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付属資料 1. 署名済協議議事録

Minutes of Meetings
on
the Detailed Planning Survey
for
the Project for Host Community Support and
Capacity Development for the Empowerment of Local Authorities
in the Republic of Lebanon
in line with Lebanon Host Communities Support Project


In response to the request from the the Republic of Lebanon (hereinafter referred to as “Lebanon”), Japan International Cooperation Agency (hereinafter referred to as “JICA”) dispatched the Detailed Planning Survey Team (hereinafter referred to as “the Team”) to Lebanon, headed by Mr. Atsushi HANATANI, Director of Office for Peacebuilding and Reconstruction, JICA from June 12 to July 1, 2016 for the purpose of discussing the framework of the requested technical cooperation project titled “the Project for Host Community Support and Capacity Development for the Empowerment of Local Authorities” (hereinafter referred to as “the Project”).

The Team held a series of discussions with the officials concerned of the Government of Lebanon. In the course of the discussions, both sides have confirmed the main points described in the attachment.

Beirut, June 21, 2016



Mr. Atsushi HANATANI
Leader
Detailed Planning Survey Team
Japan International Cooperation Agency
Japan



Ms. Suheir El Ghali
National coordinator
Lebanon Host Communities Support Project
Ministry of Social Affairs
Republic of Lebanon



ATTACHMENT

1. Main Objective of the Detailed Planning Survey

The Detailed Planning Survey was conducted to discuss the scope of the Project with the representatives of Ministry of Social Affairs (hereinafter referred to as “MoSA”) and other authorities concerned of the Government of Lebanon.

2. Tentative Framework of the Project

2-1. Title of the Project

Project for Host Community Support and Capacity Development for the Empowerment of Local Authorities

2-2. Duration

Three (3) years from the arrival of the first expert.

2-3. Target Area

Mount Lebanon Governorate (with focus on Mount Lebanon North and Mount Lebanon South)

2-4. Purpose

Capacity of local authorities and service delivery institutions in selected vulnerable localities is strengthened to mitigate tensions and alleviate resource pressure through the implementation of capacity building and Quick Impact Projects (QIPs).

The Project will be implemented by maintaining close linkage with Lebanon Crisis Response Plan (LCRP) and under the umbrella of Lebanon Host Community Support Programme (LHSP).

2-5. Outputs

(1) Capacity Building Component

i) Capacity of selected local authorities is strengthened (including clusters of municipalities and communities where appropriate) in conducting participatory needs assessment exercise according to “Maps of Risks and Resources (MRR)” procedures.

ii) Capacity of local service delivery institutions (in social stability and water

supply/waste water sectors) covering selected localities is strengthened.

(2) QIPs Component

- i) Basic service delivery system in water supply/waste water sector in selected localities is improved.
- ii) Livelihood capacity of vulnerable groups including youth, women and SMEs to cope with economic shocks is improved.

2-6. Activities

(1) Capacity Building Component

a) Local Authorities Sub-component

- 1.1 Select target localities with vulnerability; one from Mount Lebanon North and one from Mount Lebanon South.
- 1.2 Support conduct of participatory needs assessment exercise according to MRR procedures.
- 1.3 Assess the process and output of MRR and provide feedback to the overall process.

b) Local Service Delivery Institutions Sub-component

- 1.1 Conduct capacity assessment of local service delivery institutions in social stability and water supply/waste water sectors covering selected localities.
- 1.2 Review past and on-going capacity building support implemented for the target institutions.
- 1.3 Design and implement necessary capacity building support.

(2) QIPs Component

a) Water Supply/Waste Water Sub-component

- 1.1 Select target sites for QIPs (initially from localities with completed MRR and subsequently from localities where MRR is supported under this Project).
- 1.2 Conduct rapid technical and social survey of the proposed QIPs.
- 1.3 Prepare detailed design and BoQs.
- 1.4 Commission local consultants and contractors.
- 1.5 Supervise construction/procurement process.
- 1.6 Provide operation/maintenance training in conjunction with (1) b) above.

b) Livelihood Sub-component

- 1.1 Assess livelihood needs of vulnerable groups in selected localities.
- 1.2 Analyze value chain and business environment in selected commodities and industries.

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1.3 Review past and on-going support provided in the selected localities.

1.4 Design and implement necessary interventions.

2-7. Administration of the Project

(1) Counterpart Personnel

MoSA will appoint a person who will be responsible for overall administration and implementation of the Project as Project Coordinator.

MOSA requested JICA to hire for MOSA a Project Manager who will be functioning as counterpart of the Project and responsible for day-to-day operations of the Project.

(2) Joint Coordinating Committee

Joint Coordinating Committee (hereinafter referred to as "JCC") will be established in order to facilitate inter-organizational coordination. JCC will be held whenever deemed necessary.

(3) Technical Working Group

Technical Working Group (hereinafter referred to as "TWG") will be formed and its meetings will be held preferably once every quarter of a year. TWG will discuss practical issues for the smooth implementation of the Project.

JCC and TWG will liaise with Steering Committee and Working Groups of LHSP respectively.

3. Inputs

JAPANESE SIDE

JICA will take necessary measures to provide at its own expense the following:

- (1) Dispatch of international experts;
- (2) Training in Japan and in the third country(ies) when and where relevant;
- (3) Resources necessary for the implementation of QIPs.

LEBANESE SIDE

MoSA will take necessary measures, in collaboration with other authorities concerned, to provide at its own expense the following:

- (1) Services and allowances of MoSA's counterpart personnel and administrative personnel;
- (2) Suitable office space with basic equipment and furniture;
- (3) Running expenses necessary for the implementation of the Project in MoSA's

- premises such as electricity, water, internet;
- (4) Credentials or identification cards to enter MoSA's premises;
 - (5) Available data (including maps and photographs) and information related to the Project;
 - (6) Necessary facilities for the JICA experts for the remittance as well as utilization of the funds introduced into Lebanon from Japan in connection with the implementation of the Project

Input other than indicated above will be determined through the consultations between JICA and MoSA by the beginning of or during the Project.

4. Way Forward

4-1 Diplomatic Process between Both Governments

Discussions on diplomatic agreement for the Project and Project Experts including duty and tax exemption and indemnity status will be followed by the relevant authorities of the Government of Lebanon and the Embassy of Japan in the Republic of Lebanon.

4-2 Record of Discussions

After the completion of the above process, MoSA and JICA shall sign the implementation agreement called "Record of Discussions" (R/D), of which generic template is attached herewith for reference, with necessary modifications and revisions made according to the result of the above process.

