

Document of

The World Bank

Republic of Lebanon
Office of the Minister of State for Administrative Reform
Center for Public Sector Projects and Studies
(C.P.S.P.S.)

Report No. 17273 LE

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN AN AMOUNT OF US\$63 MILLION

TO

THE

LEBANESE REPUBLIC

FOR A

VOCATIONAL AND TECHNICAL EDUCATION PROJECT

February 27, 1998

**Human Development Sector
Middle East and North Africa Region**

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CURRENCY EQUIVALENTS

Currency Unit = Lebanese Pound (LL)
US\$1.00 = LL 1530
LL 1000 = US\$0.65

Fiscal Year
January 1 - December 31

AFESD	Arab Fund for Economic and Social Development
BP	Brevet Professionnel
BT	Baccalauréat Technique (Technical Baccalaureate)
CERD	Center for Educational Research and Development
CDR	Council for Development and Reconstruction
ERRP	Emergency Reconstruction and Rehabilitation Project
GTZ	German Agency for Technical Cooperation
HCVTE	High Council for Vocational and Technical Education
IAL	Industrial Association of Lebanon
IDAL	Industrial Development Authority of Lebanon
IPNET	Institut Pédagogique National des Etudes Techniques
IDB	Islamic Development Bank
ISU	Information Systems Unit
MNEYS	Ministry of National Education, Youth and Sports
MHEC	Ministry of Higher Education and Culture
MOF	Ministry of Finance
MOL	Ministry of Labor
MVTE	Ministry of Vocational & Technical Education
OPEC	Organization of Petroleum Exporting Countries
NEO	National Employment Office
NGO	Non-Governmental Organization
PIU	Project Implementation Unit
SME	Small & Medium Enterprises
TC	Technical Committee
TS	Technicien Supérieur
TSU	Technical Support Unit
VTE	Vocational & Technical Education
YWCA	Young Women Christian Association

Vice President:	Kemal Derviş
Country Director:	Inder K. Sud
Sector Director:	Jacques Baudouy
Task Manager:	Vasilios C. Demetriou

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Map	IBRD 29338

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT INTERNATIONAL DEVELOPMENT ASSOCIATION

Middle East and North Africa Regional Office
Human Development Sector

Project Appraisal Document

Lebanese Republic
Vocational and Technical Education Project

Date: February 27, 1998	<input type="checkbox"/> Draft	<input checked="" type="checkbox"/> Final
Task Manager: Vasilios C. Demetriou	Country Director: Inder K. Sud	
Project ID: 38687	Sector: Social Protection	
Lending Instrument: IBRD SIL	PTI: <input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Project Financing Data		<input checked="" type="checkbox"/> Loan	<input type="checkbox"/> Credit	<input type="checkbox"/> Guarantee	<input type="checkbox"/> Other [Specify]		
For Loans/Credits/Others:							
Amount (US\$m): US\$63.0							
Proposed Terms:		<input checked="" type="checkbox"/> Multicurrency	<input type="checkbox"/> Single currency				
Grace period (years): 4 years		<input checked="" type="checkbox"/> Standard Variable	<input type="checkbox"/> Fixed	<input type="checkbox"/>	LIBOR-based		
Years to maturity: 17 years							
Commitment fee: 0.75% on undisbursed loan balances, beginning 60 days after signing, less any waiver							
Service charge: NA							
Financing plan (US\$m):							
	Source	Local	Foreign	Total			
	Government	5.87	-	5.87			
	IBRD	24.75	38.25	63.00			
	Total	30.62	38.25	68.87			
Borrower: Government of the Lebanese Republic							
Guarantor: NA							
Responsible agency(ies): Ministry of Vocational and Technical Education (MVTE) Council for Development and Reconstruction (CDR)							
Estimated disbursements (Bank FY/US\$m):		1999	2000	2001	2002	2003	2004
Annual		5.08	12.81	18.02	16.39	8.40	2.30
Cumulative		5.08	17.89	35.91	52.30	60.70	63.00
Project implementation period: July 1, 1998 to June 30, 2003				Expected effectiveness date: July 1, 1998			
Expected closing date: December 31, 2003							

A: Project Development Objective

1. Project development objective and key performance indicators (see Annex 1 for key performance indicators):

The objective of the project is to improve the performance of the Vocational and Technical Education (VTE) system by making it more demand driven and responsive to market needs. This is part of the effort to help the reconstruction of a war-torn country.

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Progress in achieving this objective within five years will be evaluated on the basis of the following indicators: (a) percentage of VTE graduates finding employment in their fields within one year of graduation to reach 60% by mid-Project and 80% by the end of the Project; (b) difference in salary levels of VTE graduates and non-graduates after 12 months of employment to increase from current 20 to 25% by mid-Project and to 30% by the end of the Project; (c) unemployment rate of skilled workers to be reduced from current 6.8 to 6% by mid-Project and to 5% by the end of the Project.

B: Strategic Context

1. Sector-related Country Assistance Strategy (CAS) goal supported by the project - Report No. 17153-LE (November 7, 1997)

The strategic objectives of the CAS are to support: (a) rehabilitation and expansion of infrastructure and institutional development; (b) environmentally sustainable development; and (c) upgrading the human resource base and addressing poverty. The project would help achieve the goals of the CAS with respect to objectives (a) and (c). Specifically:

With respect to objective (a), the Project would assist in:

- Rehabilitating and expanding existing public VTE schools to maximize their efficiency and potential.
- Building administrative capacity in MVTE.
- Increasing managerial autonomy of public VTE schools.
- Addressing financial sustainability issues and exploring appropriate cost recovery mechanisms.
- Improving VTE linkages and cooperation with the private sector through improved representation of the private sector in advisory bodies such as the Higher Council for Vocational and Technical Education (HCVTE) and the School Boards. The public/private pilot with the "Model Schools" would be expected to be responsive to the needs of particular sectors with growth potential.

With respect to objective (c), the Project would assist in:

- Developing a policy for VTE within a broader Human Resources Development framework in cooperation with the ministries of general and higher education.
- Defining the roles of the public and private sectors with respect to training, and encouraging the private sector to provide quality training in areas where it has a comparative advantage through improved regulation and accreditation procedures.
- Addressing poverty issues by expanding VTE access which is affordable by economically disadvantaged groups.
- Meeting current and expected labor demand by expanding access to VTE and improving its relevance, responsiveness and quality.

2. Main sector issues and Government strategy

Background

This project is emerging in the aftermath of a 17-year civil war during which most systems collapsed and skilled workers fled the country. Since 1991, international agencies have been providing assistance to the reconstruction efforts, which included rehabilitation of damaged VTE schools.

Lebanese general education is an adaptation of the French system, with six years of primary, three years of intermediate and three years of secondary, which include vocational and technical training (grades 10-12). The education sector was reorganized in 1993 into three Ministries: General, Vocational and Technical, and Higher Education. However, these Ministries have only begun to establish the necessary coordination mechanisms with each other. The only institution that originally served both general and vocational education (but not higher education) is the Center for Educational Research and Development (CERD), but its approach is academic and has not contributed to making VTE more responsive to market needs or developing new curricula for new skills required by several emerging sectors. More recently, CERD has been concentrating on general education only, and MVTE has been relying on consultants for related research and strategy formulation.

VTE cycles begin at the intermediate level with Brevet Professionnel (BP) programs on a very small scale. At the secondary level, the Baccalauréat Technique (BT) is offered in three-year programs in the traditional industrial trades (mechanical, electrical, electronics, automotive, carpentry, cabinetry, architectural drafting, interior design, hotel management & food services). Quality problems in the general education system are forcing VTE schools to provide remedial courses in general subjects. At the post-secondary level, the Technique Supérieur (TS) is offered in similar trades also in 3-year programs. Special certificates and other shorter programs are also offered at the post-secondary level.

The private sector has played a major role at all levels of education in Lebanon, but its share decreases at the higher levels. During the 1996-97 school year enrollments in private education represented 83% at the preschool level, 71% at the primary level, 60% at the intermediate and secondary levels, and 55% at the post-secondary level. About 25% of enrollment at the secondary level was in VTE of which 65% was in private schools.

With the exception of a dozen NGOs and a few private schools, none offer any training in industrial trades due to the high capital investment associated with these programs. As a result, most of the training in private VTE schools is in service-oriented trades (secretarial, commerce, banking, computers) leaving the burden for training in industrial and construction trades to the public sector and a dozen NGOs. With the exception of the NGOs, the quality of such training in private schools is generally poor as evidenced by the low examination pass rates of students (50%). The MVTE administers all examinations nationally.

Sector Issues

Past government efforts to improve VTE lacked coherence due to an absence of a clearly articulated VTE policy. However, the current administration is actively seeking to provide a well-defined framework to promote a balanced development of both private and public VTE. The major issues to be addressed in VTE are grouped into the following three categories:

Institutional

- Understaffed central management hampering the operations of the Ministry.
- Lack of a cohesive VTE strategy.
- Lack of information for planning and operation of the VTE system both public and private¹.
- Poor school-based management resulting in high unit costs for VTE training.
- No cost recovery. The registration fees charged are insignificant and there are no major revenue generating activities.

Relevance, Responsiveness and Quality

- Low status of VTE. Most middle class Lebanese aspire to white collar jobs and higher education.
- Weak linkages to the labor market.
- Outdated curricula² and course materials, scarce and outdated resource materials and library books.
- Rigid and obsolete training in public schools.
- Small output of graduates from both public and private VTE schools cannot satisfy market demand.
- Low level of qualifications and technical competence of instructors due to lack of practical experience among VTE teachers and little exposure to industrial settings among instructors.
- Overly academic orientation of teacher training.
- Lack of quality standards, certification criteria and testing mechanisms.
- Absence of private sector involvement in the design of curricula and specific training needs³.

¹ A local consulting firm was commissioned to conduct a survey as part of project preparation.

² Curricula are currently being revised but have not yet been implemented. Testing and implementation will be carried out during project implementation.

³ More recently, the private sector has been invited to participate in the design of curricula.

Delivery Mechanisms & Physical Infrastructure

- Shortage of modern equipment and facilities. Even the rehabilitated schools require further investments to make them fully operational and responsive to new training. Some equipment, although in good working condition, is obsolete.
- Low student/teacher ratios (average of 6.7:1).
- Inefficient use of physical resources (low utilization rates for some facilities and overcrowding in others).
- Lack of standards and norms for physical facilities. New VTE public schools are being built with assistance from other donors with wide variations in standards used. The range of equipment used in training varies from school to school.
- Inadequate physical information on VTE public and private schools⁴.

Government Strategy

In the early nineties, the Government developed plans to expand the public VTE system to meet the large shortage of skilled manpower. However, the plan was based on a number of technically flawed studies. For example, proposals included 100 schools with a student capacity of 118,000. Realizing that these plans were not justifiable on the basis of student population, they were scaled down to 34 schools with a student capacity of about 18,000. Loans from the Arab Fund, the Islamic Development Bank and OPEC were obtained to finance them. In 1996, the National Employment Office (NEO) conducted a survey involving 3,550 enterprises and 40,000 employees which has provided better data for establishing priorities. The analysis is ongoing.

The Government's current target is to increase the participation rate in VTE to 50% of secondary enrollment from the current 25% in the next 5-6 years. This translates roughly to 62,000 places (50% of 124,000, the projected secondary enrollment in 2004) of which 32,300 (52%) would be in the public sector. This is reasonable when compared to similar neighboring countries like Jordan (31%), Egypt (60%) and Turkey (41%). In the European Union, for example, the less industrialized countries enroll between 19-41% of their secondary students in VTE. Industrialized countries enroll over 70% of their secondary students in VTE. In Lebanon during the 1996-97 period, the secondary cycle enrolled 17,600 students in private VTE schools (16%) and 9,500 students in public VTE schools (9%). The post-secondary cycle (TS level and other special certificates) enrolled 5,700 students in private VTE schools and 3,300 in public VTE schools. Enrollment in VTE increased by about 12% in the last three years and is expected to accelerate when more affordable public places are created.

The Government recognizes the need to address institutional and sectoral issues in VTE in parallel with the above investments in physical infrastructure. However, it lacks the expertise to formulate a VTE strategy and is seeking Bank assistance to develop a VTE strategy to address the institutional and sectoral issues identified. One of the most critical issues is cost recovery. The project would explore cost recovery mechanisms such as charging fees for specially designed training programs. Improved information systems would enable the Government to calculate more accurately budgetary resources and understand the need for gradual cost recovery to ensure system sustainability⁵.

Market Responsiveness. Another critical element is involvement of the private sector in the VTE system to ensure responsiveness. One of the key aspects of the policy framework to be developed under the project is to give employers, especially in the private sector, a more active advisory role in VTE policy matters. Private employers will have substantial representation in all advisory bodies (HCVTE, the School Boards). This would help ensure that sector policies are responsive to the needs of employers and that training is geared towards the acquisition of skills in demand.

⁴ A preliminary survey of existing public school sites and buildings was conducted prior to appraisal and was funded by the Japanese PHRD grant. This and previous surveys of equipment and furniture will form the basis of an information system that will be developed under the project.

⁵ Forms of cost recovery would be initiated during project implementation and public schools would be encouraged to run courses outside the formal BT and TS programs for which fees will be charged. In addition, schools might be allowed to produce goods and sell them to the public for profit.

3. Sector issues to be addressed by the project and strategic choices

The project as designed would address most of the issues identified above.

Strategic Choices. These were formulated based on an assessment of existing studies carried out by various local consultants, collection and analysis of data including survey of industries undertaken by the National Employment Office (NEO), studies commissioned by the project, and through discussions with experts in the field.

(i) New Construction versus Rehabilitation/Expansion within Existing Schools: Consolidation of existing training facilities, including a modest expansion and the development of new fields of study within existing school compounds was the strategic choice over developing new schools. This would achieve significant savings as each student place would be created at lower unit costs than at new sites⁶.

(ii) Support to the Public versus Private VTE Schools: Lebanon has an active private and public VTE sector. As such, it would appear that there is no rationale for creating new publicly funded and administered VTE schools. However, public intervention is essential for improving the cost-effectiveness, regulation and quality of the system as a whole. Furthermore, there is a market failure with respect to training in industrial trades. This is understandable in view of the high costs involved in setting up such training facilities. The system has to plan for filling the needs of future labor market needs. Most private schools have been unable to respond to the training needs of the economy because of the high investments involved in setting up training facilities in industrial trades. The following technical and social factors provide additional justification for project support to the public sector:

- Most private VTE schools are located in urban areas. Government strategy is to provide VTE training opportunities for lower income students from rural areas.
- Majority of VTE students are from lower income families and cannot afford private VTE.
- There is a high demand for training in public VTE schools.
- The size and share of the public VTE system is small compared with other similar countries in the region.

Direct Bank loans to the private sector are not feasible because it is Government policy not to guarantee loans to the private sector. But there will be indirect benefits from activities undertaken by the strengthened MVTE and specifically from:

- Improved curricula, better designed training programs, textbooks and teaching aides that MVTE will develop, which private VTE schools could adopt or purchase.
- Information and research on market needs, which MVTE will make public.
- Improved standards, examinations, and certification procedures.
- Improved accreditation, which may eliminate schools not meeting minimum quality standards.

Other indirect assistance to the private sector would be undertaken through private/public partnerships in the form of the proposed "Model Schools"⁷. These schools would initially focus on fields with export potential such as: graphic arts, textiles and apparel, agri-mechanics and food technology, and process and control engineering. Their purpose is to increase VTE output for new specializations related to these growing sectors. They represent a public-private collaboration that could be extended to other fields.⁸

⁶ Government policy does not permit purchasing of lands for schools. Therefore, all schools are built on government owned or donated lands. Because of increases in the value of land, new schools are often built on marginally adequate locations and with very restrictive lot sizes. By contrast, most existing schools are located in very good lots, both in terms of location and size and are superior in most respects to what is available now. For this reason, the Project aims to fully develop the potential of existing schools before any additional expansion in new sites is considered.

⁷ With the exception of the major NGOs.

⁸ Interviews with decision makers from the industrial trades, and representatives from industrial associations revealed a strong willingness to participate in the project. These "Model Schools" would also offer more flexible training programs as demanded by employers and industry who would be involved in the design of such programs for their direct benefit. Cost recovery from these programs may be feasible and would be explored.

(iii) **Assistance to Vocational versus General Education:** General education would benefit from a separate Bank-assisted project (being developed). Since the new education policy permits movement of students between the two streams, the rigidities previously associated with VTE no longer exist. VTE is generally costlier than general education, but a country needs a certain level of technical manpower to develop its economy. The size of the VTE sector in Lebanon today is disproportionately small in comparison with all of its neighbors and by international standards. The modest expansion proposed, even taking into account the new facilities being established by other donors, is warranted.

C. Project Description

1. Project components (see Annex 2 for a detailed description and Annex 3 for a detailed cost breakdown):

Component	Category	Cost Including Contin-gencies (US\$m)	% of Total	Bank Financing (US\$m)	% Bank Financing
Component 1: Institutional Strengthening and Capacity Building through: (a) strengthening MVTE's management, planning, financial control capabilities, marketing and research, and school-based management; (b) developing VTE policies including defining public/private sector roles in training, improving cost recovery, and increasing women's participation in the labor market; (c) campaigns to improve the image of VTE and public attitude towards it; and (d) establishing and maintaining a Project Implementation Unit (PIU) in the MVTE.	Institution Building Policy	10.01	15%	9.97	99.7%
	Project Management				
Component 2: Improvement of Relevance, Responsiveness and Quality of Training through: (a) addressing current and expected training demand (formal training and modular or short-term accelerated training) including development of training programs that would attract women into more productive jobs; (b) developing quality standards; (c) developing modern curricula; and (d) improving pre- and in-service training of teachers.	Institution Building Policy	17.12	25%	17.11	99.9%
Component 3: Delivery Mechanisms Improvement ⁹ through: (a) improving the efficiency of the existing VTE schools by rehabilitating, expanding, and re-equipping them; and (b) developing new fields ("Model Schools") in sectors with growth potential in partnership with the private sector.	Physical Institution Building	41.74	60%	35.92	86.0%
Total		68.87	100%	63.00	91.5%

⁹ Project-supported physical expansion will be limited to a modest scale of: (a) 4,000 additional student places by upgrading and expanding existing facilities; and (b) 800 student places in "Model Schools" to be established within existing school compounds in consultation with the private sector. These "Model Schools" will provide training in new fields in high demand.

