0	552	552	100	0	0
e. Staff Development									
(i) International Training	567	0	567	567	0	567	100	0	0
(ii) Local Training	0	2,300	2,300	0	2,300	2,300	100	0	0
f. Studies, Audits, and Workshops	0	84	84	0	84	84	100	0	0
g. Incremental Recurrent Cost	0	340	340	0	0	0	0	340	100
Subtotal (A1)	4,789	5,684	10,473	4,789	5,155	9,944	95	529	5
2. Strengthening MSDVTE and Relevant Institutions									
a. Equipment, Furniture, and Vehicles	83	35	118	83	35	118	100	0	0
b. Learning Materials	21	21	41	21	21	41	100	0	0
c. Consulting Services									
(i) International	270	0	270	270	0	270	100	0	0
(ii) Domestic	0	288	288	0	288	288	100	0	0
d. Staff Development									
(i) International Training	125	0	125	125	0	125	100	0	0
(ii) Local Training	0	74	74	0	74	74	100	0	0
e. Studies, Audits, and Workshops	0	207	207	0	207	207	100	0	0
f. Service Packages	0	630	630	0	630	630	100	0	0
g. Incremental Recurrent Cost	0	43	43	0	0	0	0	43	100
Subtotal (A2)	498	1,297	1,795	498	1,254	1,753	98	43	2

Item	Total Cost			Financing Source				Government	
	Foreign Exchange	Local Currency	Total	ADB		%	Local Currency	%	
				Foreign Exchange	Local Currency				
3. Establishing the University of Vocational Technology									
a. Civil Works	0	1,382	1,382	0	1,382	1,382	100	0	0
b. Equipment, Furniture, and Vehicles	1,331	771	2,102	1,331	624	1,955	93	147	7
c. Learning Materials	367	167	533	367	167	533	100	0	0
d. Consulting Services									
(i) International	756	0	756	756	0	756	100	0	0
(ii) Domestic	0	240	240	0	240	240	100	0	0
e. Staff Development									
(i) International Training	510	0	510	510	0	510	100	0	0
(ii) Local Training	0	103	103	0	103	103	100	0	0
f. Studies, Audits, and Workshops	0	22	22	0	22	22	100	0	0
g. Incremental Recurrent Cost	0	2,198	2,198	0	0	0	0	2,198	100
Subtotal (A3)	2,784	4,882	7,666	2,784	2,537	5,321	69	2,345	31
4. Project Implementation									
a. Equipment, Furniture, and Vehicles	5	5	10	5	3	8	79	2	21
b. Incremental Recurrent Cost	0	605	605	0	0	0	0	605	100
Subtotal (A4)	5	610	615	5	3	8	1	607	99
Base Costs before Taxes and Duties	8,076	12,473	20,549	8,076	8,950	17,025	83	3,524	17
5. Tax and Duties									
Base Costs after Taxes and Duties	0	2,253	2,253	0	0	0	0	2,253	100
Base Costs after Taxes and Duties	8,076	14,727	22,802	8,076	8,950	17,025	75	5,777	25
B. Contingencies									
1. Physical Contingencies	713	682	1,396	713	528	1,241	89	155	11
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	883	0	883	883	0	883	100	0	0
Total^a	9,851	16,816	26,667	9,851	10,129	19,980	75	6,687	25

ADB = Asian Development Bank, MSDVTE = Ministry of Skills Development, Vocational and Technical Education.

^a Totals may not add up due to rounding.

Source: Asian Development Bank estimates.

INDICATIVE PROJECT IMPLEMENTATION SCHEDULE

Project Activities	2006 ^a				2007				2008				2009				2010				2011			
	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
A. CoTs																								
1. CoT administration and operations systems strengthened																								
2. Strategic planning and entrepreneurial management system established																								
3. Technician curriculum and student selection procedures developed and implemented																								
4. Equipment and facilities upgraded																								
5. Staff capacity strengthened																								
B. MSDVTE and Others																								
1. Output-based budgeting system developed																								
2. TEVT sector policy analysis and planning strengthened																								
3. NVQ and standards for technologists and technicians established																								
4. TEVT quality assurance strengthened																								
5. TEVT social image enhanced																								
C. Univotec																								
1. Academic and operational systems, including corporate capacity, developed																								
2. Capacity of administration, academic and technical staff strengthened																								
3. Degree programs in technical education and technology developed and implemented																								
4. Univotec facilities for technical education and technology upgraded and equipment provided																								

CoT = college of technology, MSDVTE = Ministry of Skills Development, Vocational and Technical Education, NVQ = national vocational qualification, Q1 = first quarter, Q2 = second quarter, Q3 = third quarter, Q4 = fourth quarter, TEVT = technical education and vocational training, TVEC = Tertiary and Vocational Education Commission, Univotec = University of Vocational Technology.

^a Q1 and Q2 of 2006 are intended for a 6-months upfront technical assistance for preproject preparatory work.

Source: ADB. 2005. *Final Report on Human Resource Investment Project in the Democratic Socialist Republic of Sri Lanka*. Manila.

PROCUREMENT PACKAGES

Item	Quantity	Unit Rate (\$'000)	Amount (\$'000)	Procurement Mode
A. Civil Works	(m2)			
1. CoTs				
a. Facility renovation	5,018	0.15	753	LCB
b. Construction	400	0.30	120	LCB
2. Construction at Univotec				
a. Workshops	625	0.30	188	LCB
b. Heavy laboratories	700	0.30	210	LCB
c. Drawing rooms	700	0.30	210	LCB
d. Big lecture rooms	700	0.30	210	LCB
e. Management rooms	300	0.30	90	LCB
f. Classrooms	1,000	0.30	300	LCB
g. Administration and commerce area	581	0.30	174	LCB
	Subtotal (A)		2,255	
B. Equipment				
1. Equipment at Univotec			1,752	ICB
2. Equipment at Ministry and TVEC			118	ICB
3. Equipment at CoTs			3,855	ICB
4. Equipment at PIU			5	DP/LCB
	Subtotal (B)		5,730	
C. Furniture				
1. Furniture at CoTs			450	LCB
2. Furniture at PIU			5	LCB
	Subtotal (C)		455	
D. Vehicles				
1. Vehicles at CoTs	5	60.00	300	LCB
	Subtotal (D)		300	
E. Books, Materials, and Softwares				
1. Books			600	DP/LCB
2. Materials and software			142	DP/LCB
	Subtotal (E)		742	
F. Service Package Contracts				
1. Output-based budgeting and EMIS			80	LCB
2. Geographic information system			50	LCB
3. Social marketing			500	LCB
	Subtotal (F)		630	
	Total		10,112	

CoT = college of technology, DP = direct purchase, EMIS = education management information system, ICB = international competitive bidding, LCB = local competitive bidding, PIU = project implementation unit, TVEC = Tertiary and Vocational Education Commission, Univotec = University of Vocational Technology.

Source: Asian Development Bank estimates.

