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The World Bank

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TECHNICAL ANNEX

ON A

PROPOSED GRANT

IN THE AMOUNT OF US$15 MILLION

TO THE

LEBANESE REPUBLIC

FOR THE

WEST BEKA'A EMERGENCY WATER SUPPLY PROJECT

March 19, 2007

Sustainable Development Department
Middle East and North Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective December 22, 2006)

Currency Unit	=	Lebanese Pound
LBP 1,507.5	=	US$1
US$0.000663	=	LBP 1

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

BRWA	Beka'a Regional Water Authority
BWWP	Ba'albeck Water and Wastewater Project
CDR	Council for Development and Reconstruction
EMP	Environmental Management Plan
FM	Financial Management
GOL	Government of Lebanon
IBRD	International Bank for Reconstruction and Development
IDB	Islamic Development Bank
KFAED	Kuwait Fund for Arab Economic Development
MOEW	Ministry of Energy and Water
PMT	Project Management Team
RAP	Resettlement Action Plan
RFP	Resettlement Policy Framework
RWA	Regional Water Authority
SOE	Statement of Expenditures
WA	Withdrawal Application
WHO	World Health Organization

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LEBANON

West Beka'a Emergency Water Supply Project

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A. BACKGROUND AND STRATEGY

1. Background

1. Prior to the July/August 2006 hostilities, Lebanon's water and wastewater sector was characterized by poor service despite the availability of relatively adequate water resources. Old and deteriorated infrastructure and inefficient operation and management contributed to: intermittent water supply (with some areas receiving water only a few hours per week); unaccounted for water in excess of 40 percent; and serious deficiencies in wastewater collection and treatment, causing unsanitary conditions and contaminating surface and groundwater resources.

Table 1: Access and Constancy of Water Supply

	% of Population with Access to Water	Hours of Supply per Day on Average	
		Winter	Summer
Beirut / Mount Lebanon*	93%	13	3
South Lebanon	86%	10	10
North Lebanon	65%	22	22
Beka'a	68%	8	8
Lebanon	**78%**	**13**	**6**

Source: Diagnostic Analysis of the Water Authorities (Société Générale, 2002; CDR, 2003b, 2005b ; ONDEO-Liban, 2005a, b) 1997 Census, Central Administration of Statistics

*/ The Ein el Delbe water establishment covers the Southern Suburb of Beirut, which suffered severe damage as a result of the recent hostilities; some suburbs are completely without water.

2. The most recent information indicates the level of wastewater collection is estimated at about 58% for the entire country, while wastewater treatment facilities, other than a few small ones, are almost inexistent (see Table 2 below). Most of the build-up areas and agglomerations discharge their untreated sewage into watercourses or vacant land. The direct consequence of this is the pollution of streams and rivers, as well as pollution of the aquifers. These conditions constitute a real threat to the water supplies, imply serious consequences to the public health and threaten the country's tourism potential.

Table 2: Access to Sanitation Services

	Wastewater Collection Coverage	Wastewater Treatment Number of Sewage Treatment Plants
Beirut / Mount Lebanon	74%	3 serving 2,950 households
South Lebanon	35%	3 serving 720 households
North Lebanon	54%	3 serving 2,050 households
Beka'a	41%	1 serving 15,000 households (not in operation – awaiting the completion of network construction)
Lebanon	**58%**	**In operation: 9 serving 5,720 households**

Source: Report by Jacobs Gibb (December 2002)

3. In addition, the water and wastewater sector suffers from weak institutional capacity and poor cost recovery. The sector's four Regional Water Authorities (RWAs – responsible for water supply and wastewater disposal) remain severely understaffed and do not have the appropriate resources to operate to an acceptable level. Inadequate cost recovery and the lack of clear and transparent mechanisms for setting tariffs have contributed to the weakening of the financial standing of the RWAs. Even when the sector has witnessed increases in investments

levels in recent years, it has not been accompanied with concurrent improvements in operation and maintenance capacity, due primarily to lack of resources linked to the inadequate tariff structure and levels. The tariff structure is based on a gauge system and not as a function of real amounts of water consumed.

4. In recent years, the Government of Lebanon (GOL) has undertaken a number of key sector reforms. A new water sector law (Water Law 221) was promulgated by Parliament in May 2000 defining the role of the Ministry of Energy and Water (MOEW) to policy, bulk water supply (both for potable and irrigation use), strategic planning and regulatory functions, while consolidating the number of water servicing authorities from 22 to 4 Regional Water Authorities (RWAs – North, South, Beka'a, Beirut/Mt. Lebanon) in order to improve efficiency in service provision. Initially these RWAs had responsibility for water supply and irrigation services; however, an amendment to the water sector law stipulating the reallocation of the wastewater sector responsibilities to the MOEW and the RWAs was ratified by Parliament in December 2001.

5. However, these reforms have not yet achieved the desired results in part due to the lack of institutional capacity of the RWAs, which prevent operational efficiency and adequate planning and prioritization of investments, as well as due to the fact that the new sector law does not go far enough to make these authorities fully autonomous. Major reforms are still required in order to render the sector more efficient and self-sustaining.

6. Preparing a national water strategy, a national water master plan and water code will provide a road map for the sector. Introducing a viable tariff and financial scheme, allowing the private sector to operate and invest, and establishing an adequate regulatory framework are all essential to sector sustainability. While a Board of Directors was appointed for each RWA in December 2001, the regulating decrees (by-laws) were not issued untill October 2005. Furthermore, no budget has been allocated to the water establishments to allow them to adequately fill their organisational charts.

Impact of the July 2006 hostilities

7. With the onset of the hostilities, the destruction of some water and sanitation facilities in parts of the Beka'a, South Lebanon and the southern suburbs of Beirut has further exacerbated the already-unsatisfactory service conditions. A preliminary damage assessment of the water sector conducted by local consultants has put an estimate of US$52 million for water supply and US$13 million for wastewater. In addition, while no field assessment of the socio-economic impacts of the destruction of the water and sanitation facilities has been carried out, it is fair to assume that the risk of diarrheal diseases from consuming contaminated water is significantly higher today than before the start of the hostilities.

8. On the whole, Lebanon faces serious challenges in: (i) reconstructing, rehabilitating and expanding its water supply and wastewater networks and facilities to increase service coverage and improve water quality, (ii) increasing the exploitable water resources through investments in storage and reduction of unaccounted for water, (iii) improving operation and maintenance, and (iv) reaching adequate cost recovery levels and financial sustainability.

2. Government Strategy

9. Prior to the outbreak of the hostilities, the GOL was about to present a comprehensive Economic Reform and Social Action Plan - one which would place the country on a growth path with debt sustainability. Lebanon was suffering under the burden of servicing high levels of public indebtedness, reaching US$38 billion or approximately 180% of GDP. However, the economic outlook for the country was starting to show a positive trend, with an expected growth rate of 6% in 2006 following a zero growth rate in 2005, as a result of the security and political turmoil that followed the assassination of Ex-Prime Minister Rafik Hariri.

10. The GOL's reform agenda (which aimed among others to deal with the high public debt problem) remains not only relevant, but critical in the aftermath of the hostilities lies at the core of the GOL's vision for the country's overall recovery and reconstruction. The socio-economic impact of the hostilities has given increased urgency to this reform agenda, which now needs to account for the substantially larger immediate needs of the population in a context of a reduced revenue base.

11. In the water and wastewater sector, the GOL, prior to the hostilities, had agreed with the World Bank on a reform program that consisted at its core of: (i) involving the private sector in the operation and maintenance of water and sanitation facilities, (ii) improving the institutional capacity of the four RWAs, and (iii) pursuing the preparation of an adequate regulatory and financial framework (e.g., designing of an appropriate tariff scheme) that will ensure the financial and administrative autonomy and sustainability of the RWAs and enable the further (and deeper) participation of the private sector in the provision of water and sanitation services. This reform program would have been implemented in parallel to much needed investment in infrastructure in the sector and it remains relevant in the aftermath of the hostilities.

12. ***The Government's Investment Program.*** In 2006, CDR prepared an investment program, to be implemented between 2006 and 2010, based on sectoral visions which accounted for the rehabilitation and expansion of water and wastewater infrastructure, as well as operation and maintenance of facilities and the institutional framework of the sector (more details of the referenced investment program can be found in Annex 3). Under this program, the West Beka'a was targeted by the GOL as a priority area for investment, with financing from the World Bank and the Islamic Development Bank (IDB) identified to finance water and wastewater investments respectively.

The West Beka'a

13. Among the areas that have drawn consistent attention in terms of shortage and poor quality of water is the Beka'a Valley and in particular the western region, which has been long targeted by the GOL for major improvements, but has not benefited until now from any significant infrastructure investment in the past 20 years. The population residing in the western part of the Beka'a Valley can be characterized as poor, with a high illiteracy rate of 35%, compared to the

national average of 8.8%,[1] and where unskilled, agricultural and unemployed labor represent about 30%, 12% and 13% of the population respectively.