2. Key policy and institutional reforms supported by the project

- Improving management and planning of VTE.
- Strengthening the regulatory framework for VTE.
- Ensuring responsiveness between labor market needs and proposed training.
- Enhancing coordination between the private and public sectors.

3. Benefits and target population. The project will provide economic, social and related benefits:

Economic Benefits

- A larger skilled labor force through the expansion of the system.
- Improved linkages to labor market needs, resulting in better employment opportunities for VTE graduates and in meeting the employers' skills demands.
- Higher labor productivity through better quality and more relevant training.
- Increased tax revenues from increased numbers of VTE graduates with higher earnings.
- More efficient use of public and private funds through reduced unit costs of training.
- Reduced unemployment by retraining unemployed workers in skills that are in high demand.

Social Benefits

- Increased participation of women in the labor market.
- Greater equality of educational opportunity for economically disadvantaged groups, by expanding public VTE schools in economically under-developed areas.
- Higher wages for workers.

Other Benefits

- Creation of new small enterprises by VTE graduates through entrepreneurship training.
- Improved national image of VTE.
- Introduction of modular training, making VTE training more flexible.

Target Populations

- Students from disadvantaged groups and lower income families who are the main users of public VTE¹⁰.
- Women who would be attracted to new fields of specialization and into more productive jobs (for example: graphic arts, food technology, textile design).
- Workers who need to be retrained in new skills.
- Potential entrepreneurs among VTE graduates, employed and unemployed workers.

4. Institutional and implementation arrangements

Executing agency: The Ministry of Vocational and Technical Education (MVTE) will be the executing agency. The existing Technical Support Unit (TSU), created recently to implement the remaining activities under the Emergency Reconstruction and Rehabilitation Project (ERRP), will be strengthened to become a full fledged Project Implementation Unit (PIU) for this Project. The PIU will be staffed with: (a) a Project Director, (b) a Technical Education Officer, (c) a Finance Officer, (d) a Procurement Officer, and (e) an Architect¹¹. On the administrative side there will be an Executive Secretary, a Computer Operator and other administrative support staff, all of whom will receive training in office management procedures and familiarization with the Bank's procedures.

Project coordination: The PIU would be responsible for day-to-day coordination of all project activities and would report directly to the Minister of MVTE. The PIU will hold regular meetings with the Director General of MVTE to discuss and report progress of project activities and seek guidance concerning the Project. Annual implementation plans will be formulated in consultation with the technical staff of the Ministry. In addition, a **Technical Committee (TC)** will be established for each major project component or activity to work closely

¹⁰ Private VTE education is relatively expensive in Lebanon.

¹¹ The PIU staff will work closely with CDR staff responsible for the procurement of goods and civil works, and related supervision.

with the PIU to ensure sound technical design. Three major TCs¹² will be formulated to deal with parts A, B, and C of the Project. Others will be formulated as the need arises during project implementation. The TCs will review annual plans, TORs and selection criteria for consulting services, and technical proposals prepared by consultants. The TCs will present their recommendations to the Minister and the Director General of MVTE. At the school level there will be a **School Coordination Unit (SCU)** comprising school staff assigned to coordinate activities to be carried out in their respective schools.

Project oversight: MVTE would have the responsibility of project oversight and policy guidance in consultation with the existing HCVTE, which is expected to become more active in providing policy direction to the sector. The HCVTE includes members from the other two ministries of education (General Education and Higher Education), as well as the ministries of Labor, Social Affairs, and the private sector (trade union representatives, industry and employers).

Accounting, financial reporting and auditing arrangements: The PIU would be responsible for financial management of the project and reporting, following systems and procedures acceptable to the Bank. Project accounts will be kept for all project-related expenditures following generally accepted accounting principles. Project accounts will be audited annually, following international auditing standards, by independent auditors acceptable to the Bank. Disbursements under SOEs will be reviewed during supervision missions. The annual audit report would be submitted to the Bank within nine months of the end of each fiscal year. The existing financial management system was reviewed in detail during appraisal and a separate report was prepared which includes an assessment of the situation and recommendations to improve the financial administration of the Project. These recommendations would be taken into account when the accounting system for the project will be put in place after the Project Accountant is appointed (sometime before effectiveness). CDR has an established system which will be used for the civil works and equipment categories.

Monitoring and evaluation arrangements: Relevant data collection, validation, analysis, and dissemination would be the responsibility of the MVTE and would be guided by: (a) the VTE Policy Note prepared by MVTE; and (b) the Implementation Plan in the Project Implementation Manual (PIM). The semi-annual progress reports will cover the periods from April-September (to be submitted no later than October 31) and from October-March (to be submitted no later than April 30). In addition, progress would be monitored through Bank supervision missions, joint Bank-Borrower annual reviews¹³, the mid-term review, and the progress indicators (Annex 1).

D: Project Rationale

1. Project alternatives considered and reasons for rejection

Project Design Alternatives

- Increase physical capacity through the construction of new schools. This was rejected because some 18,000 new public VTE places are being created with the assistance of the Arab Fund, Islamic Development Bank and OPEC.
- Expand training across all existing specializations. This was rejected because it was felt that MVTE should first establish market needs and priorities for certain specializations through a needs assessment with employers and industry.

Project Management & Implementation

- Assign project management and execution to the current MVTE staff. Rejected because of limited project management capabilities in MVTE. Instead, a PIU, working closely with the Ministry was considered a more practical arrangement, enabling MVTE to hire qualified technical staff to manage the project more efficiently and gradually transferring its experience and know-how to MVTE.

¹² The TCs will comprise: MVTE staff members duly qualified to deal with the subject or activity; PIU staff members; other technical members (consultants or advisors) as needed; and stakeholders if applicable.

¹³ The first one will be an Early Implementation Review currently practiced by the Middle East and North Africa Region.

- Assign full project management and execution to CDR. Rejected because this option would not permit the development of implementation capacity within MVTE. CDR will assist in the procurement of civil works and equipment, in view of its expertise, while MVTE manages all other activities through its PIU.

2. Major related projects financed by the Bank and/or other development agencies (completed, ongoing and planned)

Project Scope	Source and Funding Level
Bank-Financed	
Completed. "First Education Project" The project was designed to upgrade Lebanon's education system by constructing and equipping 39 primary, 24 lower secondary schools, 3 primary teacher training institutes, and one lower secondary teacher training institute. However, following the destruction of most vocational and technical schools during the 1975-76 war hostilities, the Government requested and the Bank approved the reorientation of the project towards repairing and re-equipping three technical vocational schools.	Loan 877-LE, 1977-1986, US\$6.6 million, of which US\$5 million was disbursed. The project was not audited by OED, but was given satisfactory overall rating for project outcomes.
On-going. Emergency Reconstruction & Rehabilitation Project (Vocational Education Component). Providing support for the rehabilitation of existing VTE schools (civil works and equipment), and for curriculum development. The closing date is December 31, 1998.	IBRD Loan 3562-LE - US\$15 million for the Vocational Education Component. The project is rated: DO=S; IP=S
Other Development Agencies (Ongoing projects)	
Financing the design, construction, equipment, and supervision of 15 new VTE schools.	Arab Fund for Economic and Social Development (AFESD), 1996, US\$50 million.
Financing 39% of the civil works for VTE schools and provision of equipment.	Islamic Development Bank (IDB), US\$30 million.
Financing construction of VTE schools in Northern Lebanon.	OPEC Fund for International Development, US\$4 million.
Supplying IPNET with equipment, technical assistance, and training services.	Lebanese-French Protocols of 1995-1996, FF 25.6 million.
Assistance through GTZ in implementing a dual training program, and technical assistance for teacher training programs aimed at upgrading technical skills and training methods. Recently, a new agreement was signed with MVTE and CDR for the creation of a Vocational College ("Fachhochschule") in Beirut.	Germany (GTZ), DM 15 million for the dual system training program, DM 5 million for teacher training, and DM 10 million for the "Fachhochschule".
Other Development Agencies to Other Ministries/Agencies (Ongoing projects)	
Substantial reconstruction assistance to the Ministries of Health, Agriculture and Industry.	Germany (US\$48 million)
Assistance to the Ministry of Health to upgrade basic medical and nursing standards in hospitals and clinics and to develop skills of nurse instructors.	United Kingdom
Assistance for the development of programs for the disabled.	Sweden
Assistance for the development of programs for women through YWCA.	United States

3. Lessons learned and reflected in the project design

Lessons learned from overall implementation experience in Lebanon

The need for parliamentary ratification of external loans has delayed effectiveness for most projects. The average for 11 operations was about 7 months from Board presentation, but the range was from 4 to 12 months. A key factor in reducing effectiveness delays is to synchronize project processing with parliamentary activities. *This project will be presented to the Board in March, 1998, to take advantage of the early 1998 parliamentary session to reduce "waiting time".*

Loan 877-LE - First Education Project

The project was implemented during the civil war with six Closing Date extensions. About 76% of the loan was disbursed. The main lesson learned is that even under extraordinary conditions a project can still be implemented if the project staff are competent and determined to accomplish their goals. *In this project careful selection of PIU staff with experience and good qualifications would assure better prospects for good performance.*

Loan 3562-LE - Emergency Rehabilitation and Reconstruction Project (ERRP)

Under the Emergency Reconstruction & Rehabilitation Project (ERRP), the Bank has provided support since 1993 to MVTE for the rehabilitation of existing VTE schools (civil works and equipment), and for curricula development.

The main lessons learned from this operation were that:

- The ERRP did not address institutional or sectoral issues, because the institutions involved were not prepared for policy dialogue at the time of project preparation. *The deficiencies are being addressed by the proposed project which includes substantial institutional and policy development component.*
- Establishing management arrangements (the TSU) was a lengthy process. *The proposed project is establishing an interim Technical Support Unit (TSU) under the ERRP which will gradually take over coordination functions for the new project and become a fully fledged PIU. This will give the PIU staff a head start in project implementation. All the key positions are already filled with qualified and experienced staff.*
- Implementation was subject to setbacks due to changes in the Project description requested by the beneficiary Ministry (MVTE). *This problem will be avoided in the proposed project by assigning executing responsibility to MVTE which is the direct beneficiary. In addition, Technical Committees for each major component, and School Coordination Units at each beneficiary school would ensure that decisions are based on technical considerations and the users' needs are adequately addressed. Implementation capacity within MVTE would be gradually developed under the Project.*

4. Indications of borrower commitment and ownership

A series of recent initiatives taken by the Government indicate a serious commitment to the VTE sector.

- In 1995, the Government adopted a VTE strategy focusing on (a) improving pre-employment and upgrading VTE programs; (b) providing flexible training paths by allowing bi-directional transfers (from general to vocational and vice versa); and (c) promoting interaction between VTE institutions and the private sector.
- A "Manpower Survey" was carried out by the National Employment Office (NEO) involving 3,550 enterprises and 40,000 employees. The MVTE is working closely with the NEO and will be using the data to establish training priorities.
- Public VTE recurrent expenditure budget has increased by 25% in the last 3 years. This included: (a) a 30% increase in the salaries of instructors bringing them at par with private sector salaries; and (b) adequate provision of consumable materials. In 1997, the recurrent budget structure was 65% salary and 35% non-salary, which compares favorably with the budget structure in other countries which is often 80% salary.
- MVTE has commissioned several local consultants to conduct related studies and surveys: (a) survey of public VTE school assets; and (b) survey of private VTE schools. These would be used to establish a database on enrollments, programs offered, budget, staffing, facilities and equipment, and other resources.

5. Value added of Bank support

Bank involvement in this project will improve outcomes by catalyzing lessons of international experience, improving efficiency and providing strategic direction to the sector. In addition, Bank participation will ensure that the following opportunities are not missed: (a) improving sectoral coordination, (b) exploring financing mechanisms with emphasis on sustainability, (c) improving women's participation in the labor market, and (d) encouraging the active involvement of the private sector.

E: Project Analyses (Detailed assessments are in the project file. See Annex 8)

1. Economic (see Annex 4):	<input checked="" type="checkbox"/> Cost-Benefit Analysis : NPV=US\$76.9 million; ERR=15.8%	<input type="checkbox"/> Cost Effectiveness Analysis:	<input type="checkbox"/> Other [Specify]
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The economic soundness and viability of the project was supported by a cost benefit analysis, which incorporated a sensitivity analysis based on the uncertainty of future wages. The economic benefits are measured by the incremental earnings of VTE graduates generated by the project. The economic costs include the project investment and incremental recurrent costs, and opportunity costs (forfeited income by VTE students attending school).

The project is economically feasible based on the estimated ERR of 15.8%, and its NPV of US\$76.9 million (using a discount rate of 12%). Sensitivity analysis using Monte Carlo simulations shows that the project is robust with respect to a deterioration in key assumptions. The probability that NPV would become negative or that the ERR would fall below 10% is negligible.

Unlike education projects in general, most of the benefits of this project are quantifiable. The vocational and technical education is an "economic" sector having a direct, measurable impact on the economy.

2. Financial (see Annex 5)

Financial cost recovery in the public VTE system is presently minimal and difficult to improve under the existing political environment. Technical assistance under the Project will explore viable mechanisms for improving cost recovery in the public VTE system. There are substantial benefits accruing to graduates of the public VTE system as captured in the economic analysis of the Project (Annex 4).

Fiscal impact: Project investments are estimated at about US\$68.87 million (including US\$3.71 million in local taxes) over the five year implementation period, 91% of which will be covered by the Bank loan. Recurrent operating costs (comprising mainly of incremental building and equipment maintenance) are estimated at US\$4.62 million. There will be no incremental staff salaries as the project will not finance new schools and will gradually increase the student/teacher ratio from 6.7:1 to 12:1. Existing schools will be more cost effective as a result of: (a) accommodating the 4,800 additional public places (including the 800 new places in "model schools") in existing school compounds which will result in more efficient operation; and (b) increasing class size for theoretical subjects.

The annual incremental budgetary requirements for the project are estimated as follows:

1998/99	1999/00	2000/01	2001/02	2002/03	Thereafter
US\$0.01 million	US\$0.40 million	US\$1.11 million	US\$1.51 million	US\$1.60 million	US\$1.60 million

The project is sustainable as the above amounts do not represent an undue burden over existing budgets and are taken into account in the projected recurrent budgets of the MVTE. The full annual incremental amount after the project is implemented in 2003 will be about US\$1.60 million which represents a 12.8 % increase (in real terms)

over the 1997 operating budget. The net impact is expected to be less due to diversion of funds from general education and any cost recovery.

3. Technical

The project was designed in close cooperation with the public and private sector experts and drew on best practices to ensure that project design was simple and feasible in the Lebanese environment. Each major component was designed to meet appropriate criteria with respect to: feasibility, flexibility, cost-effectiveness, sustainability, and responsiveness. Project design would ensure that international and local specialists would work closely to ensure that related project components and interventions yield the desired outcomes. This would be accomplished through a well defined Technical Assistance package that would include study visits, training programs, twinning arrangements, and assistance from national and international specialists. In addition, consideration was given for incorporation of best practices that can be emulated to help Lebanon meet its needs for VTE expansion and quality improvement.

4. Institutional

(a) Executing agencies: MVTE created in 1993 is still institutionally weak. Operations are hampered by the lack of information and limitations in staff with analytical skills particularly in the use of computers. To overcome this problem the project would finance the fees of local consultants (specialists) for the entire duration of the five year implementation period. During that period counterpart staff would be trained to take over towards the end of the project implementation period.

(b) Project management: The recently established TSU under the vocational training component of the ERRP would become a fully fledged PIU for this Project. Its staff would be trained in all aspects of project management including procurement, monitoring systems and techniques and financial management. The staff already selected are of sufficiently high caliber to warrant some degree of confidence, but further orientation and training would be pursued during the period prior to effectiveness to familiarize them with the Bank's procedures. CDR staff who are experienced with the procurement of works and equipment and familiar with the Bank would assist in project implementation.

5. Social

The major social impact issues faced are: access to quality vocational training for the poorer sections of society, for those in remote areas, and for women. Preliminary assessment confirms that there has been no discrimination (and none is expected) in access, outcomes and responsibilities to these groups. Therefore, no negative social impact from the project is expected. As the project expands the public VTE system and enhances the market potential of graduates, it will benefit the poor who cannot afford private VTE schooling or higher education. The public VTE system is geographically spread-out encouraging participation by those living in remoter areas. Incentives and encouragement for higher female enrollment and graduation will be addressed in the VTE campaigns and image-building component.

Assessment of the main implementation institutions confirmed that there is a strong borrower recognition of, and commitment to extracting social benefit from the project. The institutional capacity to do so is being strengthened by the project. The MVTE would collect and analyze data in order to ensure that social impacts are monitored and addressed throughout the life of the project. Baseline data will be collected during the first project year.