Annex: Generic Template of R/D



RECORD OF DISCUSSIONS
ON
PROJECT FOR HOST COMMUNITY SUPPORT AND
CAPACITY DEVELOPMENT FOR THE EMPOWERMENT OF
LOCAL AUTHORITIES
IN
THE REPUBLIC OF LEBANON
AGREED UPON BETWEEN
MINISTRY OF SOCIAL AFFAIRS
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

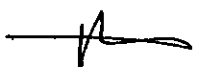
Beirut, [date]

Mr./Ms.

Japan International Cooperation
Agency
Japan

Mr./Ms.

Ministry of Social Affairs
Republic of Lebanon



In response to the official request of the Government of Republic of Lebanon (hereinafter referred to as "GOL") to the Government of Japan, the Japan International Cooperation Agency (hereinafter referred to as "JICA") held a series of discussions with the Ministry of Social Affairs of GOL (hereinafter referred to as "MoSA") and relevant organizations to develop a detailed plan of the Project for Host Community Support and Capacity Development for The Empowerment of Local Authorities (hereinafter referred to as "the Project").

Both parties agreed the details of the Project and main points discussed as described in the Appendix, and to request their respective governments to proceed with the necessary procedures for implementation of the Project.

Both parties also agreed that MoSA, the counterpart to JICA, will be responsible for the implementation of the Project in cooperation with JICA, coordinate with other relevant organizations and ensure that the self-reliant operation of the Project is sustained during and after the implementation period in order to contribute toward social and economic development of Republic of Lebanon.

The Project will be implemented within the framework of the Note Verbales to be exchanged between the Government of Japan (hereinafter referred to as "GOJ") and GOL.

The effectiveness of the record of discussions is subject to the exchange of the Note Verbales and the approval of JICA.

Appendix : Project Description

PROJECT DESCRIPTION

I. BACKGROUND

II. OUTLINE OF THE PROJECT

1. Title of the Project

2. Expected Goals which will be attained after implementing the Proposed Plan

3. Outputs

4. Activities

5. Input
 - (1) Input by JICA

 - (2) Input by MoSA
MoSA will take necessary measures, in collaboration with other authorities concerned, to provide at its own expense the following:
 - (a) Services and allowances of MoSA's counterpart personnel and administrative personnel;
 - (b) Suitable office space with basic equipment and furniture;
 - (c) Running expenses necessary for the implementation of the Project in MoSA's premises such as electricity, water, internet;
 - (d) Credentials or identification cards to enter MoSA's premises;
 - (e) Available data (including maps and photographs) and information related to the Project;
 - (f) Necessary facilities for the JICA experts for the remittance as well as utilization of the funds introduced into Lebanon from Japan in connection with the implementation of the Project

Input other than indicated above will be determined through the consultations between JICA and MoSA by the beginning of or during the Project.

6. Implementation Structure

The project organization chart is given in the Annex X. The roles and assignments of relevant organizations are as follows:

(1) MoSA

(a) [Assignment of personnel]

(b) [Assignment of personnel]

(2) [Name of relevant organization]

(a) [Assignment of personnel]

(3) JICA Experts

The JICA experts will give necessary technical guidance, advice and recommendations to MoSA on any matters pertaining to the implementation of the Project.

(4) Joint Coordinating Committee

Joint Coordinating Committee (hereinafter referred to as "JCC") will be established in order to facilitate inter-organizational coordination. JCC will be held whenever deems it necessary. A list of proposed members of JCC is shown in the Annex X.

(5) Technical Working Group

Technical Working Group (hereinafter referred to as "TWG") will be formed and its meetings will be held in Mount Lebanon every quarter of a year, preferably prior to the JCC on practical issues for the smooth implementation of the Project. A list of proposed members of TWG is shown in the Annex II.

7. Project Site(s) and Beneficiaries

8. Duration

9. Reports

JICA will prepare and submit the following reports to the MoSA in English.

- (1) X copies of Inception Report at the commencement of the first work period in Republic of Lebanon
- (2) X copies of Interim Report at the time about X months after the commencement of the first work period in Republic of Lebanon
- (3) X copies of Progress Report at the time of X months after the commencement of the first work period in Republic of Lebanon
- (4) X copies of Draft Final Report at the end of the last work period in Republic of Lebanon

- (5) X copies of Final Report within one (1) month after the receipt of the comments on the Draft Final Report

10. Environmental and Social Considerations

MoSA will abide by 'JICA Guidelines for Environmental and Social Considerations' in order to ensure that appropriate considerations will be made for the environmental and social impacts of the Project.

III. UNDERTAKINGS OF MoSA (if necessary "AND GOL")

1. MoSA (if necessary "and GOL") will take necessary measures to:

- (1) ensure that the technologies and knowledge acquired by the Republic of Lebanon nationals as a result of Japanese technical cooperation contributes to the economic and social development of Republic of Lebanon, and that the knowledge and experience acquired by the personnel of Republic of Lebanon from technical training as well as the equipment provided by JICA will be utilized effectively in the implementation of the Project; and
- (2) grant privileges, exemptions and benefits to members of the JICA missions referred to in II-5 above and their families, which are no less favorable than those granted to experts and members of the missions and their families of third countries or international organizations performing similar missions in Republic of Lebanon.

2. MoSA(if necessary "AND GOL") will take necessary measures to:

- (1) provide security-related information as well as measures to ensure the safety of members of the JICA missions;
- (2) permit members of the JICA missions to enter, leave and sojourn in Republic of Lebanon for the duration of their assignments therein and exempt them from foreign registration requirements and consular fees.
- (3) exempt members of the JICA missions from taxes and any other charges on the equipment, machinery and other material necessary for the implementation of the Project;
- (4) exempt members of the JICA missions from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to them and/or remitted to them from abroad for their services in connection with the implementation of the Project; and
- (5) meet taxes and any other charges on the equipment, machinery and other material, referred to in II-5 above, necessary for the implementation of the Project.

3. MoSA [or GOL] will bear claims, if any arises, against members of the JICA missions resulting from, occurring in the course of, or otherwise connected with, the discharge of their duties in the implementation of the Project, except when such claims arise from gross negligence or willful misconduct on the part of members of the JICA missions.

IV. MONITORING AND EVALUATION

JICA will conduct the following evaluations and surveys to verify how the proposed plan is utilized and draw lessons. The MoSA is required to provide necessary support for them.