ALLOCATION OF INTERNATIONAL AND DOMESTIC CONSULTANTS BY PROJECT COMPONENT

	Type	1. Strengthening Selected Public Sector TEVT Institutions in Technician Education					2. Strengthening MSDVTE and Relevant Institutions under its Purview					3. Establishment of a Univotec			Total Months	
		1.a	1.b	1.c	1.d	1.e	2.a	2.b	2.c	2.d	2.e	3.a	3.b	3.c	Intl.	Dom.
		Strengthening Administration /Operations Systems	Strengthening Strategic/ Entrepreneurial Management	Development of Student Selection Procedures and New Curricula	Equipment Upgrading and Facility Renovation	Skills Upgrading of Teaching Personnel	Develop Performance-Based Budgeting System	Strengthening TEVT Sector Analysis and Planning	Developing the NVQ and Standards for Technologists and Technicians	Strengthening the TEVT Quality Assurance System	Enhancing the Social Image of TEVT	Capacity Development	Curriculum Development and Student Selection	Upgrading Facilities and Equipment		
Consulting Specialists																
1. Institutional and Strategic Management Specialist (TL/DTL)	Intl. Dom.	24 36												24 36		
2. Social Equity Specialist	Intl. Dom.		8											0 8		
3. TEVT Industry Partnership Specialist	Intl. Dom.		4											0 4		
4. Technology Specialist	Intl. Dom.			28 84										28 84		
5. Facility Development Planning Specialist	Intl. Dom.				6									0 6		
6. Output-Based Funding Specialist	Intl. Dom.					3 6								3 6		
7. Policy Research Specialist and Advisor	Intl. Dom.						12							0 12		
8. NVQ Specialist	Intl. Dom.							6 24						6 24		
9. Skills Standards Specialist	Intl. Dom.							12						0 12		
10. TEVT Quality Assurance and Accreditation Specialist	Intl. Dom.								6 12					6 12		
11. Social Marketing Strategy Specialist	Intl. Dom.									6				0 6		
12. University Development Specialist	Intl. Dom.										6 12			6 12		
13. Industrial Teacher Education and Multimedia Specialist	Intl. Dom.										8 12			8 12		
14. B.Tech. Curriculum Specialist	Intl. Dom.											6 12		6 12		
15. B.Tech.Ed. Curriculum Specialist	Intl. Dom.											6 12		6 12		
16. Bridging Program and Student Selection	Intl. Dom.											6 12		6 12		
Total Months:		60	12	112	6	0	9	12	42	18	6	38	54	0	99	270

B.Tech. = bachelor of technology, B.Tech.Ed. = bachelor of technical education, Dom. = domestic, DTL = domestic team leader, Intl. = international, MSDVTE = Ministry of Skills Development, Vocational and Technical Education, NVQ = national vocational qualification, TEVT = technical education and vocational training, TL = team leader, Univotec = University of Vocational Technology.

Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTING SERVICES

1. **Institutional and Strategic Management Specialist and Team Leader** (international, 24 person-months; domestic, 36 person-months). The team leader will ensure the coordination of activities with the project implementation unit (PIU). The team leader will (i) establish an office for project consulting services; (ii) establish communications with Ministry of Skills Development, Vocational and Technical Education (MSDVTE), PIU, Tertiary and Vocational Education Commission (TVEC), and technical education and vocational training (TEVT) institutions; (iii) develop a plan of work for all consultants based on the project objectives and timetable; (iv) produce a plan for the restructuring of MSDVTE so that it supports a demand-driven TEVT system with full industry involvement and a performance based financial system for public institutions; (v) draft legislation or amendments of existing acts for the legal status, operation and sustainability of selected colleges of technology (CoTs); (vi) develop the framework of an acceptable strategic plan for the social marketing of the technician education program and raising public awareness of the TEVT system and programs; (vii) implement the social marketing plan and public awareness programs in collaboration with media and advertising agencies and career guidance centers; (viii) produce a framework for TVEC in which industry leads program standard validation and TVEC exercises a planning and quality control function; (ix) develop with TVEC an acceptable strategic planning framework for TEVT institutions; (x) design and implement regional workshops in strategic planning for MSDVTE institutions; (xi) develop with TVEC an acceptable staff development framework for TEVT institutions.; (xii) design and implement regional workshops in developing and managing staff development programs for MSDVTE institutions; (xiii) ensure that CoTs carry out acceptable gender quotas and appropriate minority group and poverty targets; (xiv) lead in the development of manuals of business operations of CoTs that includes linkages with industry and other sectors; (xv) train counterpart staff and heads of CoTs as strategic and entrepreneurial managers; (xvi) provide leadership and coordination to all consultants; and (xvii) be responsible for all reports required by the Asian Development Bank (ADB) and the PIU.

2. **Social Equity Specialist** (domestic, 8 person-months). The specialist will ensure CoTs' strategic plans have appropriate, achievable, and measurable criteria for gender, minority participation, and disadvantaged areas. The position will require working with other consultants on gender and minority inclusion strategies, particularly the facility development planning specialist to ensure that CoTs are equipped to meet the needs of female students and the social marketing strategy specialist in implementing social marketing strategies and public awareness programs at the grassroots' level, including parents, women, minorities and other disadvantaged groups. The specialist will have the following tasks: (i) assist MSDVTE to develop a gender action plan and an ethnic minority development policy; (ii) develop criteria for gender and minority group participation to ensure that gender equity, ethnic balance, and poverty criteria are observed; (iii) design and implement regional workshops in gender and minority group inclusion and in making TEVT more sensitive to the needs of female students; (iv) provide assistance to CoTs in carrying out the gender and minority inclusiveness component of their strategic plans; (v) coordinate with the contracted groups for social marketing in developing and implementing a public awareness program to make TEVT institutional operations more supportive of women and minorities; (vi) work closely with the team of consultants to determine the learning needs of women and minority groups in the adjacent communities; and (vii) prepare a handbook on pro-poor, pro-minority strategies for TEVT institutions.

3. **TEVT Industry Partnership Specialist** (domestic, 4 person-months). The specialist will work with the team leader to ensure that the marketing plans prepared as part of the strategic plan are reasonable and comprehensive and include earned revenue assumptions that are

achievable. The specialist will (i) develop with TVEC an acceptable entrepreneurial operational framework for TEVT institutions; (ii) design and implement regional workshops in developing and managing the entrepreneurial institution for MSDVTE institutions; (iii) design and implement regional workshops in developing and managing part-time revenue-generating community-based and industry-based programs; (iv) provide specific assistance to CoTs in developing the marketing and revenue generation component of their strategic plans; (v) train heads of CoTs in entrepreneurial management skills; (vi) audit the marketing and revenue generation component of the strategic plans of CoTs; (vii) support CoTs in implementing the approved marketing plan; and (viii) assist the team leader in the planning and implementation of workshops and in preparing required reports.