6. Environmental assessment Environmental Category ☐ A ☐ B ☒ C

The proposed project has been cleared for Category C. No adverse environmental impact from the proposed project is expected. There will be a series of small construction contracts as part of the operation, and implementing agencies would be required to ensure that appropriate environmental protection measures are taken

as part of each construction contract. Training for trades that are likely to be pollution offenders (such as automotive trades, disposal of chemicals) would be incorporated in the new curricula.

7. Participatory approach	Identification/Preparation	Implementation	Operation
Beneficiaries/community groups	CON and COL	COL	COL
Private sector/employers	CON and COL	CON, IS	IS
Intermediary NGOs	IS and COL	COL	COL
Academic institutions	CON and COL	COL	COL
Local government	CON and COL	COL	COL
Other donors	IS and CON	IS and CON	IS and COL

Note: IS = information sharing; CON = consultation; COL = collaboration

During project preappraisal, a 2.5-day workshop was conducted with a representative sample (30 participants) of stakeholders who voiced their concerns, and helped to define project objectives and expected outputs. The result was the project summary presented in Annex 1, which follows the "Logical Framework" method. The summary describes the CAS objectives, Project Development Objectives, Project Outputs and Project Components together with the key performance indicators and critical assumptions and risks. These are presented exactly as they evolved during the workshop.

F: Sustainability and Risks

1. Sustainability

Institutional Sustainability: The project would contribute to the overall sustainability of the VTE system through:

(a) Capacity building activities that would:

- Improve planning and management, strengthen monitoring, and quality control.
- Establish an information system to enable policy formulation and implementation.
- Establish more effective governance.
- Strengthen coordination with other agencies and ministries.

(b) A client-oriented and business-like approach that would:

- Improve the image of the VTE in the eyes of the students and parents resulting in increased VTE enrollments.
- Establish mechanisms for continuous development of relevant and quality programs.
- Develop strong linkages with the labor market through MVTE cooperation with the NEO and also through the direct efforts of the schools to establish liaison with industry and employers in their respective areas.

Financial Sustainability: The financial sustainability of the project would be accomplished through:

- Reduction of unit costs, resulting from improved management and introduction of economies of scale in the VTE schools (increasing their capacity to optimal levels in lieu of building new schools).
- Increased student to teacher ratios.
- Introduction of shorter, more cost-effective training programs for which fees can be charged.
- Channeling project funds towards cost-effective investments.
- Expanded use of existing VTE schools by the private sector for special fee-paying training programs.
- Improved revenues from fees, production (within acceptable educational parameters) and contributions from the private sector, which will be explored further in the future.

2. Critical risks (see fourth column of Annex 1)

Risk	Risk Rating	Risk Minimization Measure
Project outputs to development objectives		
Teachers may not be motivated to improve their skills through training.	NR	New staff evaluation procedures would emphasize the acquisition and use of new skills. This would create an incentive for teachers to acquire and practice new skills. Interviews with public school directors and teachers (conducted during project preparation) confirm that teachers are aware of their shortcomings and want to upgrade their skills. Moreover, since the majority of teachers are hired on contract they would have an incentive to upgrade themselves so that their contracts are renewed on better terms.
MVTE may not use staff skills as the basis of job assignments.	NR	MVTE recognizes its weakness in technical areas and there is a plan to professionalize all sections of the Ministry. In addition, new performance evaluation procedures would emphasize the acquisition of new skills. Therefore, staff would have an incentive to acquire and use such skills.
Government may not be able to support MVTE expenditures if expansion of the public sector continues unchecked.	MR	The project will help the Government to strengthen sectoral planning. In addition, the project would have sufficient monitoring indicators and review points through annual plans and budgetary reviews to ensure that system expansion is carried out in a controlled manner.
The VTE system may not be able to retain quality teachers and instructors.	MR	The Government recognizes that it would be difficult to retain quality instructors in the VTE system without offering incentives. Several schemes are being explored.
Major changes may occur in the education system that may affect resource allocations for the VTE system.	MR	In view of the current structure of the Lebanese education system into three separate ministries, independent decisions that may adversely affect VTE financing are possible. However, current strong support for VTE reduces the risk for the foreseeable future. Improved planned coordination efforts among the three education ministries in the future would also ensure that such a risk is minimized.
VTE certification may not be incorporated as an integral aspect of the government's recruitment policy for technical posts.	NR	Appropriate policies and legislation would be established under the project to encourage employers to base their hiring and wage structures on the official VTE certification system.
Human and material resources may not be available on a timely basis.	MR	Continuous monitoring and supervision by the PIU and regular reviews by the Bank would help identify problems that need government attention in a timely manner. The risk is mainly with the provision of human resources since the Bank Loan would provide a high percentage of the financing for investment costs minimizing the need for counterpart funds and incremental budgetary requirements would be modest.
MVTE may not adopt and apply quality standards.	MR	Training of MVTE staff and strict supervision of quality in training programs would minimize the risk.

Accreditation procedures may not be as transparent as desired. Quality standards may not be maintained after initial accreditation of a VTE school. **HR** A legal framework with transparent criteria would be set up as the basis for accrediting VTE schools. Regular supervision and re-accreditation of these schools would also become part of the routine responsibilities of MVTE inspectorate to ensure that standards are maintained for as long as the schools are in operation.

Overall project risk rating **MR** Risks will be further mitigated by an early implementation review.

Key: **HR** = High Risk; **SR** = Substantial Risk; **MR** = Modest Risk; **NR** = Low or Negligible Risk

3. Possible controversial aspects

Expanding the public VTE system may be perceived as crowding out private providers of training. However, although the share of private providers in VTE is about 76%, almost all, with the exception of a few NGOs, are geared towards service-oriented trades. The few NGOs that provide industrial training, have limited capacity, are located in urban areas, and charge tuition fees rendering them unaffordable to lower income students. This market failure necessitates public intervention. The project would assist the Government in defining the public/private roles with respect to training within a framework of a technically sound VTE policy. This in turn would lead to a more streamlined and regulated sector approach allowing a synergy of public/private interventions in areas of comparative advantage.

G: Main Loan Conditions

1. Effectiveness conditions¹⁴

None

2. Other

None

During negotiations, the government has confirmed that with respect to:

Accounts/audits

- (c) It will keep separate accounts for the project and will ensure that an annual audit is carried out by independent auditors with respect to: (i) project expenditures; (ii) the two Special Accounts (SAs); and (iii) Statement of Expenditures (SOEs).
- (d) It will furnish the Bank with the above audit reports within nine months of the end of each fiscal year (Jan-Dec).

Financial performance

- (e) It will provide the required counterpart funds in a timely and cost-effective manner.

Management

- (f) It will maintain the PIU, established within MVTE, under terms of reference, and with staff whose qualifications and experience are satisfactory to the Bank throughout the project implementation period.
- (g) It will establish and maintain all technical committees as required by the project.
- (h) Coordination teams at each beneficiary school SCU (identified for the first year) will be appointed.

¹⁴ Based on past Bank experience, signing has taken 1.5 months on average, but effectiveness has taken 7 months on average. Effectiveness is dependent on Parliamentary ratification and with Parliament in session for only part of the year, the matter is largely outside the Government's control. Steps have been taken to synchronize the project timetable to the Government's timing.

Project implementation

- (i) It will provide the Bank with semi-annual **progress reports** (by **October 31**, covering the period from April to September, and **April 30**, covering the period from October to March each year) based on an agreed format (progress, problems/issues, proposed actions to resolve, target dates for critical activities, schedules and cost estimates).
- (j) It will furnish the Bank with an **operational plan** (by October 31 each year) outlining all activities to be implemented during the following 12-month period (Lebanese fiscal year - January to December) including schedules, cost estimates and budgetary requirements (counterpart funds) and resources needed to execute the plan.
- (k) It will carry out, jointly with the Bank, **annual implementation reviews** in November each year.
- (l) It will carry out, jointly with the Bank, a **mid-term review** of project implementation on or before April 2001.
- (m) It will monitor the agreed list of key performance indicators that relate to project objectives and will report on these indicators in the regular semi-annual progress reports.

Sectoral policy/regulatory/institutional action

- (n) It will develop a national policy on VTE with provisions on: (i) financing of VTE; (ii) reforms in governance (institutional autonomy and accountability); (iii) quality assurance through improved accreditation and regulation procedures and performance monitoring of all VTE institutions (public and private) by no later than December 31, 1999; and (iv) provide the Bank for its review and comment the draft policy document, and adopt the policy in accordance with an agreed timetable.

H: Readiness for Implementation

The following critical preparatory activities have been carried out:

- Preparation of TORs for the major technical assistance packages.
- Completion of physical surveys of all existing schools.
- Preliminary calculations of additional expansion potential at each existing school.

I: Compliance with Bank Policies

[x] This project complies with all applicable Bank policies.

  
 Task Manager: Vasilios C. Demetriou Sector Director: Jacques Baudouy Country Director: Inder K. Sud

Annex 1
LEBANESE REPUBLIC
VOCATIONAL AND TECHNICAL EDUCATION PROJECT

Project Design Summary

Narrative Summary	Key Performance Indicators ¹	Monitoring and Supervision	Critical Assumptions and Risks
CAS Objective			(CAS Objective to Bank Mission)
1. Human Resources prepared to meet challenges of economic development	1.1 10% increase of trained persons by 2001, 20% by the end of 2003	1.1.1 Review of NEO and MVTE records, and National Statistics	1. Viable macroeconomic framework 2. Political stability
2. Reduce Poverty	2.1 Reduction of the unemployment rate of skilled workers to 6% by 2001, and to 5% by the end of 2003, from the current level of 6.8%	2.1.1 Review of National Statistics, and independent reports on employment	
	2.2 25% difference in salary level of VTE graduates after 12 months of employment by 2001, and 30% by the end of 2003, from the current level of 20%	2.2.1 Review NEO statistics, MVTE tracer system, and National Statistics	
Project Development Objectives			(Development Objectives to CAS Objective)
1. Performance of VTE system improved	1.1 60% of VTE graduates finding employment in their field within one year of graduation by 2001, and 80% by the end of 2003	1.1.1 Interview graduates, review MVTE tracer system	1. Other sectors (General Education and Higher Education) work in harmony with MVTE and coordinate their development projects among each other 2. No major political crisis occurs 3. Growth in the creation of new jobs 4. Growth in the economy and access to credit
	1.2 50% increase in VTE enrollment (specific sectors to be determined) by the end of 2003	1.2.1 Review MVTE records and private audits	
	1.3 200 new micro-enterprise jobs created by VTE graduates by 2001, 500 new jobs by the end of 2003	1.3.1 Review MVTE databases, MOL statistics, and MVTE tracer system	

¹ Baseline and targeted values should be shown, with the latter divided into values expected at mid-term, end of project and full impact.

Narrative Summary	Key Performance Indicators	Monitoring and Supervision	Critical Assumptions and Risks
Project Outputs			(Outputs to Development Objectives) 1. Teachers are motivated to improve their skills through training 2. MVTE assigns jobs on the basis of staff skills 3. Quality of General Education does not deteriorate 4. Government continues to support VTE expenditures taking into account growth and planned expansion 5. Government supports incentives program for teachers 6. VTE certification is formally integrated in the Government's recruitment policy for technical posts 7. No major changes occur at the institutional and policy level in the education system
Component 1: Institutional Strengthening & Capacity Building			
1. Management of MVTE strengthened	1.1 15 qualified technical staff in key positions hired by the end of year 2001, and 20 total by the end of 2003	1.1.1 Review MVTE records	
	1.2 60% of MVTE staff trained to improve performance in their roles by the end of 2001, and 90% by the end of 2003	1.2.1 Review MVTE records	
	1.3 Fully operational VTE info-system is in place by end of the 3rd project year	1.3.1 Review MVTE system	
2. VTE policy developed and operational	2.1 Draft VTE policy implementation strategy completed by end of the 1st project year	2.1.1 Review MVTE records, progress reports	
	2.2 New VTE policy approved by government by the middle of the 2nd project year	2.2.1 Review Government Gazette and MVTE procedures	
3. Image of VTE improved	3.1 VTE enrollment as a % of secondary enrollment (public+private) increases from the current level of 25% to 35% by 2001, and to 50% by the end of 2003	3.1.1 Review MVTE enrollment figures and Education Statistics	
4. Project activities effectively coordinated by the PIU	4.1 Implementation is satisfactory on the basis of agreed upon schedules	4.1.1 Review MVTE project progress reports, Bank supervision reports	
Component 2: Relevance, Responsiveness and Quality of Training Improvement			
5. Training in current and expected demand areas addressed	5.1 At least 50% of the growth in VTE graduates will reflect the growth of the underlying labor market sectors by 2003	5.1.1 Review entrance records, MVTE database system	

Narrative Summary	Key Performance Indicators ¹	Monitoring and Supervision	Critical Assumptions and Risks	
6. Quality standards developed and adopted for the system	6.1 Operational procedures and control systems developed are functional by the end of 2003	6.1.1 Review MVTE procedures, visit sites		
	6.2 Reduce year 1 to 2 dropout rate from the current 25 to 15% by 2001, and to 13% by the end of 2003	6.2.1 Review MVTE database system, school statistics		
	6.3 Reduce year 2 to 3 dropout rate from the current 15 to 10% by 2001, and to 8% by the end of 2003	6.3.1 Review MVTE database system, school statistics		
	6.4 Reduce examination failure rate from the current 50 to 45% by 2001, and to 35% by the end of 2003	6.4.1 Review MVTE database system, school statistics		
	6.5 Increase graduation rate (as a % of initial year enrollment) from the current 32%, to 37% by 2001, and to 51% by the end of 2003	6.5.1 Review MVTE database system, school statistics		
7. Curricula modernized and upgraded	7.1 60% of curricula will be modernized and upgraded by 2001, and 100% by the end of 2003	7.1.1 Review curricula, random school visits, teacher interviews, MVTE and IPNET records		
	7.2 A total of 75,000 teacher guides and student manuals printed by 2001, and a total of 150,000 by the end of 2003	7.2.1 Review MVTE progress reports, random school visits, interview students and teachers		
8. Teachers trained	8.1 20% of teachers trained in relevant subjects on a yearly basis	8.1.1 Review progress reports, interview teachers		
Component 3: Delivery Mechanisms Improved				
9. Existing VTE schools rationalized and physical and human resources efficiently used	9.1 Increase the teacher/student ratio from the current 1/6 to 1/9 by 2001, and to 1/12 by the end of 2003	9.1.1 Visit school sites, review MVTE information databases, interview teachers and administrators, cross-check with educational worksheets		

Narrative Summary	Key Performance Indicators	Monitoring and Supervision	Critical Assumptions and Risks
	9.2 Increase utilization rate of workshops and classrooms to a minimum of 70% by 2001, and to 80% by the end of 2003	9.2.1 Visit school sites, review MVTE information databases, interview teachers, cross-check with educational worksheets	
	9.3 Upgrade 50% of existing facilities by 2001, and 100% by the end of 2003	9.3.1 Visit sites, review MVTE information databases, progress reports	
10. Partnerships with private industries developed	10.1 "Model Schools" for new fields established and operational by the end of the 4th project year	10.1.1 Visit sites, interview industry leaders and employers, review MVTE policies and procedures	
Project Components			(Components to Outputs) 1. Human and material resources available on a timely basis 2. Cooperation from the private sector 3. Transparent accreditation of the private schools 4. Adoption and application of quality standards 5. Cooperation of beneficiary institutions 6. MVTE support and continuity of staff in the Implementing Team
Component 1: Institutional Strengthening and Capacity Building			
1.1-A Establishing a Planning and Monitoring Unit in MVTE	Consultants recruited to assist in the design and setting up of the unit. Local (professional support) consultants hired. Set of equipment for the unit procured (US\$0.77 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
1.1-B Establishing Quality and Management Procedures in MVTE	Consultants recruited to assist in the development of quality and management procedures. Local (professional support) consultants hired. Training workshops conducted (US\$0.81 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
1.1-C Establishing an Information System	Consultants recruited to assist in the design and setting up the unit. Local (professional support) consultants hired. Set of equipment for the system procured (US\$0.88 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
1.1-D Establishing Marketing and Research Capabilities in MVTE	Consultants recruited to assist in the development of marketing and research capabilities in MVTE. Field interviewers recruited. Local (professional support) consultants hired. Set of portable computers procured (US\$1.78 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	

Narrative Summary	Key Performance Indicators	Monitoring and Supervision	Critical Assumptions and Risks
1.1-E Strengthening School-based Management	Consultants recruited to assist in the design of training programs for school administrators. Training workshops (20) conducted (US\$0.18 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
1.2-A Develop Strategy for Implementing VTE Policy	Consultants recruited to assist in the development of the strategy (US\$0.28 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
1.2-B Conduct Study Visits for Key MVTE decision makers	Ten-day study visits for four senior officials completed (US\$0.03 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
1.2-C Strengthening the Regulatory Framework	Consultants recruited to assist in strengthening the regulatory framework (US\$0.22 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
1.3-A Improving the VTE Image	Consultants recruited to advise on the design and strategy for the campaigns. Media campaigns launched (US\$2.70 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
1.4-A Establishing a PIU	Professional and support staff recruited to coordinate project activities. Office equipment, computers including software and peripherals procured (US\$1.97 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
1.4-B Training of PIU Staff	Training in office management, procurement and Bank procedures completed (US\$0.07 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
1.4-C Strengthening of PIU in Planning, Monitoring and Reporting	Consultants recruited to assist in developing planning and monitoring procedures and tools (US\$0.06 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
1.4-D General Consultations for PIU and MVTE (legal and technical)	Local consultants recruited to assist in various legal and technical matters (US\$0.06 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
1.4-E Support for Project Management	Annual budget of about US\$0.03 provided for the operation of the PIU and the Technical Committees (US\$0.20 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	