1. Ex-post evaluation three (3) years after the project completion, in principle
2. Follow-up surveys on necessity basis

V. PROMOTION OF PUBLIC SUPPORT

For the purpose of promoting support for the Project, MoSA will take appropriate measures to make the Project widely known to the people of Republic of Lebanon.

VI. Misconduct

If JICA receives information related to suspected corrupt or fraudulent practices in the implementation of the Project, MoSA and relevant organizations will provide JICA with such information as JICA may reasonably request, including information related to any concerned official of the government and/or public organizations of the Republic of Lebanon.

MoSA and relevant organizations will not, unfairly or unfavorably treat the person and/or company which provided the information related to suspected corrupt or fraudulent practices in the implementation of the Project.

VII. MUTUAL CONSULTATION

JICA and MoSA will consult each other whenever any major issues arise in the course of Project implementation.

VIII. AMENDMENTS

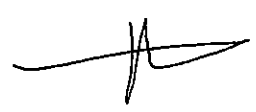
The record of discussions may be amended by the minutes of meetings between JICA and MoSA. However, PO may be amended in the Monitoring Sheets.

The minutes of meetings will be signed by authorized persons of each side who may be different from the signers of the record of discussions.

Annex X Project Organization Chart

Annex X A List of Proposed Members of Joint Coordinating Committee/
Steering Committee

(5)



付属資料 2. 主要面談者一覽

付属資料 2. 主要面談者一覧

No	Institutions	Name	Position
1	MoSA: Ministry of Social Affairs	Ms. Shuheir El Ghali	Senior Social Worker – SDCs Division, National Coordinator- LHSP
2	MoWE :Ministry of Energy and Water	Mrs. Randa Nemer Ms. Suzy Howayek	Advisor to the Minister Water & Wastewater Expert
3	BMLWE: Beirut & Mount Lebanon Water Establishment	Mr. Joseph Nseir Ms. Ghada Rida	Director General Projects Department - Donor / NGO Relations
4	CDR :Council for Development and Reconstruction	Dr. Youssef Karam Dr. Wafa Charafeddine Dr. Jaoudat Abou Jaoude	Irrigation, Water, Sewage & Infrastructure Department Manager, Project Division CDR - Funding Division Director Senior Architect & Urban Planner
5	MoE: Ministry of Environment	Mr. Ghassan Sayah Mrs. Manal Moussallem	Senior Adviser Project Manager
6	UNDP (山岳レバノン県事務所)	Mr. Abdallah Muhieddine Ms. Nathalie Wehbe Mr. William Baraket	Area Manager - Mount Lebanon Socio Economic Officer - Mount Lebanon Mount Lebanon Coordination Officer for LCRP
7	UNDP (LHSP 担当)	Mr. Tom Thorogood Mr. Bastien Revel	LHSP / Chief Technical Advisor Livelihoods and Social Stability - National and BML
8	UNICEF/UNHCR	Mr. David Adams Ms. Renata Raad	UNICEF - Coordinator Energy & Water Sector UNHCR - WASH Coordinator
9	UN-HABIT	Mr. Tarek Osseiran Mr. Elie Mansour	Habit program Officer WASH Engineer
10	EU	Mr. Marcello Mori	Head of Section - Sustainable Development
11	DfID (UKaid)	Mr. Alain Waked	Lebanon Programme Officer
12	USAID	Ms. Zeina Farhat Salame	Project Management Specialist, USAID/ Lebanon
13	GIZ (Deutsche	Mr. Alain Waked	Lebanon Programme Officer

	Gesellschaft für Internationale Zusammenarbeit		
14	ESFD : Economic and Social Found Development	Mr. Haitham Omar Ms. Dima Sader Ms. Recha Chahine Merhebi	Managing Director 不明 Deputy Director Job Creation Manager
15	ACTED NGO	Mrs. Angliki Parasyraki	Program Coordinator
16	CHF NGO	Mr. Ayman Abdallah Mr. Talal Hajj Dib	Country Director Chief of party(元 mayor)
17	CISP NGO	Mr. シモネ	WASH Extra Coordinator
18	Balamand University	Ms. Bashayer Madi	Doctor
19	WET : World Engineering & Technology) in Lebanon Consultant Company	Mr. Naji S Corban Mr. Fadi S Corban	General Manager Managing Partner
20	日本大使館	大塚聖一 水野沙織 バラダみどり	大使 二等書記官 経済協力担当専門調査員

付属資料 3. 議事録

付属資料 3. 議事録

- (1) 社会問題省 (Ministry of Social Affairs (MoSA))
- (2) UNDP (山岳レバノン県事務所)
- (3) 水・エネルギー省 (Ministry of Water and Energy (MoWE))
- (4) CDR (Council for Development and Reconstruction)
- (5) UNICEF/UNHCR
- (6) 日本大使館
- (7) UNDP (LHSP 担当)
- (8) ベイルート・山岳レバノン県水公社 (BMLWE)
- (9) GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit)
- (10) DfID (UKaid)
- (11) USAID
- (12) EU
- (13) MoE(Ministry of Environment)
- (14) Economic and Social Found Development(ESFD)
- (15) Jallad Environment (代理店)
- (16) CHF NGO
- (17) WET (World Engineering & Technology) in Lebanon Consultant Company
- (18) ACTED NGO
- (19) Balamand University
- (20) Heset (個人コンサルタント)
- (21) UN-HABIT
- (22) CISP NGO

(1) 社会問題省 (Ministry of Social Affairs (MoSA))

日時	2016年6月13日(月) 9:00~11:30 2016年6月18日(土) 12:30~13:30
相手方	Ms. Shuheir El Ghali (Senior Social Worker – SDCs Division, National Coordinator- LHSP)

(現在のホストコミュニティ支援活動)

