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IMPLEMENTATION COMPLETION REPORT
(CPL-35620; CPL-35621)

ON A

LOAN

IN THE AMOUNT OF US\$175 MILLION AND US\$50 MILLION (SUPPL.)

TO THE

LEBANESE REPUBLIC

FOR A

EMERGENCY RECONSTRUCTION AND REHABILITATION PROJECT

08/28/2002

**Finance, Private Sector and Infrastructure Group
Middle East and North Africa Region**

CURRENCY EQUIVALENTS

(Exchange Rate Effective June 28, 2002)

Currency Unit = Lebanese Pound

LL 1.0 = US\$ 0.0007

US\$ 1.0 = LL 1,500

FISCAL YEAR

January 1 December 31

ABBREVIATIONS AND ACRONYMS

CDR	Council for Development and Reconstruction
EdL	Electricite' du Liban
EIB	European Investment Bank
EU	European Union
ERRP	Emergency Reconstruction and Rehabilitation Project
GDP	Gross Domestic Product
GOL	Government of Lebanon
IBRD	International Bank for Reconstruction and Development
ICB	International Competitive Bidding
LRA	Litani River Authority
LV	Low Voltage
METAP	Mediterranean Environmental Technical Assistance Program
MEW	Ministry of Electricity and Water
MHEW	Ministry of Hydraulics and Electric Resources
MPT	Ministry of Post and Telecommunications
MV	Medium Voltage
NBF	Non-Bank Financed
NERP	National Emergency Reconstruction Program
SIU	Sector Implementation Unit
TOR	Terms of Reference

Vice President:	Jean-Louis Sarbib
Country Manager/Director:	Joseph P. Saba
Sector Manager/Director:	Francoise Clottes/Emmanuel Forestier
Task Team Leader/Task Manager:	Somin Mukherji

LEBANON
EMERGENCY RECONSTRUCTION AND REHABILITATION PROJECT

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Map: IBRD 24330

<i>Project ID:</i> P005336	<i>Project Name:</i> EMERGENCY RECOVERY
<i>Team Leader:</i> Somin Mukherji	<i>TL Unit:</i> MNSIF
<i>ICR Type:</i> Core ICR	<i>Report Date:</i> August 28, 2002

1. Project Data

Name: EMERGENCY RECOVERY

L/C/TF Number: CPL-35620;
CPL-35621

Country/Department: LEBANESE REPUBLIC

Region: Middle East and North
Africa Region

Sector/subsector: General water/sanitation/flood protection sector
(51%), Power (20%), Housing construction (14%),
Other industry (9%), Central government
administration (6%)

KEY DATES

	<i>Original</i>	<i>Revised/Actual</i>
<i>PCD:</i> 02/06/1992	<i>Effective:</i>	09/17/1993
<i>Appraisal:</i> 11/17/1992	<i>MTR:</i>	07/11/1997
<i>Approval:</i> 03/04/1993	<i>Closing:</i> 12/31/1996	03/01/2002

Borrower/Implementing Agency: GOVERNMENT/COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION

Other Partners:

STAFF	Current	At Appraisal
<i>Vice President:</i>	Jean-Louis Sarbib	Caio Koch-Wesser
<i>Country Manager:</i>	Joseph Saba	Ram Chopra
<i>Sector Manager:</i>	Francoise Clottes	Alastair McKechnie
<i>Team Leader at ICR:</i>	Somin Mukherji	
<i>ICR Primary Author:</i>	Somin Mukherji; Surajit Goswami	

2. Principal Performance Ratings

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HL=Highly Likely, L=Likely, UN=Unlikely, HUN=Highly Unlikely, HU=Highly Unsatisfactory, H=High, SU=Substantial, M=Modest, N=Negligible)

Outcome: S

Sustainability: L

Institutional Development Impact: M

Bank Performance: S

Borrower Performance: S

	QAG (if available)	ICR
<i>Quality at Entry:</i>		S
<i>Project at Risk at Any Time:</i>		

3. Assessment of Development Objective and Design, and of Quality at Entry

3.1 Original Objective:

3.1.1 Within the overall framework of the National Emergency Reconstruction Program (NERP), the Project was designed to assist the Government of Lebanon (GOL) to: (i) rehabilitate, repair and reconstruct damaged physical and social infrastructure facilities and housing; and (ii) strengthen the Government's institutional capabilities in implementing the NERP. The Project was not expected in itself to be a vehicle for policy reforms as Lebanon needed time to attract private investors, to bring order to its public finances and to eliminate unsustainable macroeconomic imbalances. It was only expected to ensure that its successful implementation was compatible with future sectoral and macroeconomic reform programs.

Assessment of Original Objective and Design:

3.1.2 Lebanon was coming out of a devastating 17 years of turmoil which had destroyed much of the capital stock and public services, and hampered the education of at least a generation of skilled labor. The critical political and economic situations had made foreign and local commitment to invest in a large scale in the various sectors difficult. The Government's strategy was appropriate: (a) to focus on expediting the rehabilitation works and improving overall performance of public sector utilities; (b) to operate these services on sound commercial basis in order to attract private sector investment in the future; and (c) to promote competition through proper regulation. As a result of the reconstruction, Lebanon was expected to regain its ability to pursue progress primarily based, as in the past, on private sector led development. By aiding the rehabilitation process, the Project was thus extremely responsive and relevant to borrower circumstances and development priorities.

3.1.3 To facilitate the rehabilitation effort, the Government had already developed an inventory of damaged physical and social infrastructure facilities to be reconstructed. This clarity of tasks helped achieving part (i) of the project objective. There were some uncertainties in implementing part (i) of the objective. This was on account of the possible inaccuracies of the initial *damage assessment* of each of the identified tasks and, consequently, in the estimated cost and time required to finish the rehabilitation effort in water and wastewater, solid waste, electricity, and education (vocational) sectors. The situation for the housing sector was slightly different. There was an inventory of the damages incurred but the assets belonged to individuals and not to the state. The demand for such assistance from the Project could not be ascertained ex-ante because of the demand for project funds depended on various factors, such as, individual inclination to take loans, the financial intermediaries' judgment to take the commercial risk, and the availability of funds from other donors. Eventually, the housing component was dropped.

3.1.4 In contrast to the physical reconstruction, the overall strategy to strengthen Government's institutional capabilities (part (ii) of the project objective) was not spelt out in as much detail, although the list of items to be financed was quite specific. During the early stage of project implementation, strengthening of GOL's institutional capabilities was aimed at enhancing Government's capacity to implement construction activities in time and within budget. In parallel, the Project was to finance sectoral restructuring studies aimed at improving overall sectoral efficiencies in the future.

3.2 Revised Objective:

3.2.1 During implementation, the development objectives remained unchanged. However, because of updated cost estimates based on revised Damage Assessment Reports, additional financing was necessary to complete the ongoing reconstruction works and to assist in other emergency repair and rehabilitation works (from recent damages due to external hostilities) in the sectors covered under the Project, particularly in the power, water and waste water, and housing sectors. Accordingly, a supplemental loan was approved in 1996 which also included financing of rehabilitation works and extension of essential

water supply and wastewater facilities (in parts of Bekka Valley, Mount Lebanon) and emergency repairs (in South Lebanon).

Assessment of Revised Objective and Design:

3.2.2. The NERP had included many new (i.e. non-rehabilitation/development) works and, to help the GOL maintain regional balance and achieve equitable development throughout the country particularly in the rural areas, some of these investments were perhaps inappropriately included in the Project. Unlike classical rehabilitation tasks, these works required extensive coordination at the community level and the Project structure originally designed for emergency rehabilitation effort was possibly ill-suited to such tasks.

3.3 Original Components:

3.3.1 The major components in the various sectors as originally envisaged during preparation were: (a) Water and Wastewater: (i) the reconstruction and rehabilitation of water supply and wastewater facilities all over the country particularly related to the protection of water sources, water treatment and disinfection plants, pumping and transmission, and sewerage systems; (b) Electricity: (i) the rehabilitation of MV and LV distribution network in the Greater Beirut area, (ii) the rehabilitation of MV and LV distribution networks and customer connections to restore electricity supply in destroyed villages all over the country, and (iii) the procurement of metering equipment; (c) Solid Waste: (i) the repair (where viable) of part of the existing fleet of compactor trucks in Greater Beirut area, (ii) the procurement of 80 compactor/collector trucks and 2760 containers, (iii) the development of priority areas for landfill, (iv) the rehabilitation of existing compost plant at Karantina, and (v) construction of a road to the Amrousiyeh incinerator, and, (vi) the operation and maintenance of the Amrousiyeh incinerator (two years) and Karantina Compost Plant (one year) and collection of garbage in Greater Beirut; (d) Education: (i) the rehabilitation of the government owned technical and vocational school buildings located throughout the country, (ii) the repair and replacement of equipment in rehabilitated schools, (iii) the preparation and production of new student textbooks and teacher guides, and (iv) training seminars for personnel and strengthening the Ministry of Technical Education Vocational Training; (e) Housing: (i) the reconstruction and repair of damaged houses, and (ii) the construction of new houses, giving priority to displaced households; and (f) Technical assistance in support of: (i) the economic management and the restructuring of infrastructure services; (ii) design, preparation and construction supervision of all the above activities ((a) through (e)); (iii) studies to evaluate restructuring strategies in telecommunication, electricity, water, and wastewater sectors and (iv) technical assistance to the Ministry of Finance (MOF). In order to maintain some flexibility to adjust to changing circumstances and priorities, including donor interests, the Project was designed to permit a reallocation of funds within each sector and between sectors based on yearly reviews of implementation performance.

3.3.2 *Implementation arrangements:* Because of the shortage of adequate capacities in the sector ministries, the Council for Development and Reconstruction (CDR) was entrusted with the overall responsibility of project management. In general, it coordinated and monitored implementation activities, while the line ministries and agencies were directly responsible for program implementation. Under the prevailing circumstances this arrangement was adequate. The CDR was entrusted with the overall responsibility for implementation of the Project. To strengthen CDR's project management capacity, it retained experienced consultants in a Project Management Unit (PMU). Actual implementation was however vested on the Sector Implementation Units (SIUs), also staffed mainly by consultants, located within the line ministries/agencies. Co-ordination between the PMU and SIUs was managed by a Technical Co-ordination Committee (TCC), an advisory body created by and accountable to the CDR. The TCC comprised of high level members of the SIUs, the PMU and line ministries.

3.4 Revised Components:

3.4.1 Except for the original housing component, most of the project components were largely implemented. However, reestimation of the original damage assessment resulted in cost overruns and implementation delays. Initially, these were accommodated through appropriate reallocation of project funds. The removal of the housing component (para. 3.1.3) made funds available that were reallocated to the power sector. The 1996 external hostilities required additional financing for reconstruction works (power, water supply and, later, a new housing component in South Lebanon) which was approved for financing through a supplementary loan. The loan also included financing of cost overruns and rehabilitation and extension of water supply facilities in Bekka Valley, Mount Lebanon and emergency repairs in South Lebanon.

3.4.2 Chronology of amendments and extensions: The original loan was approved in February 1993 and, with the Supplementary loan approval of May 1996, it was amended three times and the original Closing Date (December 31, 1996) extended four times. As mentioned above, the first amendment was carried out in April 1995 to reallocate the funds of the housing component to the power sector. In February 1996, because of implementation delays arising out of revision of damage estimates, the Closing Date was extended to December 31, 1998. Fresh external hostilities in April 1996 led to the Supplementary loan approval, and the second amendment of the original loan agreement (in June 1996) was carried out to introduce changes/reallocations and new procurement procedures. The third amendment of the loan agreement (in July 1997), responding to new market conditions, permitted financing of accelerated courses under the education component. In 1998, the Closing Date was extended again from December 31, 1998 by fourteen months to February 29, 2000 to accommodate implementation delays from a new administration taking office. Subsequently, in March 2000, following the liberation of South Lebanon, the Closing Date was extended to March 1, 2001 to allow rehabilitation works in previously occupied territories; this was finally extended until March 1, 2002 to facilitate completion of all ongoing works.

3.5 Quality at Entry:

3.5.1 The performance rating of the ICR for quality at entry of the Project was **Satisfactory**. The Project was never subject to a QAG review but a review of Project concept, technical aspects, financial management aspects and institutional capacity at entry would justify this rating. The sectors were chosen with care and specific details were sought about the activities that were to be financed. It reflected adequacy of sector knowledge, strength of Borrower ownership, and appropriate partnership arrangement with other donors. As an emergency operation, it did not attempt to put policy reforms upfront as a significant objective, and the objectives of strengthening GOL's institutional capability in implementing the NERP was realistic given that the project was facilitating the strengthening of the CDR. The implementation arrangements were detailed and set up satisfactorily (including necessary safeguards on procurement, disbursement and financial management) during the preparatory stage of the Project. This was instrumental in satisfactory implementation of the Project. Even in the original housing component which was later dropped, the preparation team had taken great care to lay down the guidelines in terms of beneficiary and intermediary eligibility. By preparing the project in six months, the preparation team also excelled in speed of responsiveness - an attribute so important for such emergency rehabilitation project. Under the difficult circumstances that followed such a long strife, the quality of the preparation effort of this complex operation was indeed exceptional.

3.5.2 The supplementary loan was also exemplary in responsiveness and included many items which were emergency rehabilitation. However, the supplemental loan also included some activities in the water and wastewater sector which were not emergency rehabilitation in nature. This was to help the GOL maintain regional balance of economic growth and achieve equitable development to include rural areas as well. In attempting to respond fast on emergency items, the preparatory efforts of these non-rehabilitation

activities fell short of prevailing Bank norms, particularly in the areas of analytical work and community participation. In the water and wastewater sector, a large treatment facility was built but no financing was envisaged for influent (including house connections) and effluent connections. This was expected to be undertaken by the local authority at a later stage.