14. The water supplied through network in the western Beka'a is estimated at about 20,000 cubic meters per day, which represents only 70% of the current water demand. Most of the water facilities in the area are undersized and inefficiently operated; consequently, the Beka'a Regional Water Authority (BRWA) for some time has had to resort to rationing water on ongoing basis. Most residents rely on buying water to supplement their needs from tankers, which often supply water of poor quality that is increasingly expensive for most area residents.

15. Water quality studies indicate that the water being provided in the Western Beka'a area does not meet the World Health Organization (WHO) standards or Lebanese drinking water standards. Laboratory analyses of the water extracted from some of the existing wells (e.g., the Loussi wells) show the presence of high levels of nitrates from agricultural activities and wastewater seepage. Analyses also show that in several parts of the water distribution network, the water is contaminated with fecal material due most likely to wastewater infiltration and poor performance of the disinfection system. As a result of the degraded water quality and inadequate supply, a number of water-born diseases such as diarrhea are reported in the area, especially among children.

16. Until recently water supply in the western Beka'a was under the responsibility of the Chamsine water authority, which was recently integrated into the BRWA. The BRWA which is now formed of the three newly-merged water authorities in the region (Zahle, Chamsine and Ba'albeck), as well as regional water boards and committees, is still struggling to become an integrated organization.

17. The institutional capacity of the BRWA is weak. The technical support unit for the Bank-financed Ba'albeck Water and Wastewater Project (BWWP) has been providing technical assistance to the BRWA, in particular to start implementing some of the actions outlined in the Business Plan prepared for the BRWA in May 2005. However, progress has been slow, mainly due to the fact that: (i) the new sector law does not go far enough to make the BRWA a fully autonomous entity, and (ii) the Managing Director of BRWA has not yet been appointed. The lack of leadership at the BRWA is having a negative impact on its financial and operational performance.

18. In the aftermath of the hostilities and the resulting government budget constraints, the GOL sought to secure grant financing from the Lebanon Trust Fund set up by the World Bank and the Kuwaiti Government, administered by the Kuwait Fund for Arab Economic Development (KFAED), for the planned investments in water supply in the West Beka'a, while resuming implementation of the already approved investments in wastewater from the IDB.

[1] Source: 2004 National Survey of Household Living Conditions published by the Lebanese Republic Ministry of Social Affairs.

Table 3: West Beka'a Investment Program

	Total Cost (US$)	Potential Financier
Water Supply		
1A.Chamsine Spring – Western Sub-zone	13,750,000*	World Bank
1B.Chamsine Spring – Eastern Sub-zone	14,580,000	Kuwaiti Grant
2. Al-Abed Spring Zone	2,265,000	Kuwaiti Grant
3. Kfar Zabad Well System	8,270,000	Kuwaiti Grant
4. Southern Zone	13,790,000	Kuwaiti Grant
Sub-total water supply investments	**52,655,000**	
Wastewater	43,000,000	IDB
Total Cost	**95,655,000**	

* Note: This only comprises of the physical component. The technical assistance portion brings the total World Bank financing to US$15 million (see Table 4 below).

B. BANK RESPONSE AND STRATEGY

19. Immediately after cessation of hostilities, the World Bank established a Trust Fund for Lebanon and approved a transfer of US$70 million in grants from IBRD surplus to the Trust fund for recovery and reconstruction efforts. The first operation, a $30 million additional financing grant for the First Municipal Infrastructure Project is already under implementation. The Bank also reallocated funds within the existing loan portfolio toward higher priority needs in the wake of the hostilities, and placed an emphasis on quickly re-starting ongoing projects.

20. In addition, a large multi-sector team undertook an assessment of the economic and social impact of the hostilities and an analysis if the macro and structural reform priorities for the future, with an aim to provide an analytical basis to underpin a medium-term reform program. The process involved intensive consultations with government officials, the private sector and other stakeholders in Lebanon. It also involved close collaboration with several donors, and in particular with the European Union team that prepared a comprehensive impact assessment of hostilities-related damages. The final draft assessment was presented to the GOL at the end of November 2006 and was an important input into the preparation of the government's recently unveiled reform program.

21. The Bank has been actively engaged in Lebanon's water sector since 1993; therefore the Bank is well

Box 1: Bank's Recommendation for Water and Wastewater Sector

Physical: In the *short-term*, the GOL's investment program should be adapted to reflect the new realities, needs and Government's budgetary constraints. Priority investments should focus on: (i) addressing the needs of the affected areas including repair of facilities and network in the southern suburbs of Beirut, the Beka'a Valley and the South of Lebanon, (ii) addressing the chronic water shortages in Beirut and surrounding areas, and (iii) implementing investments in wastewater collection and treatment, which is lagging behind and, if neglected can have adverse consequences on public health and the environment.

In the *medium-term*, the GOL should continue to implement sector investments to rehabilitate, construct and expand water supply networks and wastewater facilities in priority areas to increase service coverage and efficiency in both water supply and sanitation.

Institutional: In the *short-term*, the GOL should focus on building institutional capacity in the sector in order to ensure its improved operational and management efficiency. Until such time, the RWAs will have to pursue an increased involvement of the private sector in the administration, operation and maintenance of water and sanitation facilities based on recent experiences.

More specifically, Cabinet decisions are required to allow RWAs to: (i) recruit qualified staff and implement sound training programs, (ii) procure works, goods and services with greater autonomy, (iii) authorize management contracts with private operators, and (iv) adopt a new tariff structure that takes into account costs, volumetric consumption and establish service standards.

placed to provide support to the GOL in re-launching and implementing its planned reform and investment program through policy advice and financial assistance. The sector is in dire need of investment and reforms to improve management and operational efficiency. As such, the Bank's goal is to continue its support to the sector by financing a portion of the GOL's planned investment program, while leveraging assistance from other donors to complete the financing plan and providing policy advice on the prioritization and implementation of the agreed reform program (see Box 1). The Government's updated sector reform program is attached in a matrix format in Annex 2.

Box 1 continued

In the *medium-term*, the GOL should prepare an appropriate regulatory and financial (e.g., designing an appropriate tariff scheme based on water metering) framework that will ensure the financial and administrative autonomy and sustainability of the Regional Water Authorities and further enable the participation of the private sector in the provision of water and sanitation services.

The GOL should also further strengthen and build the capacity of the utilities in the sector (the four RWAs), in order to enable these utilities to improve their overall management and efficiency, through planning implementation of activities that will improve the overall physical network, such as leak detection programs, and its financial position, such as decreasing power consumption and increasing revenue collection. In addition, the MOEW should assume full responsibility for policy, strategic planning and inter-basin transfers.

22. Given the relative lack of investment in the western Beka'a region in the past and the area's higher poverty rates when compared to national averages, the Bank has agreed to GOL's request to finance a portion of the GOL's proposed water supply investment program for the region. During the project's appraisal, the team of KFAED has agreed to contribute, on behalf of the Kuwaiti Government, on a parallel basis of about US$40 million and complete the program's financing plan.

C. DETAILED PROJECT DESCRIPTION

1. Project development objective and key indicators

23. The key development objective of the proposed government program for the West Beka'a and World Bank-financed project is to alleviate the precarious conditions of the area's water supply systems, which has been further aggravated by the recent hostilities and long-term neglect. More specifically, the project is expected to improve health conditions of the population of the West Beka'a through the provision of non-contaminated water in increased quantities by completely rehabilitating the area's water network. The project should also contribute to increased sustainability of the Beka'a Regional Water Authority through the regularization/ metering of large proportion of beneficiaries in the area, which are currently illegally tapping water from the network.

2. Project components and costs

Component 1: Construction of Water Networks and Facilities

24. The project will be financing rehabilitation and expansion of water production, storage, transmission and distribution systems in the villages of Er Raouda, Bar Elias, El Marj, Haouche el Harime and El Khiara with a current population estimated at 49,000 inhabitants (denominated under the West Beka'a investment program as Zone 1: Western Sub-zone).

25. The works implemented under this component consist of: (i) drilling of 6 wells in the vicinity of the Chamsine spring, (ii) rehabilitating the Chamsine spring catchment (concrete repairs, chlorination system, and installation of flow measuring devices) (iii) building a new pumping station[2] (to pump to the proposed new regional reservoir), (iv) building a regional reservoir of 6,000 m^3 capacity in Anjar (elevation 1045 m) and two distribution reservoirs in El Khiara (300 m^3) and Haouche El Harime (1000 m^3), (v) building some 29 km of transmission mains (diameter ranging from 100 mm to 500 mm) to supply water to the above-mentioned villages to replace the existing system, which has already passed its original design life, and (vi) rehabilitating and building some 80 km of water distribution networks and house connections in the same villages.

Component 2: Technical Assistance

26. This component is essential to ensure the proper implementation of the project. It will include the following activities:

(i) Consulting services for construction supervision.
(ii) Consulting services to support implementation of the Environmental Management Plan (EMP), including the purchase of water quality monitoring equipment.
(iii) Technical audit of construction activities to be carried out by mid-term review and end of project.
(iv) Support to the Project Management Team (PMT).