- 2014年以來 UNDP と協働し (DfID 等が資金拠出)、LHSP の枠組みの中で MRR (Mapping of Risks and Resources) というコミュニティ参加型のニーズ把握・活動計画策定を実施してきている。2014年からの3年間で251の最も脆弱性の高い¹自治体 (municipality) を含む297の自治体を対象にMRRを実施した。
- MRRは1カ所5日間かけてニーズアセスメントを行うもので、自治体首長や議員だけでなく、様々な分野の住民代表も参加する。
- 今年7月に既存のMRRの結果を公表し、9月以降にMRRをLocal Level (クラスターレベル) で実施する予定。
- JICAには上記LHSPの枠組みに沿ってMRR策定を支援してもらいたい。その中では特に今後新たに取り組むクラスター (複数の自治体や首長のいない集落を含む) レベルでのMRR策定支援をお願いしたい。
- 山岳レバノン県を対象とする場合、地理的・宗教的な公平性に配慮して、北部 (Mt. Lebanon North) と南部 (Mt. Lebanon South) からそれぞれ対象地域を選ぶことが重要。
- (MRR策定後どのように活用されるかとの質問に対し) 「Municipal Action Plan」策定後は、一部はLHSPの資金により実施されるが、残りは自治体側が他の資金ソースに対し要請していくことになる。
- ホストコミュニティの緊急的なニーズは、上下水などのインフラ改修と保健分野である。また、生計向上 (若者などの就業機会の増) も必要。
- 現在、MoSAのスタッフが足りていない状況で、臨時雇用で賄っている。また、資金ニーズ (Fund Expectation) についても、2016年度は必要な金額の25%しか集まってない。このためMRR策定支援にかかるMoSA側スタッフ (SDCスタッフ) の手当てはドナー側に支援をお願いしたい (LHSPでもドナー負担となっている)。

(JICAとのプロジェクト実施)

- OR/DはLHSPの下の一プロジェクトとすれば閣議承認は不要になると思う (ただし詳細手続きは不明)。
- 口上書交換は、MoSAとJICA (ないしは大使館) でできないのか。閣議承認を得るのは困難。
- JICAのコンサルタント選定プロセスにMoSAも入れないのか (→困難と回答)。
- MoSAは人員が足りておらず、JICAと日々のやりとりをするProject ManagerをMoSAから出すことは厳しい。(他ドナーのプロジェクトと同様に) JICA側で雇用し、MoSAに配置することを検討してもらいたい。

¹ 社会サービスへのアクセス状況、レバノン人に対する受入難民の比率、貧困率等に基づき算出。

(2) UNDP (山岳レバノン県事務所)

日時	2016年6月13日(月) 15:00~16:30
相手方	Mr. Abdallah Muhieddine ほか2名

○自治体レベルにおける上下水道のパイロット事業の実施は、まず MoSA と協議した上で、必要な調整を担当省庁(水・エネルギー省、水公社)と取る必要がある。

○Mount Lebanon 県は都市に近く、インフラも他県と比べると恵まれている。そのため、仕事を求めて難民が集まってくる。重要なのは、若者などに対する職業訓練分野と Value Chain 分野での支援であり、特に職業訓練では、トレーニング参加へのインセンティブを与える一方で、彼らを受け入れる中小企業への支援が必要。このような分野に JICA が支援することによって、人道的支援から開発支援につながるものであり重要。

○MoSA が実施予定のクラスターレベルの MRR は、少額で大きなインパクトが見込める。

○レバノンは大統領が不在のため、閣議承認は全ての大臣(24人)の了解を得る必要があるため、時間を要する。EU のプロジェクトでは、閣議承認を得るのに2年近くかかっていた。

○UNDP は、JICA のプロジェクトを受託することも可能。その場合、10%のコミッションをもらうことになる。

(3) 水・エネルギー省 (Ministry of Water and Energy (MoWE))

日時	2016年6月14日(火) 9:30~10:30
相手方	Mrs. Randa Nemer (Advisor to the Minister) Ms. Suzy Howayek (Water & Wastewater Expert)

○MoWE は、計画機関であり、また水源開発の許可を実施している。大規模施設の建設は CDR が担当。水公社は基本的に上下水道の運営・維持管理を行う(2000年の法改正によりそれまでの水管理組合から水公社に全面的責任を移管した)。

○上水分野における問題としては、そもそも水資源量が不足し、ネットワークも老朽化していたところに、シリア危機により一層の負荷がかかっているという問題がある。多くの地域で一日3時間程度の給水しか行っていない。

○上下水分野の改修事業については、MoWE で技術的に検討した(水道ネットワークを考慮した)プライオリティーリストがある。JICA の事業実施にあたっては、まず JICA と MoSA が脆弱性の高い
ミュニシパリティの中で上下水道分野のニーズのある自治体のリストを作成して我々に提出し、
MoWE のリストと比較・検討することが必要。

○現状を分析した最新のデータは2009年の WB のデータであり、更新はしていない。2009年と比較して改善しているということはない。

○山岳レバノン県には県別のマスタープランがある。水公社は上下水施設の運営・維持管理を実施しているが、実際にはミュニシパリティが行っている場合もある。但し、法律上は全て水公社が運営・維持管理することになっている。

○下水道のプロジェクトには費用がかかるので、上水道が優先されて、あまり実施されていない。

○UNICEF、UNHCR、EU から支援を受けている。USAID は、MoWE を通さずに直接下水の改善プロジェクトを実施していたが(68カ所)、維持費がかかって失敗している(現在8~9カ所が MoWE の管理下で稼働中)。

(4) CDR (Council for Development and Reconstruction)

日時	2016年6月14日(火) 11:00~12:00
相手方	Dr. Youssef Karam (Irrigation, Water, Sewage & Infrastructure Department Manager, Project Division) Dr. Wafa Charafeddine (CDR - Funding Division Director) Dr. Jaoudat Abou Jaoude (Senior Architect & Urban Planner)

- CDR は、首相府の下の実施機関。実施プロジェクトは閣議によって決定される。(比較的大型のプロジェクトを実施) また、CDR は下水処理のオペレーションを担当。
- 上水分野においては現在二つの大規模プロジェクトが実施中。一つは発電用ダム of 放流水を再利用する Qaroun Dam Project。もう一つは Bisri Dam Project。両者で 50 万立米の水資源をペイルート市とその近郊に供給する計画。
- Keserwan 地区で 300mil Euro の下水プロジェクトを実施 (EBRD、AFD が 150mil Euro ずつ融資)。
- 山岳レバノン県 of 下水カバー率はほぼ 0% であるが、下水分野は、処理施設が不十分である上に老朽化している問題があり、それらを改修するには大きな予算が必要。また、海岸地域は下水によって汚染されている。
- (給水が十分でないという問題の背景には) そもそも電気が足りておらず送水ポンプが稼働できていないため、水をミニシパリティに送ることができていない。

(5) UNICEF/UNHCR

日時	2016年6月14日(火) 12:45~13:30
相手方	Mr. David Adams (UNICEF - Coordinator Energy & Water Sector) Ms. Renata Raad (UNHCR - WASH Coordinator)