4. **Technology Specialists** (international, 28 person-months; domestic, 84 person-months). These seven positions require extensive experience in curriculum design and learning materials development both for the formal technician education program and for part-time learning courses that cater to industry and employed workers. Proven experience in open learning and flexible learning systems implementation and development of multimedia and web-based learning systems would be an asset. In addition, a good knowledge of sourcing curriculum and training standards from the world education market for local adaptation and validation by industry would be an asset. The technology specialists will cover the following fields: (i) biomedical, (ii) ceramics and clay, (iii) electronics and communication, (iv) electronic imaging and printing, (v) food, (vi) information technology, and (vii) jewelry design and manufacturing. The common tasks of the seven technology specialists will be as follows: (i) assist TVEC and industry sector councils to set training standards for technicians' education in various technologies in close collaboration with the program standards setting and national vocational qualifications (NVQ) specialists; (ii) develop a common training system in technician education based on the endorsed program standards and approved curriculum; (iii) train counterpart staff at CoTs to develop course syllabi and associated learning materials based on the approved program standards; (iv) assist in the development of bridging programs and entrance tests for the technician education program; (v) orient counterpart staff at CoTs on college teaching and instructional assessment and program evaluation; (vi) develop part-time courses for employed workers in collaboration with industry; and (vii) conduct workshops and seminars related to staff and materials development, facility operations, and maintenance.

5. **Facility Development Planning Specialist** (domestic, 6 person-months). The specialist will (i) prepare the architectural design brief for the proposed university, particularly on planning for the various education spaces required; (ii) assist in selecting the consultant who will prepare the architectural plans and cost estimates for the proposed university complex; (iii) assist in preparing working plans and implementation schedules for civil works, including new construction and renovation for CoTs; (iv) prepare equipment listing and specifications for various technologies based on the approved training systems for technician education and endorsed training standards; (v) prepare procurement packages for various technologies, including order of procurement based on overall project implementation schedule; (vi) conduct workshops related to space planning, equipment listing and specifications, and procurement packaging.

6. **Output-Based Funding Specialists** (international, 3 person-months; domestic, 6 person-months). The specialists will (i) work with MSDVTE, TVEC, and the Ministry of Finance to develop a performance-based funding system of TEVT institutions; (ii) work with the TEVT quality assurance implementation specialists to develop measurement criteria for funding that reflect registration and accreditation standards validated by industry and endorsed by TVEC; (iii) collaborate with public sector and private sector institutions to determine the cost per

student by technology cluster; (iv) work with the financial planning and management specialist to develop an implementation manual for performance-based budgeting system for the CoTs, and design and implement regional workshops in performance-based financing for TEVT institutions; and (v) assist the team leader in planning and conducting workshops and preparing reports. The financial planning and management specialist will (i) develop with MSDVTE and TVEC an acceptable financial planning framework for TEVT institutions that includes performance-based criteria; (ii) design and implement regional workshops in financial planning and management for MSDVTE institutions; (iii) provide specific assistance to CoTs in developing the financial planning and management component of their strategic plans; (iv) train financial managers of CoTs; (v) produce a handbook in TEVT financial planning as an instruction and operation manual; (vi) support CoTs in implementing the approved strategic plan; and (vii) assist the team leader in the planning and implementation of workshops and in preparing required reports.

7. **Policy Research Specialist and Adviser** (domestic, 12 person-months). The specialist will (i) assist TVEC and MSDVTE in developing a policy development and analysis work plan, (ii) advise and guide staff on the methodologies of policy research, and (iii) undertake policy research and development with TVEC and MSDVTE.

8. **NVQ Specialists** (international, 6 person-months; domestic, 24 person-months). The specialists will have the following tasks: (i) work with staff of University of Vocational Technology (Univotec) and consultants in setting program standards and quality compliance procedure for the bachelor of technology (B.Tech.) program; (ii) assist TVEC in developing the framework of the Technician Diploma Program that is to be implemented by the Project; (iii) work with the technology specialists to find internationally benchmarked technician curricula and associated training standards for local adaptation and validation by industry sector councils and approval by TVEC; (iv) work with the technology specialists to develop a training system for technicians that will have vertical mobility up to degree-level in technology and technical teacher education; (v) work with industry sector councils, technical committees, and other consultants in validating training standards for new and emerging technologies to be introduced, including part-time learning programs, that cannot be sourced from the international education market; (vi) orient heads of CoTs, senior staff, and teaching personnel on the new technician curriculum and training standards, including delivery, student assessment, examination, certification, and accreditation systems; (vii) conduct workshops for teacher-trainers and teachers on the implementation of the new technician curriculum; (viii) assist in the introduction and validation of the prototype technician curriculum and standards in the CoTs for feedback and refinement; (ix) develop the capacity and capability of CoTs to design and conduct part-time learning programs using flexible and distance delivery modes and as a means of income-generation for financial sustainability; and (x) assist in developing and instilling a corporate culture conducive to continuous improvement of CoTs, in general, and the curriculum and its delivery, in particular. As NVQ specialist, the tasks are as follows: (i) assist TVEC, CoTs and Univotec in developing NVQ levels 5, 6 and 7 including validation and refinement of NVQ levels 1, 2, 3 and 4 initiated by the Skills Development Project (SDP); (ii) develop a strategic plan for the implementation of the NVQ levels 1 to 7 on a nationwide scale; (iii) train TVEC staff on the process of managing NVQ implementation; and (iv) conduct workshops and seminars for public awareness and promotion of the NVQ.

9. **Skills Standards Specialist** (domestic, 12 person-months). The specialist will have the following tasks: (i) work with TVEC to develop about 35 skills standards for allied trades in a competency-based format; (ii) assist TVEC in validating and refining 45 skills standards initiated by SDP in collaboration with industry; (iii) plan and implement workshops to develop new skills

standards in selected trades and job occupations; and (iv) conduct workshops and seminars to promote public awareness of skills standards for quality TEVT.

10. **TEVT Quality Assurance and Accreditation Specialists** (international, 6 person-months; domestic, 12 person-months). The specialists will have the following tasks: (i) develop a plan for the assignment of TVEC authority in TEVT registration to a national voluntary association; (ii) develop a self-funded national voluntary association of public and private TEVT providers possibly called the National Association of TEVT Providers (NATP); (iii) train independent TEVT quality auditors; (iv) train quality auditors for TVEC as counterparts to be randomly assigned to NATP quality assessment teams to ensure the compliance of the national association with agreed standards and procedures; (v) develop a framework for industry sectoral councils to appoint or endorse the appointment of technical specialists to audit teams; (vi) develop and deliver workshops for TEVT providers and industry on the national TEVT quality standards program and the application of the NVQ system; (vii) develop a social marketing and awareness plan in association with the social equity specialist and coordinate its outsourcing with a professional association in collaboration with the team leader; (viii) develop quality manuals for the implementation of a national quality assurance system for TEVT; and (ix) assist the team leader in the planning and implementation of workshops and in preparing required reports.

11. **Social Marketing Strategy Specialist** (domestic, 6 person-months). The specialist will help MSDVTE develop a social marketing strategy to inform parents and prospective trainees and students of the benefits from the TEVT sector, the NVQ framework, the programs of CoTs and Univotec, with a special focus on women. The strategy will include a mass media campaign that should take a dynamic approach.

12. **University Development Specialists** (international, 6 person-months; domestic, 12 person-months). To assist in the establishment of the proposed Univotec, the specialists will work with the heads of Univotec and the proposed CoTs. The specialists will have the following tasks: (i) advise on and assist in developing the strategic and operational plans of Univotec; (ii) develop manuals and handbooks related to university governance and administration based on best practices; (iii) develop faculty and student handbooks including fellowships and scholarship policies; (iv) develop manuals on business operations and external linkages of the university; and (v) conduct workshops to orient the university officials and staff on the use of the handbooks and manuals developed.