Table 4: Project Costs

Project Component	Local Cost (US$)	Foreign Cost (US$)	Total Cost (US$)
1. Construction of Water Networks and Facilities			
Chamsine Spring – Western Sub-zone			
a. Water production (WP1)	453,000	1,057,000	1,510,000
b. Water storage (regional reservoir)	282,000	658,000	940,000
c. Water storage (distribution reservoir)	90,000	210,000	300,000
d. Water transmission lines	1,026,000	2,394,000	3,420,000
e. Pumping station	1,001,000	2,347,000	3,348,000
f. Distribution systems and HC	1,270,000	2,962,000	4,232,000
Sub-Total	**4,122,000**	**9,628,000**	**13,750,000**
2. Technical Assistance			
a. Construction Supervision	400,000	--	400,000
b. Environmental Monitoring Plan	100,000	--	100,000
c. Technical Audit (at mid-term review and end of project)	50,000		50,000
d. Support to the project management team	250,000	--	250,000
Sub-Total	**800,000**	**--**	**800,000**
Contingencies	150,000	300,000	450,000
Total Cost	**5,072,000**	**9,928,000**	**15,000,000**

[2] The Chamsine spring water would be diverted, by gravity, from the catchment basin underneath the existing pumping station to a wet well (to be built under the proposed new pumping station). The proposed six new wells near Chamsine spring would discharge into this wet well.

Table 5: Allocation of World Bank Grant Proceeds

Expenditure by category	Amount in (US$)	Disbursement
Works	13.75	100%
Goods & Equipment	0.05	100%
Consultancy Services (supervision, EMP, PMT, others)	0.75	100%
Unallocated	0.45	
Total Grant Amount	15.00	

Table 6: Disbursement Schedule (US$ million) Fiscal Year

FY	2008	2009	2010
Absolute	1.0	7.0	7.0
Cumulative	1.0	8.0	15.0

3. Lessons learned and reflected in the project design

27. The Bank's has had a long-term involvement in the water sector in Lebanon and has provided assistance to the GOL in the preparation of a sector strategy paper which has served as the basis for the agreed reforms that need to be carried out. In parallel, the Bank has been financing the Ba'albeck Water and Wastewater Project (BWWP – US$43.5 million), for which a mid-term review has been recently carried out. Based on this involvement and on the Bank's overall experience on post-conflict reconstruction, the following lessons have been learned and reflected in the project design:

- Implementation arrangements: Implementation of other water supply and wastewater projects in Lebanon (with CDR) has experienced delays, mainly related to the bidding process and contract award. With the implementation arrangement currently in place, CDR's Board has to approve every step of the bidding process and contract award, which in the past has typically resulted in lengthy processes. As such, the Bank has reached an agreement with CDR on streamlined implementation arrangements that will accelerate the procurement of the sole civil works contract under Component 1, and that will empower the project management team with decision-making authority to accelerate the contracting and implementation of the remaining project activities following World Bank procurement guidelines.

- Capacity building for BRWA: Previous Bank experience in post-conflict reconstruction has shown that institutional capacity building efforts have invariably led to implementation delays complicating the implementation of emergency projects. As such, the proposed project has eliminated capacity building activities in its design. Key capacity building activities will be carried out under the institutional building component of the on-going BWWP. Given the fact that BRWA is still in its infancy and much more has to be done over the long-term to ensure that the BRWA becomes a cohesive utility that is sustainable in the long-term. As such, the GOL recognizes that a long-term focus on capacity building efforts

is a key priority to improving the sector's sustainability, with efforts that will have to be continued beyond the completion of the BWWP being required.

- The Bank's increased role in post-conflict reconstruction over the past decade has provided a significant amount of experience that can be relevant to this project. Now guided by OP2.30 Development Cooperation and Conflict, the Bank's reconstruction efforts put a premium on early but selective engagement, flexibility in design and implementation, coordination with donors and other partners, and close monitoring and evaluation. Moreover, the Bank's recent experience in Iraq has highlighted the importance of a simple and flexible project design to allow for adaptation to changing circumstances. The proposed project has adopted many of these lessons into the project design, including minimizing the number of procurement packages, leveraging donor financing, i.e., the Kuwaiti Government, through the Kuwait Fund for Arab Economic Development (KFAED), has agreed to finance on a grant basis the remaining portion of the investment program.

D. INSTITUTIONAL ARRANGEMENTS AND PROJECT IMPLEMENTATION

1. Institutional and implementation arrangements

28. Responsibility for project implementation will lie mainly with a project management team (PMT) formed within CDR. The PMT will be composed of a project manager and support staff, and will be responsible for the planning and coordination of all project activities, including procurement, supervision of construction works and implementation of the EMP.

29. Given that the works to be carried out are under the jurisdiction of the BRWA, there will be a need for close coordination between CDR and the management of the BRWA in order to ensure a smooth handover of the facilities constructed. In addition, CDR and the BRWA will be responsible for coordination with the MOEW, in order to avoid a duplication of efforts in the activities implemented by the planned investment program and the project.

30. CDR has recently launched the bidding process to select the consultants that will be responsible for preparing the detailed designs and bidding documents for the entire water investment program in the West Beka'a, with financing provided under the BWWP. The implementation of the civil works under the proposed project will be done under one contract, which will be prepared by the selected consultants as a matter of first priority. The Kuwaiti Government packages will also be part of the preparation of the detailed design. All information related to the design of the Kuwaiti Government component will be subject to the Kuwaiti Fund review and no-objection.

2. Monitoring and evaluation of outcomes/results

31. The PMT will provide quarterly progress reports that monitor the progress of works financed under the project, the number of house connections rehabilitated, and the number of additional people connected to the water network. In addition, these progress reports will document the coordination efforts between CDR, the BRWA and the MOEW. These reports will be submitted to the World Bank, the MOEW, the management of the BRWA and the management of CDR.

32. By mid-term review and end of project, CDR will contract an independent technical auditor to review the implementation progress as well as the quality of works and provide an assessment of the project's intermediate outcomes.

3. Procurement arrangements

33. The Grant would finance civil works, goods and consultant services in compliance with the World Bank Guidelines.

34. The procurement method for civil works would be International Competitive Bidding. The Grant is intended to fund one works contract estimated to cost US$13.75 million equivalent. The procurement of goods would include mainly water testing and water quality monitoring equipment for the BRWA, which will be procured under shopping procedures.

35. The consultancy services for the design of the Works contract is being funded from the on-going BWWP. For consistency, the consultant would be asked to provide comprehensive design services covering the entire scope of the program, of which the proposed World Bank Grant will be financing a portion (Component 1). The Grant will provide consultant services for construction supervision, implementation of the Environmental Management Plan, carrying out of the Technical Audits and support to the Project Management Team.

36. CDR has had extensive experience in handling procurement according to the Bank Guidelines. Lessons have been learned from implementing the BWWP, and the inherent risk is foreseen to be moderate with respect to procurement processing. The PMT will be responsible for monitoring and management of all contracts.

37. CDR has developed a Procurement Plan for the Grant for the Bank's review and approval, which is included in Annex 4. This Procurement Plan would be an integral part of the Grant Agreement and would have to be updated on a quarterly basis.

38. The PMT will be responsible for maintaining accurate procurement records, including all actions related to Bank-financed procurement. This includes advertising, preparation of bids, invitation to bid, record of bid submissions, bid opening, and evaluation of bids, contract award, and contract administration. The procurement files and the updated procurement plans would be maintained for review by the Bank's supervision missions.

4. Financial management and disbursement arrangements

39. A financial management unit - already existing within CDR - will maintain the Grant's records and accounts, and prepare financial statements in a format acceptable to the Bank, adequate to reflect the operations, resources and expenditures related to the Grant. The project will be implemented by CDR and thus all Financial Management (FM) related matters will follow the arrangements in place for World Bank financed projects implemented by CDR.

40. A financial management risk assessment has been conducted for this grant and the risk was rated as low based on the fact that: (i) CDR will assign a finance officer with adequate experience to follow up on the grant; (ii) the project will be using the same accounting system in place for the BWWP and which is operational and adequate for the project's needs; (iii)

automatically generate from the system quarterly financial reports; and (iv) be subject to a yearly audit by an external independent auditor acceptable to the Bank. The project will follow the internal controls in place at CDR.

41. CDR will assign a finance officer with adequate experience to follow up on the grant. CDR can choose to assign a part time officer to work with the BWWP finance officer on grant-related matters or assign a full time officer specifically for the Grant. The finance officer's role is to follow up on the Grant activities, post data in the system, prepare and monitor the yearly budgets, prepare financial reports and coordinate with the project unit and the BRWA on all FM-related matters.

42. The projects' accounting system utilized in CDR is a ring-fenced system with an integrated procurement and financial management modules. The accounting system is governed by a detailed chart of account broken down by category, component and contract. The system has been operating adequately under a number of projects and its outputs have been tested and found to be satisfactory. The same system will be amended to reflect this project's activities but there will be no change in the system's main features and modules.

43. The financial management unit will be required to prepare and disseminate quarterly financial reports for the grant. These reports will follow the same format as the IBRD loan financing the BWWP and should be submitted to the World Bank within 45 days after the end of each quarter.

44. The project shall have the Grant's records, accounts and financial statements for each fiscal year audited, in accordance with auditing standards acceptable to the Bank, consistently applied, by an independent external auditor acceptable to the Bank. The audit report should be furnished to the Bank by no later than six (6) months after the end of each year. The external audit report shall encompass all grants activities and shall be in accordance with internationally accepted auditing standards.