- UNICEF は、シリア危機に対する WASH セクターのドナー調整を支援 (主体はレバノン政府水・エネルギー省)。
- 各戸接続のない地域に対して、給水網との接続を改善する小規模なプロジェクトや水源と脆弱性の高い自治体とのマッチング、支援分野/地域の重複を回避するための情報共有、MoEW の入札のサポート、上水セクターのトレーニング等を実施している。
- UNHCR は、人道支援と MoSA への資金提供、マルチセクターの調査を行っている。WASH 関連サービスでは下水の調査を実施。VASyR というホストコミュニティの視点からの各戸調査も実施 (2016 年 7 月終了予定)。
- シリア難民の状況は、山岳レバノン県よりも、ベカー県や北レバノン県が深刻で、既存ドナーはそちらへの支援を重視。
- 免税特権の問題は、ドイツの GIZ が同じ問題を抱えていると聞いている。

(6) 日本大使館

日時	2016年6月14日(火) 14:00~15:30 2016年6月20日(月) 15:30~16:30 2016年6月21日(火) 13:30~14:30
相手方	大塚聖一 大使 水野沙織 二等書記官 バラダみどり 経済協力担当専門調査員

(ホストコミュニティ支援プロジェクト)

- 山岳レバノン県の上水分野は他県と比べると深刻ではないため、山岳レバノン県で上下水道分野を実施することにMoSAから異論は出なかったのか?
⇒他の分野での要請もあったが、当該分野も重要ということで異論はなかった。
- 保健省や教育省は地方にオフィスがあってネットワークがしっかりしている。それと異なり、MoEWは予算が少なく権限が弱いと思う。また、この国は内務省の権限も弱い。
- 現在は、レバノン政府の閣議は毎週開催されており、閣議承認に時間がかかるとはならない(昨年が異常だった)。また本邦外務省内の口上書決裁手続きも問題なく完了する見込み
- 口上書とR/Dを閣議にかけるのであれば、同時に閣議に諮るのがいいのではないか。
- M/MとR/Dは先にMoEWの了解を取っておく必要がないか。⇒MoSAに確認したところ、Technical GroupのメンバーにMoEWを招聘するので事前確認は不要との回答。

(その他)

- 6/12のペイルート市内での爆発事件は、ヒズボラとの取引停止を決めた銀行への報復とみられる。
- (廃棄物問題は中東・欧州部が国別研修を検討中との発言に対して) 廃棄物問題は、今年2-5月に課題別研修に参加した環境省のLEBA-JICA同窓生が日本の取り組みに高い関心を持ち、研修内容のレポートを取りまとめて環境相に報告予定。レバノンでは、ごみ焼却に対する抵抗があったが、それも薄れてきており、日本の焼却技術に関心をもっている。国別研修は今のタイミングは有益と思料、その人を通じて検討してはどうか。
- 各コミュニティは、選挙後で総じて市長の士気が高いと感じる。

(7) UNDP (LHSP 担当)

日時	2016年6月14日(火) 16:00~17:00
相手方	Mr. Tom Thorogood (LHSP / Chief Technical Advisor) Mr. Bastien Revel (Livelihoods and Social Stability - National and BML)

- シリア危機については、人道支援から生計向上分野での支援が必要になってきており、現在は、バリューチェーンへの支援(生産プロセス、マーケティング調査)を実施している。JICAがMRRに基づき当該分野で支援をすることは重要。また、クラスターレベルのMRRは重要。
- 山岳レバノン県のWASHセクターには、他のドナーの支援があまり入っていない。下水道については、中央レベルで計画が策定されていないことから、支援をすることは重要。
- UNDPは、国連として免税が認められており、月に一回還付を受けている。JICAが抱えている問題は、GIZがどのように対応しているか聞いてみるといいと思う。

(8) ベイルート・山岳レバノン県水公社 (BMLWE)

日時	2016年6月15日(水) 12:30~13:30
相手方	Mr. Joseph Nseir (Director General) Ms. Ghada Rida (Projects Department - Donor / NGO Relations)

- 上下水道の運営維持管理を実施している。運営維持管理責任が公社であることが法律に定められている以上、本計画はそれに従わなければいけない。一部、上下水道で Municipality が管理している場所もあるが本計画では法律に従う方がよい。
- 各郡に支所があり O&M 職員が各 Municipality にある施設を管理している。Municipality では水公社の支所との連携のため上下水道コーディネーターを置いているところもある。基本的に施設の操作、維持管理は WE 支社の職員が実施しており、改善点は WE 支所から WE 本社に挙げられ検討される。
- 山岳レバノン県水公社では 380 の Municipality を管理しており、各郡の WE 支所職員だけでは維持管理が行き届いていない。※今後、水源容量、水位、水源の種類等の把握をするため、水公社に対し、詳細なデータの提出、水源敷地内での調査などを依頼する予定。
- 下水道は、上水と比較して優先度が低く、限られた予算を回すことができない状況。JICA で支援する場合も上水分野に優先度を置いてもらいたい。
- 優先事業としては、小規模貯水施設、深井戸、配水管網、ポンプ更新等がある。能力強化分野においては、支所運営、水料金徴収、標準作業手順の整備等がある。
- 水道料金の徴収は、請求書ベース。水道料金の値上げは、閣議承認。
- (水・エネルギー省側で県別のマスタープランを有しているようだが承知しているかとの質問に対し) 全般的な改修計画を策定しても、実施する予算がない状況。

(9) GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit)

日時	2016年6月16日(木) 13:30~14:15
相手方	Mr. Alain Waked (Lebanon Programme Officer) 他1名

- (国内税である) VAT についてはプロジェクトベースで免税を受けている。VAT については閣議不要と承知。
- 案件実施に際し、両国政府(ドイツ大使館-水・エネルギー省間)で交わされた口上書を財務省に持っていき免税スタンプと Fiscal Number をもらった。支払い時には、INVOICE にこのスタンプを押して免税額を支払っている。
- GIZ は事務所としての登記は行っていない。あくまでもプロジェクトベースの口上書交換に基づき活動している。
- 他方、関税(duty)の免税手続きは閣議承認が必要。閣議承認に時間がかかり、輸入したものが半年以上保税倉庫に留め置かれる事態が発生している。

(10) DfID (UKaid)

日時	2016年6月16日(木) 15:00~16:00
相手方	Mr. Alain Waked (Lebanon Programme Officer)