13. **Industrial Teacher Education and Multimedia Specialists** (international, 8 person-months; domestic, 12 person-months). The specialists will work closely with the curriculum specialists (see paras. 14 and 15 below) in developing a curriculum for the bachelor of technical education (B.Tech.Ed.). They will design modules for multimedia and flexible delivery of teacher training. The specialists will: (i) design a training of trainers program to develop a pool of teacher-trainers for the B.Tech.Ed. program; (ii) develop academic plans and programs, including admission, selection, allocation by technology, faculty assignment, and competency-based evaluation of students; (iii) develop modern teaching laboratory facilities for student-teachers; (iv) demonstrate to teachers and students the use of multimedia and distance or flexible delivery of learning; (v) assist the TVEC and PIU in selecting suitable teacher-training packages and hardware; (vi) develop multimedia packages and teaching learning resources for teacher-training and staff development; (vii) develop a distance mode delivery for preservice and inservice education of teachers in collaboration with the CoTs; and (viii) work closely with international and national consultants and university officials for the implementation of the B.Tech.Ed. program.

14. **B.Tech. Curriculum Specialists** (international, 6 person-months; domestic, 12 person-months). The specialists will have the following tasks: (i) develop a B.Tech. curriculum based on international benchmarks that will provide a career path to advanced level (A/L) graduates, ordinary level (O/L) with national certificates and NVQ equivalents up to the degree level; (ii) develop bridging modules and programs for various entry points to the B.Tech. program; (iii) conduct a workshop with the university faculty of technology on the implementation of the program in-campus and off-campus in collaboration with the CoTs and other training providers; (iv) develop a plan of distance or open technology program for employed workers which can be company-based or part-time basis; and (v) work closely with the other consultants and agencies such as TVEC, National Apprentice and Industrial Training Authority (NAITA), Department of Technical Education and Training (DTET), CoTs on their contribution to the curriculum of the B.Tech. program.

15. **B.Tech.Ed. Curriculum Specialists** (international, 6 person-months; domestic, 12 person-months). The specialists will work with national consultants and establish close coordination with such agencies as the TVEC, the National Institute of Technical Education in Sri Lanka (NITESL), the DTET and the NAITA on the curriculum for the B.Tech.Ed. curriculum. The specialist will have the following tasks: (i) develop a B.Tech.Ed. curriculum that is linked to the postsecondary technical education and vocational training (TEVT) diploma and certificate curricula; (ii) develop bridging modules and/or courses to allow entry of general certificate of education (GCE) A/L and O/L certificate holders with the right vocational aptitude and social attitude; (iii) develop an admission test for selecting students at various entry points for the degree program; (iv) develop teaching-learning packages for the B.Tech.Ed. and bridging programs; and (v) consult with major stakeholders on the accreditation of the B.Tech.Ed. curriculum by the concerned government authorities.

16. **Bridging Program and Student Selection Specialists** (international, 6 person-months; domestic, 12 person-months). The specialists will develop bridging programs, including curricula, syllabi, and learning materials for the technician diploma programs. The specialist will assist MSDVTE develop student selection criteria, including the aptitude test, for students coming various education and training backgrounds. The specialist will coordinate with the curricula specialists.

STAFF DEVELOPMENT PLAN

Component	No. Person	Duration	No. Person months	Location	Cost (\$'000)	
					Foreign	Local
A. Strengthening Selected Public Sector TEVT Institutions in Technician Education						
1. Study tour to model institutions abroad for international benchmarking and networking	18	1.0	18	Overseas	54	0
2. Curriculum innovation and parttime learning	18	1.0	18	Overseas	90	0
3. Technology training for emerging technology	18	3.0	54	Overseas	378	0
4. Student counseling and monitoring	9	1.0	9	Overseas	45	0
5. Staff training in MIS	18	1.0	18	Local	0	7
6. Training in financial planning and management	18	1.0	18	Local	0	7
7. Orientation in dynamic and strategic institution leadership and strategic planning	72	1.0	72	Local	0	29
8. Training in the management and planning for a market-responsive institution	18	1.0	18	Local	0	7
9. Training in development and promotion of demand-driven part-time education and training programs	9	1.0	9	Local	0	4
10. Training in training needs assessment in industries and communities	9	1.0	9	Local	0	4
11. Training in building partnerships with employers for training	9	1.0	9	Local	0	4
12. Training in exploring subcontracted production for training enhancement	9	1.0	9	Local	0	4
13. Training in writing project proposals and bidding documents	9	1.0	9	Local	0	4
14. Training in bridging programs and student selection system	18	1.0	18	Local	0	7
15. Curriculum innovation and parttime learning	18	3.0	54	Local	0	22
16. Equipment upgrading and facility renovations	54	0.5	27	Local	0	11
17. Industry-based instructors skills upgrading	108	12.0	1,296	Local	0	1,296
18. Bachelor of technical education	83	24.0	2,000	Local	0	800
19. English training for instructors at CoTs	60	4.0	240	Local	0	96
Subtotal (A)	575		3,905		567	2,300
B. Strengthening MSDVTE and Relevant Institutions under its Purview						
1. Setting skills standards	10	1.0	10	Overseas	50	0
2. Quality assurance and accreditation	15	1.0	15	Overseas	75	0
3. Performance-based institutional finance	50	1.0	50	Local	0	20
4. Strengthening EMIS	20	2.0	40	Local	0	16
5. Setting skills standards	15	1.0	15	Local	0	6
6. Quality assurance and accreditation	40	1.0	40	Local	0	16
7. Performance monitoring and evaluation	15	1.0	15	Local	0	6
8. Social marketing and career guidance	50	0.5	25	Local	0	10
Subtotal (B)	215		210		125	74
C. Establishment of a University of Vocational Technology						
1. International training/study tour for senior administrator as part of executive leadership training package	10	1.0	10	Overseas	50	0
2. International training (technology-specific)	15	3.0	45	Overseas	225	0
3. Pedagogical training	20	1.0	20	Overseas	100	0
4. Academic nonteaching personnel training	30	0.5	15	Overseas	75	0
5. Study tour for deans/heads of B.Tech.	6	1.0	6	Overseas	30	0
6. Study tour for deans/heads of B.Tech.Ed.	6	1.0	6	Overseas	30	0
7. Orientation training for deans/heads	30	0.5	15	Local	0	6
8. Trainer training	30	2.0	60	Local	0	24
9. Industrial attachment for academic staff	10	12.0	120	Local	0	48
10. Training academic nonteaching staff	15	1.0	15	Local	0	6
11. Subject updating through training	36	1.0	36	Local	0	14
12. Facility maintenance and operation training	24	0.5	12	Local	0	5
Subtotal (C)	232		360		510	103
Total	1,022		4,475		1,202	2,477

B.Tech. = bachelor of technology, B.Tech.Ed. = bachelor of technical education, CoT = college of technology, EMIS = education management information system, MIS = management information system, MSDVTE = Ministry of Skills Development, Vocational and Technical Education, TEVT = technical education and vocational training.

Source: Asian Development Bank estimates.