45. The annual audit report of the Grant's accounts shall include an opinion on the financial statements and the special account transactions as well as a separate opinion as to whether the statement of expenditures submitted during such fiscal year, together with the procedures of internal controls involved in their preparation, can be relied upon to support related withdrawals. The auditor will also be requested to submit a management letter identifying any observations, comments and deficiencies, in the system and controls, that the auditor considers pertinent, and shall provide recommendations for their improvements. One combined management letter for all World Bank-financed projects implemented by CDR is acceptable.

Disbursements

46. To facilitate project implementation and make timely payments, the project unit will open a separate US$ Special Account at the Central Bank of Lebanon with an authorized allocation of US$750,000. The separate account will also aim to keep the grant's transactions separate from the IBRD loan. The proceeds of the grant will be disbursed in accordance with the Bank's disbursements guidelines.

47. Transaction based disbursement will be used for this grant. Accordingly, requests for payments from the grant will be initiated through the use of withdrawal applications (WAs) either for direct payments, reimbursements and replenishments to the Special Account. All WAs will include appropriate supporting documentation including detailed Statements of Expenditure (SOEs) for reimbursements and replenishments to the Special Account.

48. During implementation SOEs will be used for all expenditures relating to: (i) works and goods under contracts costing less than US$100,000; and (ii) consulting services under consulting firms costing less than US$100,000, and individuals contracts costing less than US$50,000 equivalent. The supporting documentation will be maintained at the project unit and will be made available for review by Bank supervision missions upon request. Documentation relating to SOEs would be retained for up to one year from the date the bank receives the audit report for the fiscal year in which the last withdrawal application from the grant account was made.

49. Eligible expenditures under this grant will be financed 100% from the World Bank.

5. Safeguards

50. *Environmental Assessment.* The project will finance the rehabilitation and expansion of the water supply system of the West Beka'a region, including the construction of a water pumping station and storage reservoirs, transmission lines, drilling of 6 wells (average 15 liters per second) and the rehabilitation of the Chamsine Spring. The project has been classified as Category B, consistent with the World Bank Operational Policy 4.01. Potential adverse environmental impacts during both construction and operation are expected to be restricted in magnitude and severity. The project will have major beneficial impacts on the health of the population by providing them with good quality water.

51. The potential benefits should outweigh any adverse temporary impact resulting from the construction of the water supply and distribution networks. It is worth mentioning that the IDB is currently financing the construction of sewage collection networks and two treatment plants to be commissioned in 2008. This project covers a total of 21 localities, including 2 in the project area (El-Khiara and Haouche el Harime). Wastewater collection systems of the remaining three localities are expected to be financed under a proposed Italian Protocol, which has already been negotiated with the GOL.

52. An environmental impact assessment was carried out during the preparation of this project and is on file. It has been agreed with the GOL that public consultations will take place at a suitable time during implementation. The Environmental Management Plan (EMP) includes the implementation of mitigation measures during the construction and operation phases covering water quality (monitoring) and quantity aspects, as well as institutional strengthening of key actors to monitor and supervise the implementation of the EMP. A preliminary estimate of US$0.4 million has been calculated for the entire water investment program, of which US$0.1 million will be financed by the proposed project. The remaining activities will be financed by the Kuwaiti Government, through the KFAED.

53. *Social.* Modest acquisition of private land will be required for some of the sites for the physical component (Component I) of the project, which entails the construction of water networks and facilities. Therefore, the policy OP 4.12 on Involuntary Resettlement will be triggered under this project.

54. Given that the exact/precise project construction sites for the above-mentioned physical component have not yet been identified at this stage, a Resettlement Policy Framework (RPF) has been formulated by CDR to set out procedures for screening subprojects and where so required, will guide the preparation of individual site-specific abbreviated Resettlement Action Plans (RAPs) acceptable to the Bank that CDR will submit as and when the project conditions so require. The RPF will apply to any aspect of the project that requires expropriation of private land or assets in the public interest, or the involuntary removal of residences or economic activities. The RPF ensures that the project fully complies with the Bank's safeguard policy on involuntary resettlement (OP 4.12).

55. The physical review of the project area (World Bank mission accompanied by CDR and BWA representatives undertook a visit to the project area to assess land acquisition-related issues) indicates that the project will likely not induce any population disturbance nor lead to the involuntary physical or commercial resettlement of local inhabitants as the concerned areas are currently uninhabited. Hence, at the present state, the project does not pose any threats to incomes or livelihoods, nor does it create or intensify poverty or vulnerability.

56. The completion of the final project design will determine the exact location and size of land required for the constructions. A census will be conducted to identify the people that will be affected by this land acquisition.

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP/GP 4.01)	[✓]	[ ]
Natural Habitats (OP/BP 4.04)	[ ]	[✓]
Pest Management (OP 4.09)	[ ]	[✓]
Cultural Property (OPN 11.03, being revised as OP 4.11)	[✓]	[ ]
Involuntary Resettlement (OP/BP 4.12)	[✓]	[ ]
Indigenous Peoples (OD 4.20, being revised as OP 4.10)	[ ]	[✓]
Forests (OP/BP 4.36)	[ ]	[✓]
Safety of Dams (OP/BP 4.37)	[ ]	[✓]
Projects in Disputed Areas (OP/BP/GP 7.60)	[ ]	[✓]
Projects on International Waterways (OP/BP/GP 7.50)	[ ]	[✓]

6. Sustainability and Risks

Sustainability

57. Building institutional capacity in the water and wastewater sectors has been identified as a key priority for its proper management and operation, and the Bank is committed to assisting the GOL in strengthening its water and wastewater sector institutions with financing to be provided under the BWWP. In addition, the Bank team will, as part of its ongoing dialogue with the GOL

in the water and wastewater sector, provide assistance to the government as it further implements sector reforms. The updated Government reform program for the sector is attached in a matrix format in Annex 2.

Risks

58. *Delays in implementation*: Based on past project experience in Lebanon, specifically in the implementation of the BWWP, the project could face implementation delays. This is being mitigated by the agreed streamlined implementation arrangements that will be in place for this project.

59. *Financing*: The proposed project is part of a wider program of reconstruction and expansion of water networks in the West Beka'a, other donors are expected to be working in parallel to the Bank on the program's implementation. Delays in the availability of financing to implement the program are mitigated by the project's free-standing design. At this stage, the Kuwaiti Government has signed an agreement with the GOL committing itself to finance the remainder of the water investment program for the West Beka'a.

60. *Political and security risks*: The current volatile political and security context in Lebanon represents a risk to the adequate implementation of the planned reform and investment programs in the sector.

E. FINANCIAL AND ECONOMIC JUSTIFICATION

61. The implementation of the project and the investment program for West Beka'a will help improve access to clean water through the extension of domestic water connection to a large number of people (estimated currently to be 200,000 for the investment program, and 49,000 for the project) and address the problems related to the high levels of water pollution in a region that has average income levels below national averages.

62. As such the program and the project will bring significant public health and socio-economic benefits through better quality and availability of water, improvements in the sustainability of water sources by reducing losses and wastage, as well as through the reduction of the cost of water supply for low income families. Overall, the project is expected to improve the quality of life of the targeted population, leading to significant health and welfare benefits.

63. Given the high positive externalities for this type of investment, the project is expected to be cost-effective. Since this is an emergency operation, the economic and financial benefits of this project have not been quantified at this stage, mainly due to the limited time and availability of economic and financial data.

F. ACTION PLAN

Action	Date
1. Detailed designs and bidding documents for the activities to be financed by the ongoing BWWP are ready.	August 30, 2007
2. Procurement process for works package to be financed by the World Bank completed and contract signed	November 15, 2007
3. Expected first disbursement	December 15, 2007
4. Mid-term Review	November 15, 2008
4. Works completed	November 15, 2009
5. Project closing date	May 20, 2010

Annex 1: Results Framework and Monitoring

Results Framework

PDO	Project Outcome Indicators	Use of Project Outcome Information
1. Improved health conditions of population living in the project area.	Quality of Water (WHO standards met). Quantity of water supplied. Increase in number of households legally connected to the water supply network.	
Intermediate Outcomes	**Intermediate Outcome Indicators**	**Use of Intermediate Outcome Monitoring**
Works contracts awarded without delays.	Delays with respect to procurement plan.	
Satisfactory implementation progress.	Progress vis-à-vis planned implementation schedule. Km of water supply network installed. Number of water meters installed.	