4. Achievement of Objective and Outputs

4.1 Outcome/achievement of objective:

4.1.1 Background: The Project was implemented within the context of widespread damages and a prolonged period of lack of maintenance of infrastructure facilities caused by the 17 years of conflict. In the electricity sector, transmission facilities were severely damaged, grid interconnection was disrupted and the distribution network (mainly in the greater Beirut area) had suffered heavily. Electricity supplies in most areas were restricted to about six hours per day. In the water and wastewaters sector, water supply facilities were heavily damaged and access to potable water was limited. All the 18 water treatment plants were damaged and operating at reduced capacity. The unsatisfactory water quality threatened widespread health hazards. In the solid waste sector, refuse collection equipment was either damaged or deteriorated as a result of aging and lack of maintenance. Refuse was collecting in heaps along major roads and dumped along the sea coast leading to health hazards and environmental degradation. In the vocational education sector, physical facilities and equipment were damaged and resulted in severely constraining the capacity of the vocational schools. In the housing sector, the damages resulted in mass displacement of the population from various regions of the country. The Project prepared within six months as an emergency operation did not develop key quantitative indicators for outcome and outputs. As such, evaluation of achievement through comparison of actual results on completion with appraisal targets (or last PSR targets) could not be undertaken. Instead, the evaluation relies upon comparison of actual results at completion with that prevailing at the time of appraisal. This is included in Annex-1.

4.1.2 The ICR assesses the project outcome as **satisfactory**. The key objective of the Project was to restore a reasonable level of functioning infrastructure services, and strengthen the Government's institutional capabilities in implementing the NERP. This was achieved under the Project. On implementation of the physical works, rehabilitation of the transmission system (funded by other donors), and the distribution network in greater Beirut area, where about 50 percent of the country's population resides, was completed quickly. Water and wastewater services of systems all over the country, from North Lebanon to the South and in Mt. Lebanon, Beirut, and Beka'a, were restored. Solid waste collection and disposal services began functioning for Greater Beirut and Tripoli areas and their many surrounding municipalities. Vocational schools all over the country were repaired and became instrumental in addressing the training needs in some of the key areas which were absent during the prolonged period of hostilities. Repairs and rehabilitation of small houses in the South ultimately permitted the families to return to their homes. Thus, the objective of restoration of vital infrastructure services was achieved satisfactorily.

4.1.3 On institutional capacity building, the overall accomplishment was modest. There were other sectoral projects which accompanied this emergency operation during its long implementation period. The ERRP initiated reforms in almost all the sectors through studies. These have resulted in enactment of appropriate laws in the respective sectors (para.4.1.5, 4.2.11). However, the various sectoral changes were neither envisaged nor can be attributed fully to the Project. During implementation, the Project and the various sectoral projects that it ushered, began to envision a bigger role for the private sector under appropriate sectoral regulatory environments. Judging by this more stringent standard, the Project has had some success but till date these remain mostly "work-in-progress".

4.1.4 The institutional capabilities were strengthened most visibly in the CDR, which spearheaded implementation of the NERP. CDR enjoys certain autonomy and is able to exploit its flexibility to handle construction and other matters expeditiously. Its salary structure is more attractive than that of the public sector in general permitting CDR to attract and retain highly competent and qualified staff. CDR has developed into the premier public institution in Lebanon effectively coordinating preparation and implementation of all development projects financed by donor agencies. Through this Project and other GOL initiatives, CDR has developed the skills to effectively coordinate with various donors as well as across various ministries.

4.1.5 At the ministerial level, the gains are mostly visible in the Ministry of Finance where the Project supported technical assistance to the customs revenue collection system (by providing continuing support to a completed Bank financed project), and later supported the introduction of VAT, both of which are key components of the Government's fiscal stabilization program. In the telecommunication sector, the bill to privatize a part of the MPT that provide regular telephone lines was recently ratified by the Parliament in July 2002 and cellular services are being successfully provided by two private entities. In the water and wastewater sector, consolidation of 19 water supply authorities and wastewater functions vested upon individual municipalities has been finalized through passage of various laws. All water supply functions and wastewater activities are now covered by four regional water authorities that are accountable to the Ministry of Electricity and Water (MEW). However, these four authorities have not yet started functioning as merged authorities. In solid waste sector, garbage collection services are being provided by private entities funded by fees/taxes collected by the municipalities. In the power sector, following the completion of the Restructuring Study, a draft Electricity Law was submitted to the Cabinet in 2001 and was finally ratified by the Parliament in August 2002.

4.1.6 The successful outcome is tarnished by the long implementation process which can be attributed to inaccuracies in the original damage assessment estimates (para. 3.2.1) and fresh damages caused from external hostilities during implementation; this was quite unanticipated. Some of the repairs were from damages incurred as late as in 2000, indicating the continued relevance of emergency rehabilitation in Lebanon.

4.2 *Outputs by components:*

4.2.1 In the power component, priority was given to most urgent rehabilitation works of the distribution network in the Greater Beirut area. In parallel to the Bank effort, other donors financed rehabilitation of generation equipment, HV transmission systems, and other rehabilitation packages for other parts of the country. While an accurate estimate of the nature and extent of the damages could not be ascertained ex-ante, the uncertainty was tackled through the creation of a process which could quickly validate the rehabilitation needs as and when presented, thereby, keeping control over the cost and time of implementation. In this sector, the Project installed 186 km of MV lines and 246 km of LV lines, rehabilitated 1287 sub-stations, built 71 new sub-stations and installed 83,500 new energy meters for the customers.

4.2.2 In order to maintain a reasonable flexibility for changing circumstances and priorities, the Project allowed reallocation of funds between sub-projects within a component and between components. When the demand for financing of the housing component as envisaged during appraisal proved to be low (because of availability of concessional finances from other donors), a reallocation of funds to the power component to complete the rehabilitation of distribution network in Greater Beirut and to build a National Control Center (NCC) was made. However, when there was a series of delays and a major controversy over the bid evaluation process undertaken by the EdL, implementation of the NCC was taken out of the project scope and the funds were utilized to repair and rehabilitate water supply systems in South Lebanon

affected by more recent external hostilities (para. 4.2.6). Subsequently, financing for the NCC was possible from the Arab Fund for Economic Cooperation and Development.

4.2.3 The Markabi Hydroelectric Power Plant was rehabilitated as an emergency response to damages incurred from external hostilities during the implementation of the Project. The works restored 34 MW of power generation capacity and rehabilitated the dispatch center of the Plant.

4.2.4 In the water and wastewater component, the Project concentrated initially on completing small works including the rehabilitation of water sources and treatment works, pumping stations, distribution systems, storage tanks, and sewage networks where supplies could be put back into service quickly and where pollution from damaged facilities was the greatest. At the end of implementation, 97 communities were provided with small water works consisting of 58 springs and wells, 86 water chlorinating facilities, 133 water supply pumping stations, 126 kilometers of transmission and distribution network, and 430 water supply distribution reservoirs (50-1000 cubic meters). In addition, 98 communities were provided with small sewerage systems with two sewage pumping stations, and 73 kilometers of sewerage network.

4.2.5 Partly aided by the supplementary loan, the Project implemented three larger water supply and sewerage systems. While the small works (para 4.2.4) were well executed, the larger works were fraught with design and implementation problems showing possibly the inherent difficulty with an ill-executed consultancy contract. The large (about US\$13.0 million) time-based international consulting contract (for design and construction supervision) permitted most of the consulting effort to be expanded for design work alone with construction supervision left out for further procurement. While all of three components were ultimately completed, these are currently functioning at a much lower level than designed making them quite "inefficient". Out of an additional daily water production capacity of about of 25,000 m³/day of Ba'albeck and Nabi Chit, only about 8,000 m³/day are currently being utilized because the Ba'albeck Water Authority has not made enough connections to its consumers. The Ba'albeck wastewater treatment works (13,000 m³/day capacity) is designed on a larger coverage of a wastewater collection system and is currently not operating because the influent and effluent systems are not in place. Inflow connections are yet to be completed and there is still 1,500m of outflow pipework to be completed. At the minimum, it would require 2,000 m³/day, and a follow-on Bank project is expected to provide the connections in two years. Apart from the not being able to utilize the investment made, the expected maintenance cost of the plant is around \$140,000 per annum; this will prove to be a heavy financial burden on the Water Authority. Lastly, the Metn and Barouk water system is underutilized by about 50 percent because the Fouar Antelias water scheme feeding the Metn and Barouk system (as planned in the supplementary loan as a parallel activity financed by the Government of Italy) was not undertaken on time. Within the scope of the three large system development, rehabilitation work was done on 48 additional springs and wells, four water treatment plants, 46 pumping stations, about 426 km of transmission and distribution network and 125 storage tanks.

4.2.6 After the liberation of South Lebanon in May 2000, five water supply and wastewater facilities were identified for rehabilitation in the South. These systems at Siddekine-Bint Jbeil, Siddekine-Beit Lif, Nabaa El Tasseh, Ibl el Saqi, and Taybeh serve about 500,000 people in 140 communities, demonstrating again the efficiency of the Project to implement small and well-defined works.

4.2.7 In the solid waste component, the Project procured 80 new compactor trucks for waste collection throughout the country; repaired and rehabilitated 33 existing compactor trucks and rehabilitated the workshops in Beirut; procured 2,760 metal containers for country wide distribution; rehabilitated the Karantina compost plant and the Amrossieh incinerator (and supported their operation and maintenance

briefly); remedied the Tripoli coastal landfill and procured its mobile equipment; introduced successful private sector participation in operation as well as garbage collection at Tripoli and in the Greater Beirut area; and financed collection of garbage in Greater Beirut and Chouf areas for two years. Currently, the operation and maintenance of the facilities at Karantina and Amrossieh are being financed out of the Independent Municipal Fund. However, because of public protests on account of the pollution from the exhaust, the Amrossieh incinerator can now function only as a sorting plant.

4.2.8 In the vocational and technical education component, the Project rehabilitated and equipped 22 Government-owned technical and vocational schools located throughout the country. It rehabilitated workshops at seven of these locations, and helped create an accelerated training program in painting, plastering, brick laying, carpentry, tile setting, plumbing, aluminum work, electrical work, HVAC work, and smithy. The programs trained over 9,000 participants.

4.2.9 In the housing component, the original plan was to provide long-term credit (upto 17 years) to households whose housing conditions were seriously damaged as a result of the hostilities and who were considered creditworthy by financial intermediaries. Funds from this component were reallocated to the power component when, due to the availability of concessional finance, the housing component did not disburse. However, following the liberation of South Lebanon, the component was revived and housing grants were provided to 14,175 households for repairs and minor rehabilitation. This was to encourage the return of displaced families to their original villages and towns.

4.2.10 In the technical assistance (TA) component, apart from financing the design, preparation, and construction supervision of all physical works, the Project's main thrust was strengthening the institutional capacity of the Ministry of Finance, and undertaking various sectoral restructuring studies. The Project financed two technical assistance sub-components for the Ministry of Finance: one to improve the revenue collection (through cadastral studies and supporting the introduction of the ASYCUDA system) and to strengthen economic and financial management and the other for the introduction of VAT in Lebanon.

4.2.11 In the telecommunication sector, the TA financed a study of restructuring of the sector and a management contract that helped the Ministry of Post and Telecommunication (MPT) to reconstruct, expand and manage the telephone systems. With the help of Canada Post, the Postal part of MPT became Liban Post, a successful independent postal authority. A draft Law for Telecommunication services privatization (including the land lines) was prepared under the Project, cleared by the Prime Minister and the Council of Ministers (who made substantial changes); this law was ratified by the Parliament in July 2002. In the electricity sector, a restructuring study and an environmental impact assessment for the power sector were produced for a follow-on project which has recently been rated unsatisfactory in the ICR. Similarly a long-term strategy for the solid waste sector was produced for a follow-on operation, which was partially cancelled subsequently. Finally, the TA for the water and wastewater sector produced the Water Law. A plan has also been prepared on the basis of this law to streamline the sector from the current 19 water authorities into four regional authorities to improve overall service in the sector. In the early stages of project implementation, the TA component for water and wastewater sector had also produced reports on the environment and on policy options that provided a coherent view of environmental development in the country. Subsequently, these reports aided the writing of Environmental codes which after discussions at the Parliament were ratified as a law. Lastly, as a part of the preparatory process for the National Environment Strategy and financed through the Mediterranean Environmental Technical Assistance Program (METAP), a diagnostic of the state of the environment and accompanying policy options were produced under the Project.

4.3 *Net Present Value/Economic rate of return:*

4.3.1 No formal and complete economic analysis (such as the calculation of the economic rate of return) of the Project is attempted because the Project was an emergency, country-wide and complex, multisectoral operation. Generally, the project rehabilitated many isolated items such as water sources, water pumping stations and treatment plants, as in the water and waste-water sector, or distribution lines and substations, as in the electricity sector. In some cases, the system was partially functioning and the rehabilitation of these isolated items brought back the coverage of the system to its original capacity. In other cases, because of the extent of the damage, the whole system had stopped functioning and the rehabilitation of the entire system was required before it could start functioning again. Examples of such system rehabilitation include the solid waste collection system in various municipalities and the greater Beirut electricity distribution system. The emergency nature of the project did not permit the Bank to calculate the ex-ante ERRs in all these system rehabilitation in various sectors all over the country. Ex-post calculations of ERRs similarly would be impractical. In general, the ICR mission noted that the various investments made attempted to rehabilitate the essential services, such as water and electricity supply or solid waste collection and treatment, at a modest cost. Even the vocational school rehabilitation followed such a modest path where the idea was just to get them functioning without undue attention paid to "aesthetics".