SUMMARY ECONOMIC AND FINANCIAL ANALYSES

A. Economic Analysis

1. **Economic Rationale.** To keep up with rapid technological changes and to stay competitive in increasingly globalized markets, Sri Lankan industries are demanding workers with greater skills and upgrading the skills of their workers. However, the technical education and vocational training (TEVT) sector in Sri Lanka currently does not have enough capacity to meet the demand for technicians and technologists. Technological education is still underdeveloped, and programs for higher-level technical training are limited: At the technologist level, only the Open University of Sri Lanka (OUSL) offers a Bachelor in Technology. There were only 17 graduates from this course in 2003. At the technician level, four public postsecondary institutions offer diploma level technician programs with total output of 612 graduates in 12 technological subjects in 2003. The output from these institutions is extremely low when compared with industries' needs. The ratio of technicians to craftsmen or skilled workers is low: the normal ratio for a developing economy is about 1:5, while in Sri Lanka the current ratio is 1:50. In order to address the shortage of technologists and technicians, the Project will assist the proposed University of Vocational Technology (Univotec) and six Colleges of Technology (CoTs) to develop the capacity to train technologists in Bachelor of Technology (B.Tech.) programs and technicians in Department of Technical Education and Training (DTET) programs. The Project will also strengthen the capacity of the Ministry of Skills Development, Vocational and Technical Education (MSDVTE) in supporting and facilitating these programs.

2. **Number of Qualified TEVT Instructors.** Only 62% of teaching positions at the four major TEVT institutions were filled in 2002. The majority of the instructors at technical colleges (TCs) are diploma and/or certificate holders, lack adequate industrial experience, and teaching skills. There are no degree programs leading to a Bachelor in Technical Education in Sri Lanka. The National Institute of Technical Education Sri Lanka (NITESL) currently offers in-service staff development programs for trainers/teachers and conducts diploma level programs for instructors.¹ Under the Project, the NITESL will be upgraded to a faculty of training technology within Univotec and will offer a degree program leading to a Bachelor of Technical Education (B.Tech.Ed.) in order to raise the qualifications of instructors at CoTs.

3. Despite the supply–demand gap for technicians and technologists, the number of educated young people without jobs is growing and is a cause of serious concern. The unemployment rate for people with at least General Certificate of Education (GCE) advanced level (A/L) qualifications is 17.3%, which is above the average unemployment rate of 8.5% in 2004.² This implies a significant waste of human resources. This mismatch between labor demand and supply can be mainly attributed to three factors: (i) the limited capacity of the TEVT sector, (ii) the unwillingness of eligible youth to pursue careers as technicians or technologists because of TEVT's poor image, and (iii) the fact that TEVT courses tend to be supply-driven and unresponsive to industries' needs.

4. **Alternatives Considered.** Private sector provision of TEVT services was considered as an alternative to the Project. Private sector participation in the TEVT sector is currently concentrated in information technology (IT). The private sector is not expected to participate in

¹ The National Diploma in Vocational Training is offered at National Institute of Technical Education Sri Lanka (NITESL).

² Department of Census and Statistics. *Quarterly Report of the Sri Lanka Labour Force Survey, Third Quarter 2004*. Colombo.

other fields supported by the Project because of the considerable infrastructure and capital requirements and the prevailing uncertainty. At present, the cost of private sector TEVT programs is relatively high and beyond the reach of the poor. The public sector has provided most TEVT services and has a wide provider network. It was therefore decided to support existing public sector providers and promote private–public partnerships. To create an attractive career path in the TEVT sector as a serious alternative to conventional university education, state intervention will be needed. By establishing Univotec as an apex body and positioning CoTs as provincial resource centers, the Project will help the Government to move towards establishing a coherent TEVT system with vertical mobility. As part of the registration and accreditation processes, the Project will also examine the framework within which private TEVT provision is takes place with a view to providing a more facilitating environment.

5. There are several public TEVT providers which already offer technological and technician courses at postsecondary levels. Instead of supporting them, six TCs under DTET were selected to be upgraded to CoTs under the Project. This approach was chosen because: (i) existing courses at postsecondary levels accept only GCE A/L qualified students, and are not open to GCE ordinary level (O/L) qualified students who are more likely to consider a technician career. Programs at TCs have GCE O/L requirements or less, and hence are better positioned to offer technician programs for students with the aptitude for training; and (ii) TCs have a countrywide network with 37 colleges distributed across provinces, while other public TEVT providers, in addition to admitting only GCE A/L qualified students, conduct technological and technician courses mainly in the Colombo region and two other large urban areas.

6. **Labor Demand Analysis.** Currently, the supply of TEVT services is very low in relation to demand. In 2003, only 15.5% of the total labor force of 7.6 million had some form of vocational training.³ According to a labor market survey in 2004,⁴ TEVT graduates constitute only around 7.1% of skilled and technical labor force employed in the 204 surveyed establishments. Faced with a limited supply of graduates from the TEVT sector, private sector industries train employees in-house to upgrade their skills. Many have said that they would prefer to hire technically qualified persons with a recognized diploma in technical education.

7. Based on industry growth projections, labor demand for different occupations and industry categories was estimated for 2004–2007. Only 15% of the estimated demand for technicians and 24% for skilled workers would be filled during 2004-2007, assuming that the supply levels remain constant.⁵ Hence, there is an immense need to expand and diversify the current TEVT system in order to fill the huge supply–demand gap for technicians and skilled workers.

8. The Project will support CoTs and Univotec to produce more skilled technologists and technicians in selected technologies. Sufficient industry demand for these graduates is a prerequisite for the economic viability of the Project. Technology fields to be offered at Univotec and the CoTs will primarily address domestic labor market needs. Addressing foreign demand will be a secondary consideration. Up to four technology fields to be offered by each CoT were proposed during consultation workshops involving the public and private sectors.⁶ According to workshop participants, the greatest demand is for skilled workers in (1) information technology, (2) civil engineering, and (3) construction. Thus, information and communication technology is

³ Table 6.1 in p.33, TVEC. 2004. *Labor Market Information Bulletin*, June 2004.

⁴ The Survey was conducted in five districts and 11 industries under PPTA 4090-SRI: Human Resource Investment Project in 2004.

⁵ The supply–demand gaps are 71,000 for technicians and other associates; and 346,000 for skilled workers.

⁶ Workshops were conducted on 25 February, 11, 18–20, and 31 March 2005.

proposed to be offered in seven out of the nine CoTs, and civil technology, including construction, in four.

9. There is also foreign demand for graduates of the project institutions. There are about 1 million Sri Lankan workers in foreign countries, who remitted \$1.6 billion in foreign currency in 2004.⁷ Foreign labor demand has continuously exceeded supply, especially for skilled workers and technicians. In 2004, there were 366,226 job orders from foreign countries, of which 156,013 (42.6%) were filled. For technicians and associated professional categories in 2004, out of 11,180 job orders, only 2,273 (20%) were filled, implying a large number of missed earning opportunities during the period. Since the foreign jobs for technician and associated professionals offer much higher salaries than those for similar domestic jobs,⁸ if these positions are filled by graduates from the project institutions this would increase Sri Lanka's foreign exchange earnings.

10. **Economic Internal Rate of Return (EIRR).** To quantify the economic viability of the Project, the EIRR over 15 years was estimated. The Project will start three streams of new programs at technician and technologist levels: (i) B.Tech.Ed., (ii) B.Tech. and (iii) Diploma in Technician Education. The first two will be offered by Univotec, and the diploma program by nine CoTs, six of which will be assisted by the Project.