Arrangements for results monitoring

		Data Collection and Reporting			
Project Outcome Indicators	**Baseline**	**End of Project**	**Frequency and Reports**	**Data Collection Instruments**	**Responsibility for Data Collection**
Quality of Water : Nitrates (mg/l) F. Coliforms (per 100ml) Percentage of households legally connected to the water supply network Per capita delivery of water	 100 mg/l 10/100 ml 30% 60 l/c/day	 <10 <1 90% 100 l/c/day	Reported on Progress reports (to be updated every 6 months)		Beka'a Regional Water Authority
Intermediate Outcome Indicators					
Average delays with respect to procurement plan in contract award	Less than 90 days delays on agreed procurement plan.		Quarterly progress reports	Frequent updates and report on progress of implementation of the procurement plan	Council for Development and Reconstruction
Implementation progress	0%	100%		% of contract amount invoiced and paid.	Council for Development and Reconstruction
Percent of households with meters installed	0%	90%		Subscribers' data collected from the Beka'a Regional Water Authority Subscription Department	Council for Development and Reconstruction
Km of water supply network rehabilitated	0	29 km of transmission 80 km of distribution		Supervision consultant's report on progress on implementation of works.	Council for Development and Reconstruction

Annex 2: Matrix for Implementation of Water and Wastewater Sector Reforms

Sector Reform Objectives	Completed Actions	Actions to be completed by June 30, 2007	Actions to be completed by December 31, 2007	Actions to be completed by December 31, 2008	Reform Outcome – by December 2008	Principal Responsibility
Integrated Water Sector Strategy & Policy.	- CDR Development Programme 2006 – 2009. - EU Neighbourhood Policy. - Privatisation study « Société Générale », Rafik ElKhoury. - Report on Water Sector Policy and Action Plan, IPP Water. - Agriculture Sector Strategy (FAO/World Bank). - World Bank Water Sector Note. - World Bank Irrigation Sector Note.	- Cabinet approval of " Water Code".	- Preparation of the national water sector strategy and a Water Master Plan that would take into account: availability of water resources (irrigation, domestic & industrial) and Institutional, regulatory, financial & environmental aspects. - Public Expenditure Review of the water sector. - Benchmarking study & performance indicators (Unaccounted for Water, Cost recovery, collection rate, etc.). - Complete a study of modernization of Irrigation with MOA. - Complete a survey of users` satisfaction.	Government's approval of Integrated Water Sector Strategy & Policy.	- National Water Master Plan. - "Water Code".	MOEW in association with CDR/RWA/ MOA/ MOEnv. / Donors.
Improve Sector Governance.	- Law 221 and its amendments. - Decrees (By-Laws) October 2005. - Appointment of Boards and DGs for all the Water establishments.	- Finalize model organization under Law 221 for MOEW. - Reactivate the National Water Council.	- Cabinet decision to allow: * RWAs to recruit qualified staff. * Procure Works, Goods & Services with appropriate thresholds. * Management contracts with private operators. - Establish mechanisms for tariff adjustments and service standards. - Establish a review process to define the roles of each stakeholder. - Initiate the process of handing over the O&M of small/medium irrigation schemes to Water Users' Associations.	- Adopt mechanisms for tariff adjustments and service standards. - Complete the process of handing over the O&M of small/medium irrigation schemes to Water Users' Associations. - Finalize MOEW organization under Law 221. - Update RWAs Business Plans. - Study & draft water sector regulatory framework.	- Finalized regulatory Framework. - New organization of the MOEW set up. - Clear definition of roles & responsibilities of the various actors. - Establishment of Water Users Associations for irrigation. - Clear policy on cost recovery and subsidies for sector.	MOEW in association with CDR/ RWAs/Donors.

Sector Reform Objectives	Completed Actions	Actions to be completed by June 30, 2007	Actions to be completed by December 31, 2007	Actions to be completed by December 31, 2008	Reform Outcome – by December 2008	Principal Responsibility
Capacity Building.	Law 221 and its amendments.	- Finalize training program for the RWAs staff with KfW, EU & WBI. - Prepare a detailed plan aimed at reinforcing MOEW, RWAs and LRA staffing & logistics.	- MOEW and RWAs to set measures to optimise O&M of water and wastewater facilities. - By Laws of Law 221 fully implemented by RWAs. - Complete MIS in all RWAs. - Install an integrated financial & accounting system in RWAs.	- Recruitment of qualified staff in MOEW, RWAs and LRA.	- Completion of water establishments staffing plans, management and equipment tools.	Government, MOEW & RWAs /LRA.
PPP & Private Sector Participation.	- Tripoli Water Authority Management contract. - Baalbeck-Nabi Chit Service Contract (O&M). - O&M contracts for wastewater treatment plants under construction. - LWPP. - Consultant appointed to study PPP options for North Lebanon.	- Assess Tripoli management contract by independent party. - Study PSP possibilities in Irrigation with Litani River Authority (LRA).	- Prepare a regulatory framework which includes dispute resolution. - Appoint a consultant to MOEW, CDR and RWAs to develop model Tender and Contract Documents for service, Management Contracts (with WB assistance) and Model Contracts for Regulation (GTZ).	- Set up of a regulatory body for the water sector. - Establish a regulatory framework which includes dispute resolution.	- Model Tenders for RWAs. - Service Contract launched for RWAs. - Regulatory body in place.	CDR in association with MOF, MOEW, RWAs
Sustainable Use of Water Resources.	MOEW 10 Year Programme: - Shabrouh Dam - Brissa Dam - Extension of Dbayeh Water Treatment Plant.	Finalizing the evaluation of tenders for Canal 800.	- Appointment of consultant to update the studies relating to Awali-Beirut Conveyor, Bisri Dam. - Appointment of a committee of experts to recommend guidelines for re-use of treated wastewater.	Secure finance for: - Boqaata, Assi, Nahr Ibrahim, Nahr El Bared & Bisri Dams. - Awali-Beirut Conveyor. - WSS O&M (South & Bekaa regions) for RWAs.	Start construction of the Dams and the conveyor.	MOEW & CDR in association of MOF & MOA.
Strategy for Sanitation, and targeting the Poor.		- Apply for GPOBA funding for targeted subsidies to low income communities. - Apply for BNWPP.	- Complete GPOBA study.	- Implement GPOBA. - Secure Donor funding for Implementing recommendations of the feasibility studies for sanitation.	- GPOBA report and launching implementation.	MOEW in association with MOF/ CDR& RWAs.

– The above matrix is based on the original one presented during the workshop held on January 15, 2007. However, the number of rows has been reduced from 8 to 6 to avoid duplication.
– The aim of all above implementation reforms and actions is to optimize the use of available water resources in an integrated way and to reduce the sector dependency on national budget.
– All current investments and institutional strengthening programs are to be completed according to their original schedule as set by the managing authorities.
– Emerging program aimed at repairing war damaged facilities should be completed before end 2007.

BNWPP: Bank/Nederland Public Private Partnership *PSP: Private Sector Participation* *LWPP: Lebanon Water Policy Program.*
GPOBA: Global Partnership for Output Based Aid. *IPP: Investment and Planning Programming*

Annex 3: Government's Investment Program for the Water and Wastewater Sector

Prior to the hostilities, CDR had prepared a 20-year development program which is now being considered by the Council of Ministers. This development program is as follows:

Table 3.1: CDR proposed 1-20 year development program (in US$ million)

	Investment		Operations & Maintenance	
	Water	*Wastewater*	*Water*	*Wastewater*
Beirut / Mt. Lebanon	918	487	974	1,048
North Lebanon	280	184	499	583
South Lebanon	149	182	186	354
Beka'a	47	62	166	218
Total	**1,394**	**915**	**1,825**	**2,203**

The MOEW developped a 10-year plan in 1999 to construct a number of damns and lakes to develop additional water resources in Lebanon. The plan was approved by the GOL and its implementation started with the building of the Chabrouh Dam, with a number of other dams in tendering phase.

In 2006, CDR prepared an investment program, which was to be implemented between 2006 and 2010. This program was based on sectoral visions which accounted for the rehabilitation and expansion of water and wastewater infrastructure, as well as operation and maintenance of facilities and the institutional framework of the sector. The actual program CDR is implementing is as follows:

Table 3.2: CDR Current Investment Program by Region - Water (US$ million)

Program	Plan for 2000 Horizon	Completed (1992-2006)	Ongoing	CDR Program (Under Preparation)
National Emergency Recovery Program 1 (NERP 1)	58.5	58.5		
NERP 2 & 3, New Systems	546	331	151	287*
Development of Water Resources	301	4	87	348**
Operation and Maintenance		3.4	9.3	12
Technical Assistance, Institutional Capacity Building	22.1	14.2	1.2	11.5
Total	**927.6**	**411.1**	**248.5**	**658.5**

Source: CDR

* Greater BeirutUS $55 million and Mount Lebanon US$48 million, of which US$29 million is funded / West Beka' a US$60 million (World Bank and KFAED) / South US$52 million of which US$10.6 million Abu Dhabi Fund, US$12 million AFD, US$15 million IDB / North US$62 million all funded-pledged (Arab Funds, AFD).

** Includes mainly the Awali-Beirut conveyor and Bisri Dam (US$300 million)

Table 3.3: CDR Current Investment Program by Region - Wastewater (US$ million)

Program	Plan for 2000 Horizon	Completed (1992-2006)	Ongoing	CDR Program (Under Preparation)
National Emergency Recovery Program 1 (NERP 1)	192	25.9		
Protection of Coastal Region and Waters	265	108.9	188	531.9
Protection of Inland Water Resources	297	31.1	57	291.2
Operation and Maintenance	2	91.4		4.6
Technical Assistance, Institutional Capacity Building		1.1		
Total	756	258.4	245.2	827.7*

Source: CDR

* Of which US$425 million of contracts funded - EIB US$146 million / Italian Protocol US$84 million / IDB US$43 million / KfW US$20 million / Arab Fund US$35.6 / AFD US$38.7 million / Government US$24 million.