Narrative Summary	Key Performance Indicators	Monitoring and Supervision	Critical Assumptions and Risks
Component 2: Relevance, Responsiveness and Quality of Training			
2.1-A Methodology for Addressing Current and Expected Training Demand	Consultants recruited to assist in the development of the methodology (US\$0.05 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
2.1-B Needs Assessment	Consultants recruited to assist MVTE design and conduct needs assessment activities (US\$1.39 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
2.1-C Database Access	Annual budget of about US\$0.02 million for database access provided (US\$0.12 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
2.1-D Establishing School Boards	Consultants recruited to assist MVTE design the structure and TORs for the School Boards (US\$0.09 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
2.2-A Defining and Implementing Quality Standards	Consultants recruited to assist MVTE define and implement quality standards (US\$0.40 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
2.2-B Defining and Implementing Certification and Validation Procedures	Consultants recruited to assist MVTE define and implement certification and validation procedures (US\$0.54 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
2.2-C Defining and Implementing Accreditation Procedures	Consultants recruited to assist MVTE define and implement accreditation procedures (US\$0.54 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
2.3-A Developing Modern Curricula for New Fields	Consultants recruited to assist MVTE develop curricula in new fields (US\$1.51 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
2.3-B Developing Modern Curricula for Retraining in Key Sectors	Consultants recruited to assist MVTE develop curricula for retraining in key sectors (US\$0.76 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
2.3-C Developing Modern Curricula for In-service Training Programs	Consultants recruited to assist MVTE develop curricula for in-service training programs (US\$0.48 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	

Narrative Summary	Key Performance Indicators	Monitoring and Supervision	Critical Assumptions and Risks
2.3-D Developing Modern Curricula for Entrepreneurship Programs	Local consultants recruited to assist MVTE develop curricula for entrepreneurship programs (US\$0.11 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
2.3-E Development and Automation of Examinations System	Consultants recruited to assist MVTE develop and automate the examinations system (US\$0.38 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
2.3-F Development and Production of Teacher Guides and Student Materials	Consultants recruited to assist MVTE develop teacher guides and student materials (US\$4.80 million). Printing and distribution of 150,000 items completed (US\$1.50 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
2.4-A Training of Trainers for Pre-service Training Programs	Consultants recruited to develop pre-service programs for trainers. Workshops conducted (US\$1.20 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
2.4-B Training of Trainers for Retraining Programs	Consultants recruited to develop pre-service programs for trainers. Workshops conducted (US\$0.60 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
2.4-C Training of Trainers for In-service Training Programs	Consultants recruited to develop in-service training programs for trainers. Workshops conducted (US\$0.50 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
2.4-D Training of Trainers for Entrepreneurship Programs	Consultants recruited to develop entrepreneurship programs for trainers. Workshops conducted (US\$0.37 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
2.4-E Upgrading of Existing VTE Teachers	Ten 2-week workshops for groups of 20 teachers conducted annually. Twenty 4-week workshops for groups of 20 teachers conducted annually (US\$2.20 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	

Narrative Summary	Key Performance Indicators	Monitoring and Supervision	Critical Assumptions and Risks
Component 3: Delivery Mechanisms Improved			
3.1-A Planning and Design Phase for Upgrading and Expanding Existing VTE Schools	Architectural consultants recruited to design and supervise rehabilitation and expansion of existing VTE schools. Rehabilitation and expansion plan completed by consultants and approved by MVTE (US\$1.52 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
3.1-B Construction Activities in Existing VTE Schools	Rehabilitation of existing VTE schools completed (US\$13.61 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
3.1-C Enhancement of Existing VTE School Libraries	50% of the library books and other media procured during the second project year and 50% in the third year (US\$0.54 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
3.1-D Educational Materials for Existing VTE Schools	Sets of educational materials procured during the second and third project years (US\$0.32 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
3.1-E Furnishing Existing VTE Schools	Furniture procurement for existing VTE schools to start by early 1999 (US\$1.37 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
3.1-F Equipping Existing VTE Schools	Master lists of equipment prepared by late 1998. Equipment procurement for existing VTE schools to start by early 1999 (US\$11.65 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
3.2-A Development of New Fields in Existing VTE Schools	Consultants recruited to conduct feasibility studies for new fields of specialization (US\$0.86 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
3.2-B Planning and Design of Facilities for New Fields	Architectural consultants recruited during the first project year to prepare proposals (US\$0.78 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
3.2-C Construction of Facilities for New Fields	Bidding for works to be invited by September 2000 (US\$4.43 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	

Narrative Summary	Key Performance Indicators	Monitoring and Supervision	Critical Assumptions and Risks
3.2-D Furnishing of Facilities for New Fields	Bidding for furniture procurement to be invited by December 2000 (US\$0.45 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	
3.2-E Equipping of Facilities for New Fields	Bidding for equipment procurement to be invited by December 2000 (US\$6.52 million)	Review progress reports, expenditure (disbursement) reports, and Bank supervision	

Annex 1a

Lebanese Republic
Ministry of Vocational & Technical Education
THE MINISTER

الجمهورية اللبنانية
وزارة التعليم المهني والتقني
الوزير

February 6th, 1998

Mr. Jacques Baudouy
Director, Human Development Group
Middle East & North Africa Region
The World Bank

Dear Mr. Baudouy,

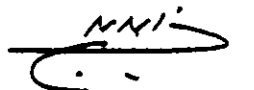
Please find attached the Vocational and Technical Education Policy Statement as approved by the Ministry of Vocational and Technical Education.

Sincerely yours,

Minister of Vocational and
Technical Education



Farouk Barbir



Vocational & Technical Education Policy Statement

In accordance with the policy of the Lebanese government in rebuilding the Lebanese economy, the Ministry of Vocational & Technical Education is planning to fulfill its role as an active party in this process. To achieve its objectives, the ministry adopted a policy which aims at improving the technical education system with special emphasis on improving administration, developing modern curricula, improving the quality and efficiency of teachers and supporting students. The new policy originates from the need of the Lebanese economy and the labor market. The general outlines of the new policy are as follows:

I- Administration:

- 1- Employing the required staff in all the departments of the ministry and activating the departments of planning, research and studies, information and technical services.
- 2- Updating existing administrative procedures, employing specialists with appropriate skills and training the present staff.
- 3- Formulating an effective system to enhance the links between private schools and the ministry.
- 4- Reviewing and upgrading the existing regulations to concur with the policy.
- 5- Developing a cooperation mechanism with other ministries.

II- Curricula and Teaching Staff

- 1- Taking all the necessary measures to implement the new governmental regulations which organize the education sector in Lebanon, especially in relation to Vocational and Technical Education.
- 2- Updating and developing the existing specialization in accordance with the needs of the labor market.
- 3- Producing new school text books compliant with modern educational systems.
- 4- Training the existing teaching staff in compliance with the new policy to raise the efficiency and enhance the capabilities of the teaching body.
- 5- Activating the Technical Education Institute to fit the dynamic plans of the ministry.
- 6- Establishing a central library, archive and data base in the ministry.
- 7- Establishing technical libraries and archives in technical schools.
- 8- Modernizing laboratories, workshops and equipment in technical schools.

III- Students

- 1- Increasing student enrollment in technical education at secondary level, to achieve the targeted percentage of all secondary students set by the ministry.
- 2- Encouraging student enrollment in public technical schools and achieving a balanced distribution of students between private and public schools.
- 3- Regulating the geographical distribution of students and schools and limiting migration to urban areas.
- 4- Making accelerated training courses available in all sectors according to the need.
- 5- Encouraging students to enroll in vocational education at all levels.

Annex 2 LEBANESE REPUBLIC VOCATIONAL AND TECHNICAL EDUCATION PROJECT

Detailed Project Description

1. Given the considerable assistance MVTE is receiving from other donors (Arab Fund, Islamic Development Bank, and OPEC) for physical expansion (18,000 new places), the Project concentrates in strengthening institutional and managerial capacities (component 1), addressing relevance and quality aspects (component 2), and on optimizing existing VTE schools through rehabilitation and selective expansion to meet emerging needs, and exploring the creation of new "model schools" in collaboration with private sector industries (component 3).
2. The project comprises three components: Component 1. Institutional Strengthening and Capacity Building; Component 2. Relevance, Responsiveness & Quality of Training Improvement; and Component 3. Delivery Mechanisms Improvement. A detailed description by component, subcomponent and activity is presented below. Project Summary tables are presented in Annex 3.

Component 1. Institutional Strengthening & Capacity Building (US\$10.01 million¹)

(a) Strengthening Management & Efficiency of the VTE System (US\$4.43 million)

- (i) Strengthening MVTE Planning & Monitoring Activities (US\$0.77million): Assist the MVTE to define the needs of its proposed planning unit, to conduct continuous audit and control of VTE system activities, and to provide guidance when there is need for adaptation, modification, strengthening, or discontinuation of specific programs/activities. Technical assistance would be expected to continue throughout the life of the project, in view of anticipated changes in general education, and its overall impact on VTE. *The Project would finance: international and local experts to assist in the organizational design of the unit; training workshops; and the salaries of key professional staff (to be hired on contract basis) to initiate the operation and train permanent staff to take over planning, quality and control monitoring, information system and research functions.*
- (ii) MVTE Quality & Management Procedures (US\$0.81 million): Development of quality assurance operational manuals and procedures based on ISO-9000. *The Project would finance: international specialists to develop the procedures and assist in the preparation of the manuals; local facilitators to train personnel concerned with the use and application of the quality procedures; workshops; and the salaries of key professional staff (to be hired on contract basis) to initiate the new procedures.*
- (iii) MVTE Information System (US\$0.88 million): Development of a computerized information system. The system would include a module on infrastructure to help MVTE keep track of all physical property (buildings, furniture and equipment). It would also assist in policy formulation with respect to existing schools upgrading, expansion and maintenance of the Ministry's physical assets, and defining and introducing standards for their maintenance. The system would monitor various education indicators, such as: acceptance rates, dropout rates, repetition rates, success rates, efficiency rates including an overall indicator of efficiency and average time to produce a graduate for each school.

¹ This and subsequent statements represent total estimated costs including contingencies.

The system would also be used to analyze local labor market data for program planning purposes, and provide student career guidance. The system would be PC-based and would be configured to link all VTE schools with MVTE. *The Project would finance: international and local specialists to assist in the design and configuration of the system; computer hardware and software; related training for MVTE staff to operate the computerized database and other related functions; and the salaries of key professional staff (to be hired on contract basis) to initiate the operation of the new system.*

- (iv) **Marketing Research & Surveys** (US\$1.78 million): Designing and conducting four broad types of surveys: *Administrative surveys*, fielded electronically through the installed MVTE Information System to address the information needs of the MVTE planners. *Quality Surveys*, aimed at providing a quantitative assessment of the implementation of quality programs in training (students and teachers), and curricula. *Market Surveys*, fielded longitudinally to the same representative sample of enterprises over time. The first year survey would be followed by a similar survey every two years. The survey would cover issues related to employment, compensation, training, technology, and *Tracer Surveys* of VTE graduates, aimed to increase the linkage with the labor market, and to provide each VTE school with adequate and timely feedback on its performance relative to the labor market. A baseline tracer survey of recent VTE graduates would be initiated at the start of the project and would be updated annually. *The Project would finance: international and local specialists to design the surveys and draft TORs for field research; local specialists (market researchers, statisticians) to administer, collect and analyze the data; printing and dissemination of findings and recommendations; and the salaries of key professional staff (to be hired on contract basis) to initiate and operate the new system.*
- (v) **Strengthening School-Based Management** (US\$0.18million): Providing managerial skills training to the school principals and administration staff and preparing them for efficient management of school resources. *The Project would finance: international and local specialists to design the training programs; and a series of workshops.*

(b) Developing VTE policies (US\$0.53 million)

- (i) **MVTE Strategy Development** (US\$0.28 million): Preparation of a VTE strategy designed to respond to the long-term economic development of the country. It would address the role of MVTE in relation to the VTE system: its organization, administration, budget and resources. It would also explore different education alternatives, such as the modular training system and accelerated training, to encourage students to enroll in VTE, and upgrading of teaching staff to improve quality of training. The Government's draft VTE Policy Statement (Annex 1a) will provide the basis for developing the strategy and action plan for implementation. Preparations would start by the end of the first year of implementation and would involve a panel of high level experts with international experience in strategy and policy formulation in VTE. Separate studies would be undertaken to explore mechanisms for improving cost recovery, and increasing women's participation in the labor market and in high-paying jobs. *The Project would finance international and local specialists to assist MVTE develop the strategy; and conduct related training, and studies in relation to the VTE system, its organization, budget and resources.*

- (ii) **Study Visits** (US\$0.03 million): Organizing a series of study visits for senior MVTE officials to selected countries to observe "Best Practices" of relevance to the Lebanese VTE system, particularly with reference to the participation of the private sector and coordination with secondary and higher education, and cost recovery mechanisms. *The Project would finance the study visits and follow-up activities as needed to formulate actions based on the lessons learned.*
- (iii) **Regulatory & Legal Framework** (US\$0.22 million): The drafting of regulations and provision of the legal framework to enable MVTE to enact its role as determined in the MVTE strategy. Regulations for not-for-profit NGO schools, and for-profit schools operated by the private sector would be included. It would also address issues regarding the proposed changes to existing laws, regulations, and procedures affecting project implementation. *The Project would finance: international and local specialists to provide assistance in drafting the regulatory framework; a series of workshops to enable MVTE staff to acquire the necessary knowledge and skills to perform regulatory and accreditation functions.*
- (c) **VTE Image Improvement** (US\$2.70 million): Preparation and launching by MVTE of campaigns to disseminate information about VTE. The campaigns would aim to correct the distorted image of VTE, particularly for VTE schools in the public sector. This activity would be designed to coincide with the deployment of the new VTE initiatives. Various types of local media would be selected based on an assessment of their intended impact. *The Project would finance: international specialists to assist with the education media campaign and local specialists to carry out the VTE image campaign; and media costs.*
- (d) **Project Implementation Unit** (US\$2.35 million): The existing Technical Support Unit (TSU) under the Vocational Education component of the ERRP will form the basis of the Project Implementation Unit (PIU). Technical assistance would be provided to develop project management operational manuals, and systems and tools, including progress reports to monitor implementation progress. Related training would also be arranged for PIU and MVTE staff to enhance the staff's capabilities and maximize the use of modern technology and computers. *The Project would finance: salaries of the PIU staff (to be hired on contract basis); office equipment and computers; training for familiarization with Bank procedures and procurement; technical assistance for planning and management procedures and for legal aspects; and operational support for project management activities (supervision, monitoring, etc.).*

Component 2. Improvement of Relevance, Responsiveness and Quality of Training (US\$17.12 million)

(a) Addressing Current and Expected Training Demand (US\$1.64 million)

- (i) **Methodology** (US\$0.05 million): Development of a competency assessment methodology applicable to the Lebanese economic environment. The methodology would determine the mechanism for deriving key competency needs for skilled workers and for technicians in the major industrial and service sectors. It would also define tools and approaches required for implementation, as well as regular and flexible mechanisms for subsequent revision and updating. An integral element of introducing the competency assessment methodology will be achieved through the introduction of workshops aimed at disseminating practical information to enterprises and VTE schools on human resources techniques and tools, the role and impact of training, the application of competency needs and profiles, and promote training to enterprises (pre-, in-service, and retraining). The

workshops would also help schools in understanding the adaptation of competency profiles into curricula. *The Project would finance international and local specialists to assist in the development of the methodology and to conduct workshops.*

- (ii) **Needs Assessment** (US\$1.51 million): A needs assessment would be carried out at the enterprise level, following the procedures established through the methodology described above. A representative sample of enterprises would be selected in targeted sectors. Surveys would be designed, and information disseminated to key decision makers for hiring and forecasting demand within a given enterprise. Results would be aggregated by industry, field specialty, and level (BT, TS). The surveys would also collect information aimed at gauging demand from the private sector for pre-service, in-service training, retraining, and entrepreneurship programs on a regular basis. Attention would be paid to the needs of women by identifying specializations that would help them obtain skills for high-paying jobs away from traditional female occupations. A database would be established to ensure current updating on the status of the local and regional markets, with reference to labor demands, exports, industry formations, etc. *The Project would finance: a team of international specialists and local survey specialists, labor economists, and statisticians who would assist in the data analysis and present findings at annual seminars; and provide access to local and international databases, and internet sites.*

- (iii) **School Boards** (US\$0.09 million): Each VTE school would establish an advisory School Board composed of representatives from enterprises, the school's management and teaching staff, parents, and students. Support staff from the school would serve as secretariats for the Boards. The Boards would meet periodically to discuss market needs, skill levels and profiles required, establish procedures for the selection and placement of VTE students, and play an advisory role in the development and governance of the schools. *The Project would finance international and local specialists to define the role of these Boards and to draft operational procedures and TORs; and other incidental expenditures associated with Board activities.*

- (b) **Developing Quality Standards** (US\$1.09 million): Three broad families of quality standards would be developed. Training Quality Standards would address benchmark definition, and performance indicators for education quality improvement. These standards would involve quality of education output, teacher output, and administration efficiency. Certification & Validation Standards would address the requirements, and would establish the procedures for VTE graduates certification and validation for pre-service training. These standards would involve the establishment of the minimum requirements for degree equivalency for local and foreign VTE graduates, and the certification criteria for in-service trainees. Accreditation Standards would address the requirements for accrediting VTE institutions both public and private (NGOs, and private for-profit). These standards would address the requirements for accrediting schools, and degrees offered, and provide the regulatory framework for accreditation. *The Project would finance international and local specialists to define quality standards, monitoring of their implementation, and related training.*