4.3.2 However, for the three larger water and wastewater system rehabilitation and extension which took place after the supplementary loan was approved, at Ba'albeck and Metn-Barouk, ERRs if calculated now would possibly be negative because they are operating much below capacity or are non-operational. One of them, the Ba'albeck waste water treatment plant built at a total cost of over US\$6.0 million in direct costs and US\$140,000 as yearly maintenance costs, is not serving a single customer, and is not expected to start serving any in the next two years. A follow-on Bank financed project is expected to redress matters.

4.3.3 For a similar investment in the electricity sector, the rehabilitation of the Markabi power plant (34 MW) which cost US\$5.38 million, the ERR was found to be 12.0 percent. An alternative new investment generating 34 MWs would have required between US\$18.0 million and US\$34.0 million indicating the efficiency of rehabilitation over investment in a new unit in the electricity sector.

4.4 *Financial rate of return:*

Not applicable for such a multi-sectoral project and essentially similar as the ERR in such an open economy.

4.5 *Institutional development impact:*

The Project has played a catalytic role in the transformation of many public sector institutions in Lebanon. First, because of the Project, the Government was able to demonstrate its ability to implement many emergency rehabilitation activities, and today, it is in a much better position to attract donor interest in many sectors. As mentioned earlier (para. 4.1.4), CDR has become quite skilled in this area. Second, the Project through its various studies has improved the dialogue on public service provision and the role of Government in various sectors. The rules of the game have definitely changed and, with some notable exceptions, most legislators prefer strong private participation in all infrastructure activities.

5. Major Factors Affecting Implementation and Outcome

5.1 *Factors outside the control of government or implementing agency:*

5.1.1 Following the 17 years of conflict, consultants were appointed to quickly assess the damages incurred to the infrastructure stock and a Damage Assessment Report was finalized in 1993. In many instances, the assessment was not based on any detailed or comprehensive study. In its effort to carry out urgent rehabilitation and reconstruction needs, the GOL had to rely on overall recommendations of the report and seek financing for the NERP of which the Project financed only certain components. However, during implementation, with better understanding of the actual damages, the scope of works increased in

many instances. This resulted in cost over-runs and compelled the GOL to prioritize urgent works or seek additional resources of external assistance. Also, as a result of better understanding of the scope of works (including expansion in some cases), the implementation period increased, eg., the first year works in many instances got completed only during the fourth year and the second and third year works which remained in the Project (in water and waste-water) could not be completed before the end of the Project.

5.1.2 Implementation was also hampered substantially by continued regional instability. Many new instances of emergency rehabilitation had to be addressed first in 1996 and then in 2000.

5.2 Factors generally subject to government control:

There were two crucial factors that were subject to government control. First, as explained above, during implementation the scope of works increased in many instances. This required processing of a large number of variation orders. For a brief period, approval of any variation order above 15 percent of the original contract price required approval of the Council of Ministers. This evidently resulted in delays that adversely affected implementation. Second, the Council of Ministers needed to approve and the Parliament to ratify laws for sector restructuring. While at its design stage the Project aimed at institutional capacity building of the existing line ministries, at the implementation stage, this effort gradually evolved to more appropriate sector restructuring that would ultimately facilitate entry of the private sector. Establishing enabling environment for private sector participation in Power, Water, Telecommunication, and Solid Waste Management sectors were initiated and necessary Sector Development Policy Notes articulated.

5.3 Factors generally subject to implementing agency control:

As mentioned earlier (para. 3.3.2), the implementation arrangement of the project was quite detailed and elaborate. During implementation, adequate counterpart staff was to be seconded to the SIUs which comprised of internationally recruited consultants. This was to result in transfer of knowledge as a first step towards institutional capacity building. However, very few counterpart staff opted to join the SIUs because of additional work pressure without requisite compensation. This reduced significantly the prospects of institutional capacity building. With heavy work load, the SIUs were overstretched which sometimes resulted in inadequate supervision of implementation activities. In the initial years, a few cases of poor site maintenance, illegal sub-contracting were reported by periodic Bank supervision missions. Finally, when the EU funding for the expatriate staff at the SIUs ended in 1997, the Bank loan was used to finance salaries of key SIU consultants. If the counterpart staff were available in the SIUs, such diversion of loan funds (earmarked for reconstruction and rehabilitation work) for salary payments could have been minimized.

5.4 Costs and financing:

Total project costs including contingencies, at the time of approval of the Supplementary loan was US\$293.1 million. The loan for US\$225.0 million was to be complimented by US\$68.1 million equivalent of counterpart funds (US\$58.1 million) and support from other donor agencies (US\$10.0 million). By the Closing Date, actual Project cost is estimated at US\$294.9 million with financing from the Bank totaling US\$221.0 million complimented by counterpart funds (US\$43.4 million) and other donor agencies (US\$30.4 million) totaling US\$73.8 million. While actual Bank financing of US\$221.0 million is close to the original loan amount of US\$225.0 million, funding from GOL internal sources for US\$14.7 million was replaced by additional financing made available from other donor agencies. A total of about US\$4.0 million will be cancelled from the loan account.

6. Sustainability

6.1 Rationale for sustainability rating:

6.1.1 Current macroeconomic imbalances in Lebanon pose some difficulties to the sustainability of the

physical investments made under the Project. In the initial period of the reconstruction program (1993 – 98), public investment, of which the Project was an important component, averaged over 7 percent of GDP. The Government maintained an environment of low inflation, and stable exchange rate. As it could not contain the fiscal deficit, it financed the investment program largely with domestic debt on commercial terms. With interest payments on Government debt (currently around 170 percent of GDP) absorbing an ever increasing share of public revenues, the sheer size of fiscal deficit (around 14 percent of GDP) impacts the sustainability of the reconstruction effort and with it the operation and maintenance of infrastructure facilities built under the NERP (and hence the Project), unless adequate service fees are collected for each of the components. However, because most of the investments financed under the Project are considered essential, customers in the various sectors could be expected to pay the service fees to operate and maintain the investments. Whenever private participation has been permitted, customers have either paid appropriate fees directly or the activities have been sustained through use of a Fund financed through collection of taxes (currently VATs) on utility bills - for example in solid waste collection and garbage disposal. In the Telecommunication sector, entry of the private sector has provided much needed financial resources for the Government. At the time of evaluation, the future net benefit flow from the investments made under the Project is considered to be very resilient to risks. Consequently, the sustainability of the main achievements of the project is considered likely.

6.1.2 In the power component, the investments in the Markabi power plant are currently maintained from the sale of power by the Litany River Authorities (LRA) to EdL. However, the public sector enterprise EdL is not financially viable and has to depend on Treasury subsidy for its sustainability. In view of the continuing unsatisfactory financial performance, it is conceivable that EdL's payment to LRA on account of power purchase could get deferred along with other reductions in usual operation and maintenance expenditures. The restructuring study financed under the Project and the follow-on sectoral project, which tried to bring about private participation, have laid the necessary requirements for change in the sector (eg. privatization of EdL), and consequently for sustainability of the component.

6.1.3 The situation is somewhat similar for the water and waste water component. Some of the existing water authorities have already been charging water tariffs (US\$0.50/m³ of potable water) enough to recover operation and maintenance costs. The alternative cost of water from private tankers is about US\$2.00/m³. However, many water authorities, particularly in the South, have not been recovering costs and relying on subsidies after the Government instructed them to supply water without charging customers during the period of external occupation. This practice is about to change because all water authorities are now being consolidated into four regional authorities under a Water Law, which permits them to recover costs from their subscribers. Consequently, it is not inconceivable that these water authorities would be able to recover operational and maintenance costs to sustain the investments. The only real danger of sustainability lies with Ba'albeck and Nabi Chit water system, Ba'albeck wastewater systems, and the Metn-Barouk water system. In each of these, the authorities may be unable to recover costs soon enough to operate and maintain the over-dimensionalized systems because there are not enough consumers connected with the systems as yet.

6.1.4 In the solid waste component, the Federation of Municipalities of Tripoli (El Fai'ha) is already recovering costs from funds made available by Independent Municipal Fund (IMF) and contributions of member municipalities. In the Greater Beirut area, financing of private provision for solid waste collection and disposal is being made through the IMF which generates its funds by charging taxes (currently VAT) on other utility bills.

6.1.5 The technical and vocational training program and vocational schools rely on budgetary

expenditures and on external grant funding. With some adjustments, such as elimination of student stipends and introduction of some private/alumni sponsorship, the inexpensive programs and schools can be made more sustainable.

6.1.6 The housing component financed repairs for private individuals who are maintaining the investments.

6.1.7 The investment in the MOF through the TA is generating substantial revenue for Lebanon. It is the most sustainable investment component of the Project.

6.2 *Transition arrangement to regular operations:*

6.2.1 The rehabilitated systems in the various sectors are operational and form intrinsic part of the respective institutions which operated the system before being damaged. For example, the EdL operated electricity distribution network in Greater Beirut area before the conflict and is now entrusted again with its operation. Similarly, the water and wastewater services which were rehabilitated all over the country are being operated by the respective authorities (before they functionally merge to become regional water authorities under the new Water Law). The only system which has not merged into regular operations is the Ba'albeck wastewater treatment works. Once connections to consumers are completed, this facility will become a part of the Ba'albeck water authority.

7. Bank and Borrower Performance

Bank

7.1 Lending:

Bank's performance during identification, preparation and appraisal was satisfactory. The Bank was extremely receptive and responsive to the country's urgent reconstruction needs, and the Project was prepared within six months. The war damages had caused severe risks to public health and the environment. The Project, by providing emergency assistance to the sectors most affected - water, wastewater, solid waste and electricity - helped bring back these essential services quickly and mitigated the possible environmental and public health hazards.

7.2 Supervision:

Bank's performance during supervision was satisfactory. Throughout the long implementation of the Project, supervision missions were carried out on a regular basis (Annex 4a provides further information on staff skill mix and continuity). Given the multi-sectoral nature of the Project, it was difficult for the Bank to mobilize all needed expertise required for carrying out a complete supervision mission. Bank staff with specific expertise conducted supervision missions at different intervals. Consequently, the Project had continuous supervision which helped the Bank respond quickly and effectively to all Borrower requests including those for reallocation of funds and Closing Date extensions.

7.3 Overall Bank performance:

The Bank responded quickly to address the urgent reconstruction needs of the war ravaged country, and preparation was very well focused. Close and continuous monitoring of the implementation activities ultimately led to the completion of all activities. All through implementation, the Bank was flexible enough that demonstrated adequate responsiveness towards Borrower's changing needs and priorities. Relocations of funds between sub-projects within a component and between components were formalized whenever necessary. Although the institutional strengthening (of the line ministries/agencies) component was modest, adequate support through the provision of necessary TA for sector reforms and enactment of appropriate laws are changing the role of the public sector entities. In their new roles, the public sector institutions are expected to devolve their operation to the private sector and gradually shift their focus away from

strengthening of their earlier functions in varying degrees. The implementation period of three years as initially envisaged was too optimistic. A proper appreciation of the absorptive capacity of the country at project start would have resulted in a more realistic time frame for project completion. On the whole, overall Bank performance was satisfactory.

Borrower

7.4 Preparation:

Project preparation was carried out by the CDR and the sector Ministries within the Government's overall reconstruction program (NERP). The basis of the NERP was the Aid Coordination meeting of December 1991 chaired by the Bank, where the international donor community manifested interest in supporting the reconstruction of the economy. CDR was able to coordinate with the donors effectively and initiate the rehabilitation process in a satisfactory manner. They understood what it would take to restore a reasonable level of functioning of the infrastructure services, reduce social problems, and lay the foundation for medium-term recovery; and prioritized the program accordingly. This fast pace of identification of rehabilitation tasks and their prioritization was repeated for the supplementary loan and post-conflict work in South Lebanon in 2000.

7.5 Government implementation performance:

The depth of the damage proved to be much more extensive than what was anticipated during the initial assessment of the damages prior to start-up of the Project. As such, both the cost and implementation-time were underestimated. On experiencing delays and cost overruns, the Government made necessary adjustments and correctly transferred much of the larger works to new projects. It effectively coordinated the efforts of various donors (except for the Metn Barouk water system) and transferred funds between components efficiently (for example between housing and electricity and then back to housing). The smaller works (rehabilitation) were accomplished satisfactorily but much behind the original schedule. In 1999, following a brief period of review (when implementation actually had slowed down), the Government confirmed the overall strategy of the NERP, and continued to support the implementation of the Project as planned. On the whole, Government's implementation performance was satisfactory.

7.6 Implementing Agency:

7.6.1 CDR managed the project satisfactorily, coordinating effectively a complex set of activities and a large number of sector Ministries, particularly in implementing the tasks of rehabilitation and repair. The fiduciary aspects of the Project were also handled admirably. When inevitable problems with some contracts arose, CDR sought and obtained cooperation from various entities including the contractors.

7.6.2 CDR was also directly involved in managing the studies and consultants in the technical assistance component except those for the Ministry of Finance. Overall, the CDR was successful in managing the studies, incorporating inputs from various sources and leading to technically sound recommendations. In the water and wastewater sector, CDR was particularly effective in having a Water law passed and initiate sector restructuring. In the telecommunications sector, the studies led to some restructuring of the sector and, ratification of the law by the parliament.

7.6.3 EdL was the main implementing agency for the power sector components. Except for implementation of the NCC, all other physical components were completed satisfactorily. The follow-on results were however disappointing. Although the Project did not envisage any restructuring of the sector, the follow-on Power Sector Restructuring and Transmission Project failed to implement the necessary sector reforms. The study however remains as a source document for future restructuring of the sector.