11. The B.Tech.Ed. program will train instructors and lecturers, who will in turn teach diploma courses as well as some of the existing certificate level courses at CoTs. The benefits from the B.Tech.Ed. program will be reflected in: (i) increased labor productivity (and thus higher wages) of CoT graduates who are taught by better qualified instructors and lecturers; (ii) shorter job search times as a result of better learning outcomes; and (iii) an increase in internal efficiency of the existing certificate level courses taught by instructors and lecturers with B.Tech.Ed qualifications.

12. The B.Tech. program will train students as technologists in various technologies, starting from the third year of project implementation, when there will be 200 full-time and 200 part-time students. By the fifth year of implementation, the program intake will increase to 600 full-time and 600 part-time students. Based on the projected number and the employment rate of graduates, the program will lead to better labor productivity and higher wages. Representative wage structures for technologists and unskilled workers were developed from the industry survey and used as the bases for the benefits computation.⁹

13. The Diploma in Technician Education programs will begin in the second year of project implementation with an intake of 375 full-time and 375 part-time students in various technologies. By the fifth year of implementation, the intake will expand to a maximum of 1,500 full-time and 1,500 part time students. The benefit from the DTET programs is calculated as incremental wage income for those diploma holders employed in their respective technology fields.

14. The economic cost of the Project includes: (i) the capital investment incurred during the project implementation period, (ii) incremental recurrent costs beyond the project

⁷ Central Bank of Sri Lanka. 2004. *Annual Report 2004*. Colombo.

⁸ For technicians and associate professionals, the monthly average remuneration in foreign jobs is SLRs46,633, which is more than four times higher than that for local jobs with vocational training (SLRs11,181). TVEC. 2004. *Labour Market Information Bulletin*. Colombo.

⁹ The reference wage is that for unskilled workers with A/L qualifications.

implementation period, and (iii) costs incurred by students and parents while the students are in school, including opportunity costs of time and out-of-pocket expenses.¹⁰

15. The Project is estimated to yield a net present value of \$14.7 million and an EIRR of 20.4%, assuming the discount rate of 12% in the base case scenario.

16. An analysis was undertaken to determine the extent to which the EIRR computation is sensitive to the assumed parameter values, namely (i) the employment rate of graduates (external efficiency of the programs), (ii) the promotion and completion rate of students (internal efficiency of the programs), (iii) the number of students enrolled, and (iv) a 1-year delay in starting diploma programs at CoTs. In the low scenario, the employment rate, the promotion and completion rates, and the intake rate are all assumed to be lower than the base scenario by 20%. In the high scenario, the employment rate is assumed to be higher than the base by 5%,¹¹ the promotion and completion rates higher by 5%, and the intake higher by 20% (Table A13.1). The internal efficiency of the programs is the most sensitive parameter for the EIRR. Hence, it is imperative to ensure that students stay in programs and complete the degree and diploma requirements.

Table A13.1: Sensitivity Analysis
(%)

Item	High	Base	Low
Employment rate of graduates	21.5	20.4	16.1
Promotion/completion rate	23.1	20.4	9.8
Number of intake	23.7	20.4	16.6
One year delay in diploma programs CoTs		20.4	20.3

CoT = college of technology.

Source: Asian Development Bank estimates.

B. Poverty Impact Analysis

17. Poverty in Sri Lanka is a rural phenomenon. In 2002, 21% of the rural population was classified as poor, compared with 6% of urban population. The Project will ensure equity in access to TEVT by upgrading one TC each in six of the nine provinces.¹² Table A13.2 summarizes income, education, and employment indicators in seven provinces. Across provinces, there is a positive correlation between the average income and tertiary education enrollment rate and a negative correlation between the average income and the unemployment rate for the population with A/L qualifications. Since many of the nonpoor can obtain postsecondary education at fee-paying private institutions¹³ and secure white-collar jobs afterwards, a large percentage of the unemployed population with A/L qualifications and those who cannot pursue further education at the postsecondary level are likely to belong to poorer households. The project programs are expected to enroll students from the poorer households, who would not otherwise be able to pursue postsecondary level education, and to equip them with income-earning skills upon program completion. By offering programs in technologies

¹⁰ SLRs12,000 per annum for a full-time student and SLRs7,500 for a part-time student were assumed for out-of-pocket expenses.

¹¹ The employment rate cannot exceed 100%.

¹² Up to six colleges of technology (CoTs) will be supported by ADB and the rest will be supported by other donors, including Deutsche Gesellschaft für Technische Zusammenarbeit [German Agency for Technical Cooperation] (GTZ), Japan International Cooperation Agency (JICA), and Korean International Cooperation Agency (KOICA).

¹³ Approximately 70% of tertiary education enrollment is in the private sector. Since these private tertiary are expensive, there is a sharp disparity in tertiary education enrollment between the poor and non-poor.

needed locally, the Project will encourage regional growth and contribute to regional poverty reduction.

Table A13.2: Income, Education, and Employment by Province

Item	Western- Maradana	Southern- Galle	Sabaragamuwa- Rathnapura	Central- Kandy	Uva- Badulla	North Western- Kurunegala	North Central- Anarudhapura	Total
Percentage below poverty line ^a	9.2%	23.6%	28.9%	20.8%	31.8%	22.3%	18.1%	19.2%
Average income per person ^b	4,187	2,598	2,036	2,623	2,528	2,717	2,437	3,056
Unemployment for GCE AL qualified ^c	11.3%	19.7%	21.0%	19.2%	20.7%	17.0%	24.0%	16.5%
Tertiary education enrollment rate ^d	16.0%	10.0%	9.0%	8.0%	7.0%	7.0%	6.0%	11.0%

A/L = advanced level, GCE = general certificate of education.

^a The official poverty line is SLRs1,423 per month in 2002.

^b Monthly income in SLRs.

Sources: (a and b)—Department of Census and Statistics. 2004. *Official Poverty Line Bulletin*. Colombo. The original data are from Household Income Expenditure Survey 2002, and are not available for North and East provinces. (c and d)—World Bank. 2005. *Treasure of the Education System in Sri Lanka*. Colombo.

C. Financial Analysis

18. Public expenditure on education is low in Sri Lanka—about 2.1% of gross domestic product (GDP) in 2004.¹⁴ This is lower than the 4% rate recommended by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) and the average rate of 3.5% in Asian countries. Educational institutions find it difficult to expand high-quality programs, particularly at the postsecondary level and in the TEVT sector, where the unit cost of training one technician or technologist is significantly higher than in the general education sector.

19. The Government's share in the project costs is estimated at \$6.7 million during the implementation period. Public TEVT provision is the responsibility of the MSDVTE, which was formed in 2003. In Table A13.3, the annual shares of the Government in the Project costs are compared with the projected MSDVTE budgetary allocations for the years 2006–2011. The Government's annual shares in the total MSDVTE budget will range from 1% to 7.5%; and the Government's shares against the MSDVTE recurrent budget will be 3.4–22.1% over the 5 years of Project implementation. From the end of the project implementation period, the Government will have to assume \$1.4 million annually as an incremental recurrent cost to continue new programs at Univotec and CoTs. This is 9% of the projected MSDVTE recurrent budget in year 2011.