CDR's 20-year development program would be difficult to fund entirely given Lebanon's macro enconomic situation. CDR's investment program has identified priority investments and obtained funding from donors to implement most of the identified investments in water and about half of the needs for wastewater. In addition to wastewater investments, the Greater Beirut Water Project (both resource and water supply) constitute the priority investment program for the water sector.

The Government's Investment Program for the Water and Wastewater Sector in Western Beka'a

As mentioned above, the Western Beka'a, has long been targeted by the GOL for major improvements due to shortages and the poor and worsening quality of the water available. As such, the CDR has conducted an analysis of different possible alternatives for supplying the Western Beka'a with reliable and good quality water, which included an analysis of financial and economic aspects, including socio-economic impacts. Based on this analysis, the CDR, in coordination with MOEW, has developed an investment program for the West Beka'a.

This investment program encompasses the supply of about 41 villages in the Western Beka'a region, with a current population estimated to be about 200,000 and projected to increase to about 335,000 by the year 2030. The current water demand is 28,000 cubic meters per day and expected to reach 46,000 cubic meters per day by 2030. At present, this area is fed mainly from the Chamsine Spring and the Loussi water wells, which are located within the drainage zone of agricultural areas and are polluted. The investment program has been divided into four separate zones, each to be supplied by distinct local water sources.

Zone 1 - Chamsine Spring, covering the following villages in two sub-zones: A) Western sub-zone: with a population of 49,000: El Raouda, Bar Elias, El Marj, Haouch el Harime, El Khiara; and B) Eastern sub-zone: with a population of 66,000: MajdelAnjar, Ed Dakoue, Es Salmiye, Tell Ez, Zaazaa, Soultan Yacoub, Ghazze, Mansoura, Saouri, Mazraat Es Saouri, Manara, Aita El Foukhar, Soultan Yacoub el Faouka; and

Zone 2 - Abed Spring with a population of about 8,000, covering the villages of Aammil, Deir Tahnich, Aana, Tell Znoub, Tell Znoub Jdideh, Kefraya

Zone 3 - Kfar Zabad (well) system covering a population of 27,000 and including the following villages: Kfar Zabad, Ain Kfar, Zabad, El Faour, Qoussaya, Deir el Ghazal, Raite, Massa.

Zone 4 - Southern zone covering 53,000 people in the following villages: Aazzi, Kamed el Loz, Joubb Jannine, Mdoukha, El Bire, El Mhaidthe, Er Rafid, Khirbet Rouha, Ain AArab, Kfardenis, Dahr el Ahmar.

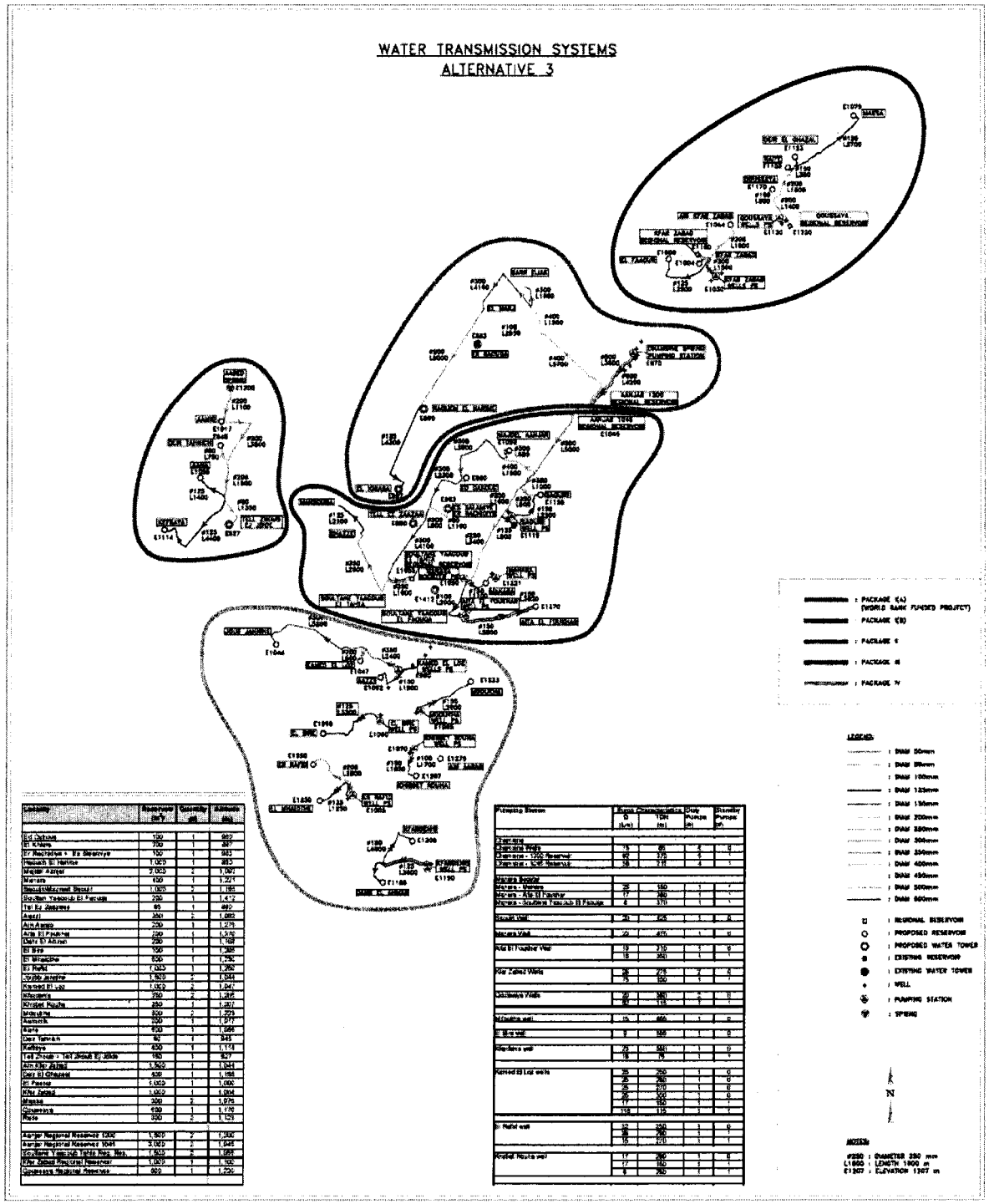
At this stage the World Bank and the KFAED have expressed interest in financing the investment program with grant funding. The total cost and financing plan of this program is as follows:

Table 3.4: West Beka'a Investment Program

	Total Cost (US$)	**Potential Financier**
Water Supply		
1A.Chamsine Spring – Western Sub-zone	13,750,000*	World Bank
1B.Chamsine Spring – Eastern Sub-zone	14,580,000	KFAED
2. Al-Abed Spring Zone	2,265,000	KFAED
3. Kfar Zabad Well System	8,270,000	KFAED
4. Southern Zone	13,790,000	KFAED
Sub-total water supply investments	**52,655,000**	
Wastewater	43,000,000	IDB
Total Cost	**95,655,000**	

* Note: This only comprises of the physical component. The technical assistance portion brings the total World Bank financing to US$15 million (see Table 4 in the main text).

Schematic Drawing of GOL's Investment Program for the Water Supply in West Beka'a



Source: Bureau Technique pour le Développement (BTD)

Annex 4: Procurement Plan

PROCUREMENT PLAN as of *[16-Feb-07]*
CONSULTANCY SERVICES - CONSULTING FIRMS

Completion date	Original	2-Dec-09
Contract	Effectiveness	Date	1-Nov-07
Contract Draft	NOL	Date	17-Oct-07
	Negotiation	End Date	10-Oct-07
Financial Proposal	Evaluation	End Date	3-Oct-07
Technical Proposal	Opening		28-Sep-07
	NOL	Date	14-Sep-07
	Evaluation	End Date	7-Sep-07
	RFP Sub/ Opening	Date	31-Aug-07
RFP	NOL	Date	1-Aug-07
	Preparation	End Date	25-Jul-07
Short List	NOL	Date	18-Jul-07
	Evaluation	End Date	11-Jul-07
EOI	End		4-Jul-07
TOR	NOL/Adv	Date	20-Jun-07
	Preparation	End	13-Jun-07
		Start	30-May-07
Follow-up			Plan
WB review Prior/ Post			Pr
Selection Method			QCBS
Est. Amount US$			400,000
Assignment description			Supervision of Works
Component ref/description			C2a-TA
REF #			D001
serial No			1

WORKS

Completion	Original	16-Nov-09
Contract	Effectiveness	Date	15-Nov-07
	Finalization	End	31-Oct-07
Bid Evaluation	NOL	Date	24-Oct-07
	Evaluation	End	17-Sep-07
Bid Doc	Bid Submission/ Opening		3-Oct-07
	Issuance	Start	22-Aug-07
Specs	NOL/Adv	Date	22-Aug-07
	Prep.	End	15-Aug-07
		End	8-Aug-07
Follow-up			Plan
WB review Prior/Post			Pr
Procurement Method			ICB
Est. Amount US$			13,750,000
Assignment description			Construction of water facilities
Component ref/description			C1-Construction
REF #			C001
serial No			1