- LHSP を支援して3年目(1年目:5百万ポンド、2年目:9百万ポンドを拠出)になる。全体で6年程度の計画。内容としては、ベカー県と北レバノン県のコミュニティにおける Social Stability と Livelihood への支援。先月、これまでの活動に対するインパクトレポートが出たところ(ACTUS による)。
- 地域選定は、UNDP による紛争分析を用いて政治バランスに配慮しつつ、他ドナーと重複しないようにしている。
- SDC (Social Development Centre) の支援もやっている。彼らの能力向上は重要である。

(11) USAID

日時	2016年6月17日(金) 9:00~10:00
相手方	Ms. Zeina Farhat Salame (Project Management Specialist, USAID/ Lebanon) 他4名

- 米国は、内務省、水・エネルギー省、環境省などに対し、(LHSP などは連携せずに) BALADI というプログラムによって2012年から5年計画で支援している。
- 本プログラムでは、2014、2015年度に Municipality に対しに開発計画を提出させてコンペを実施して案件を採択したが、能力向上につながったと考えられる。
- また、BALADI CAP プロジェクトによって、Municipality の Capacity Building やガバナンス強化を行っている。
- 上水や灌漑の分野においては、地元の民間企業の参入支援やメーター設置支援を行っている。
- (下水分野での失敗経験からの教訓を質問したところ) Municipality の能力が異なるので、実施能力のある地域を選ぶのが重要。

(12) EU

日時	2016年6月17日(金) 11:00~12:00
相手方	Mr. Marcello Mori (Head of Section - Sustainable Development)

- EU は、MoSA と MoEW に対し、上下水分野、電力分野、運輸交通分野などの支援を実施中。
- 北レバノン県での案件実施では、初年度は、ヨーロッパのコンサルタントを派遣したが、現地の事情に詳しくなく、また地方は英語のできる人間も少ないため、機能しなかった。翌年度から地元コンサルタントを活用することによって、うまくいくようになった。
- 現在の MoEW は、前大臣(現外務大臣)と現大臣の派閥で二つに分かれているので注意が必要。
(Ms.Randa は現大臣の派閥)
- CDR は、上下水道の事業に対する経験が乏しく実施が遅いため、能力はそれほど高くないと思う。

(13) MOE

Organization	MoE(Ministry of Environment)		
Interviewee (Name, Title/Position, Contact)	Mr. Ghassan Sayah – Senior Adviser Mrs. Manal Moussallem-Project Manager		
Interviewer/Attendees	宮田・中村 (JICA)、吉川・鎌田 (調査団)		
Date & Time	2016年6月20日 13:00 to 14:00	Meeting Place	Lazarieh Center, Block 02A, 8th Floor, Next to Minister's office

Purposes of the interview (詳細計画策定調査に係る情報収集・交換)
Summary of the interview EIA の手続きについて 2001年に更新され、2012年からEIAに則ることが規定された。 スクリーニングを実行機関が提出して、15日間の審査後、EIA、IEE、調査必要無しに分類される。 以後、資料に則ること。 井戸掘削はEIA、IEEリストに入っていないため提出する必要はない。 MoEは20年前に設立されたが、スタッフは60人でラボを所有しておらず、水質の定期的なモニタリングも実施されていない。資料にもある様に大学のデータを使用し(大学も定期的には実施していない)記載している。しかし、モニタリングはMoEW、WEが実施するものである。 色々なところから(MoI、MoEW等)のデータを集計してまとめる集中管理システムが必要である。 工場排水についての監視も実施していない。 色々なMoEに関するデータはWEBサイトから取得できるが英語版を準備中である。
More information study needed
Collected documents or any specified note Fundamentals of Environmental Impact Assessment(EIA) EIA 手続き Assessment of Groundwater resources of Lebanon-document & map & CD 他
Any comments EIA の手続きの詳細は報告書参照

(14) Economic and Social Found Development(ESFD)

Organization	Economic and Social Found Development(ESFD)		
Interviewee (Name, Title/Position, Contact)	Mr. Haitham Omar – Managing Director Ms. Dima Sader – Ms. Recha Chahine Merhebi– Deputy Director Job Creation Manager		
Interviewer/Attendees	吉川・鎌田（調査団） Ms. Myriam Rabbath（JICA）		
Date & Time	2016年6月27日 11:30–13:00	Meeting Place	ESFD offices in Clemenceau Str., 3 rd Flr, Beirut

Purposes of the interview
(詳細計画策定調査に係る情報収集・交換)
Summary of the interview
Mr. Haitham Omar は2004年に若者交流（灌漑）で日本で3週間程度の研修を受けた。 <u>ESFDについて</u> 設立は2002年でEUとCDRの資金により設立された。 EU関係の仕事を中心に実施しており、主に北部(Akar)で水道（タンク2,00m ³ ）、下水等を実施している。 他、Job Creation and Community Development を実施。 Job Creation ではコマーシャルバンクの融資を得てSMEs（Small and Medium Enterprises）を促進させて雇用機会を増やしている。 Waterに関するConstruction company と consultant のリストを提供して頂けることとなった。（これは既に受領済） 材料の国内生産と輸入について、パイプは種類により変わる。ポンプは輸入でEU特にイタリアが多い。また発電機はトルコからが多く、国内で組み立てている。 また、工事内容が決まったら、ESFDに色々なBreakdown Quotation(BQ)があるので教えることができる。 井戸の深さははっきりわからないが、山岳では400m以上はある。海岸では150-200m程度であると思う。また海岸部分は塩分が多少ある。しかし、今のところ多少山側のところでは、塩分は少ない。 何か資料があれば、提供する。 MoSA と MoEW であるが、コーディネーターが重要であり、施設の管理はWE、許可はMOEWであり、ESFDが実施したMunicipalityでの水道工事ではMoEWに許可をスムーズに取れたので、MoSA主導でも問題ない。 但し、工事においては、Municipalityは交通誘導、住民への説明等において重要で、工事をする場合は強力な指導力のあるMayorのいるところを選定する必要がある。 また、UoMのある所はPlanを持っているので工事の実施が容易である。 更にCDR(大型プロジェクト)は各省、県等に対して協力的な力があり、色々な問題が解決されている。
Collected documents or any specified note
List of construction company & Consultant
Any comments
Job Creation を実施しており本計画のQIPs Component(2)の内容と共通するため、専門家は情報収集することができる。