¹⁴ Central Bank of Sri Lanka. 2004. *Annual Report 2004*. Government Expenditure on General and Higher Education. Colombo.

Table A13.3: MSDVTE Budget and the Project Cost Share

SLRs million	2003	2004	2005	Project Implementation Period					2011
				2006	2007	2008	2009	2010	
Total Government Budget	661,349	684,399	858,437	891,254	968,161	1,045,069	1,121,977	1,198,885	1,275,792
MSDVTE Budget	1,813	2,283	2,773	3,318	3,969	4,285	4,600	4,915	5,230
MSDVTE–Recurrent Budget	884	912	1,083	1,125	1,174	1,267	1,361	1,454	1,547
Government Share of the Project Cost				249	40	66	120	192	140
as % of MSDVTE Budget				7.5%	1.0%	1.5%	2.6%	3.9%	2.7%
as % of MSDVTE–Recurrent Budget				22.1%	3.4%	5.2%	8.9%	13.2%	9.0%

MSDVTE = Ministry of Skills Development, Vocational and Technical Education.

Sources: Central Bank of Sri Lanka. *Annual Report 2004*. Colombo; Annual Budget Book; and Asian Development Bank estimates.

20. Even though the budgetary allocation to the MSDVTE is expected to increase from 0.3% of the total budget in 2003 to 0.4% in 2007, the costs of the Project are substantial, considering the fiscal constraints on the Government. To ensure the financial sustainability of the Project beyond the implementation period, several options are being considered. These may include (i) offering fee-levying short or part-time courses for employees in industries and (ii) expanding fee-levying weekend courses. In addition, the Project will review the rules and regulations of the Government and MSDVTE to identify responsibilities that could be decentralized to facilitate the efficiency and sustainability of training programs; train senior personnel of CoTs in strategic planning, industry partnerships, and training needs assessments; and develop and implement a performance-based budgeting system for the CoTs.

SUMMARY POVERTY REDUCTION AND SOCIAL STRATEGY

A. Linkages to the Country Poverty Analysis

Is the sector identified as a national priority in country poverty analysis?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the sector identified as a national priority in country poverty partnership agreement?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<p>Contribution of the sector or subsector to reduce poverty in Sri Lanka:</p> <p>The technical education and vocational training (TEVT) sector in Sri Lanka comprises a diverse mix of study programs offered by the Government, private sector, and nongovernment organizations (NGOs) catering to a variety of target groups, including the poor. There are about 1,421 TEVT institutions, with a total enrollment of about 64,000 trainees in 2003. Of this number, a significant percentage of the unemployed urban and rural poor (60%) had acquired skills and found employment opportunities in the country and abroad. The rural and urban poor are a large and important segment of the population, with great potential to contribute to the future economic growth of the country. The TEVT sector has helped to reduce poverty in several ways. It provides free education to the poor in technical colleges (TCs). In some vocational training institutions, such as the National Apprentice and Industrial Training Authority, monthly allowances are given to trainees undergoing practical training in industry. It is estimated that the high proportion of students who failed the General Certificate of Education (GCE) ordinary level (O/L) examination and are school dropouts are from poor households. Since they have a limited opportunity to continue their higher education in private secondary education institutions, they tend to obtain alternate qualifications in the TEVT sector. Some recent studies show that 60% of the households of students in the TEVT sector received less than SLRs 6,000 per month. Students coming from poor households are mostly enrolled in basic skills development courses. The TEVT sector also helps to improve the skills of the poor, make them more competitive, and enable them to earn a reasonable salary or wage. For example, semi-skilled and skilled workers, who also belong to poor households, have the opportunity to continue to develop their skills and to earn higher salaries. The TEVT sector is expected to continue to train about 25,000 rural and urban youths from low-income families each year. This will sustain the positive impacts of the TEVT sector on the economy and on the lives of poor youths and their families by providing skills training and increased access to job opportunities.</p> <p>The Government of Sri Lanka has given high priority to human development through TEVT in order to produce a competent and flexible workforce that will promote social and economic development and encourage the youth to develop the best of their potential for economic and social development of the country. The Asian Development Bank (ADB) document, <i>Poverty Reduction in Sri Lanka</i> (2001), noted the lack of access to high-quality education among the poor. The Poverty Reduction Partnership Agreement between ADB and the Government of Sri Lanka, signed in March 2002, defines the nature of ADB's support to the Government for economic growth and human resources development. The education system, including TEVT, must play a vital role in ensuring that the nation has a productive workforce, with the knowledge and the skills needed by the economy. ADB's education and training strategy in Sri Lanka is part of its overall strategy of poverty reduction, human development, and economic growth. ADB has provided support to the TEVT sector in Sri Lanka through three projects.</p> <p>TEVT in Sri Lanka is relatively new and underdeveloped. There are about 379 statutory bodies, 209 government institutions, 350 private institutions and 128 NGO institutions. In 2003, 63,454 students were enrolled in vocational courses at certificate and diploma levels. Although annual admissions show a gradual increase in the student population, the dropout rate has increased from 21% to 26% over the last 6 years. This can be attributed to the low social image of technical education, lack of proper career guidance in the choice of courses, the poor quality of instruction and of the training environment, and domestic instability. Despite the expansion of TEVT facilities in both public and private sectors, the intervention of the government is required to promote TEVT as an alternative career path toward more rational human resource development. Each year, 140,000 people enter the job market, 70% of whom remain unemployed. Youth unemployment has increased because of a lack of appropriate skills and competencies. The conventional secondary education system, with its traditional courses, does not cater to the emerging needs of the labor markets, especially in new technological areas.</p> <p>TEVT in Sri Lanka does not receive high recognition among students and, as a result, enrollment of trainees in VT institutes is comparatively low. The development of technical education at diploma and degree levels creates an opportunity for students enrolled in basic skills development courses and the unemployed to obtain TEVT qualifications. Vocational students have a higher tendency to get into higher earning jobs in industry. The social profile of such students indicates that most prefer to continue their education and training while they are employed as they have to continue supporting themselves and their families. New forms of tertiary education would enable more poor students to become qualified, including higher diplomas and degrees.</p>			

For the last two decades there has been high international demand for Sri Lankan labor, but the country has not been able to cater to some labor market requirements. Hence, the Project will focus on strengthening the Ministry of Skills Development, Vocational and Technical Education (MSDVTE) and the Tertiary and Vocational Education Commission (TVEC) as the sector's apex bodies, and establish provincial colleges of technology (CoTs) and the University of Vocational Technology (Univotec) to reduce the skills mismatch. Alternative forms of tertiary education and vertical mobility will offer better education and training opportunities to students from economically disadvantaged communities.

B. Poverty Analysis

Targeting Classification: General intervention

What type of poverty analysis is needed?