Annex 5: Project Preparation and Supervision

	Planned	Actual
Initial PID to PIC	January 23, 2007	January 23, 2007
Initial ISDS to PIC	January 23, 2007	January 23, 2007
Appraisal	January 29, 2007	February 8, 2007
Negotiations	February 1, 2007	February 16, 2007
RVP approval	March 20, 2007	
Planned date of effectiveness	May 27, 2007	
Planned date of mid-term review	November 30, 2008	
Planned closing date	May 20, 2010	

Key institutions responsible for preparation of the project:

1. Council for Development and Reconstruction
2. Ministry of Energy and Water
3. Beka'a Regional Water Authority

Bank staff and consultants who worked on the project included:

Name	Title	Unit
Alexander Bakalian	Lead Water Resource Specialist/ Environmental Specialist	MNSSD
Diana Masri	Financial Management Specialist	MNACS
Hayat Taleb Al-Harazi	Program Assistant	MNSSD
Josephine Salang	Senior Program Assistant	MNSSD
Lina Fares	Procurement Specialist	MNACS
Lizmara Kirchner	Operations Analyst	MNSSD
Mohammed Benouahi	Lead Water and Sanitation Specialist (TTL)	MNSSD
Mouna Couzi	Senior Program Assistant	MNCLB
Robert Bou Jaoude	Senior Financial Management Specialist	MNACS
Thamer Hussein	Water and Sanitation Specialist	MNSSD
Tiguist Fisseha	Social Specialist	MNSSD

Bank funds expended to date on project preparation:

1. Bank resources: $30,000
2. Trust funds: $0
3. Total: $30,000

Estimated Approval and Supervision costs:

1. Remaining costs to approval: $70,000
2. Estimated annual supervision cost: $85,000

Annex 6: Environmental Management Plan

Objectives and Structure

The objectives of the Environmental Management Plan (EMP) are to identify feasible, cost effective measures that may be used to mitigate any adverse environmental impacts that might occur during the construction and operation of the project. The EMP of the proposed project will consist of:

- Implementation of mitigation measures; and
- Monitoring and evaluation of mitigation measures;

1. Implementation of Mitigation Measures

Mitigation measures have been identified to ensure that the defined objectives of the project are achieved while preventing and reducing any adverse environmental impacts. The mitigation measures are to be implemented by the contractors and the BRWA. The final design process will detail and finalize construction drawings and tender documents of the project components. This process will incorporate final review of the designs by environmental specialists to ensure that all required environmental issues are properly addressed and tender documents include specific provisions concerning environment, health, and safety.

A. Construction Phase

During the construction of the water supply network, the potential for causing disruption to public activities is the greatest. Monitoring during this stage will need to be continuous and will cover traffic impacts, noise and dust nuisances, disposal of spoil, and safety. Construction mitigation measures will be required to minimize inconveniences to the public. Such mitigation measures are standard and widely used in construction practices properly supervised for achievement of international standards of quality. The general disruption during construction will be mitigated by coordinated planning of construction activities. This will include coordination with all concerned authorities prior to the start of the construction activities. The contract with the contractor will incorporate all requirements to minimize disturbance from construction activities and will be monitored by the Supervision Engineer and the BRWA to ensure compliance with the contract. The cost of the mitigation measures during construction will be incorporated in the contract cost of the contractor.

B. Operation Phase

The operation of the water network can create adverse impacts, which need to be avoided through the implementation of mitigation measures. Responsibility for undertaking mitigation measures during the operation will reside with the water facilities operator under the supervision of the BRWA.

Water quality

Water quality should meet allowable drinking water standards set by the Lebanese Government and WHO. Among the parameters of concern are the bacteriological contamination of the water, the concentration level of nitrate, the presence of nitrite and the concentration of heavy metals. In order to safeguard public health, it is imperative that regular monitoring of the water at the sources, storage reservoirs and in the distribution network be implemented to ensure that drinking water quality limits are not exceeded.

Water Quantity

Mitigation measures during the operational phase will include:

- Responding to emergency leakage situations through an established procedure.
- Reducing unaccounted for losses through a comprehensive monitoring plan. The monitoring program will prohibit illegal connections to the water supply network and prevent system leakages.
- The operator of the water sources, chlorination units, and pumping facilities will adhere to the operation and maintenance procedures and manuals, and will conduct regular maintenance and monitoring to ensure that adequate output is maintained from these facilities.

2. Environmental Monitoring

To ensure the performance, efficiency, and effectiveness of environmental mitigation measures programs, it is necessary that these activities be monitored. Monitoring programs will be necessary for noise, air quality, and dust during the construction phase. During the operation water quality monitoring will include chemical and bacteriological data.

Compliance monitoring during construction will be the responsibility of the contractor who will be supervised by an Engineer on behalf of the BRWA. Environmental monitoring of significant impacts during the operation of the project will be among the responsibilities of the BRWA which will have the overall responsibility to ensure that the adverse impacts from the project are maintained to acceptable levels and corrective measures are undertaken when required.

Annex 7: Statement of Loans and Credits

Project ID	FY	Purpose	Original Amount in US$ Millions				Cancel.	Undisb.	Difference between expected and actual disbursements	
			IBRD	IDA	SF	GEF			Orig.	Frm. Rev'd
P050529	2003	LB-CULTURAL HERITAGE AND URBAN DEV.	31.50	0.00	0.00	0.00	0.00	29.78	14.90	1.95
P034038	2002	LB-URBAN TRANSPORT DEVELOPMENT PROJECT	65.00	0.00	0.00	0.00	0.00	59.47	40.71	19.01
P074042	2002	LB-BA'ALBECK WATER AND WASTEWATER	43.53	0.00	0.00	0.00	0.00	40.45	35.60	20.65
P071113	2001	LB - Community Development Project	20.00	0.00	0.00	0.00	0.00	18.35	14.21	11.16
P045174	2000	LB-EDUCATION DEVELOPMENT PROJECT	56.57	0.00	0.00	0.00	0.00	45.71	45.11	4.83
P050544	2000	LB-FIRST MUNICIPAL INFRASTRUCTURE	80.00	0.00	0.00	0.00	0.00	25.35	25.35	-0.24
P005340	1994	LB-TA FOR REVENUE ENHAN	19.90	0.00	0.00	0.00	0.00	0.55	-4.76	-4.76
		Total:	316.50	0.00	0.00	0.00	0.00	219.66	171.12	52.60

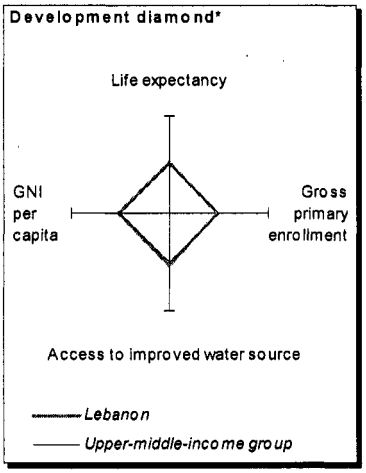
LEBANON
STATEMENT OF IFC's
Held and Disbursed Portfolio
In Millions of US Dollars

FY Approval	Company	Committed				Disbursed			
		IFC				IFC			
		Loan	Equity	Quasi	Partic.	Loan	Equity	Quasi	Partic.
1997	ADC	0.42	0.00	0.00	0.00	0.42	0.00	0.00	0.00
1997	Bank of Beirut	7.53	0.00	0.00	0.00	7.53	0.00	0.00	0.00
1996	Byblos Bank	0.78	0.00	0.00	0.62	0.78	0.00	0.00	0.62
1999	Byblos Bank	13.04	0.00	0.00	4.43	13.04	0.00	0.00	4.43
1996	Fransabank	0.30	0.00	0.00	0.27	0.30	0.00	0.00	0.27
1998	Idarat SHV	1.07	0.00	0.00	0.00	1.07	0.00	0.00	0.00
2001	Lebanese Leasing	0.75	0.00	0.00	0.00	0.75	0.00	0.00	0.00
1996	MidEast Capital	0.00	1.50	0.00	0.00	0.00	1.50	0.00	0.00
1996	SGLEB	0.47	0.00	0.00	0.47	0.47	0.00	0.00	0.47
2005	SIS Adma	8.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
	Total portfolio:	32.36	1.50	0.00	5.79	29.36	1.50	0.00	5.79

FY Approval	Company	Approvals Pending Commitment			
		Loan	Equity	Quasi	Partic.
	Total pending commitment:	0.00	0.00	0.00	0.00