(c) **Developing Modern Curricula** (US\$9.53 million)

- (i) **Pre-Service New Fields** (US\$1.51 million): Development of curricula for the new fields of specialization as well as updating existing curricula. *The Project would finance international and local specialists to assist in developing the curricula, and the development and testing of instructional materials (print and audiovisual).*

- (ii) **Retraining** (US\$0.76 million): Development of curricula for retraining programs to provide workers with the skills needed by enterprises. Most employers have expressed an urgent need to retrain a significant segment of their workers. The retraining would focus on upgrading and developing skills required for operating new processes and equipment. *The Project would finance international and local specialists to liaise with industries and MVTE and assist in the design of special training programs.*

- (iii) **In-Service Training** (US\$0.48 million): Development of curricula for programs to upgrade worker's skills. A typical SME can generally send very few employees for training outside at any given time. Therefore, developing specially designed training programs to be conducted within the enterprise--focusing on enhancing worker's skills in the areas of production and quality control--would be cost-effective and respond to immediate needs. *The Project would finance the same group of experts providing technical assistance in retraining to provide guidance in designing short duration programs.*

- (iv) **Entrepreneurship Training** (US\$0.11 million): Development of curricula for entrepreneurship training (either in pre-service or in-service) to enable VTE graduates to start their own SMEs and microenterprises often following some work experience. This type of training as a complement to technical subjects, would introduce students to the fundamentals of project design and presentation, cost estimates, contract preparation, book keeping, invoicing, taxation, contracting, and business law, through the use of PC-based computer applications (off-the-shelf software). The majority of the Lebanese enterprises would be characterized as SMEs or microenterprises employing less than 10 workers. Most VTE graduates aspire to be entrepreneurial and owning their own business. In fact, the vast majority of the enterprises are family owned. Prospective owner-managers, however, have very little experience managing an enterprise or owning a business. *The Project would finance local specialists to assist in the development of curricula for entrepreneurship training.*

- (v) **Examinations Development (and automation)** (US\$0.38 million): Development of exams related to the new curricula in three languages (Arabic, English, French). An archive of questions would be developed and a process would be established for fielding the exam questions to each school electronically via a WAN (Wide Area Network). *The Project would finance international and local specialists to assist in the development of examinations and the creation of an electronic archiving system.*

- (vi) **Teacher Guides and Student Manuals Production** (US\$6.30 million): Development and production of teachers' guides, student manuals, and teaching aides for pre-service, in-service, and entrepreneurship training. Textbooks would be produced in English, French, Arabic as appropriate, and would be made available to students at a reasonable cost. *The Project would finance: international and local specialists to develop and test the materials; and printing and distribution of the materials to all public VTE schools.*

(d) **Improving Pre- and In-Service Training of Teachers** (US\$4.86 million)

- (i) **Training of Trainers for Pre-Service Programs** (US\$1.20 million): Training IPNET faculty to train teachers for pre-service programs in new industry fields. The emphasis would be on programs for new fields at the model schools. *The Project would finance: international and local specialists to assist in the design of the training programs; and related training activities.*

- (ii) Training of Trainers for Retraining Programs (US\$0.60 million): Development of suitable retraining programs for trainers. MVTE would train a select group of teachers to be designated retrainers. *The Project would finance: international and local specialists to assist in the design of the training programs; and related training activities.*
- (iii) Training of Trainers for In-Service Training (US\$0.50 million): Designing and conducting of in-service training programs for IPNET faculty. A selected group of teachers based on competency assessment would be trained as trainers, and would acquire industrial experience through practical exposure in nearby industries. IPNET would monitor and report on the number of trainers trained, number of industrial internships, and the quality of training. The same group of specialists employed in the curricula development for in-service training would be involved in this activity. Technical Committees would evaluate the program. *The Project would finance: international and local specialists to assess the situation and design suitable training programs; and related training activities.*
- (iv) Training of Trainers for Entrepreneurship Training (US\$0.37 million): Designing and conducting entrepreneurship programs for IPNET faculty to promote self-employment and the creation of microenterprises, the majority of which are family owned. Prospective owner-managers, have little experience managing an enterprise or owning a business. The core group of trainers would visit each VTE school, and offer workshops and seminars on entrepreneurial management based on the curricula developed by the specialists mentioned earlier [Component 2(c)(iv), Entrepreneurship Training]. The same group of specialists would be employed to select and train the core group of trainers. This training would eventually be integrated into the school syllabus. *The Project would finance: local specialists to assist in the design of programs and formulation of a strategy and plan to implement entrepreneurship training; and related training.*
- (v) Upgrading of Existing VTE Teachers (US\$2.20 million): Training of current MVTE teachers based on the training curricula developed by the specialists mentioned earlier [Component 2 (c)]. It is estimated that 1,500 teachers would be trained according to two schedules (2-week and 4-week programs). *The Project would finance: international and local specialists to assist in the design of training programs; and related training.*

Component 3. Delivery Mechanisms Improvement (US\$41.74 million)

- (a) **Expansion & Retrofitting of Existing Schools (US\$29.00 million):** The purpose is to explore ways of optimizing existing facilities. This component would support the preparation of a complete physical survey of all existing public VTE schools (sites, buildings, equipment, and furniture). Analysis of the training requirements would follow to establish the extent to which these facilities meet existing and future needs of the area. The analysis would be aided by the database developed by the specialists mentioned earlier [Component 1(a)(iii), MVTE Information System]. It is estimated that about 3,000-4,000 new places can be created within existing VTE schools. This expansion would be accomplished at lower costs than constructing new schools due to economies of scale for management and teacher resource allocations as well as for utilities and basic infrastructure which already exist. Based on the current developments in curricula which are increasing the time devoted to practical subjects and decreasing those for theoretical subjects, schools may have surplus classrooms or boarding facilities that can be converted into light workshops or labs (library or other uses). Already, boarding facilities at existing schools may be converted to other uses. *The Project would finance: works for the rehabilitation and selective expansion at existing school sites; library books; educational materials; furniture; equipment;*

and professional services (architectural and engineering) for the design and supervision of the works.

(b) Development of New Model Schools (US\$12.74 million)

- (i) Feasibility Studies & Needs Assessment of Key Sectors (US\$0.86 million): The feasibility of creating special schools in certain growth industries would be assessed through studies. "Model Schools" focusing on new fields of specialization characterized as strategic for the economy or with export potential have been identified on a preliminary basis (for example: graphic arts and printing, clothing, industrial engineering, agri-mechanics and food technology). These new specializations would create higher earning jobs and some would be particularly attractive to women. *The Project would finance international and local specialists to undertake the study, and conduct the dialog with the identified stakeholders.*
- (ii) Creation of Four New "Model Schools" (US\$11.88 million): Four Model Schools would be established in collaboration with private sector industries within the compounds of existing school sites. Upgrading, expansion and modification would take place to accommodate the specific space and configuration requirements of each school. It is anticipated that the private sector would be instrumental in securing equipment for the schools. The school for graphic arts proposed by the graphic arts syndicate could be used as a pilot. The organization has completed a study to create a school responding to their needs in skilled workers, technicians and middle managers. This sector is probably the most competitive at the regional level, including sales to European Union countries. *The Project would finance: works; furniture; equipment; and professional services (architectural and engineering) for the design and supervision of the works.*

Annex 3
LEBANESE REPUBLIC
VOCATIONAL AND TECHNICAL EDUCATION PROJECT

Estimated Project Costs by Project Component

Project Component	Local	Foreign	Total	% as For- eign	% of Total Base cost
-----In US\$ million-----					
1. Institutional Strengthening & Capacity Building					
(a) Strengthening Management & Efficiency of VTE System	2.42	1.33	3.75	35	6
(b) Developing VTE Policies	0.17	0.30	0.47	64	1
(c) Improving VTE Image	1.80	0.44	2.25	20	4
(d) Establishing & Maintaining a Project Management Unit	1.39	0.55	1.95	28	3
Subtotal	5.79	2.62	8.41	31	14
2. Relevance, Responsiveness and Quality of Training Improvement					
(a) Addressing Current & Expected Training Demand	0.51	0.95	1.46	65	3
(b) Developing Quality Standards	0.28	0.70	0.98	71	2
(c) Developing Modern Curricula	3.38	4.95	8.34	59	14
(d) Improving Pre- & In-Service Training of Teachers	2.50	1.59	4.09	39	7
Subtotal	6.68	8.19	14.87	55	26
3. Delivery Mechanisms Improvement					
(a) Upgrading/Expanding Existing Public VTE Schools	8.86	15.19	24.05	63	41
(b) Developing "Model Schools" in New Sectors	3.14	7.59	10.74	71	18
Subtotal	12.00	22.79	34.79	65	60
Total Baseline Cost	24.47	33.60	58.06	58	100
Physical Contingencies	1.77	2.82	4.59	61	8
Price Contingencies	4.38	1.84	6.22	30	11
Total Project Cost	30.62	38.25	68.87	56	119
Incremental Recurrent Cost (not included in Total Project Cost)	2.59	2.03	4.62	44	8
Taxes (included in Total Project Cost)	3.71	-	3.71	-	6

Note: Totals may not add up due to rounding

Estimated Project Costs by Expenditure Category

Expenditure Category	Local	Foreign	Total	% as For- eign	% of Total Base cost
-----In US\$ million-----					
1. Investment Costs					
(a) Civil Works	7.99	6.46	14.45	45	25
(b) Goods					
Equipment	1.59	14.30	15.90	90	27
Furniture	0.80	0.65	1.45	45	2
Computers	0.02	0.15	0.17	90	0
Computer Software	0.01	0.13	0.14	90	0
Library Books	0.14	0.31	0.45	70	1
Textbooks	0.49	0.72	1.21	60	2
Subtotal	3.05	16.26	19.31	84	33
(c) Training					
Overseas Training	0.01	0.05	0.06	90	0
Local Training	2.50	0.27	2.78	10	5
Study Visits	0.00	0.02	0.03	90	0
Subtotal	2.51	0.35	2.86	12	5
(d) Services					
International Specialists	0.91	8.04	8.95	90	15
Local Specialists	9.89	2.44	12.33	20	21
Project Management	0.12	0.05	0.17	30	0
Subtotal	10.91	10.53	21.44	49	37
Total Baseline Cost	24.47	33.60	58.07	58	100
Physical Contingencies	1.77	2.82	4.59	61	8
Price Contingencies	4.38	1.84	6.22	30	11
Total Project Cost	30.62	38.25	68.87	56	119
Incremental Recurrent Cost (not included in Total Project Cost)	2.59	2.03	4.62	44	8
Taxes (included in Total Project Cost)	3.71	-	3.71	-	6

Note: Totals may not add up due to rounding

Annex 4 LEBANESE REPUBLIC VOCATIONAL AND TECHNICAL EDUCATION PROJECT

Economic Analysis Estimating the Economic Internal Rate of Return

Economic Rationale for Public Sector Involvement

1. Lebanon has an active private and public VTE sector. As such, it would appear that there is no rationale for creating new publicly funded and administered VTE schools. However, public intervention is essential for improving the cost-effectiveness, regulation and quality of the system as a whole. Furthermore, there is a market failure with respect to training in industrial trades. This is understandable in view of the high costs involved in setting up such training facilities. The system has to plan for filling the needs of future labor market needs.

2. **Intervention.** In addition to making up for the private sector gap with respect to industrial training¹, there is a strong scope for benefits arising from interventions in areas which, by their nature, require public sector involvement. These are: (a) regulation, (b) quality-setting through creation of a good accreditation and examination system, (c) upgrading of curricula in response to change, (d) development of related course materials and textbooks, (e) provision of improved management of the public VTE and regulatory system, and (f) other administrative, institutional and regulatory functions. These externalities accrue benefits to the VTE system: increased quantity of graduates resulting from better organisation, use of resources and management; increased quality of skills and knowledge imparted, and; new skills introduced. These benefits will accrue to the producers, who will obtain better quality workers and to the graduates who will receive higher wages. This is especially true in those economic sectors that will be of high growth, such as printing, but which require a supply of skilled labor trained on expensive machinery which private schools may find too risky and costly to invest in.

3. **Poverty Reduction.** Another rationale for public sector intervention is the current inequitable access to vocational training. The project targets the lower income and disadvantaged sections of society improving the access to quality vocational training. This benefit is included in the quantitative analysis.

Appropriateness of the Structure of the Project and Intervention

4. **Avenue for Poverty Reduction.** The intervention would increase access to skilled careers for the lower income and economically disadvantaged sections of society. The private sector's ability or willingness to do this is low.

5. **Conformity with Local Policy and Goals.** This is in accordance with the general tone of the education and poverty alleviation policy of the Government. The Project's design has been a collaborative effort between the Bank and MVTE.

6. **Improvement in Use of Resources.** Private sector schools would not be supplanted or crowded out. Instead their efficiency would be enhanced by improved curricula, regulation, examination structures, etc. Use of physical resources in public VTE schools would be made more efficient.

7. **Model Schools.** The model schools would serve as role models for areas in which the private sector has clearly failed to invest in, for lack of funds or the long and uncertain gestation period before

¹ The private VTE schools, with the exception of the NGOs have not ventured into training that requires high capital investments.

returns accrue. Model schools would introduce new areas and methods of instruction. Preliminary research conducted by local consultants has highlighted that there will be a large wage premium to Vocational and Technical Education in certain trades, such as printing, which Model Schools will concentrate on.

8. **Minimal Intervention.** Quality enhancement would be generated by minimal intervention at the appropriate level: curricula, regulation, accreditation systems, examination systems, etc.

Estimating the Net Benefits of the Intervention

9. The costs include fixed and recurrent costs accrued by the Government and the World Bank, and the opportunity cost (forfeited wages while at school) accrued by VTE graduates. The benefits are captured by the increase in the benefits to graduates. This increase is a function of two aspects of the project: improved quality of education and an increase in the quantity of VTE graduates.

Uncertainty. Several factors have been considered with respect to uncertainty:

- labor market response to labor quality improvement
- alignment of sectoral supply and demand for skilled labor
- labor quality improvement
- rate of increase in graduation rates
- level of increase in examination pass rates
- time by which targeted graduation rates are achieved

Risk. Major risk factors are:

- Failure to improve institutional capacity
- Inability to improve management and teaching quality
- Ineffective attempts to increase access for the poor
- Macroeconomic instability
- Return of hostilities, internal or external

10. Monitoring of performance indicators would mitigate the risk associated with the first three factors. Stringent implementation based on the monitoring of performance indicators would reduce the risk engendered by these three factors. Strong support by the Government and the constituents of the VTE system would also contribute to the reduction of these risks. The last two factors should not be a significant risk, given recent trends and the consensus of positive projections on the future of the political and economic situation in Lebanon.

11. **Monitoring and Performance Indicators.** The indicators are shown in Annex 1. In particular, the variables whose future values are keen to the financial analysis of the project would be tracked. These include: wage rates, graduation rates and the recurrent costs borne by the Lebanese government. These would be used for periodic reviews of the performance of project implementation and the financial ramifications thereof.

12. **Institutional Capacity.** The project improves the capacity of regulatory, management and implementation institutions.

13. **Adequacy of Policy Environment.** The recent thrust by the Government, relevant ministries and NGOs provide a conducive environment for successful project implementation. The Government has expanded the VTE system, instituted policies to enhance VTE performance and created avenues for obtaining information and data on factors affecting VTE schools and their graduates.

14. **Macroeconomic and Political Stability.** Macroeconomic and political stability are anticipated to hold during the project period. Real wage increments are assumed to be growing at a similar rate with the real economic growth. An expanding small scale private sector growth will be an important constituent of employment growth for VTE graduates.

15. **Environmental Impact.** With its low physical construction component, the project is expected to have negligible environmental impacts.

16. **Fiscal Impact.** The project imposes a minimal fiscal burden on the government. For the most part, the project engenders returns by improving the utilisation of current infrastructure and resources.

Economic Analysis

17. A preliminary economic analysis was based on a cost-benefit study. Although additional benefits could be shown in a cost effectiveness analysis, no attempt has been made at quantifying them in the absence of additional information needed.

18. During appraisal the mission decided on the need to incorporate sectoral level supply and demand issues (labor market, goods market, and quality of factors). Following discussions with MVTE, private sector representatives and other stakeholders, the mission was apprised of the need to incorporate the sectoral shifts expected in the future in the Lebanese economy. These shifts are of paramount importance in the economic analysis because the returns to vocational education and the investment needs of providing vocational education differ dramatically across sectors. As a corollary, part of the project can be seen as allowing the Lebanese labor market to plan for and achieve projected sector-by-sector growth scenario of skilled labor. However, due to the paucity of data on wages labor demand and on the path of wages at the sector level, the mission's economic analysis was unable to fully capture the sectoral differences. In the analysis provided in this annex, the mission did not undertake an inter-sectoral analysis due to the above mentioned lack of data.

Cost Benefit Analysis

19. The benefits are the estimated streams of income earned by VTE graduates, and non-VTE graduates (unskilled workers) over a 30 year period. The costs are the investment and recurrent costs associated with the project including opportunity costs. The net benefit is the difference between benefits and costs. The economic internal rate of return (ERR), and net present value (NPV) were estimated based on the net benefit and a discount rate of 12%. Simulations indicated that ERR dependent highly on two broad parameters: income disparity between VTE and non-VTE graduates, and graduation rate.