7.6.4 At the end of the hostilities, the sector ministries were quite weak. Consequently, for this

emergency operation, the project designed SIUs staffed with consultants to implement most of the project components (except for vocational training and housing components). Except for the large water and wastewater system construction, the SIUs completed their assignments satisfactorily. In most cases strong ownership roles were played by local water authorities (for phase one water and wastewater system rehabilitation), EdL and Litani River Authority (for the electricity component), and the municipalities (for the solid waste component). In the education component, school buildings were rehabilitated by the Ministry of Public Works, whereas in the housing component the Lebanese Military played a crucial coordinating role (with home owners and their contractors doing the repairs). The implementation of the vocational education and housing components were done quite admirably.

7.6.5 The technical assistance (TA) for the Ministry of Finance (MOF) was implemented by a small dedicated Unit within the Ministry. This Unit had been supported under a previous Bank loan and comprises very knowledgeable staff. Under the Project, the Unit's efforts led to increasing public revenues and decreasing processing time and paper work for the private sector.

7.7 Overall Borrower performance:

The overall performance of the Borrower is considered satisfactory.

8. Lessons Learned

8.1.1 In the implementation of the project, a number of important lessons have been learned or reinforced. These include:

(a) **Quick response to an emergency can be effectively accomplished with the proper preparation of an inventory of crucial, preferably modest, investments:** The rehabilitation of small water and wastewater system (including those in the South after the external hostilities ceased), the procurement of equipment for solid waste collection and the support for solid waste disposal are all examples of this type of investments. These were timely and designed well in light of the damage assessment reports. Apart from restoring essential services, such a focus on modest investment helps mitigate immediate environmental and health hazards effectively. Sometimes when ex-ante assessments are difficult to make, as was the case with the rehabilitation of Greater Beirut electricity distribution, cost and implementation time can be controlled by creating a process which can validate rehabilitation needs as and when presented.

(b) **Combining “opportune” extensions/development works along with emergency works should be avoided:** Implementation of the small (but numerous) rehabilitation works was difficult enough in the initial prevailing environment of capital and skilled labor constraints. The subsequent large investments in water and wastewater at Met'n Barouk and Ba'albeck which required a lot of extensions are examples of implementing non-emergency/development work along with emergency activities. This delayed timely Project completion.

(c) **Streamlining and coordinating the rehabilitation effort through an autonomous entity is very effective:** The CDR provided and continues to provide such a role because emergencies caused from similar incidences of external hostilities in Lebanon cannot be ruled out in the future. It also helped with the compliance of project covenants on counterpart funding, procurement, accounting, and auditing.

(d) **Emergency operations should have modest sectoral reform objectives:** Autonomous entities undertaking emergency rehabilitation works have limited opportunity to bring about sectoral reforms. The focus instead should be on initiating cost recovery and adequate maintenance of the new investments so that sectoral reforms can be supported by strong financial health of sectoral institutions. The EdL for instance

delayed cost recovery initiatives and continued to rely on Government subsidies. Subsequently, the entity became weak and now threatens sustainability of investments made in the power sector.

9. Partner Comments

(a) Borrower/implementing agency:

**COUNCIL FOR DEVELOPMENT & RECONSTRUCTION
BEIRUT - LEBANON**

No.: 5291/1

Beirut, 28/08/2002

Ms. Françoise Clottes
Sector Manager
MNSIF
The World Bank

Fax. No: (202) 477-1998
(202) 477-1993

Subject: LEBANON-Emergency Recovery and Reconstruction Project (Loan 3562-LE)-
Implementation Completion Report (ICR)

Dear Ms. Clottes,

Reference is made to your fax, dated 27/8/2002, enclosing a pre final copy of the Implementation Completion Report (ICR) for the Emergency Reconstruction and Rehabilitation Project.

After careful review, we would like to inform you that we have no major objections to the document. We do, however, have some reservations on a number of ratings and the rationale behind them, as reflected in various parts of the report, mainly, those relating to Public Sector Management and Private Sector Development. We would like to take this opportunity to express our appreciation for the ICR Team's hard work and understanding and the extensive and very close cooperation between the Bank Team and CDR during the preparation of this report.

We would like to inform you that we have sent the Borrower's contribution to the ERRP ICR, under a separate cover letter, to Mr. Emmanuel Forrestier-MNSIF Director, earlier today.

On the occasion of the completion of this project, we take this opportunity to express our appreciation for the valuable support, guidance and professional advice from successive Bank missions during the course of the implementation of this project.

We look forward to such continued co-operation with the Bank.

Sincerely Yours,

Council for Development
and Reconstruction

President
Jamal A.R. Itani



(b) Cofinanciers:

Although, the Project had other donors financing several components either jointly or in parallel, there was no legal conditionality on co-financing arrangements. In absence of any formal co-financiers, no comments were sought from other bi-lateral and multilateral financing agencies.

(c) Other partners (NGOs/private sector):

Not applicable.

10. Additional Information

A detailed list of pertinent project documents is listed out in Annex 7

Annex 1. Key Performance Indicators/Log Frame Matrix

Outcome / Impact Indicators:

Indicator/Matrix	Projected in last PSR	Actual/Latest Estimate
(1) Power (a) Availability of Power (hrs./day) (b) No. of consumers served	(1) Out of 1600 MW installed capacity, only 500-600 MW in actual service. Supply rationed to about 6 hrs./day	1(a) 24 hrs/day 1(b) 461,500 LV Consumers and 1500 MV consumers
(2) Water Supply (a) Overall availability of water (hrs./day) in Lebanon (b) Availability at Ba'albeck-Nabi Chite (c) Availability at Metn-Barouk	(2) Water Supply: All treatment plants damaged and operated at reduced capacity. Only 10% of chlorinators functional. In 1990, 80% of water samples collected from springs, reservoirs and water distribution networks were polluted.	2(a) 24 hrs/day but only around 60 l/day reaches the consumer so practically the availability is 6 hrs/day - 90% of the population covered. 2(b) 6 hrs/day 2(c) 6 hrs/day
3. No. of consumers served (a) Ba'albeck-Nabi Chite (b) Metn-barouk		3(a) 159,142 3(b) 263,821
4. Wastewater connection (a) Nabatleh (b) Beirut (c) Mount Lebanon (d) North Lebanon (e) South Lebanon (f) Beka'a	Wastewater: No functioning sewage treatment in the country.	4(a) 24% 4(b) 98% 4(c) 67% 4(d) 54% 4(e) 42% 4(f) 41%
(5) Solid Waste (a) Area covered (square km) (b) No. of people served	Solid waste collection equipment and vehicles almost entirely destroyed. refuse piled up along streets, vacant lots and the sea coast.	5(a) Around 50 square kilometers 5(b) Around 1.3 million
(6) Education (a) No. of students and teachers trained	Most schools, vocational and technical training colleges severely damaged	6(a) 9,033
(7) Housing (a) No. of people benefitted	Nearly one quarter of the housing stock either damaged or destroyed.	7(a) Around 85,000
(8) Technical Assistance - percentage of Govt. revenue collected through VAT	VAT not in use	Around 16%

Note: These indicators were developed at the time of ICR. No projections were available in the last PSR. The entries in the second column are indicative of actuals at the time of appraisal.

Output Indicators:

Indicator/Matrix	Projected in last PSR	Actual/Latest Estimate
<p>(1) Power (a) Km of distribution line rehab. (in greater Beirut) (b) Rehab. of sub-stations (c) New substations (d) MW available through rehab.</p>		<p>1(a) 186 Km MV and 246 Km LV 1(b) 1,287 1(c) 71 1(d) 34 MW made available and 83,500 new energy meters were installed</p>
<p>(2) Water and Wastewater (a) No. of sources/bore holes rehab. (b) Additional water availability (c) No. of water treatment plants rehab. (d) No. of pumping stations rehab. (e) Km. of distribution network rehab. (f) No. of storage tanks rehabilitated (g) No. of sewage collector rehab. (h) No. of wastewater pumping stations (i) No. of new treatment plants</p>		<p>2(a) 106 2(b) 24,500m³ per day for Baalbeck area 2(c) 4 2(d) 179 2(e) 551.6km 2(f) 555 2(g) 852 2(h) 2 2(i) 1</p>
<p>(3) Solid Waste (a) Crmpst plant handling of solid waste (b) Incinerators handling of salkd waste (c) Garbage collection in tons/day</p>		<p>3(a) 400T per day 3(b) 200 T per day 3(c) 650 T per day</p>
<p>(4) Education (a) Rehab. and furnishing of VT contrs</p>		<p>4(a) 22</p>
<p>(5) Housing (a) No. of houses repaired/rehabilitated</p>		<p>5(a) 14,175</p>
<p>(6) Technical Assistance (a) Increase in tax collection (customs) (b) Introduction of VAT (c) List of studies completed</p>		<p>6(a) Done 6(b) Done 6(c) - Telecom Sector - Restructuring Study - Solid Waste Sector - Long Term Strategy Report - Electricity - Restructuring Study, Power Sector Environmental Impact Assessment.</p>
<p>(d) List of laws passed (e) No. of ministries and GOL agencies provided with TA</p>		<p>(d) Water, Electricity, Environment and Telecommunication laws. 9</p>

End of project

Note: These indicators were developed during the ICR stage and earlier targets during implementation were not available.

Annex 2. Project Costs and Financing

Project Cost by Component (in US\$ million equivalent)

Project Cost By Component	Appraisal Estimate US\$ million	Actual/Latest Estimate US\$ million	Percentage of Appraisal
Power (Original loan - US\$41.20)	79.70	51.97	65.2
Water and Waste Water (Original loan - US\$70.50)	122.20	130.91	107.1
Solid Waste (Original loan - US\$45.00)	45.00	41.01	91.1
Education (Original loan - US\$18.70)	18.70	18.20	97.3
Housing (Original loan - US\$38.50)	0.00	15.61	
Technical Assistance (Original loan - US\$10.00)	10.00	20.06	200.6
Emergency Repair/rehab.(Original loan - US\$0.00)	17.50	17.09	97.7
Total Baseline Cost	293.10	294.85	
Total Project Costs	293.10	294.85	
Total Financing Required	293.10	294.85	

Appraisal estimate implies cost figures as revised during finalization of Supplementary Loan. The break-down of the original loan amount totalling US\$175 million is shown in the first column. During appraisal (of the Original loan), there was a Housing component totalling US\$38.5 million of which Bank financing was for US\$25.0 million. Subsequently, this amount was reallocated to the Power Sector. At a later stage, following liberation of South Lebanon the US\$13.3 million was made available through reallocation for repair/rehabilitation of damaged houses in the South.

Project Costs by Procurement Arrangements (Appraisal Estimate) (US\$ million equivalent)

Expenditure Category	Procurement Method				Total Cost
	ICB	NCB	Other	N.B.F.	
1. Works	52.20 (38.30)	40.30 (31.20)	38.50 (25.00)	22.00 (0.00)	153.00 (94.50)
2. Goods	114.70 (106.00)	0.00 (0.00)	4.80 (4.40)	0.00 (0.00)	119.50 (110.40)
3. Services	0.00 (0.00)	0.00 (0.00)	20.60 (20.10)	0.00 (0.00)	20.60 (20.10)
4. Miscellaneous	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
5. Miscellaneous	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
6. Miscellaneous	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Total	166.90 (144.30)	40.30 (31.20)	63.90 (49.50)	22.00 (0.00)	293.10 (225.00)

Project Costs by Procurement Arrangements (Actual/Latest Estimate) (US\$ million equivalent)

Expenditure Category	Procurement Method			N:B:F.	Total Cost
	ICB	NCB	Other		
1. Works	102.36 (67.01)	19.35 (14.06)	0.00 (0.00)	0.00 (0.00)	121.71 (81.07)
2. Goods	70.35 (70.35)	0.00 (0.00)	7.43 (6.84)	0.00 (0.00)	77.78 (77.19)
3. Services	0.00 (0.00)	0.00 (0.00)	53.08 (42.29)	0.00 (0.00)	53.08 (42.29)
4. Miscellaneous	0.00 (0.00)	0.00 (0.00)	42.28 (20.47)	0.00 (0.00)	42.28 (20.47)
5. Miscellaneous	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
6. Miscellaneous	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Total	172.71 (137.36)	19.35 (14.06)	102.79 (69.60)	0.00 (0.00)	294.85 (221.02)

^{1/} Figures in parenthesis are the amounts to be financed by the Bank Loan. All costs include contingencies.

^{2/} Includes civil works and goods to be procured through national shopping, consulting services, services of contracted staff of the project management office, training, technical assistance services, and incremental operating costs related to (i) managing the project, and (ii) re-lending project funds to local government units.

Project Financing by Component (in US\$ million equivalent)

Component	Appraisal Estimate			Actual/Latest Estimate			Percentage of Appraisal		
	Bank	Govt	CoF	Bank	Govt	CoF	Bank	Govt	CoF
Power	60.00	19.70	0.00	51.97	0.00	0.00	86.6	0.0	0.0
Water Supp. Wastewater	95.00	17.20	10.00	84.21	16.30	30.40	88.6	94.8	304.0
Solid Waste	30.00	15.00	0.00	21.66	19.35	0.00	72.2	129.0	0.0
Education	15.00	3.70	0.00	14.70	3.50	0.00	98.0	94.6	0.0
Housing	0.00	0.00	0.00	13.27	2.34	0.00	0.0	0.0	0.0
Technical Assistance	10.00	0.00	0.00	19.92	0.14	0.00	199.2	0.0	0.0
Sub-Total	210.00	55.60	10.00	205.73	41.63	30.40	98.0	74.9	304.0
Emergency repair/rehab	15.00	2.50	0.00	15.29	1.80	0.00	101.9	72.0	0.0
Total	225.00	58.10	10.00	221.02	43.43	30.40	98.2	74.8	304.0

Co-financing for the Water/Wastewater sector includes joint financing from EIB of around US\$20.40 million; this was not considered during preparation of the Supplemental loan. The Emergency repair/rehab includes rehabilitation of the five water supply projects in the South and the rehabilitation of the Markabi Hydro Plant (US\$5.38 million).