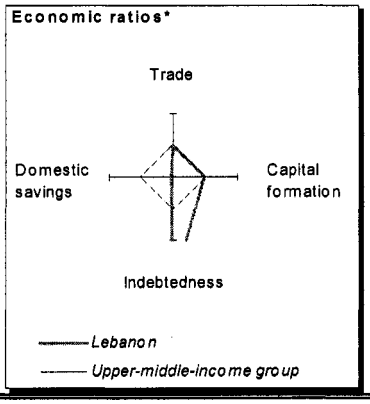
Annex 8: Country at a Glance

POVERTY and SOCIAL	Lebanon	M. East & North Africa	Upper-middle-income
2004			
Population, mid-year *(millions)*	4.6	294	576
GNI per capita *(Atlas method, US$)*	4,980	2,000	4,770
GNI *(Atlas method, US$ billions)*	22.7	589	2,748
Average annual growth, 1998-04			
Population *(%)*	1.3	1.8	0.8
Labor force *(%)*	2.7	-1.3	-0.9
Most recent estimate (latest year available, 1998-04)			
Poverty *(% of population below national poverty line)*	..	..	..
Urban population *(% of total population)*	88	56	72
Life expectancy at birth *(years)*	71	68	69
Infant mortality *(per 1,000 live births)*	27	45	24
Child malnutrition *(% of children under 5)*	..	..	..
Access to an improved water source *(% of population)*	100	88	93
Literacy *(% of population age 15+)*	..	69	91
Gross primary enrollment *(% of school-age population)*	103	100	106
Male	105	104	108
Female	102	94	106

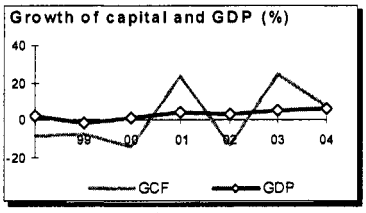


KEY ECONOMIC RATIOS and LONG-TERM TRENDS	1984	1994	2003	2004
GDP *(US$ billions)*	..	9.1	19.9	21.8
Gross capital formation/GDP	..	32.4	20.3	21.2
Exports of goods and services/GDP	..	8.3	17.3	21.3
Gross domestic savings/GDP	..	-25.1	0.3	1.2
Gross national savings/GDP	..	0.1	5.8	8.3
Current account balance/GDP	..	-30.1	-20.3	-18.9
Interest payments/GDP	..	0.3	6.4	5.7
Total debt/GDP	..	23.3	93.5	98.0
Total debt service/exports	..	5.3	66.1	70.7
Present value of debt/GDP	..	..	98.5	..
Present value of debt/exports	..	..	397.9	..

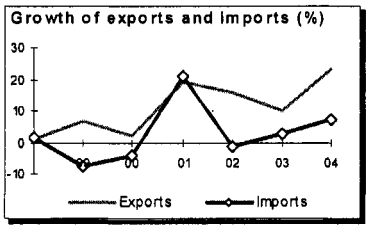
	1984-94	1994-04	2003	2004	2004-08
(average annual growth)					
GDP	8.5	2.9	4.9	6.3	..
GDP per capita	6.4	1.4	3.6	5.0	..



STRUCTURE of the ECONOMY	1984	1994	2003	2004
(% of GDP)				
Agriculture	..	12.0	7.8	6.9
Industry	..	27.1	20.1	20.8
Manufacturing	..	17.7	12.7	12.6
Services	..	60.9	72.1	72.3
Household final consumption expenditure	..	110.5	83.4	82.2
General gov't final consumption expenditure	..	14.5	16.3	16.7
Imports of goods and services	..	65.8	37.3	41.4

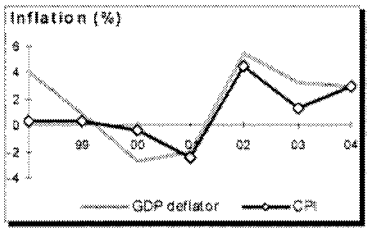


	1984-94	1994-04	2003	2004
(average annual growth)				
Agriculture	..	2.1	4.9	6.3
Industry	..	-1.0	4.9	6.3
Manufacturing	..	-1.0	4.9	6.3
Services	..	2.6	10.1	5.9
Household final consumption expenditure	..	2.2	1.0	2.9
General gov't final consumption expenditure	..	2.2	-4.2	6.5
Gross capital formation	..	-2.3	24.7	7.4
Imports of goods and services	16.7	-0.3	2.7	7.1



PRICES and GOVERNMENT FINANCE

	1984	1994	2003	2004
Domestic prices				
(% change)				
Consumer prices	..	7.9	13	3.0
Implicit GDP deflator	..	8.0	3.2	2.9
Government finance				
(% of GDP, includes current grants)				
Current revenue	..	14.0	22.4	23.0
Current budget balance	..	-11.9	-10.2	-5.9
Overall surplus/deficit	..	-20.0	-13.1	-9.1

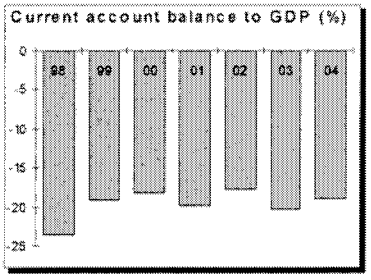


TRADE

	1984	1994	2003	2004
(US$ millions)				
Total exports (fob)	..	..	..	..
Livestock, animal, and vegetable products	..	..	..	..
Fats and oils	..	..	..	..
Manufactures	..	..	..	..
Total imports (cif)	..	..	..	..
Food	2,375	..	..	..
Fuel and energy	40	..	..	..
Capital goods	494	..	..	..
Export price index *(2000=100)*	..	..	..	..
Import price index *(2000=100)*	..	..	..	..
Terms of trade *(2000=100)*	..	..	..	..

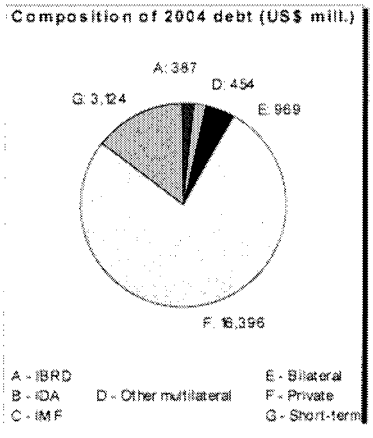
BALANCE of PAYMENTS

	1984	1994	2003	2004
(US$ millions)				
Exports of goods and services	..	756	3,433	4,646
Imports of goods and services	..	5,990	7,421	9,018
Resource balance	..	-5,234	-3,988	-4,372
Net income	..	327	-1,188	-1,032
Net current transfers	..	2,165	1,144	1,295
Current account balance	..	-2,742	-4,032	-4,109
Financing items (net)	..	4,603	8,290	2,923
Changes in net reserves	..	-1,861	-4,258	1,186
Memo:				
Reserves including gold *(US$ millions)*	..	..	12,545	11,359
Conversion rate *(DEC, local/US$)*	6.5	1,680.1	1,507.5	1,507.5



EXTERNAL DEBT and RESOURCE FLOWS

	1984	1994	2003	2004
(US$ millions)				
Total debt outstanding and disbursed	861	2,127	18,598	21,330
IBRD	29	64	362	387
IDA	0	0	0	0
Total debt service	125	185	3,252	4,165
IBRD	7	8	50	48
IDA	0	0	0	0
Composition of net resource flows				
Official grants	28	96	106	..
Official creditors	23	-13	581	-7
Private creditors	-29	398	33	2,584
Foreign direct investment (net inflows)	5	23	358	..
Portfolio equity (net inflows)	0	0	3	..
World Bank program				
Commitments	0	77	37	0
Disbursements	5	27	57	49
Principal repayments	4	4	34	35



IBRD 33433

35°30'E
36°00'E
36°30'E
35°30'N
34°00'N
34°30'N
33°00' N

Mediterranean Sea

To Al Hamidiyah
To Tall Kalakh
To Hims
Kabir
Qoubayat
Halba
Funaydiq
Abou Moussa
To Al Qusayr
Tripoli
Zhgarta
NORTH LEBANON
Hermel
Chekka
Sib'il
Ihdin
Amioun
Bcharri
Qaa
Jaaz
Douma
Qurnat as Sawda' (3,088 m)
Aynata
Al Labwah
Orontes
Lebanon Mtns.
Bekaa Valley
Anti-Lebanon Mtns.
To An Nabk
Al Aqurah
Jbeil
Ibrahim
Afqa
Baalbeck
Jounie
MOUNT LEBANON
BEKAA
BEIRUT
BEIRUT
Antilyas
Rayak
Baabda
Hammana
Zahleh
To Az Zabadani
Litani
Damour
Beit ed Dine
Jieh
To Ad Dimas
Joub Jannine
Awwali
Saida
Qaraaoun
Jezzine
El Zahrani
Rachaiya
Hasbani
Nabatiyeh
Maryjayoun
NABATIYEH
Litani
Tyre
SOUTH LEBANON
To Baniyas
To Qiryat Shemona
Tibnine
Hula
Naqoura
Bent Jbail
Rmaich
To Gadot
To Nahariyya

0 10 20 30 Kilometers
0 10 20 Miles

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LEBANON

- SELECTED CITIES AND TOWNS
- GOVERNORATE (MOHAFAZAT) CAPITALS
- NATIONAL CAPITAL
- RIVERS
- MAIN ROADS
- RAILROADS
- GOVERNORATE (MOHAFAZAT) BOUNDARIES
- INTERNATIONAL BOUNDARIES

NOVEMBER 2004