Using the 2003 human development index, Sri Lanka was ranked 93rd of 175 countries. Sri Lanka has had a history of welfare interventions, which have contributed much to social development. According to the 2003 household income and expenditure survey, 24.7% in the rural sector, 7.9% in the urban sector, and 22.1% in the estate sector live below the poverty line. The regions with high levels of poverty are those with low access to public services and low achievements as measured by human development indicators. Of the nine provinces where the proposed CoTs are to be established, poverty is high in Uva, Sabaragamuwa, North Central, North and Eastern Provinces. In these provinces most people live in rural areas. Sabaragamuwa has the highest level of poverty (28.9%) and Western province the lowest (9.2%). In the other districts where the proposed CoTs will be established, Badulla and Rathnapura have most poor households. The proportion of persons engaged in small industries is lower in Badulla than in Rathnapura. Consumption poverty is lower in urban areas than in rural areas. Urban residents tend to receive regular incomes from several household members and to have access to welfare services. In rural areas, many people live on estates (mostly tea estates), which are isolated and have poor housing and education facilities.

An inverse relationship exists between the poverty level and the extent of urbanization--the more urbanized the province is, the lower is its poverty level. For example, the most urbanized Western and Southern Provinces have the lowest poverty levels, and the least urbanized Uva and North-Western Provinces have the highest. This points to a positive relationship between sources of income and the level of poverty. People who earn a higher proportion of their income from nonfarm employment are wealthier than people who earn most of their income from agriculture. This also implies more urbanized and industrialized areas are more affluent than those that have remained predominantly agricultural. An inverse relationship exists between the level of poverty and the level of education. The incidence of poverty is highest among individuals in households where the principal income earner has no schooling (58%) and lowest among households where the principal income-earner is a graduate (5%). Substantial variations in consumption poverty can be seen across districts, with the same relationships between the extent of poverty and the degree of urbanization and the level of education of household members. Overall, poverty is high in districts where agricultural development has been low and the expansion of industrial and commercial activities has been sluggish.

In most rural areas, access to vocational training is limited. Most of the vocational training centers conduct traditional courses despite the ADB Skill Development Project (Loan 1707-SRI) having initiated the introduction of competency-based training (CBT) system. The shortage of trained instructors and lecturers is a major problem at the local level. Craft level students do not have much scope to upgrade their knowledge and competencies through higher TEVT to access technical and managerial level jobs within the country or abroad. Trainees in the TEVT sector tend to have low salaries as a result they do not pursue higher education in the vocational training sector.

C. Participation Process

Is there a stakeholder analysis? Yes No

During the project preparation phase, participatory consultations were held with different stakeholders at the policy-making level, representatives of organizations providing vocational training, local communities, private sector, staff of the ongoing Skills development Project, MSDVTE officials, and students. Discussions were held with stakeholders at the regional level to identify courses that take into consideration labor market demands. Industrial specialists were consulted for information on training needs and employment opportunities. At a national workshop the draft project feasibility study was presented to key stakeholders and their comments and concerns were addressed. In addition, the steering committee, chaired by the Secretary of MSDVTE, met at least three times to discuss the design of the project in the context of the current government's national policies.

Is there a participation strategy? Yes No

The Project includes the participation of industry and employers, key stakeholders of the TEVT sector, to ensure the quality and relevance of training programs. TVEC will be strengthened to work with industry and employers. Industry sector councils will be established to help develop and validate program and training standards in selected technologies and craft-level programs. Advisory councils in CoTs will assist senior CoT administrators to determine the direction of its training programs. In CoTs, sectoral councils will validate curricula. Senior CoT personnel will engage stakeholders in the planning, administration, and implementation of training programs that are responsive to industry's needs.

D. Gender Development

Strategy to maximize impacts on women:

Sri Lanka provides free primary, secondary, and tertiary education in an extensive public school system and a network of vocational and technical education institutions throughout the country. Incentives, such as scholarships, are also provided. Women have a high educational attainment and there is gender equality in access to general education. Their high educational attainment has partly contributed to the increase in women's participation in the labor force. Between 1981 and 2001, the share of women in the labor force increased from 18% to 34%.

However, despite these achievements, social biases in career choices are still apparent and are reflected in enrollments in TEVT programs. Although women comprised 37% of the total enrollment in TCs in 2003, they were mainly enrolled on commerce and secretarial courses. The number of female students in trades courses, such as electronics, automobile repairs, carpentry, masonry, welding and motor mechanics, is low. Women comprise less than 25% of the enrollment in technical courses.

There is a need to encourage more women into technical education. A social marketing program would be useful and new technology courses may also present new opportunities. Attracting more women to less "feminine" courses would also improve their access to higher paying jobs locally and abroad. Although women comprised 72% of people who migrated for foreign employment in 2002, most were employed as housemaids, where they received low incomes, experienced job insecurity, and worked in poor conditions.

The Project includes the following strategies to address gender issues:

- (i) In the overall social marketing strategy, the gender dimensions of TEVT will be emphasized. Career guidance components will raise awareness of a technical and technological career path, with a special focus in promoting female enrollment in the TEVT sector.
- (ii) Within the first year of project implementation, MSDVTE will develop and approve a policy and an action plan emphasizing the need for a gender-sensitive environment and for women to be encouraged to enroll in trades, technician, and technologist programs. The policy and action plan will address issues such as student selection and allocation criteria, subsidy, and scholarship programs, and awareness-raising activities within the first year of project implementation.
- (iii) Each CoT and the university will appoint a gender coordinator to oversee and monitor the implementation of the gender policy.
- (iv) The project implementation unit (PIU), MSDVTE, TVEC, each CoT, and Univotec will collect project baseline gender-disaggregated data, and, thereafter, regularly collect and maintain gender-disaggregated data in its database.
- (v) The PIU, in cooperation with TVEC, the CoTs and Univotec will regularly analyze project output and impact indicators, including by gender.
- (vi) As new technician programs are introduced, the CoTs will, at minimum, maintain the gender ratio of its 2004 enrollment as a TC (about 37%).
- (vii) Each CoT and the university will maintain gender-sensitive infrastructure facilities, which will enhance the learning environment of female students.
- (viii) Instructors and lecturers will undertake gender-sensitization training.

Has an output been prepared? Yes No

E. Social Safeguards and Other Social Risks

Item	Significant/ Not Significant/ None	Strategy to Address Issues	Plan Required
Resettlement	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	<p>The proposed minor civil works for rehabilitation of existing buildings and construction of new laboratories and conversion of the existing buildings into new classrooms and lecture rooms do not envisage any land acquisition or resettlement work. However, resettlement plans will be prepared and implemented whenever the need for land acquisition and resettlement is required. A resettlement framework (see Supplementary Appendix D) has been prepared to ensure that, if resettlement needs are identified, the Project Implementation Agency follows the procedures for involuntary resettlement in compliance with both ADB's policy on involuntary resettlement and the Government's National Involuntary Resettlement Policy.</p>	<input type="checkbox"/> Full <input type="checkbox"/> Short <input type="checkbox"/> None
Affordability	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	<p>Per Government practice, technician programs will be heavily subsidized by the Government and programs will thus be affordable to prospective trainees.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
Labor	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	<p>From an employment perspective, the Project is intended to increase the likelihood of employment of TEVT training and education recipients.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
Indigenous Peoples	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	<p>No indigenous people will be negatively affected. An ethnic minority development framework has been prepared (see Supplementary Appendix C.)</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
Other Risks and/or Vulnerabilities	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input type="checkbox"/> None		<input type="checkbox"/> Yes <input type="checkbox"/> No