Annex 3. Economic Costs and Benefits

Introduction: At the time of appraisal, there was no economic analysis done for any of the components or sub-components. As the Project was emergency reconstruction and rehabilitation in nature such detailed analysis was not possible during the short project processing time of about six months. However, during the time of preparing the ICR economic analysis of a selected sub-component of the rehabilitation works (the Markabi Power Plant rehabilitation component) was conducted and the assumptions and results of the economic analysis are discussed below.

Markabi Power Plant: The 34MW (17x2) hydro-electric power plant was commissioned in 1962 and the economic life of the plant was expected to last until 2012. During the hostilities of April 1996, the Plant was damaged and soon after approval of the supplemental loan, immediate rehabilitation needs of the power plant was assessed and about US\$5.38 million allocated for the rehabilitation works. These were carried out during 1997-98 following which the economic life of the plant was increased and expected to last until 2022. During construction phase, the energy output of the plant was declining and the rehabilitation works increased reliability and the output of the power plant.

Economic Analysis: The economic analysis compares the actual capital investment made on account of the rehabilitation works and annual incremental cost of operation and maintenance (O&M) of the Power Plant with the expected incremental benefits accruing as a result of the rehabilitation works. The analysis is based on the following assumptions:

- (a) Because of dry conditions and poor hydrological inflow to the reservoir, overall power production during the period 1999-2001 had declined sharply from 97,930,000kWH to 18,024,000kWH, a reduction by more than 80%. Incremental production during this period (accruing out of the rehabilitation works) has been derived by using the ratio of incremental production to total production for 1998 (average hydrological year);
- (b) Because of the rehabilitation investments made, the plant life is assumed to have increased by 10 years from 2012 to 2022. However, since the original equipment will have been in operation for 50 years by 2011, the total production starting 2012 is attributed to the rehabilitation investments made during 1997-1998 and is assumed to be derated to 37,560,976 kWH;
- (c) **Incremental benefits:** Since the power produced by the power plant is sold only to EdL, bulk supply tariff (BST of LL41/kWH) has been assumed as a proxy for the benefits accrued. Incremental benefits are determined by using the product of incremental production (kWH) made available and the B.S.T. for power sold to EdL; and
- (d) **Incremental costs:** These have been apportioned out of the total O&M costs by using a factor of incremental production to total production. Starting 2012, the incremental O&M costs are assumed to be the same as the total O&M costs.

The Base Case scenario indicates the Economic Rate of Return to be 12%. Several sensitivity analyses were carried out to test the robustness of the assumption used. The results are as follows:

Results of Sensitivity Analysis

Scenario	ERR
1. Base Case	12%
2. Projected benefits (-15%)	9%
3 Projected O&M costs (+15%)	11%
4. Benefits (-15%) and costs (+15%)	9%

Economic Rate of Return Calculations

Year	Capital Exp. LL	Incr. O & M Cost in LL	Incr. Benefits in LL	Net Benefits in LL
1997	3228000000	0	0	-3,228,000,000
1998	4842000000	387,317,472	1,555,130,000	-3,674,187,472
1999		309,853,977	439,249,192	129,395,215
2000		290,488,104	562,446,165	271,958,061
2001		271,122,230	286,221,414	15,099,184
2002		269,500,000	1,540,000,000	1,270,500,000
2003		269,500,000	1,540,000,000	1,270,500,000
2004		269,500,000	1,540,000,000	1,270,500,000
2005		269,500,000	1,540,000,000	1,270,500,000
2006		269,500,000	1,540,000,000	1,270,500,000
2007		269,500,000	1,540,000,000	1,270,500,000
2008		269,500,000	1,540,000,000	1,270,500,000
2009		269,500,000	1,540,000,000	1,270,500,000
2010		269,500,000	1,540,000,000	1,270,500,000
2011		269,500,000	1,540,000,000	1,270,500,000
2012		269,500,000	1,540,000,000	1,270,500,000
2013		269,500,000	1,540,000,000	1,270,500,000
2014		269,500,000	1,540,000,000	1,270,500,000
2015		269,500,000	1,540,000,000	1,270,500,000
2016		269,500,000	1,540,000,000	1,270,500,000
2017		269,500,000	1,540,000,000	1,270,500,000
2018		269,500,000	1,540,000,000	1,270,500,000
2019		269,500,000	1,540,000,000	1,270,500,000
2020		269,500,000	1,540,000,000	1,270,500,000
2021		269,500,000	1,540,000,000	1,270,500,000
2022		269,500,000	1,540,000,000	1,270,500,000

Annex 4. Bank Inputs

(a) Missions:

Stage of Project Cycle	No. of Persons and Specialty (e.g. 2 Economists, 1 FMS, etc.)		Performance Rating		
	Month/Year	Count	Specialty	Implementation Progress	Development Objective
Identification/Preparation* 12/30/1992					
Appraisal/Negotiation 12/30/1992	7	Sr.Municipal Engineer, Reg. Proc. Advisor, Sr. Fin. Analyst, Sr. Fin. Officer, Pr.Municipal Engineer, Power Engineer, Urban Specialist			
5/8/1993	7	Sr.Municipal Engineer, Reg. Proc. Advisor, Sr. Fin. Analyst, Sr Fin. Officer, Pr.Municipal Engineer, Power Engineer, Urban Specialist			
Supervision 8/19/1993	3	Urban Spec. Sr. Fin. Analyst, Sr. Fin. Officer, Pr. Municipal Engineer			
11/16/1993	5	Sr.Municipal Engineer, Sr. Fin. Analyst, Envir. Specialist, Pr. Municipal Engineer, Power Specialist			
2/4/1994	3	Sr. Fin. Analyst, Private Sector Spec., Sr. Power Spec.			
4/30/1994	5	Consultant, Sr. Fin. Analyst, Priv. Sect. Spec., Pr. Municipal Engineer, Sr. Power Spec.			
7/23/1994	5	Consultant, Sr. Fin. Analyst, Priv. Sect. Spec., Pr. Municipal Engineer, Sr. Power Spec.	HS	S	
10/14/1004	4	Consultant, Sr. Fin. Analyst, Priv. Sect. Spec., Pr. Municipal Engineer	HS	HS	
7/19/1995	4	Consultant, Sr. Fin. Analyst, Sr. PSD Spec., Princ. Engineer	HS	S	
2/11/1996	3	Consultant, Sr. Fin. Analyst, Sr. Projects Officer	S	S	
7/25/1996	3	Sr. Fin. Analyst, 2 Human Resources Spec.	S	S	
7/14/1997	1	Sr. Sanitary Eng.	S	S	
9/30/1997	1	Sr. Sanitary Eng.	S	S	
12/15/1997	2	Sr. Sanitary Eng., Engineer	S	S	
5/12/1998	2	Sr. Sanitary Eng.	S	S	

	2/16/1999	3	Engineer-Consultant Sector Leader, Fin. Analyst, Sanitary Eng.	S	S
	11/18/1999	2	Fin. Analyst, Sanitary Eng.	S	U
	2/2/2000	2	Fin. Analyst, Sanitary Eng.	S	S
	6/25/2000	2	Fin. Analyst, Sanitary Eng.	S	S
	12/8/2000	2	Fin. Analyst, Sanitary Eng.	S	S
	4/20/2001	2	Fin. Analyst, Sanitary Eng.	S	S
	12/1/2001	4	Fin. Analyst, Sanitary Eng., Financial Management Spec., Proc. Spec.	S	S
ICR	5/31/2002	2	Sr. Fin. Analyst, Sr. Economist - Consultant		

* Because of the emergency nature of the project, there was no identification/preparation missions prior to Appraisal. The date shown above for identification/preparation mission implies it was done along with appraisal.

(b) Staff:

Stage of Project Cycle	Actual/Latest Estimate	
	No. Staff weeks	US\$ ('000)
Identification/Preparation*	-	380,258
Appraisal/Negotiation	-	
Supervision	-	937,465
ICR	-	20,000
Total	-	1,337,723

Notes: The costs figures shown above associated with Identification/Preparation and Supervision exclude:

- (1) Identification/Preparation TF026410 - \$ 10,070
(2) Supervision TF039389 - \$ 37,774

Annex 5. Ratings for Achievement of Objectives/Outputs of Components

(H=High, SU=Substantial, M=Modest, N=Negligible, NA=Not Applicable)

	<i>Rating</i>				
	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Macro policies</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Sector Policies</i>	<input type="radio"/> H	<input type="radio"/> SU	<input checked="" type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Physical</i>	<input checked="" type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Financial</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input checked="" type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Institutional Development</i>	<input type="radio"/> H	<input type="radio"/> SU	<input checked="" type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Environmental</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<i>Social</i>					
<input type="checkbox"/> <i>Poverty Reduction</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Gender</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Other (Please specify)</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Private sector development</i>	<input type="radio"/> H	<input type="radio"/> SU	<input checked="" type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Public sector management</i>	<input type="radio"/> H	<input type="radio"/> SU	<input checked="" type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Other (Please specify)</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA

Annex 6. Ratings of Bank and Borrower Performance

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HU=Highly Unsatisfactory)

6.1 Bank performance

Rating

- | | | | | |
|--------------------------------------|--------------------------|------------------------------------|-------------------------|--------------------------|
| <input type="checkbox"/> Lending | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Supervision | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Overall | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |

6.2 Borrower performance

Rating

- | | | | | |
|--|--------------------------|------------------------------------|-------------------------|--------------------------|
| <input type="checkbox"/> Preparation | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Government implementation performance | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Implementation agency performance | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Overall | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |

Annex 7. List of Supporting Documents

Annex 7a: Aide-Memoire (Memorandum of Understanding - MOU) from the Completion Supervision Mission (December 2001)

Annex 7b: Borrower's Contribution to the Implementation Completion Report (August 2002)

The following documents and information pertaining to the Project are available in the Project files:

- (i) Memorandum of the President;**
- (ii) Loan Agreement;**
- (iii) Amendments to the Loan Agreement;**
- (iv) Memorandum of the President for the Supplemental Loan;**
- (v) Back-to-Office Reports including Mission Aide Memoires and Project Status Reports;**
- (vi) Project Progress Reports; and**
- (vii) Various studies related to sector restructuring.**

LEBANON

EMERGENCY RECONSTRUCTION AND REHABILITATION PROJECT (ERRP)

Memorandum of Understanding

(Mission November 26 to December 1, 2001)

1. Messrs. Mohammed Benouahi (Team Leader), Robert Bou Jaoude (Financial Management Specialist), Imad Saleh (Procurement Specialist), and Lars Rasmusson (Consultant) carried out a supervision mission of the Emergency Reconstruction and Rehabilitation Project (ERRP) from November 26 to December 1, 2001. The mission met with the President of CDR, CDR staff, and representatives for consultants and contractors. Field visits were made to sites for ongoing contracts for Ba'albeck and Nabi Chit water supply and Ba'albeck wastewater treatment works. The supervision covered water supply and sanitation, which apart from technical assistance is the only still ongoing project component. Since previous mission a component on the financing of VAT has been added and is also addressed.

WATER SUPPLY AND SANITATION:**2. Status/Issues and Actions to be Taken:****a) Ba'albeck and Nabi Chite Contract:**

- The contract including 9 independent water supply systems is scheduled for completion by end December 2001, when all systems should have been handed over;
- Despite assurances given by EDL on the provision of satisfactory power supply this will not materialize for the time being, and a contingency arrangement with the installation of 18 generators has been decided upon. Current status on this matter is: (i) quotations, which have been received through local shopping, have been evaluated and with contract being prepared for an amount of about US\$480,000; and (ii) delivery and installation are scheduled to take place within a 3-month period. The mission emphasized the importance of maintaining the time schedule, since any expenditures to be incurred after the closing of the loan, March 1, 2002, cannot be financed under the Bank loan;
- With the installation of the generators the 9 water supply systems would technically be operational. Population coverage will be extended in pace with the laying of service connections, for which bidding documents have been prepared covering a first phase;
- Satisfactory operation and maintenance would be assured through initial entering into a proposed service contract, which subsequently would be replaced by a management contract; and
- The 15% counterpart payment has not been paid recently and of committed Bank payment amounting to US\$23.5 million about US\$17.4 million has been disbursed. Remaining 6.1 million would thus be disbursed before the closing of the loan account by July 1, 2002. The retention money, amounting to about US\$2.00 million, was proposed by the mission to be released at taking over, with 50% of corresponding amount to be converted into a Bank Guarantee to be maintained through the defects liability period.

The Bank recommends that CDR:

- Enter into a contract for the generators and ensure their speedy delivery and installation;
- Process the appointment of consultant for the preparation of tender documentation for a service contract; and
- At taking over convert 50% of the retention money into a Bank Guarantee.

b) Ba'albeck Wastewater Treatment Works:

- The construction works have proceeded satisfactorily with completion scheduled to end-December 2001. There after the same contractor would continue with operation and maintenance during a 12 month-period with relevant costs to be covered through local budget allocations;
- The first stage design capacity of the treatment works corresponds to 13,000 m³/day and for its testing for commissioning about 2,000 m³/day would be required. However, this flow is currently not available and can only be made available through connections to be made to the recently extended collection system; and
- The outfall main for treated effluents will need to be extended about 1.5 km for discharge into a natural ditch. Presently, the outfall main ends in a manhole from where no discharges can be made. The extension of the outfall cannot be carried out under the ERRP and unless covered under any other arrangement, it will be included under proposed Beka'a Region Water and Wastewater Project. However, this implies that the commissioning of the treatment works and their utilization will be delayed correspondingly.