(15) Jallad Environment

Organization	Jallad Environment		
Interviewee (Name, Title/Position, Contact)	Mr. Michel Jallad – President		
Interviewer/Attendees	吉川・鎌田（調査団） Ms. Myriam Rabbath（JICA）		
Date & Time	2016年6月27日 14:00–15:00	Meeting Place	Radison blu Hotel

Purposes of the interview

(詳細計画策定調査に係る情報収集・交換)

Summary of the interview

FAST（Fixed Activated Sludge Treatment, 米の Bio Microbics の登録商品であり、日本の浄化槽の様なもの）をレバノンを含む中東地域に US から輸入し設置している。

個人宅に設置する小規模なものから、大型タイプも扱っており、1000人以上はコンクリート枠が必要で値段は、浄化装置とコンクリート枠で (34,000+18,000US\$) 52,000US\$である。ユニットを組み合わせて6,000人程度の実績あり。

この商品は80年前から改良を重ねており、汚泥もあまり発生せずブローアの電気代も非常に低廉であることから、維持管理が殆ど不要であり、維持管理会社なども持っていない。

排出する水質はBOD 20mg/L以下でありレバノンの放流基準 25mg/l を満たしている。

エアブローワーは3時間稼働+0.5時間停止でコントロールされるが、この組み合わせは自由に設定できる。一般家庭10人程度では2m³のユニットで価格6,400US\$で掘削入れて70,000US\$である。3-4年に1回、汚泥清掃（マンホールからバキューム）の必要あり

レバノンでの電気利用量を提供してくれる。(現在、依頼中)

More information study needed

Collected documents or any specified note

Broche & CD

Any comments

配管網が設置された地域での浄化槽の設置は効果的である。

(16) CHF NGO

Organization	CHF NGO		
Interviewee (Name, Title/Position, Contact)	Mr. Ayman Abdallah – Country Director Mr. Talal Hajj Dib – Chief of party(元 mayor)		
Interviewer/Attendees	吉川・鎌田（調査団） Ms. Myriam Rabbath（JICA）		
Date & Time	2016年6月28日 14:00–15:30	Meeting Place	CHF NGO office

Purposes of the interview

(詳細計画策定調査に係る情報収集・交換)

Summary of the interview

Unicef 支援で WE に改善要求するため 23 カ所の水道施設を調査した結果、ポンプステーションの維持管理が出来ておらず、ザビ、故障等色々な問題があることが判明し、塩素注入管理も全くできておらず、誰も掃除しておらず放置状態である。特に、ポンプ施設の上に貯水槽がある場合はその水漏れで電気系統の故障が心配され、更に変圧器や大問題の施設もある（Aramoun in alley district）。この時、WE の立ち合いが無ければ調査出来ないのだが、CHF の長年の功績、コミュニティとの関係が強固であるため、WE の立ち合い無しで実施した。その結果を BMLWE の Mr. Joseph Nseir (Director General)、Ms. Ghada Rida (Projects Department - Donor / NGO Relations) に報告したが、その回答は、問題なしと言われ処理された。

下水道施設についても状況は同じであり、十分な維持管理能力を有していない。USAID が建設した施設は電気代などの維持管理費がかかっている。下水道使用料は、下水管が布設されていない地区は、資産のレンタル料の 6.5% を毎年 Municipality に収めるが、下水管が布設されている地区では、それに加え、その 6.5% に 1.5% を乗じた金額を収めることとなっている。

BMLWE は上記 2 人が主なスタッフであり、ドナーに対応している。長年の経験があり BMLWE と交流のある CHF でも、電話、メールしても待ての一点張りで、許可関係、立会、資料の提供には多くの時間が掛かる。CHF 曰く、これは、Ms. Ghada Rida が全てを背負い込む性格であるため時間がなく結局処理されず忘れられること、部下を信じていない、部下がいない等の原因である。

今回、立会依頼しても何も返信されないのは当たり前とのこと。況して、質問票の回答が返ってくるかは疑問であるとのことから対応策としてまとめて書類を出して、その返答を待つこと。何度も質問しないことなどのアドバイスを受けた。

WE の給与は平均的である。スタッフの数は非常に少ない。また、Mr. Joseph Nseir は多くの予算を持ちながら、維持管理に使用しない。理由は不明（政治又は？）

土地については、タンク等が Municipality の所有であったならば WE が借地料を払わなければならないが、Municipality、Community からの寄付（永久借地権）であることが多い。

WE の施設のある Municipality では、water coordinator を置いているところが多いが、法で定められてはいないが、理由として①WE が何もしないため、住民からの苦情が多く仕方なく配置している。②水は伝統的に community のものと考えられている。③Municipality の選挙でのマニフェストとして水の改善を掲げたため配置している等が考えられる。

CHF からの本計画へのアドバイス

水源開発では色々な問題（MoEW の許可、モニタリングの強要、水質管理の強要、水利権等）があり手を出さない方がよい。既存施設の改修工事が得策である。特にポンプステーションの建屋、電気施設、塩素、ポンプを対象に改善することを勧める。

BMLWE は配管網を GIS で管理しているが、古い管は入っていないか、正確ではない。

MoEW で提供されなかったマスタープラン政策に過去かかわっている。レバノン全体の 1 枚の図面（1996 年）であるが、多分、これを基に冊子としていると思われる。最新版（200?年）があったら送付する。マスタープラン作成に当たり MoEW が各 NGO、ドナーに寄付を要求した経緯もあるのに、なぜ、コピーをしたり、増刷しないかは不明（権力争いか?）である。

More information study needed

Collected documents or any specified note

Any comments

BMLWE の協力があまり期待できないので、本格調査では最初に CHF を訪問して水道の 23 カ所のポンプ場の状況について写真付きで説明を受けることが重要である。

特に写真内で問題の多いポンプ場は ARAMOUN Municipality in Aley District

(17) WET (World Engineering & Technology) in Lebanon Consultant Company

Organization	WET (World Engineering & Technology) in Lebanon Consultant Company		
Interviewee (Name, Title/Position, Contact)	Mr. Naji S Corban – General Manager Mr. Fadi S Corban – Managing Partner		
Interviewer/Attendees	吉川・鎌田（調査団） Ms. Myriam Rabbath（JICA）		
Date & Time	2016年6月28日 16:00–17:30	Meeting Place	WET office Emporium 797 center, Rabieh main road, Antelias, Lebanon