Income Disparity Between VTE and Non-VTE Graduates

20. Income disparity is estimated as the difference in income by the two groups over the assumed 30 year period. This disparity was in turn highly dependent on the starting salaries of the two groups, and their projected growth over the 30 year horizon. For VTE graduates, three subgroups were included. The first includes graduates of the new growth schools (Model Schools), who start at a slightly higher wage level. The second group includes graduates from existing schools in addition to the new schools funded by the bank. The third group includes graduates from the VTE schools funded by other non-bank sources. Starting wages were based on two labor survey studies conducted by CRI in Lebanon. The

average hourly rate for a skilled worker (basic salary, excluding social allowances) was found to be US\$3.08, and the range between US\$2.50 and US\$3.61. The corresponding average hourly rate for an unskilled worker was found to be US\$1.79, and in the range between US\$1.53 and US\$2.22. Future wages would be monitored closely during project implementation. Currently, there is a wage bargaining process taking place in Lebanon between the Government, the business communities, and the General Confederation of Trade Unions on an annual basis. This process is aimed to reach an agreement on wage adjustments. Unfortunately, the process does not have clear modalities and regulations governing the linkage between the rate of inflation and the rate of wage adjustment, the structure of wage brackets, and the minimum and maximum amount of wage increase. The current labor law is generally considered obsolete, and there is a plan pending that would decree new legislation.

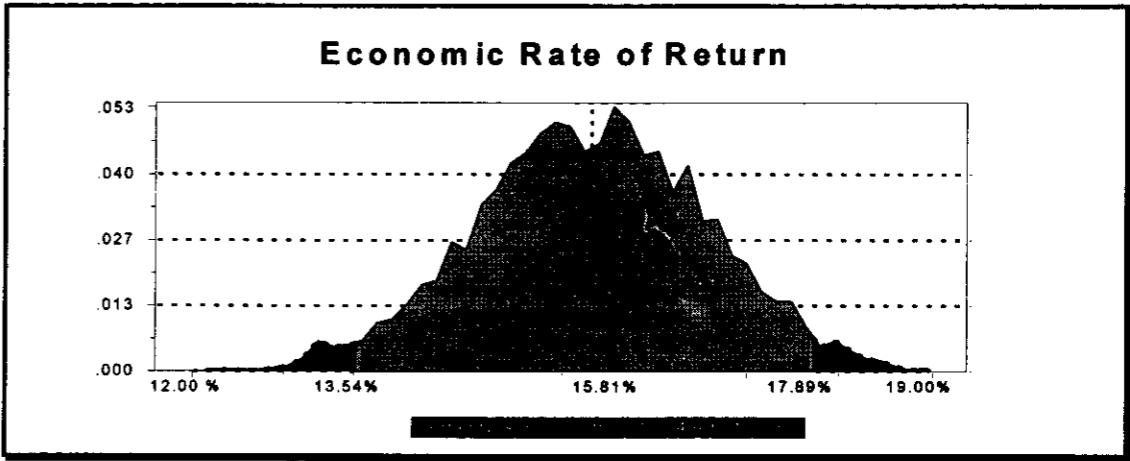
Graduation rate

21. The graduation rate (expressed as a % of first year enrollment) is currently very low, approximately 32%, due to high dropout rates and high final exam failure rates. Simulations showed that IRR was also highly dependent on the graduation rate.

Economic Rate of Return

22. The economic internal rate of return (ERR) was estimated by using Monte Carlo simulations. The ERR for the realistic scenario is 15.8%, which corresponds to a net present value (NPV) of \$76.9 million. **Figure 1**, shows the confidence level for the IRR for the most likely scenario-- realistic wage increase and realistic achievement of the graduation rate goal. The IRR lies in the band of 13.5% to 17.9% at the 95% confidence level.

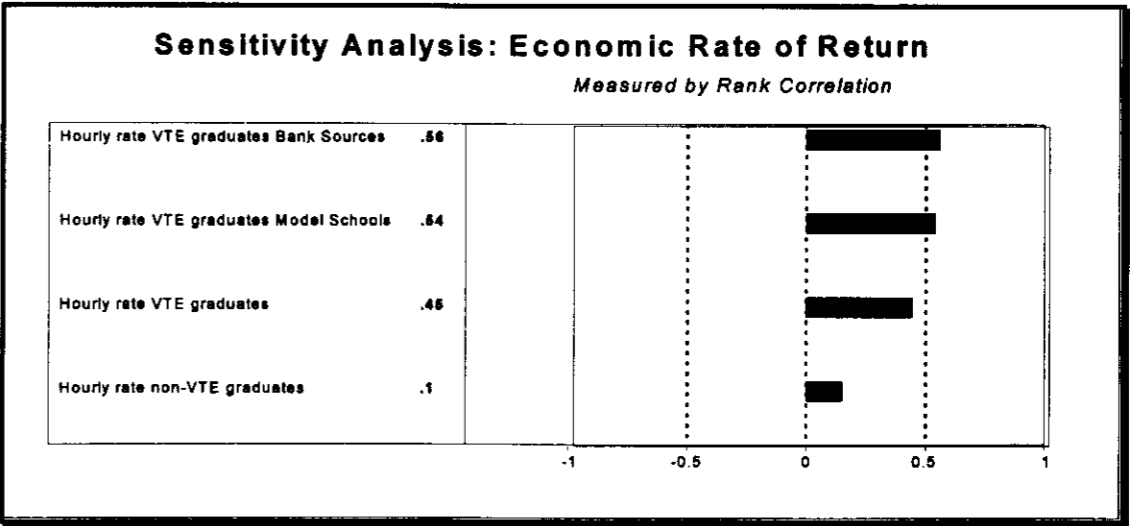
Figure 1



Sensitivity Analysis

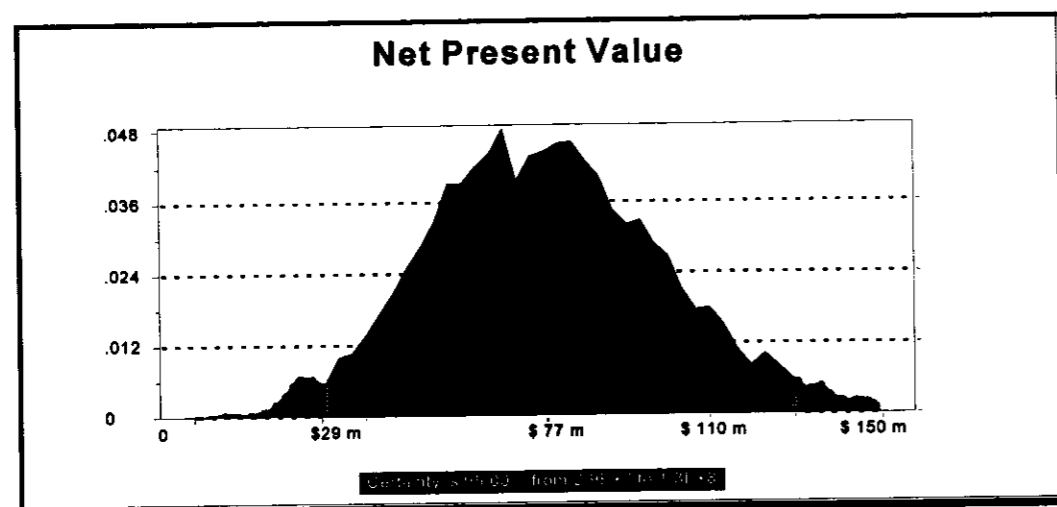
23. Sensitivity analysis of ERR shows that it is highly correlated to the wages of VTE graduates (bank sources) and VTE graduates (Model Schools), **Figure 2**. The NPV lies in the band of US\$29 to US\$130 million.

Figure 2



The distribution for NPV, under the realistic wage and graduation rate scenario, is shown in Figure 3.

Figure 3



The distributions used in the wage assumptions are shown in Figures 4 to 7.

Figure 4

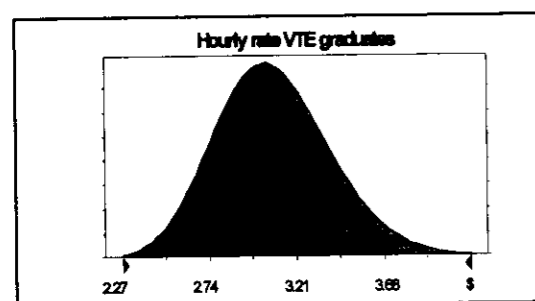


Figure 5

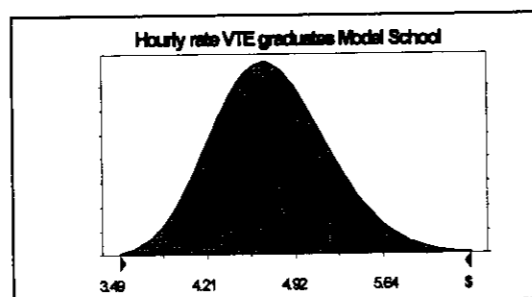


Figure 6

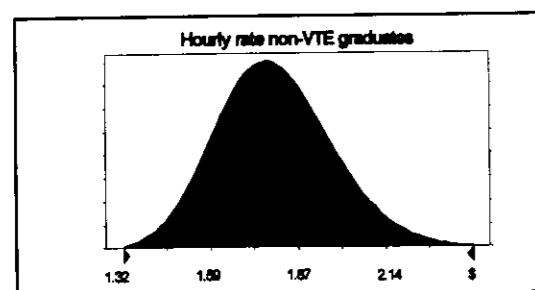
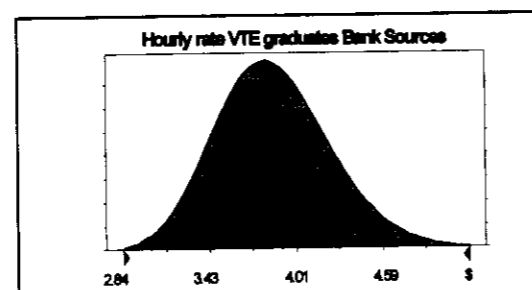


Figure 7



Assumptions

Assumption 1: Wage Increases of VTE Graduates

24. These increases depend upon the output of the project (for example, quality and relevance of training, image of VTE, etc.) and exogenous features like the state of the economy and the political situation. A pictorial representation of projected wages and associated cumulative benefits are shown in Figures 8 and 9.

Figure 8

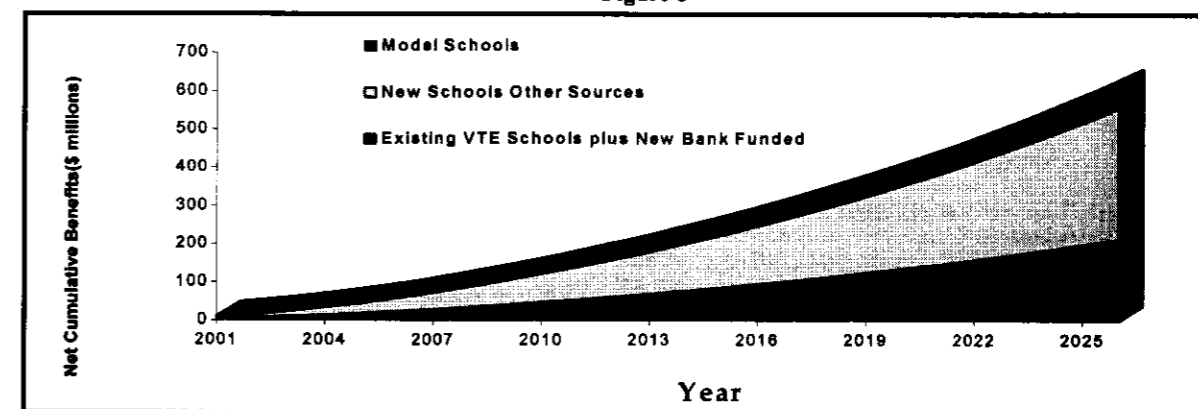
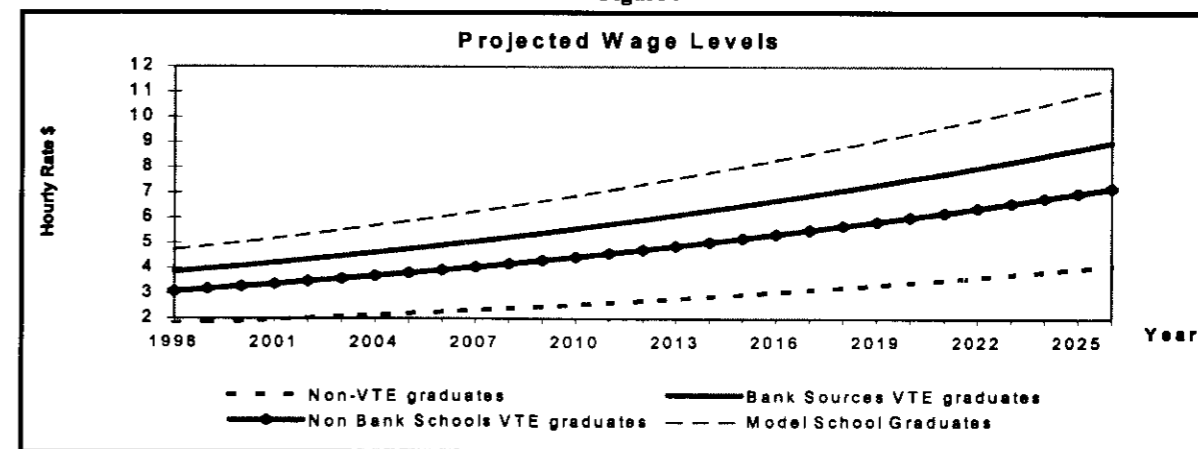


Figure 9



Assumption 2: Graduation Rate Increase

25. The project places a strong emphasis on increasing graduation rates. The aim is to increase the graduation rate from the current level of 32% (expressed as a percentage of initial enrollment) to 57% by year 2007, and maintain it at this level thereafter.

Years Ending June 30
(US\$ million, 1998/99 base year)

[illegible]

Annex 6
LEBANESE REPUBLIC
VOCATIONAL AND TECHNICAL EDUCATION PROJECT

Procurement and Disbursement Arrangements

Procurement

1. PIU Capacity to Manage Procurement. The five staff comprising the Technical Support Unit (TSU) created under the ERRP¹ would become a fully fledged Project Implementation Unit (PIU) and will take full responsibility for the coordination of all activities under the new Project. This unit would be strengthened with the addition of a Finance Officer, and several other support staff as soon as the loan becomes effective. CDR would procure the civil works and related supervision and goods. CDR has considerable experience in the procurement of works and goods gained through other Bank-financed projects and is expected to manage and implement its share of activities without difficulty. The MVTE would procure printing services for textbooks to be developed under the project, procure consultants' services for the various technical assistance activities and make arrangements for training. MVTE has experience in printing of textbooks as well as in technical assistance and training through its existing French and German bilateral assistance programs that have been going on for several years. A "Responsibility Matrix" agreed upon by MVTE and CDR shows the respective responsibility for the various activities in the procurement of works and related supervision services, and goods.

2. MVTE will benefit from the full-time professional support of the PIU. Therefore, management and implementation of procurement activities should not pose any difficulty. The PIU staff will receive additional training in planning and scheduling of project activities, in budgeting and accounting systems and procedures, in procurement, and office management. The Procurement Officer has already attended a procurement seminar given by the Bank in May 1997. PIU staff are also scheduled to receive procurement training at the ILO Center in Turin. The PIU has been furnished with Bank Guidelines of procurement for works, goods, and consulting services and a complete set of Bank standard bidding documents (SBD) (small works, goods, and consultant contract forms) as well as the Financial Accounting, Reporting and Auditing Handbook (FARAH). The PIU (TSU) staff have participated in the project appraisal, in scheduling and costing of project activities, in the preparation of the procurement plan and other project documents, and in the negotiations. Further training in procurement and disbursement is being planned prior to effectiveness to ensure that the staff is familiar with all project documents, the Agreement and the project working papers. Procurement of civil works will be assisted by architectural and engineering firms that would be contracted to design and assist in the bidding and contracting process and supervise the works. Equipment and training specialists would also be contracted as needed to provide assistance in the preparation of equipment lists and specifications. This technical support is budgeted under the project.

A. Procurement Methods (Tables A1 and A2)

3. Project elements, their estimated costs, and the procurement arrangements and schedule for the components to be financed by the Bank are summarized in Table A1 and Table A2.

4. All Bank-financed civil works, and goods would be procured in accordance with the Bank's *Procurement Guidelines for Procurement under IBRD Loans and IDA Credits*, January 1995, revised January and August 1996. Consultant services would follow the Bank's *Guidelines for the Selection and Employment of Consultants by World Bank Borrowers* of January 1997, revised September 1997.

¹ The TSU comprise five staff: Director, Procurement Officer, Architect, Technical Educator, and an Executive Secretary. They were all selected on a competitive basis and are experienced in their respective fields.

5. **Civil Works.** Around 16 contracts ranging from US\$0.3 million to US\$1.9 million and totaling about US\$18.03 million would be awarded according to National Competitive Bidding (NCB) procedures. These contracts are geographically disbursed across the country and are not likely to interest foreign bidders. Contractors for all civil works contracts would be prequalified and standard documents acceptable to the Bank would be used.

6. **Goods.** Around 87 contracts for goods (equipment, furniture, computers, software, library books and textbooks) totaling about US\$22.7 million would be procured as follows: Contracts estimated at US\$500,000 or more would be awarded according to International Competitive Bidding (ICB) procedures based on Bank Standard Bidding Documents (SBDs) for the procurement of goods. Contracts below US\$500,000 would be awarded in accordance with National Competitive Bidding (NCB) procedures also based on Bank SBDs for the procurement of goods not to exceed an aggregate amount of US\$2 million. Smaller contracts estimated between US\$100,000 and US\$250,000 would be awarded according to International Shopping (IS) procedures not to exceed an aggregate amount of US\$0.7 million. Contracts estimated at less than US\$100,000 would be procured according to National Shopping (NS) procedures not to exceed an aggregate amount of US\$1.5 million. Direct Contracting (DC) would be allowed for the procurement of intellectual property items such as computer software or library books estimated at about US\$0.7 million.