The Bank recommends that CDR:

- Take all necessary actions to achieve adequate flows to the treatment works and to extend the outfall main to enable commissioning and initial operation; and
- At taking over convert 50% of the retention money into a Bank Guarantee.

c) Metn and Barouk Contract:

- Construction works have mainly been completed and most of the water supply and distribution facilities have been handed over to local water authorities for operation and maintenance; and
- As stated during previous missions, the implementation of the Fouar Antelias water supply scheme is essential for Metn water supply and for the proper utilization of investments made under this contract. The Government, after a previous rejection, has now decided to go ahead with this scheme with financing already secured under an Italian protocol.

The Bank recommends that CDR:

- Convert 50% of the retention money into a Bank Guarantee.

d) Emergency Water Projects on the South of Lebanon:

The five water projects were treated as emergency projects and were provided special consideration by the Bank. The details and status of the five projects are as follows:

- Siddikine-Bint Jbeil Project: This project has been completed and all the contract amount is fully disbursed.
- Nabeh el Tasseh: The current progress in implementation is satisfactory. 28% of the contract value has been disbursed to date.

- Ibl el Saqi : This project is physically near completion, however no disbursement has been executed yet.
- Taybeh Water Station: The current progress in implementation is satisfactory, however no disbursement has been executed yet
- Siddikine – Beit Leif Water Project: the progress of this project may extend beyond the loan closing date because of the re-bidding of this project due to a substantial changes in scope. In case any works were executed beyond the loan closing date, these have to be financed by the Government.

The Bank recommends that CDR:

- Follow up on the disbursement, particularly for those contracts which did not request any disbursement yet.
- Follow up with the Council of the South on the implementation of the Siddikine – Beit Leif project to ensure completion prior to the loan closing date.

TECHNICAL ASSISTANCE:

6. The TA includes: (i) contract for an Institutional Specialist for restructuring of the water supply and sanitation sector, for whom financing will terminate with the closing of the loan; (ii) contracts for technical assistance for CDR; and (iii) for the preparation of proposed Beka'a Region Water and Wastewater Project the following consulting services will be financed under the loan:

- The preparation of environmental assessment reports;
- The preparation of design and tender documentation for the installation of service connections in the Ba'albeck Nabi Chit area;
- The preparation of tender documentation for a service contract in the Ba'albeck Nabi Chit area.

VALUE ADDED TAX (VAT)

7. Implementation of the Value Added Tax

The Government of Lebanon has requested the assistance of the Bank in the process of the implementation of the Value Added Tax (VAT) that is scheduled to be in place by January 2002. The components, and status of each, are as follows:

- The provision of hardware equipment for the implementation of the Value Added Tax: this component includes the provision of office technology related equipment to enhance the capacity of MoF. The estimated budget of this package is \$700,000 and was released through International Competitive Bidding. The bidding process has been launched and is currently under evaluation by CDR. This process is at a critical stage as the contract has to be awarded with adequate time for delivery and installation prior to the loan closing date. Any further delays in the evaluation process and prompt award of contract will further jeopardize this process.
- Individual national consultants: under this component 35 individual consultants are to be recruited to support the MoF capacity for implementing the VAT. The total budget of this component is \$ 490,800. Up to this date, 18 individual consultants have been recruited.
- Individual international consultants: This component requires the services of two individual consultants with international experience at a total of \$ 175,000. On December 3, 2001 the CDR requested the Bank no-objection to recruit one of the international consultants. However, the Bank considers that the TOR for this consultant lacks necessary details on deliverables and scope,

although the Bank has previously provided comments on this TOR to CDR. On November 30, 2001 the MoF informed CDR that it needs to re-allocate \$245,000 to purchase necessary office equipment for the implementation of the VAT and that it will provide CDR at a later stage with the required specifications and bidding documents. In principal, the Bank has no-objection to this request on condition that the procurement process is launched, and contracts awarded by mid January to suppliers who have these off-the- shelf equipment available for delivery. The need for ensuring that all goods and services should be delivered prior to the closing date of the loan has been emphasized in all correspondences and meetings on this project. However, the response of the MoF on the preparatory steps for the implementation has not been adequate so far. It is very important that the MoF staff responsible for the implementation of this project conduct all the preparatory steps in line with the Bank's procedures and with utmost efficiency to ensure the rapid implementation of this vital project within the available time constraints.

The Bank recommends:

- The prompt award of contracts for the office technology and office equipment packages.
- Ensure the delivery of all goods and services prior to the loan closing date.

FUNDING AND DISBURSEMENT

8. The loan balance is approximately \$ 25.3 million including the Special Account. Committed funds amount to \$ 21.3. These funds are expected to be all disbursed. Contracts in the pipeline for VAT office technology, office equipment and extension of supervision services for Ballbeck and Metn may amount to \$1.8 million. The balance of \$2-2.5 million will be cancelled from the loan.

PREPARATION OF IMPLEMENTATION COMPLETION REPORT (ICR)

9. CDR will submit to the Bank the Borrower's contribution of the ICR within 6 months after the closing of the loan. The Bank will, for this purpose, provide CDR with relevant background documentation including an ICR for a similar project.

Mohammed Benouahi
Team Leader
World Bank Mission

December 8, 2001

COUNCIL FOR DEVELOPMENT & RECONSTRUCTION
BEIRUT - LEBANON

No : 5257/1

Beirut, 28/8/2002

Mr. Emmanuel Forrestier
Director
MNSID
The World Bank

Fax No.: (202) 477-0348
(202) 477-1993

Subject: Lebanon-ERRP (Loan No. 3562 LE)-Borrower's Contribution to
Implementation Completion Report (ICR)

Dear Mr. Forrestier,

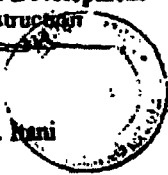
Please find enclosed a copy of the Borrower's contribution to the
Implementation Completion Report (ICR) for the Emergency Reconstruction
and Rehabilitation Project.

Thank you for your cooperation.

Sincerely Yours,

Council for Development
and Reconstruction

President
Jamal A.R. Hani
NH



**LEBANESE REPUBLIC
COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION**

**EMERGENCY RECONSTRUCTION AND REHABILITATION PROJECT (ERRP)
(Loans 35620-35621)**

**Borrower's Contribution
To the
Implementation Completion Report (ICR)**

August 2002

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EMERGENCY RECONSTRUCTION & REHABILITATION PROJECT (ERRP)- Borrower's Contribution to the Implementation Completion Report (ICR)

1. INTRODUCTION

The present report is the contribution of the Government of Lebanon (GoL) to the Implementation Completion report (ICR) of the Emergency Reconstruction and Recovery Project (ERRP) and the ensuing Supplementary Loan to the ERRP. The ERRP was equal to US\$223.9 million and was financed by the GoL (US\$35.4 million), the private sector (US\$13.5 million) and the World Bank (US\$175.0million).

The Supplementary Loan to the ERRP covered a project equal to US\$69.2 million and was financed by the GoL (US\$ 9.20 million), Government of Italy (US\$ 10.0 million) and the World Bank (US\$ 50.0 million). This ICR presents the borrower's own assessment of the project and an evaluation of the performance of involved parties

2. PROJECT OBJECTIVES

The overall objectives of the ERRP were to assist the Government in the rehabilitation, repair and reconstruction of damaged physical and social infrastructure facilities and housing; and strengthening the Government's institutional capabilities in implementing the National Emergency Rehabilitation Program.

The Supplementary Loan to the ERRP has been of complementary nature to the project and has aimed at assisting the Government in the rehabilitation and immediate extension of essential water supply and wastewater facilities where financing gaps have arisen due to additional funding requirements, namely in parts of the Beka'a Valley and Mount Lebanon, in addition to providing funding for emergency repair and rehabilitation in the sectors covered under the ERRP, particularly in the power, water and housing sectors following the Israeli military aggression in April 1996 ("Operation Grapes of Wrath"), as well as, rehabilitation of basic water schemes in South Lebanon in the aftermath of its liberation in 2000.

3. PROJECT DESCRIPTION AND ORGANISATION

The ERRP and Supplemental Loan "ultimate" project components included the following:

- (i) Reconstruction, rehabilitation and/or extension of treatment, disinfection, pumping, transmission and distribution facilities in the water sector, rehabilitation of wastewater facilities and the protection of water sources
- (ii) reconstruction and rehabilitation of electricity distribution facilities and networks and upgrading of existing facilities;
- (iii) purchase of equipment and the rehabilitation, creation and operation of facilities for solid waste collection and disposal;
- (iv) reconstruction and re-equipment of damaged vocational and technical education facilities and the provision of skills and vocational training;
- (v) reconstruction and repair of damaged houses; the emergency repair of water systems, a hydroelectric power plant and its control system and the rehabilitation of Water Schemes in the South
- (vi) technical assistance in support of the economic management and the restructuring of infrastructure services.

Some of the initial project components have been revised, mainly, the original housing component, which was cancelled because other donors provided loans with softer terms. After an amendment of the loan agreement, funds were reallocated to the power sector. Later, to repair damaged houses in the South following Israeli aggression, a new housing grants' component was incorporated in the supplemental loan to allow repairs and some of the funds allocated to power were reallocated to the rehabilitation of five Water Schemes in the South in 2000. In the context of the VTE component, the provision of new textbooks and Teachers' guides for Vocational and Technical Education has been cancelled and the funds were reallocated to accelerated Training for the provision of construction and industrial skills.

The borrower was the GoL, represented by the Council for Development and Reconstruction (CDR), the implementing agency. The beneficiaries of the ERRP were the Ministries of Energy and Water, Interior and Municipalities, Environment, Technical and Vocational Education, Post and Telecommunications, and Finance; Electricite du Liban; High Relief Committee and Council for the South.

4. Achievement of Project Objectives

The overall objectives of the ERRP were fully achieved (with the exception of the original housing sub-loans component) and the repair and reconstruction of damaged physical and social infrastructure facilities under the project were completed. By financing the rehabilitation of the infrastructure in the damaged areas, the ERRP contributed to Government efforts towards the return of the displaced population in the Greater Beirut area and the destroyed villages of Lebanon. The Government's institutional capabilities in implementing the National Emergency Rehabilitation Program were further strengthened through the use of international expertise at the CDR and concerned sector ministries. Furthermore, the technical assistance component was instrumental in promoting the fiscal reform agenda of the GoL.

The project initiated also a review process of appropriate government policies towards sector restructuring and improving cost recovery in the power, water, wastewater and solid waste sectors. Under the Supplementary Loan to the ERRP, the funding proved timely as it helped to finance the emergency repairs and contributed to the rehabilitation and immediate extension of key and essential water supply and wastewater facilities in parts of the Bekaa Valley, Mount Lebanon, and South Lebanon (see para 2 above). Moreover, the project helped address the GoL goal of equitable development. Below is a summary of project achievements by project component:

4.1 Water Supply and Wastewater

At the start of the ERRP, water supply facilities were severely damaged and access to clean piped water was very limited. The water quality was unsatisfactory causing widespread health hazards and all 18 water treatment plants were damaged and operating at reduced capacity. Operation and maintenance suffered from inadequate organizational structures and a lack of skilled staff. Untreated wastewater from coastal communities was discharged directly into the shores while wastewater from inland communities was discharged into rivers and streams used for domestic water supplies by downstream communities.

The objectives of the ERRP in the water and wastewater sector were fully in line with Government priorities. These included the reduction of the detrimental health effects from damaged water and wastewater systems and the improvement of the level of service to pre-war standards. This was achieved through investments under the ERRP loan along with the establishment of a foundation for medium and long-term sector development. The project has led to emergency rehabilitation and reconstruction works of treatment, chlorination, pumping, transmission and distribution facilities in the water sector and

rehabilitation of wastewater facilities all over Lebanon (commonly known 1st year emergency works of the NERP) and implemented three larger water supply and sewerage systems, namely, Ba'albeck Water and Wastewater Project, Ba'albeck Wastewater Treatment Plant and the Metn-Barouk Water and Wastewater Project (known as 2nd & 3rd year works of the NERP), in addition to providing related consultancy services and important environmental studies (Environmental Monitoring Plan, Industrial effluent,...) and studies to prepare for a follow-up project.

Component	Activities
Water	<ul style="list-style-type: none"> - protection of surface and groundwater from actual and potential sources of pollution; - provision of adequate treatment facilities to ensure water supplies of satisfactory quality; - rehabilitation and extension (where justified) of water distribution systems to access public water supplies;
Wastewater	<ul style="list-style-type: none"> - rehabilitation of sewerage networks to ensure satisfactory sanitary conditions in built-up areas and - rehabilitation or extension of sewage treatment facilities where urgently required for environmental reasons;
Technical assistance/ consultancy services	<ul style="list-style-type: none"> - preparation of engineering designs, including tender documents, and construction supervision for works

The Water and wastewater SIU played a major role in assisting the Ministry of Energy and Water in the implementation of the water supply and wastewater components of the ERRP. It provided also an integrated approach to donor contributions to the sector. Procurement under the project was done through the CDR taking advantage of its more expeditious procurement procedures. The respective involvement of the CDR and the SIU in the procurement has facilitated the process. Furthermore, innovative actions were incorporated into the project tender documents in order to ensure immediate improvements in operation and maintenance. By project completion date, Lebanon has made marked improvements to the management of its water resources. Significant progress was made in restoring the water infrastructure and wastewater networks damaged during the 17 years of conflict while meeting the rapidly growing demand for services in urban areas. The Government of Lebanon (GoL) has also taken some early steps in addressing water quality problems, and pollution, and has made the water sector a priority area. Government's efforts are now focused on improving the system performance and institutional reform.

At the institutional level, a new sector law was promulgated strengthening the role of the Ministry of Energy and Water (MEW) in policy, bulk water supply (both for potable and irrigation use), strategic planning and regulatory matters. Wastewater was re-incorporated into the MEW and the twenty-one water authorities were consolidated into four regional water boards. However, key reforms are still required in order to render the sector more efficient and self-sustaining.

4.2 Solid Waste Management

At the start of the ERRP, solid waste management services were severely affected by the years of hostilities in Lebanon. In all parts of the country, refuse collection equipment was either damaged through acts of war or deteriorated as the result of aging and the lack of maintenance. This has resulted in the inability of

authorities to collect the refuse generated by the urban populations; refuse was allowed to pile up in unseemly heaps along major roads and dumped along the sea coast, leading to environmental degradation. Refuse collection and disposal is the responsibility of municipal authorities. However, the resource base of the municipalities had been eroded by the years of conflict, and so municipalities depended on the central government for assistance as they were unable to restore a reasonable level of service without help.

The objectives of the Bank's ERRP in the solid waste sector were fully in line with Government priorities that included the prevention of further environmental degradation resulting from the dumping of solid waste. This was achieved through investments under the ERRP loan for rehabilitating and replacing the collection equipment (compactor trucks and containers) that was damaged or reached the limit of its useful life; rehabilitating/remediating and operating suitable disposal sites (Amroussieh Incinerator, Qarantina compost plant and Tripoli Landfill); and strengthening the institutions that are responsible for waste collection and disposal, as well as for the maintenance of equipment. ERRP, also, initially financed the operation of two of the above facilities and private sector participation in garbage collection in the Greater Beirut and Chouf areas. The project also financed a "Long Term Strategy for the Sector" that was used to prepare for another sectoral project.

The responsibility for solid waste management in Lebanon lies primarily with the municipalities.. As the municipalities were weakened by years of conflict, a Sector Implementation Unit (SIU) was placed within the Ministry of Environment and the Ministry of Municipal and Rural Affairs. The management of project implementation was carried out by the SIU, in coordination with the various municipal authorities and the various divisions of the CDR.

The project assisted the Government in developing the institutional structures for improved service in the sector and a more active role for the private sector. However, although the creation of sanitary landfills was given top priority, their development was hindered by availability of land. This was mainly due to the NIMBY (Not-In-My-Backyard) syndrome. At the institutional level, cost-recovery is awaiting the introduction of direct charges to households benefiting from the service. By project completion date, the Government had achieved excellent results in turning Beirut into a clean city and the management of solid waste collection and disposal is provided by the private sector. Private sector participation in the solid waste sector in Lebanon has been among the pioneering sector experiences in the Middle East and North Africa Region.

4.3 Electricity

The ERRP was implemented with a background of widespread damage to the power facilities and a prolonged period of lack of maintenance. Many of the generating facilities were in need of major repairs and replacement. Furthermore, electricity supply was restricted to 6 hours per day. The transmission facilities were severely damaged and could not be interconnected. The distribution network had suffered heavily and the entire distribution grids of displaced villages had been destroyed.

The ERRP sector objectives were in line with Government priorities that concentrated on the urgent rehabilitation works for generation, transmission and distribution facilities. The ERRP financed the rehabilitation of part of the war-damaged distributing facilities in the Greater Beirut area and the reconstruction of the distribution networks for destroyed villages to allow the return of the displaced population. It financed the cost of metering equipment. It assisted the Government also in the preparation of an appropriate regulatory framework for attracting private sector investments in the power sector. At project completion, the service had improved significantly. Responsibility for project implementation was assigned to the Ministry of Energy and Water and the "Electricite du Liban" (EdL). The latter was assisted

by a Sector Implementation Unit (SIU) and an international consultant both of which were housed in EdL and financed by EC and French Government Grants , respectively.

By project completion, Lebanon had largely completed the rehabilitation and expansion of its power distribution facilities. Procurement under the project was done through the CDR to take advantage of its expeditious procurement procedures (with the exception of the cancelled National Control Center).

4.4 Vocational and Technical Education

By the start of the ERRP, both the quality of education and the condition of the public education facilities had greatly suffered as a result of years of conflict. The quality of education is one of the key comparative advantages of Lebanon and the country's economy depends to a great extent on the presence of well-educated human resource base that contribute to the national economy. Also, demand in public schools has increased due to the fall in living standards and as the cost of private education became increasingly prohibitive. It was therefore, an urgent priority to restore the capacity of the sector and enhance its capability.

Physical damage to existing public schools and the loss of equipment severely have severely constrained their potential capacity. Also, 18 out of the 22 public vocational and technical training colleges were severely damaged.

Government priorities concentrated on (i) the rehabilitation of public schools (primary and secondary levels) and (ii) the rehabilitation of specific vocational and technical training colleges and (iii) the rehabilitation of the Lebanese University; (iv) the rehabilitation of teacher training colleges and, (v) providing technical assistance to upgrade teacher training programs and strengthen the institutional capacity of the Ministries of National Education and Fine Art, Higher Education, and Technical and Vocational Education.

The ERRP provided financing for the rehabilitation works for around 21 public technical and vocational facilities located throughout the country; the repair and replacement of equipment for all the facilities to be rehabilitated; training seminars for personnel and strengthening the new Ministry of Technical and Vocational Education; and consultant services for the preparation of engineering studies, tender documents and the supervision of works. In addition, an accelerated training component that included basic skills training was among the key achievements of the ERRP.

The building rehabilitation and associated consulting services was implemented by a Sector implementation Unit (SIU) that was located in the Directorate of Buildings of the Ministry of Public Works, normally in charge of the construction of government-owned buildings.

The remaining parts, related to the repair of equipment, preparation of training material, training seminars and strengthening of the Ministry of Education and Higher Education (MEHE), were implemented by the MVTE. The MVTE and the SIU in the Ministry of Public Works coordinated their work to ensure timely completion of civil works and the delivery of equipment.

The project also helped create an accelerated training program in two phases covering a total of 15 Construction and Industrial skills (plastering, brick laying, painting, carpentry, plumbing, tile setting, aluminum fabrication, electrical installation, air-conditioning ducting, blacksmithing, steel reinforcement setting, joinery, car body maintenance, motor mechanic and car electrician). Under the first phase, the program also supplied the participants with tool kits to be used in jobs obtained with their acquired skills.

Overall, the program trained over 9,000 participants.

4.5 Emergency Assistance

The ERRP supplementary loan proved timely as it succeeded in responding effectively to the emergency needs of the population in southern Lebanon. It financed the emergency restoration of damaged water and power services to the area and the cost of rehabilitation of damaged houses and has led to marked economic and social benefits in the project areas. This included improvements in public health, through reduction in domestic water contamination and the restoration of infrastructure services that are essential to the resumption of economic activities. Furthermore, the rehabilitation of infrastructure in the project areas has contributed to the return of displaced persons to their towns and villages.

Emergency expenditures under the supplementary ERRP loan were limited to sectors originally covered by the ERRP, namely, power, water, and housing.

The emergency repairs and rehabilitation expenditures related to the April 1996 hostilities were based on the damage assessment undertaken by Government (High Relief Committee (HRC), Line Ministries and agencies, Lebanese Army and consultants). Under the housing component, the Lebanese Army's assessment formed an adequate basis for the allocation of loan funds and provided detailed information on each damaged house (location, owner/tenant name and ID number in addition to an estimate of damage). The housing grants covered the rehabilitation and repair of all houses that were eligible for funding under the ERRP, namely; (i) all totally damaged houses, with total damage of \$40,000 or less; (ii) houses with severe partial damage, of \$20,000 or less; and (iii) houses with light partial damage, of \$3,000 or less.

For infrastructure repair and rehabilitation, emergency works were directly procured by the sector ministries using on-going contract unit prices agreed for similar works. Also, the responsibility for implementation was entrusted to the sector ministries which reported on implementation progress and completion to the HRC for payment of contractors and the provision of goods and services.

After the liberation of South Lebanon in May 2000, five water supply facilities were identified for rehabilitation in the South, at Siddekine-Bint Jbeil, Siddekine-Beit Lif, Nabaa El Tasseh, Ibl el Saqi, and Taybeh.

The rehabilitation of the Markabi Hydroelectric Power Plant under the Litani River Authority came as an expeditious response to damages incurred from Israeli Aggression in 1996. The works restored 34 MW of power generation capacity and rehabilitated the dispatch center of the Plant, as well as, providing spareparts and consultancy services.

Acknowledging the emergency works under the supplementary loan, the project has successfully incorporated the following design features:

CRITERIA	DESIGN FEATURES
Flexibility	<ul style="list-style-type: none"> · reallocation of project funds within a component and between components allowed enough flexibility to deal with the emergency component, in the face of unstable conditions and shifting priorities.
Efficiency	<ul style="list-style-type: none"> · the limit for National Competitive Bidding (NCB) was increased considerably and direct contracting was allowed · housing grants were paid in installments with payment of installments subsequent to initial advances, for houses with severe partial damage and totally damaged houses conditional upon evidence of utilization of prior payments. · beneficiaries are allowed to use normal commercial practice for the procurement of the goods and civil works required for the rehabilitation and repair of the damaged houses. · under the repair and rehabilitation in the infrastructure sectors, works were directly procured by the sector ministries using on-going contract unit prices agreed for similar works. Very small works could be done by force accounts using the ministries and the existing work force at government agencies.
Continuity	<ul style="list-style-type: none"> · the supplemental loan was managed under the same arrangements adopted for the ERRP · the special account for the supplementary loan was the same as for the ERRP. · CDR assumed the monitoring and coordination responsibilities.

4.6 Technical Assistance

The technical assistance and institutional capacity building component proved to be an important element of the project as it provided a sound basis for starting to rebuild the public institutions that were severely affected by the war and contributed to the sustainability of the investments financed under the ERRP. The technical assistance component provided support to the central government to achieve (i) capacity building to strengthen the capabilities of key institutions in economic management; (ii) policy development to design and implement sectoral policies and; (iii) institutional and regulatory reforms.

Technical Assistance under the latter was aimed at preparing and implementing part of the Government's restructuring program in some sectors , as well as, improving management. Priority areas included (i) the Ministry of Finance, (ii) telecommunications, (iii) water and wastewater and (iv) electricity

(a)- Ministry of Finance:

1) Fiscal Reform and Administration: This project component partially financed a program to enhance revenue collection and strengthen economic and financial management at the Ministry of Finance. Activities included implementing the work program for fiscal reforms, reform coordination and technical and policy advice to the Ministry.

The program achieved its expected results and proved to be key element in the Ministry's overall rehabilitation and modernization strategy. The first generation of reforms were aimed at restoring the previously existing functions of the Ministry and introducing basic management capabilities.

The second generation of reforms introduced automation of existing systems and procedures (e.g. collection and tabulation of trade data, budget preparation and execution procedures etc.) and incorporated a thorough reform of the customs tariff structures and the conversion of the tariff nomenclature into the Harmonized System (HS). More important, full assessment of the tax structure and of the public

expenditure management systems was undertaken along with the introductions of several tax reforms.

The third generation of reforms entailed a re-engineering of existing systems and procedures.

The program also provided the Ministry of Finance with essential assistance to decision making, and helped deal with the requirements of both the Lebanese decision makers and legislators and those of countries and international agencies.

2) Value Added Tax: The technical assistance component under the ERRP also played a important role in supporting the GoL's economic reforms plan that included the introduction of the VAT in Lebanon, which was completed in January 2002, and is an important step considering the need for eliminating customs duties on imports as a result of the signing of the association agreement with the EU and the signing of and the membership of Lebanon in the Arab free trade area.

The technical assistance provided was vital as the MoF lacked the required human resources and expertise to develop and implement the VAT in Lebanon. A dedicated team was set-up at the MoF and included local and foreign consultants as well as employees from the Ministry. Among the key objective achieved was the transfer of know-how to MoF employees who will assume the key role in future VAT administration.

Activities under the technical assistance provided included local and foreign consultants for the drafting and approval of the VAT law, the preparation of tax policies and regulations, the setting-up of internal systems and procedures including organizational structure and job description, office automation and training of government employees and finally the launching of a public communication and education campaign and internal training within Ministry of Finance (MoF).

(b)- Ministry of telecommunications: The GoL has acknowledged since the start of the ERRP that the development of the telecommunications sector is key to strengthening government revenues and promoting socio-economic development ion the country. The sector revenues are significant and can contribute to reduce the budget deficit. Building on the government's commitment, the technical assistance provided under the ERRP has helped to initiate a sector development program at the Ministry. This was in line with government objectives that included the creation of a regulatory authority, the setting-up of an efficient operator for fixed services and the improvement of the profitability of the sector as a whole. Technical assistance under the ERRP has helped the government implement the restructuring of the telecommunications sector through the following key activities:

- Carrying out control inventories of fixed assets and implementing the management of physical and accounting flows on a permanent basis,
- The definition of a regulatory policy to develop the Telecommunications Sector and to prepare the sector law (which has been ratified by Parliament in July 2002 after review by both the Cabinet and Parliament),
- Examining the market structure and the various options for the introduction of the private sector in telecommunications,
- Recommending an organizational plan for human resources and identifying the different types of constraints for the transfer of personnel,
- Examining the tarification policy and proposing new policies,
- Identifying the main economic and social policies labor laws and tax policies that have an impact on the sector restructuring.