7. **Consultants and Training Services.** Studies and training financed under the project will be contracted in accordance with the World Bank Consultant Guidelines of January 1997, revised September 1997. Services to be contracted include short-term consultants and long-term TA, training services, architectural services and construction supervision as well as technical and financial auditing. Consultants and training services in the amount of US\$22.45 million and architectural and engineering service contracts in the amount of US\$2.01 million will be procured using Quality and Cost-Based Selection (QCBS) procedures, with the exception of small contracts where the selection would be based on the consultant's qualification, or where the nature and locality of the assignment would require single-source selection. During negotiations tentative agreement was reached to group, whenever feasible, technical assistance and training services into three to four major packages combining local and international expertise. The winning firms would be expected to nominate local consultants of their choice. These packages would be based on technical considerations. Architectural and engineering services for design and supervision (US\$2.01 million) would be divided into four packages, because of the geographical distribution of the works, and would be procured locally in accordance with World Bank Consultant Guidelines dated January 1997 revised September 1997.

8. **Use of Standard Documents.** All procurement under ICB would use World Bank Standard Documents (SBDs). For NCB simpler documents would be developed on the basis of the SBDs. All consulting services would use Standard Forms for time-based or lump-sum contracts as appropriate for the type of assignment.

B. Prior Review Thresholds (Table B)

9. All civil works contracts exceeding US\$1,300,000 and goods contracts exceeding US\$500,000 would be subject to prior review by the Bank. Consultancy contracts of US\$100,000 with firms and of US\$50,000 with individuals would be subject to prior review by the Bank. These thresholds would account for about 78% of Bank-financed procurement.

Disbursement

C. Allocation of Loan Proceeds (Table C)

10. The Bank loan would be disbursed against the expenditure categories as shown in Table C.

D. **Documentation for Withdrawals.** Withdrawal applications for contracts valued at more than US\$1,300,000 for works, US\$500,000 for goods, US\$100,000 with consulting firms, US\$50,000 with individual consultants, and US\$100,000 for training activities would be presented with full documentation (in English) for disbursement.

E. **Use of Statements of Expenditures (SOEs).** Disbursements for contracts not governed by the above paragraph would be made on the basis of Statements of Expenditures (SOEs). Disbursement for training activities not contracted and valued at less than US\$100,000 would be made on the basis of SOEs. During negotiations assurances would be sought that supporting documentation would be maintained (in English) by the PIU/CDR and be made available for review by Bank supervision missions.

F. **Special Accounts (SAs).** To facilitate disbursements against eligible expenditures, the Government would establish two Special Accounts (SAs) in the Central Bank, to be operated by the MVTE and CDR under terms and conditions satisfactory to the Bank. The Bank would, upon request, make authorized allocation of US\$2.0 million to the SA for civil works, related supervision services, and equipment to be operated by CDR and US\$1.8 million to the SA for all other categories to be operated by MVTE. Initially, the allocations would be limited to US\$1.0 million and US\$0.9 million for each SA respectively. The full allocations could be claimed when disbursements reach US\$5 million for civil works, supervision services and equipment, and US\$3 million for the remaining categories. The MVTE and CDR would submit replenishment applications for their respective SAs on a monthly basis, or when about 20 percent of the initial deposit has been utilized, whichever occurs first. The replenishment applications would be supported by a bank statement of the SA and a reconciliation bank statement of the SA against the Bank's records. The minimum amount for applications for direct payment and for special commitment would be 20 percent of the authorized allocation to the SA. Replenishment of the SA would follow Bank procedures. The SA would be audited annually by independent auditors acceptable to the Bank. The audit report (in English) would be submitted to the Bank for review within nine months of the end of each fiscal year. These above provisions were agreed upon during negotiations.

Table A 1: Project Costs by Procurement Arrangements
(in US\$ million equivalent)

Expenditure Category	Procurement Method				Total Cost
	ICB	NCB	Other	N.B.F	
1. Works				-	
Civil works		18.03 (14.43)			18.03 (14.43)
2. Goods				-	
Equipment	18.04 (16.11)		0.45 ¹ (0.40)		18.49 (16.51)
Furniture		0.91 (0.82)	0.91 ² (0.82)		1.82 (1.64)
Computers			0.19 ² (0.17)		0.19 (0.17)
Software			0.16 ³ (0.15)		0.16 (0.15)
Books			0.54 ³ (0.48)		0.54 (0.48)
Textbooks		1.05 (1.05)	0.45 ⁴ (0.45)		1.50 (1.50)
3. Technical Assistance and Services				-	
Specialist Services			22.44 (22.44)		22.44 (22.44)
Arch/Engin. Services			2.01 (2.01)		2.01 (2.01)
Project Management			0.20 (0.18)		0.20 (0.18)
4. Training				-	
			3.50 (3.50)		3.50 (3.50)
Total	18.04 (16.11)	19.99 (16.29)	30.85 (30.60)	-	68.87 (63.00)

Note: N.B.F. = Not Bank-financed.

Figures in parenthesis are the amounts to be financed by the Bank loan.

Totals may not add up due to rounding.

- 1 International Shopping
- 2 National Shopping
- 3 Direct Contracting (intellectual property)
- 4 National Shopping

Table A 2: Procurement Plan

Description	Type ¹	Number of Slices/items/sub-packages ²	Estimated Cost (US\$'000)	Procurement Method ³	Review (Advance/Prior/Post)	Prequalification ⁴	Estimated Schedule (month/year)			
							Invitation to Bid	Bid Opening	Contract Award	Contract Completion
Works	CW	16	18.03	NCB	Prior >US\$1.30	Yes for NCB	Feb. 99	Apr. 99	Jun. 99	Jul. 00
Phase I		4	4.03				Sep. 99	Nov. 99	Jan. 00	Jul. 01
Phase II		8	9.00				Sep. 00	Nov. 00	Jan. 01	Jul. 02
Phase III		4	5.00			No				
Goods					Prior >US\$0.50					
Equipment	G	58	18.49	ICB/IS						
Phase I		4	3.42				Dec. 98	Feb. 99	Mar. 99	Jul. 99
Phase II		17	6.78				Dec. 99	Feb. 00	Mar. 00	Jul. 00
Phase III		29	5.94				Dec. 00	Feb. 01	Mar. 01	Jul. 01
Phase IV		12	2.35				Dec. 01	Feb. 02	Mar. 02	Jul. 02
Furniture	G	16	1.82	NCB/NS						
Phase I		4					Dec. 98	Feb. 99	Mar. 99	Aug. 99
Phase II		4					Dec. 99	Feb. 00	Mar. 00	Aug. 00
Phase III		4					Dec. 00	Feb. 01	Mar. 01	Aug. 01
Phase IV		4					Dec. 01	Feb. 02	Mar. 02	Aug. 02
Computers	G	3	0.19	IS			May 98	Jun. 98	Jul. 98	Sep. 98
Package I							May 00	Jun. 00	Jul. 00	Sep. 00
Package II							May 02	Jun. 02	Jul. 02	Sep. 02
Package III										
Software	G	3	0.16	DC			May 98	Jun. 98	Jul. 98	Sep. 98
Package I							May 00	Jun. 00	Jul. 00	Sep. 00
Package II							May 02	Jun. 02	Jul. 02	Sep. 02
Package III										
Library books	G	2	0.54	DC			Apr. 99	Jun. 99	Jul. 99	Sep. 99
Package I							Apr. 00	Jun. 00	Jul. 00	Sep. 00
Package II										
Textbooks (print)	G	5	1.50	NCB/NS			Jun. 98	Jul. 98	Sep. 98	Nov. 98
Package I							Apr. 99	May 99	Jun. 99	Sep. 99
Package II										

¹ CW for civil works; G for goods; CF for consultant firms; CI for individuals; TR for training.

² The number of packages are indicated approximately. Further refinements are being made by the PIU.

³ ICB, NCB, IS, NS, DC, Q (for minor civil works), QCBS, QBS, FB, LCS, SS (for sole-sourcing of firms or individuals), Other (for recurrent costs on the basis of administrative procedures based on acceptable schedule and budget).

⁴ For all competitive bidding procedures for civil works.

Description	Type ¹	Number of Slices/items/sub-packages	Estimated Cost (US\$'000)	Procurement Method ¹	Review (Advance/Prior/Post)	Estimated Schedule (month/year)			
						Prequalification	Invitation to Bid	Bid Opening	Contract Award/Completion
Package III							Apr. 00	May 00	Jun. 00
Package IV							Apr. 01	May 01	Jun. 01
Package V							Apr. 02	May 02	Jun. 02
Consultancies		17	24.45		Prior =>US\$0.10				Sep. 00
Firms	CF	12		QCBS					Sep. 01
Arch/Eng.		4	2.01						Sep. 02
TA ³		6	17.90				Jun. 98	Jul. 98	Aug. 98
Studies		4	0.86				Aug. 98	Sep. 98	Oct. 98
Individuals	CI	18	3.68	QCBS	Prior =>US\$0.05				Jun. 03
Training	TR	Included in above consultant-cies	3.50	QCBS	Prior =>US\$0.10				Sep. 03

³ Umbrella-type contracts to manage groups of TA activities and training.

Table B: Thresholds for Procurement Methods and Prior Review

1. Country Procurement Assessment Report (to obtain for the file)			
2. General Procurement Notice in Development Business (January 1998)			
3.	Expenditure Category & Procurement Method	Threshold per contract (US\$)	Prior Review¹
			Total per category
	(a) Works		
	NCB	>250,000	>1,300,000
	subtotal (a)		18,030,000
	(b) Goods		>500,000
	Equipment		
	ICB	>500,000	18,040,000
	IS	<500,000	450,000
	Furniture		
	NCB	>100,000	910,000
	NS	<100,000	910,000
	Computers		
	IS	>100,000	190,000
	Comp. Software		
	DC	all	160,000
	Library books		
	DC	all	540,000
	Textbooks (printing)		
	NCB	>250,000	1,050,000
	NS	<250,000	450,000
	subtotal (b)		22,700,000
	(c) Consultant Services		
	Firms	= >100,000	20,770,000
	Individuals	= >50,000	3,680,000
	subtotal (c)		24,450,000
	(d) Training	= >100,000	3,500,000

¹ Contracts below the prior review threshold would be disbursed on the basis of Statements of Expenditures (SOEs).

Table C: Allocation of Loan Proceeds

Expenditure Category	Amount in US\$	Financing Percentage
1. Works	13,110,000	80%
2. Goods	17,220,000	100% foreign, 100% local expenditures (ex-factory cost) and 85% of other items procured locally
3. Printing of textbooks	1,360,000	100% local expenditures (ex-factory cost)
4. Consultants' services (for supervision of works only)	640,000	100%
5. Consultants' services under other parts of the Project and training	25,980,000	100%
6. Project Management ¹	180,000	90%
Unallocated	4,510,000	
Total	63,000,000	

¹ "Project management" means expenditures under the Project incurred (i) by the PIU in relation to maintenance of vehicles and equipment, fuel, utility charges, office supplies, communication and transport costs, and insurance costs; and (ii) by the Technical Committees in relation to communication and transportation costs and the costs of reproducing documents.

**Annex 7
LEBANESE REPUBLIC
VOCATIONAL AND TECHNICAL EDUCATION PROJECT**

Project Processing Budget and Schedule

A. Project Budget (US\$000)	Planned (At final PCD stage)	Actual
	296,000	251,300 (to date)
B. Project Schedule	Planned (At final PCD stage)	Actual
Time taken to prepare the project (months)	15	18
First Bank mission (identification)	02/1996	07/08/1996 ¹
Appraisal mission (start)	08/1997	11/03/1997
Negotiations	10/1997	01/14/1998
Planned Date of Effectiveness	03/1998	07/01/1998

Prepared by: The Ministry of Vocational and Technical Education (MVTE) in cooperation with the Council for Development and Reconstruction (CDR).

Preparation assistance: PHRD Grant TF023035 (JPY 94,000,000 - US\$823,373 equivalent)
Funds under the Grant are also used for the Basic Education and CERD. About US\$346,000 of the Grant has been used to prepare this project.

Bank staff and consultants who worked on the project included:		Stage:
Vasilios C. Demetriou	Task Manager	I/P/PA/A/N
Hadi Abushakra	Legal Counsel	N
Radwan Al-Jabri	Legal Counsel	N ²
Roland Bachmann	Technical Educator/Curriculum Specialist (consultant)	I/P/A
Stephen Bradley	Economist (consultant)	I/P
Eid Dib	Architect (consultant)	PA/A
Randa El-Rashidi	Human Resources Specialist (consultant)	I/P/PA/A/N
George X. Gikas	Mngt/Info. Technol./Priv. Sector Spec. (consultant)	P/PA/A
Vijay Gupta	Economist (consultant)	A
Mira Hong	Sr. Staff Assistant, Report Production	PAD
Sergio Jellinek	Logical Framework (consultant)	PA
Hannah Koilpillai	Disbursement Officer	N ²
Jean-Paul Peresson	Economist (consultant)	PA/A
David N. Wilson	Technical Educator (consultant)	PA
George Za'rour	Senior Educator (consultant)	I/P

Peer Reviewers: Alan Abrahart (ECSHD); Nat Colletta (AFT11); Indermit Gill (LCC5F); and Cecilia Valdivieso (PRMGE)

Key:
I=identification; P=preparation; PA=preappraisal; A=appraisal; N=negotiations.

¹ The original identification mission of February 1996 was cut short due to renewed disturbances. The July 1996 mission was a combined identification/preparation mission.

² Assisted from Headquarters.

Annex 8
LEBANESE REPUBLIC
VOCATIONAL AND TECHNICAL EDUCATION PROJECT

Documents in the Project File

A. Project Implementation Plan

1. Project Implementation Manual (MVTE)
2. Project Cost Tables - Summary and Detail (World Bank Team)
3. Project implementation schedules by component (World Bank Team and PIU)
4. Terms of Reference for Technical Assistance Packages (World Bank Team and PIU)
5. High Council for Vocational & Technical Education - members list and designation (MVTE)
6. Technical Committees - composition and functions (MVTE)
7. Bank supervision plan (World Bank Team)

B. Bank Staff Assessments

1. Estimating the Economic Rate of Return - working papers (Vijay Gupta & George X. Gikas)
2. Financial Management - Review of Government Accounting and Auditing Arrangements (Hani Sibai, Beirut)
3. Identification (April 1996) and preparation mission (July 1996) reports (Steve Bradley, Dept. of Economics, Lancaster University, UK)
4. Identification (April 1996 & May 1996) mission report (Roland Bachmann, Director of Ecole Technique de Sainte-Croix, Switzerland)

C. Other

1. Diagram of the New Framework of Education (CERD)
2. Organogram of the MVTE Structure (MVTE)
3. Organogram of the PIU Structure (PIU)
4. Lebanese Welfare Association for the Handicapped (SARAFAND)
5. Proposal for Printing and Graphic Arts (Lebanese Graphic Arts Syndicate)
6. Ministry of Finance 1997 Budget
7. Vocational and Technical Education Plan (EDUTEC)
8. Education Enrollment Evolution (EDUTEC)
9. List of Components under the Islamic Development Bank assistance (CDR)
10. Arab Donor Assistance to the VTE Sector in Lebanon
11. Vocational Schools Project - Study (Samir Khairallah & Partners, November 1995)
12. Vocational Schools Project - Executive Summary (Samir Khairallah & Partners, October 1995)
13. The Lebanese Economy in the First Half of 1996 (Chamber of Commerce and Industry)
14. Decree Number 8349, establishing the Directorate of Vocational and Technical Education
15. Statistical Information & Results of Official Exams, 1995-1996 (MVTE)
16. Educational Worksheets for each existing VTE school (MVTE)
17. Geographic Location of Existing and Proposed VTE Schools (CDR/MVTE)
18. Vocational and Technical Education in Lebanon and Labor Market Conditions (Consultation & Research Institute, October 1997)
19. Overview on Technical and Vocational Education in Lebanon (Directorate General of Technical and Vocational Education, 1994)
20. The Restructuring of the Lebanese Educational System (Ministry of National Education Youth and Sports, October, 1995)
21. Vocational and Technical Private Schools in Lebanon (EDUTECH, S.A.R.L, October, 1997)
22. Physical Survey of Public Schools (M. Rachad Atoui, Architect, October, 1997)

Annex 9
LEBANESE REPUBLIC
VOCATIONAL AND TECHNICAL EDUCATION PROJECT

Statement of Loans and Credits
as of January 31, 1998
(in Millions of US Dollars)

Loan No.	Fiscal Year	Borrower	Purpose	Original Amount in US\$ Millions		
				IBRD	Cancellations	Undisbursed
Number of Closed Loans/credits: 4						
<u>Active Loans</u>						
35620-1	1993	Government of Lebanon	Emergency Recovery	225.00	0.00	75.77
37690	1994	Government of Lebanon	Lebanon Irrigation	57.23	0.00	49.75
37700	1994	Government of Lebanon	Ta For Revenue Enhancement	19.94	0.00	17.80
38290	1995	Government of Lebanon	Health Project	35.70	0.00	34.28
38990	1995	Government of Lebanon	Solid Waste/Environment	55.00	0.00	54.59
39300	1996	Government of Lebanon	Administrative Rehabilitation	20.00	0.00	17.84
40650	1997	Government of Lebanon	National Roads	42.00	0.00	41.25
40920	1997	Government of Lebanon	Agriculture Infrastructure Development	31.00	0.00	29.50
41120	1997	Government of Lebanon	Power Sector Restructuring	65.00	0.00	56.88
41360	1997	Government of Lebanon	Coastal Pollution Control	53.10	0.00	47.83
Total				603.97	0.00	425.49
				Active Loans	Closed Loans	Total
Total Disbursed (IBRD and IDA)				173.21	93.66	266.87
of which has been repaid				4.11	92.11	96.22
Total now held by IBRD and IDA				599.86	1.56	601.42
Amount sold				0.00	3.45	3.45
Of which repaid				0.00	3.45	3.45
Total Undisbursed				425.49	0.00	425.49

Note: The Emergency Recovery includes a supplemental loan of US\$50 million.