ERRP has also helped the Ministry in securing consultancy services to introduce the private sector in

improving sector management and improve operation and maintenance.

(c)- Ministry of Energy and Water: Technical assistance to the water sector was aimed at supporting the government efforts towards the implementation of the strategy framework for water and wastewater sector reforms. It played a key role in the enactment of the law for the restructuring of the water sector in Lebanon. This was achieved in part through the appointment of an experienced and competent Institutional Specialist who mobilized support from Parliamentary members by presenting the benefits of such restructuring and ensured that the law is in line with the privatization law in Lebanon. The Institutional Specialist has assisted the Ministry to manage the overall process of sector reforms and decision-making related to policy issues. He has also coordinated with financing agencies and kept concerned Government authorities informed.

Key sector reforms were implemented and have benefited from the technical assistance provided under the ERRP. This included:

- The promulgation of a new sector law.
- Consideration of cost recovery policies and tariffs structures to ensure sustainability, in the context of the Ba'albeck Water and Wastewater Project, a direct follow-up to the ERRP.
- Achieving better efficiency and provision of better services through private sector participation in Ba'albeck in order to carry out operation and maintenance and to assume all service functions.

(d) ELECTRICITE du LIBAN (EdL):

In the electricity sector, after the completion of the Restructuring Study of the electricity sector, a draft Electricity Law was drafted and submitted to the Council of Ministers in 2001 and later on to Parliament. The Electricity Law was ratified in August 2002.

5. Implementation Record and Performance

The implementation of the ERRP comes after 17 years of conflict. Much of the country's capital stock was destroyed or severely deteriorated and a quarter of the population was displaced. Public and social services were either unavailable or of poor quality and only about one third of electricity capacity was operational; water treatment and sewage disposal were virtually nonexistent; and most schools and hospitals were damaged. Damage Assessment Reports to the infrastructure stock were finalized in 1993 and the Government relied mainly on the recommendations of these reports to seek financing for its National Emergency Rehabilitation Program. Nevertheless, during implementation, the real magnitude of damages became clearer and the scope of works increased in many instances, which naturally affected the cost and implementation duration of the works.

By Project closure, the objectives of ERRP were entirely accomplished. The implementation of the ERRP has resulted in marked economic, social and environment benefits to the country namely in the following sectors:

Sector	Achieved benefits
Economic	(i) the restoration of infrastructure services that are critical to the resumption of production (ii) physical reconstruction undertaken by the private sector (iii) rebuilding of investors' confidence, which was essential for generating revenues from user charges (iv) rapid emergency repairs of key infrastructure services damaged by the Israeli hostilities
Social	(i) the mitigation of some of the effects of social dislocation, through the rehabilitation of damaged and destroyed housing units and educational facilities; and (ii) a reduction in social hardship, through the generation of work opportunities in the construction industry.
Environmental	(i) reduction of water pollution in water distribution systems; (ii) improved solid waste collection and disposal practices (iii) reduction in air pollution due to the reduction in the use of individual diesel-powered generators and reduction in open solid waste burning

Obviously, the Government had taken all the required actions to ensure effective program and project implementation and the overall responsibilities of CDR and sector ministries were well defined. Project implementation has highly benefited from the institutional strengthening that was provided under the ERRP. The CDR programming functions were strengthened through the involvement of foreign and local consultants in program management and capacity building activities. Similarly, participating sector ministries have benefited to an extent from the presence of the Sector Implementation Units (SIU's) that were created within each sector ministry concerned to reinforce the ministry's capacity for implementation. However, the insufficient human resource base at sector ministries has been a limiting factor on the technical assistance and capacity building activities carried-out by the SIU's.

The GoL was committed to institutional reform in the infrastructure sectors. Policy statements for improving cost recovery and the efficiency of the management of key infrastructure sectors were drafted. However, the ERRP was not designed to be an instrument for policy reform but to ensure that actions necessary for its successful implementation will be compatible with future sector and macroeconomic reform programs in Lebanon. The GoL has allocated also the necessary budget resources for the recurrent costs that could be covered through internal cash generation and has initiated private sector participation in operation and maintenance services in a number of sectors.

The financing by the European Community (EC), and on a grant basis, of most of the costs of the PMU and SIU's contracts was very important, as it has freed much-needed resources for the implementation of essential physical infrastructure while at the same time providing the EC with insights into key sector issues. These have since been addressed through a technical assistance program under EC MEDA program for Lebanon. However, once EC grant financing has been totally disbursed, ERRP has secured funding to the PMU and SIU's, which helped to maintain continuity in the technical assistance provided to key investment sectors in the GoL.

6. Project Sustainability

At the institutional level, and in line with the Government strategy to achieve sustainable improvement in

public sector institutions over the long term while increasing in the short-term the implementation capacity of public administration, CDR and sector ministries and agencies were strengthened through the establishment of a Program Management Unit (PMU) within the CDR and Sectoral Implementation Units (SIU's) within the relevant ministries and agencies, as well as, other initiatives by GoL and/or that were financed from foreign, including the Bank. These have helped implement the ERRP effectively and efficiently and provided on-the-job training to the local staff affiliated with these units.

In the water and wastewater sector, a water law was enacted restructuring the sector into four (4) regional water supply and sanitation authorities. The respective Board members have been nominated and have assumed the responsibility of setting-up the new institutions. The necessary applicational decree for undertaking the merger of these authorities into regional institutions has been issued in July, 2002.

A follow-up lending operation that provides complementary investments to the ERRP has been completed. The new Bank loan will secure the full utilization of water supply and wastewater facilities in the Ba'albeck-Hermel area. The project involves the delivery of water supply and wastewater collection and disposal services through the introduction of Service Contracts for operations and maintenance. Tariff revisions, capacity building at the Beka'a Regional Water Authority and contract preparation for the introduction of Contract Management operators are also part of the project design. Better service provision under this project to water subscribers will inevitably improve the willingness to pay and the cost recovery of services.

In the solid waste sector, the operation of Tripoli landfill is being carried-out satisfactorily by a private sector operator and equipment procured under the project is being properly used. The municipality of Tripoli has outsourced also the operation of the collection system and has established an adequate monitoring system.

In the Power Sector, the GoL aims to develop the enabling environment aimed at improving economic performance by increasing competition and installing efficiency-enhancing regulatory regimes. The Government plans to launch a cross-sectoral privatisation program and has endorsed privatisation in the energy sector as a key priority. It has also started to develop a comprehensive strategy for power sector reforms, in line with international best practices.

7. Bank Performance

Close cooperation between the GoL and the Bank Representatives was maintained throughout project preparation. All the counterpart agencies were involved in the preparation of the loan. Also, a project-launch mission was fielded immediately after Board approval to ensure that arrangements for project implementation, including those for procurement and disbursements, were in place and were satisfactory to the Bank. The mission proved very useful and timely because the Lebanese Government and its implementing agencies had not dealt with the Bank for nearly a decade, and, therefore, Bank procedures had to be explained and understood to avoid delays in disbursements. Furthermore, the World Bank during each visit imparted valuable guidance and support by suggesting corrective measures in project implementation. They adjusted project content in accordance with the practical situation, in order to guarantee smooth implementation of the project. Their work was efficient and of high quality during the whole project implementation. Cooperation between both parties was friendly and sincere and opinions on project issues were exchanged frankly. The GoL would like to express its appreciation for the valuable support, guidance and professional advice from successive Bank missions during the course of the project. The GoL looks forward to such continued co-operation in the future.

8. Borrower Performance and LESSONS LEARNED















The overall performance of the GoL is assessed as satisfactory and the synergy between the emergency reconstruction strategy of both the GoL and the Bank was key to the success of this project. The ERRP has successfully aligned itself with the GoL reconstruction and recovery strategy. This was implemented in a phased program comprising: (a) short-term emergency reconstruction and rehabilitation; (b) medium-term recovery; and (c) long term development.

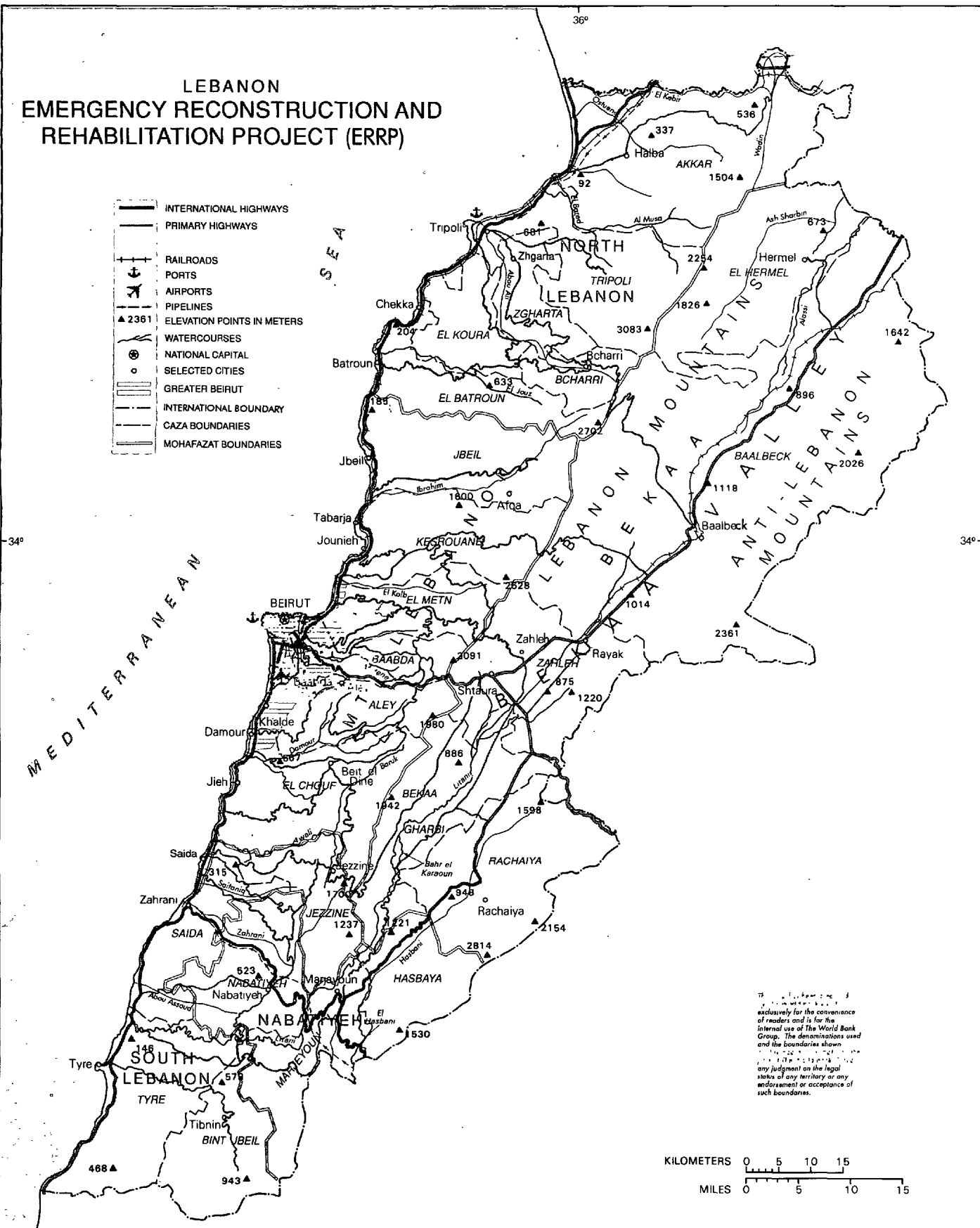
Assigning procurement functions under this project to the CDR proved to be appropriate in a context of emergency intervention. This was mainly due to (i) the cumbersome and time-consuming procurement procedures under standard government regulations; (ii) the streamlined procedures applicable to procurement by the CDR; and (iii) the economies of scale that can be achieved through bulk procurement. Expedient procurement procedures were implemented and the respective involvement of the PMU and the SIU in the procurement has facilitated the process.

Flexibility in project design proved to be very useful when GoL priorities and donor interests changed. Allowing reallocation of funds within each sector and between sectors was highly valued by the GoL. Similarly, allowing retroactive financing for consultants services and advance payments for urgent equipment and civil works contracts was also important in an emergency context. Also, to expedite the rehabilitation works, contract award was restricted to a limited number of contractors that were pre-qualified according to World Bank procedures. Operation and maintenance services were contracted to private sector firms wherever a ministry or public agency was institutionally incapable of adequately performing these tasks.

The criteria used for the allocation of ERRP funds to the various sectors proved to be appropriate in the context of emergency reconstruction. These included the impact of sector projects on economic and social conditions, their readiness for implementation, existing and expected co-financing commitments and institutional arrangements for implementation and cost recovery. The latter proved difficult to implement due to severe institutional limitations and difficult economic conditions.

LEBANON EMERGENCY RECONSTRUCTION AND REHABILITATION PROJECT (ERRP)

-  INTERNATIONAL HIGHWAYS
-  PRIMARY HIGHWAYS
-  RAILROADS
-  PORTS
-  AIRPORTS
-  PIPELINES
-  ELEVATION POINTS IN METERS
-  WATERCOURSES
-  NATIONAL CAPITAL
-  SELECTED CITIES
-  GREATER BEIRUT
-  INTERNATIONAL BOUNDARY
-  CAZA BOUNDARIES
-  MOHAFAZAT BOUNDARIES



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IMAGING

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