LEBANESE REPUBLIC
VOCATIONAL AND TECHNICAL EDUCATION PROJECT

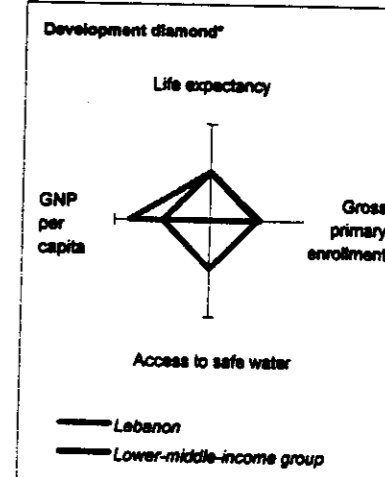
Statement of IFC's
Committed and Disbursed Portfolio
as of December 31, 1997
(in Millions of US Dollars)

FY Approval	Company	Committed				Disbursed			
		IFC				IFC			
		Loan	Equity	Quasi	Partic	Loan	Equity	Quasi	Partic
1993	Uniceramic	1.87	0.00	0.00	0.93	1.87	0.00	0.00	0.93
1993/94/96	Fransabank	16.08	0.00	0.00	14.29	12.69	0.00	0.00	8.41
1993/96	Byblos Bank	14.00	0.00	0.00	15.50	4.60	0.00	0.00	1.40
1993/96	BBAC	9.00	0.00	0.00	7.50	8.17	0.00	0.00	6.33
1993/96/98	Banque Audi	10.00	0.00	0.00	0.00	9.89	0.00	0.00	0.00
1994	Banque Libanaise	4.01	0.00	0.00	1.42	4.01	0.00	0.00	1.42
1994/96	Libano-Francaise	14.80	0.00	0.00	17.40	5.60	0.00	0.00	3.60
1994/96	SGLEB	12.30	0.00	0.00	13.90	5.59	0.00	0.00	3.61
1995	Cimenterie Nat'l	20.00	0.00	0.00	30.00	20.00	0.00	0.00	30.00
1995	Lebanese Leasing	6.76	0.75	0.00	6.92	6.76	0.75	0.00	6.92
1997	ADC	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	Bank of Beirut	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	Banque Beyrouth	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	Banque Saradar	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	FTML Services	20.00	0.00	10.00	45.00	0.00	0.00	0.00	0.00
1997	Transorient Bank	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Portfolio:		178.82	0.75	10.00	152.86	79.18	0.75	0.00	62.62
Approvals Pending Commitment									
		Loan	Equity	Quasi	Parti				
1997	BANKBEIRUT CL4	0.00	0.00	0.00	7.50				
1997	BEYROUTH CL4	0.00	0.00	0.00	7.50				
1997	TRANSORIENT CL4	0.00	0.00	0.00	7.50				
Total Pending Commitment:		0.00	0.00	0.00	22.50				

Annex 10
LEBANESE REPUBLIC
VOCATIONAL AND TECHNICAL EDUCATION PROJECT
Country at a Glance

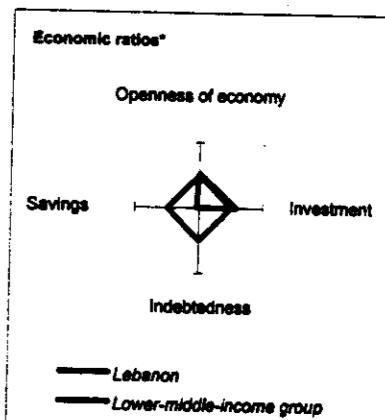
POVERTY and SOCIAL

	Lebanon	M. East & North Africa	Lower-middle-income
Population mid-1996 (millions)	4.1	279	1,125
GNP per capita 1996 (US\$)	2,980	2,090	1,750
GNP 1996 (billions US\$)	12.1	582	1,967
Average annual growth, 1990-96			
Population (%)	1.9	2.6	1.4
Labor force (%)	2.9	3.3	1.8
Most recent estimate (latest year available since 1989)			
Poverty: headcount index (% of population)	..	..	..
Urban population (% of total population)	87	57	56
Life expectancy at birth (years)	68	66	67
Infant mortality (per 1,000 live births)	32	54	41
Child malnutrition (% of children under 5)	..	..	..
Access to safe water (% of population)	..	85	..
Illiteracy (% of population age 15+)	8	39	..
Gross primary enrollment (% of school-age population)	112	97	104
Male	114	104	105
Female	110	91	101



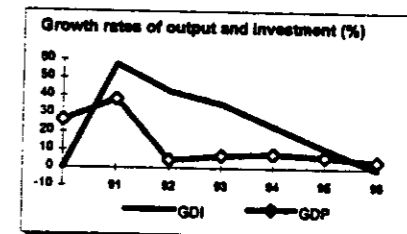
KEY ECONOMIC RATIOS and LONG-TERM TRENDS

	1975	1985	1995	1996
GDP (billions US\$)	..	3.6	11.1	13.0
Gross domestic investment/GDP	33.0	30.1
Exports of goods and services/GDP	11.8	10.9
Gross domestic savings/GDP	-20.6	-17.5
Gross national savings/GDP	4.8	4.4
Current account balance/GDP	-28.2	-25.7
Interest payments/GDP	..	0.6	0.7	1.1
Total debt/GDP	..	24.1	23.9	30.9
Total debt service/exports	11.1	3.5
Present value of debt/GDP
Present value of debt/exports
(average annual growth)				
GDP	22.6	17.4	6.5	4.0
GNP per capita	..	7.2	4.9	0.8
Exports of goods and services	..	13.3	47.4	10.0
				14.2

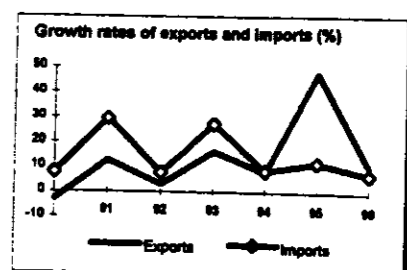


STRUCTURE of the ECONOMY

	1975	1985	1995	1996
(% of GDP)				
Agriculture	12.4	12.4
Industry	28.5	26.5
Manufacturing	17.3	17.3
Services	61.1	61.1
Private consumption	106.5	102.0
General government consumption	14.1	15.4
Imports of goods and services	65.4	58.4



	1975-85	1986-96	1995	1996
(average annual growth)				
Agriculture	7.0	0.4
Industry	1.3	0.4
Manufacturing	1.2	0.4
Services	3.9	0.4
Private consumption	..	8.6	5.0	4.7
General government consumption	..	8.6	6.2	19.2
Gross domestic investment	..	27.1	11.0	-0.5
Imports of goods and services	..	14.8	11.8	7.2
Gross national product	..	9.3	6.9	2.4

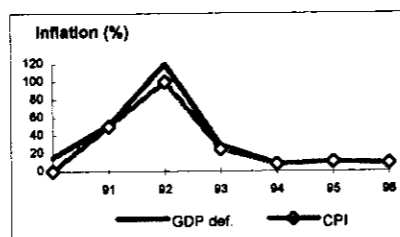


Note: 1996 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

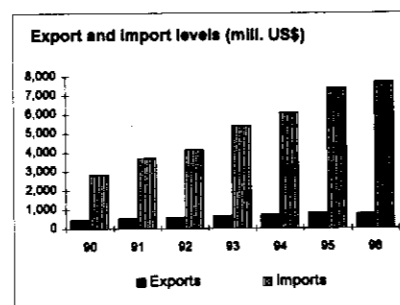
PRICES and GOVERNMENT FINANCE

	1975	1985	1995	1996
Domestic prices				
(% change)				
Consumer prices	..	..	10.6	8.9
Implicit GDP deflator	19.2	-19.5	10.6	8.9
Government finance				
(% of GDP)				
Current revenue	..	..	16.8	17.3
Current budget balance	..	..	-8.9	-12.1
Overall surplus/deficit	..	..	-18.4	-20.6



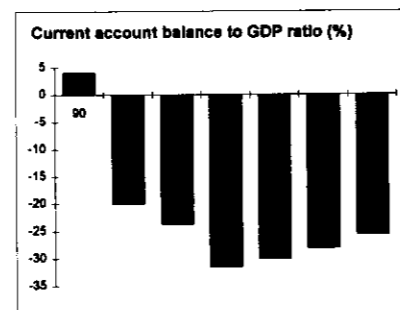
TRADE

	1975	1985	1995	1996
(millions US\$)				
Total exports (fob)	816	783
Livestock, animal, vegetable products	74	76
Fats and oils	9	9
Manufactures	667	633
Total imports (cif)	7,394	7,691
Food	1,449	1,610
Fuel and energy	636	645
Capital goods	1,013	1,129
Export price index (1994=100)	109	107
Import price index (1994=100)	109	106
Terms of trade (1987=100)	100	102



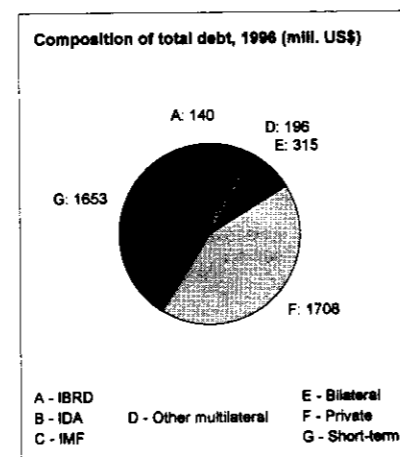
BALANCE of PAYMENTS

	1975	1985	1995	1996
(millions US\$)				
Exports of goods and services	1,307	1,413
Imports of goods and services	7,267	7,596
Resource balance	-5,960	-6,183
Net income	433	290
Net current transfers	2,391	2,550
Current account balance, before official capital transfers	-3,136	-3,343
Financing items (net)	3,727	4,771
Changes in net reserves	-591	-1,428
Memo:				
Reserves including gold (mill. US\$)	..	4,089	8,076	9,573
Conversion rate (local/US\$)	..	16.4	1,621.4	1,570.9



EXTERNAL DEBT and RESOURCE FLOWS

	1975	1985	1995	1996
(millions US\$)				
Total debt outstanding and disbursed	46	870	2,660	4,012
IBRD	16	36	113	140
IDA	0	0	0	0
Total debt service	11	126	498	163
IBRD	3	7	11	13
IDA	0	0	0	0
Composition of net resource flows				
Official grants	..	..	45	45
Official creditors	-3	6	120	223
Private creditors	0	-30	388	831
Foreign direct investment	..	..	2,933	2,552
Portfolio equity	..	..	0	0
World Bank program				
Commitments	0	0	111	188
Disbursements	5	4	51	31
Principal repayments	2	4	4	4
Net flows	4	0	47	27
Interest payments	1	3	7	9
Net transfers	3	-2	40	19



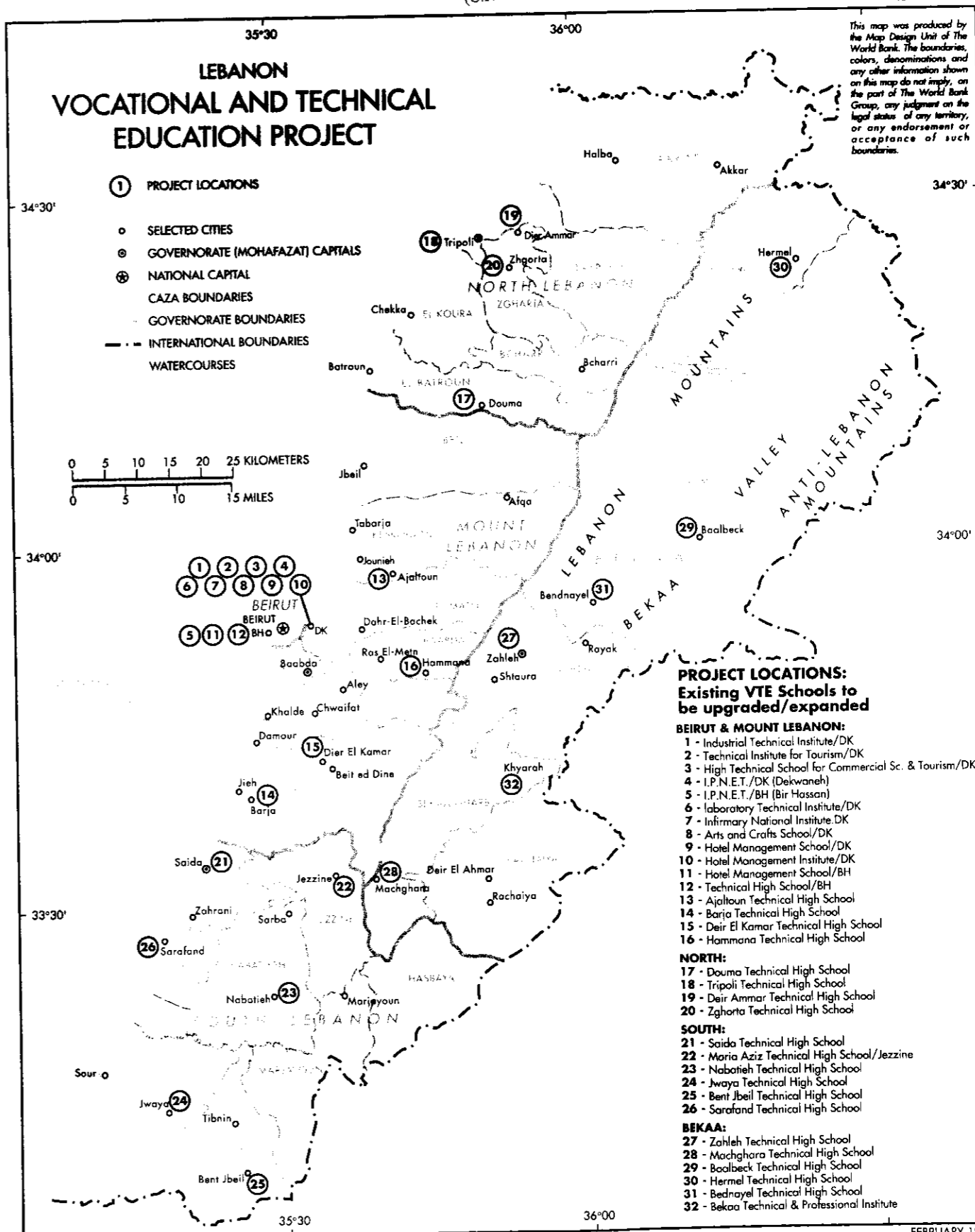
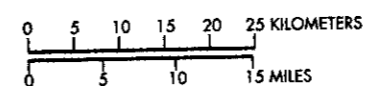
MAP SECTION

الجمهورية اللبنانية
مكتب وزير الدولة لشؤون التنمية الإدارية
مركز مشاريع ودراسات القطاع العام

LEBANON VOCATIONAL AND TECHNICAL EDUCATION PROJECT

1 PROJECT LOCATIONS

- SELECTED CITIES
- ⊙ GOVERNORATE (MOHAFAZAT) CAPITALS
- ⊕ NATIONAL CAPITAL
- CAZA BOUNDARIES
- - GOVERNORATE BOUNDARIES
- - - INTERNATIONAL BOUNDARIES
- - - WATERCOURSES



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PROJECT LOCATIONS: Existing VTE Schools to be upgraded/expanded

- BEIRUT & MOUNT LEBANON:**
- 1 - Industrial Technical Institute/DK
 - 2 - Technical Institute for Tourism/DK
 - 3 - High Technical School for Commercial Sc. & Tourism/DK
 - 4 - I.P.N.E.T./DK (Dekwaneh)
 - 5 - I.P.N.E.T./BH (Bir Hassan)
 - 6 - Laboratory Technical Institute/DK
 - 7 - Infirmary National Institute/DK
 - 8 - Arts and Crafts School/DK
 - 9 - Hotel Management School/DK
 - 10 - Hotel Management Institute/DK
 - 11 - Hotel Management School/BH
 - 12 - Technical High School/BH
 - 13 - Ajloun Technical High School
 - 14 - Barja Technical High School
 - 15 - Deir El Kamar Technical High School
 - 16 - Hammana Technical High School
- NORTH:**
- 17 - Douma Technical High School
 - 18 - Tripoli Technical High School
 - 19 - Deir Ammar Technical High School
 - 20 - Zghorta Technical High School
- SOUTH:**
- 21 - Saida Technical High School
 - 22 - Maria Aziz Technical High School/Jezzine
 - 23 - Nabatieh Technical High School
 - 24 - Jwaya Technical High School
 - 25 - Bent Jbeil Technical High School
 - 26 - Sarafand Technical High School
- BEKAA:**
- 27 - Zahleh Technical High School
 - 28 - Machghara Technical High School
 - 29 - Baalbeck Technical High School
 - 30 - Hermel Technical High School
 - 31 - Bednayeel Technical High School
 - 32 - Bekaa Technical & Professional Institute