Purposes of the interview
(詳細計画策定調査に係る情報収集・交換)
Summary of the interview
<u>材料に関して</u> 主に HHPE を使用している。配管メインは 80-100mm で Class16 を使用し、HDPE を溶接（Fusion）している。レバノンには 4–5 社が製造しており ISO 規格である。他、ダクタイルアイロン（ラバー式）が使用されるが価格に安い中国からの輸入となる。GSP はあまり使用されないが、レバノンに工場はある。
<u>基準に関して</u> Portable water design standard はあるがアラビア語しかない。
<u>Hill Lake の意味</u> Hill Lake とは山頂下側の広いスペースを掘削又は傾斜に土堤を築き掘削した人工の池のことで、雪解け水を貯めるための池である。
<u>井戸に関して</u> ML の山岳での井戸掘削深度は 300m–500m である。350m 付近にジュラ紀の破碎岩の層がありそこに当たればある程度の水量が期待できる。しかし鉄分、亜硝酸が高いので処理施設が必要である。 掘削費はエア掘りの 12”3/4 で 120-150us\$/m である。ケーシング費は 65US\$/m(8”ケーシング、ブリグストーン) である。よって 400m で 86,000US\$(約 1 千万円)。大型リグ車エア掘り、又はパーカッション方式で掘削。沿岸部は塩分濃度が高く、又は使用している間に海水が入り込んであまりお勧めできない。沿岸部は中腹の井戸、湧水を沿岸部に送水して使用している。
<u>BMLWE の管理</u> GIS で管理している。33Municipality のデータを WET でも入力した後、US-AID で 78Municipality を GIS に入力しているのである程度は完成しており、使用されている。
<u>参考</u> ベイルートの主な水源は Jeita 湧水で、冬は 500,000m ³ /day、夏は 200,000m ³ /day となり季節変動が大きい。他、WET では耕作状況、Hill Lake 等の調査、設計では、ドローンを利用している。また、井戸カメラでの井戸調査、下水詰りをロボットカメラで調査している。
Collected documents or any specified note
Portable water design standard (Arb)
Any comments

(18) ACTED NGO

Organization	ACTED NGO		
Interviewee (Name, Title/Position, Contact)	Mrs. Angliki Parasyraki – Program Coordinator Ms.???		
Interviewer/Attendees	吉川・鎌田（調査団） Ms. Myriam Rabbath（JICA）		
Date & Time	2016年6月29日 13:00–13:40	Meeting Place	ACTED NGO office

Purposes of the interview (詳細計画策定調査に係る情報収集・交換)
Summary of the interview ACTED では配管網を GIS に変換する作業を BMLWE で実施した。 BML では 7community に対し、水道として、井戸、100m ³ 配水池、発電機、ポンプ、配管網、給水車、Municipality に対する C/D を実施した。また、不法滞在者（Settlement）地区にも Municipality の同意の下実施した。 下水は、60 世帯を対象に 100m ³ の処理施設を 4,000US\$ で実施した。 WASH working group は、National と Regional の会議があり、月一回程度開催される。 Risk assessment を BML で 2016 年は実施している。 アドバイスとして、コミュニティに対して C/D と資機材の提供 沿岸部は水道と下水、山間部は水道の支援が効果的である。 住民は政府を信じていないので、何をしても住民は感謝すると思う。
More information study needed
Collected documents or any specified note Price List(後日送付される)
Any comments

(19) Balamand University

Organization	Balamand University		
Interviewee (Name, Title/Position, Contact)	Ms. Bashayer Madi – Doctor Ms. ???? – 助手		
Interviewer/Attendees	吉川・鎌田（調査団） Ms. Myriam Rabbath（JICA）		
Date & Time	2016年6月29日 16:30–17:00	Meeting Place	Balamand University Ashrafieh, Beirut

Purposes of the interview

(詳細計画策定調査に係る情報収集・交換)

Summary of the interview

環境調査から見た上下水道問題

- 水は4月が多く、8月が不足する。
- Chouf 郡の Danour に住んでいるが、5 井戸ありベイルートに送られるが、水量が低下したり、塩水が入り込んだりで機能しているのかは不明である。
- Danour には 1 井戸から取水されており、塩分濃度が高い水である。生活水に使用し、飲み水はボトルを買う。
- ベイルートでは残留塩素が 0.3mg/l としているが、0.8mg/l から 0mg/l と幅が広い。
- ベイルートの深井戸では電気誘導度が 3000 を超え汚染されている。
- 漏水率は 60%を超えている。
- Bekka 県の Litani 地域では肥料による汚染が観測されている。
- MoEW、WE にはまともな水質試験室はなく AUB institution かセントジョージ病院で実施される。
- 飲料水は保健省、水源は MoEW、農業用水は農業省と別れている。
- 下水はクラスター単位で処理場を建設してその単位毎に維持管理することが効果的と考える。
- 表流水はあるのだから、何か対策を考えて何とかしなければいけない。

また余談として瓶の再利用ができれば良いのだが。

土地については、タンク等が Municipality の所有であったならば WE が借地料を払わなければならないが、Municipality、Community からの寄付（永久借地権）であることが多い。

過去、レバノンでは地震で 3 回崩壊している。今 Chouf を震源とした M3 の地震があった。めったに地震はない。

More information study needed

Collected documents or any specified note

Any comments

構造物を建設する場合、過去の地震を調査して、構造計算では考慮して設計すること。
本計画の実施時の調査では必ず水質も簡易検査で調査すること。

(20) Hesel (個人コンサルタント)

Organization	Hesel (個人コンサルタント)		
Interviewee (Name, Title/Position, Contact)	Mr. Joseph Kassab –Chairman		
Interviewer/Attendees	吉川・鎌田 (調査団) Ms. Myriam Rabbath (JICA)		
Date & Time	2016年6月29日 9:00–10:00	Meeting Place	Radisson Blu Hotel

Purposes of the interview

(詳細計画策定調査に係る情報収集・交換)

Summary of the interview

以前YWCAのプロジェクトに参加。現在、独立してMoEの仕事をしている。

USAIDは、IRDP(1997-2002)で10か所の下水道施設を建設したが、機械式であったため、きちんとした維持管理が出来ず半分以上が現在停止状態である。次のSEPP(2003-2008)の9か所では、消化タンクと太陽などの自然の力と高低差を利用した処理方式で電気を使っていないため、維持管理が不要なので現在でも処理されている。YMCAでの下水プロジェクトで、Municipalityの選定基準として、政治的面、市長の決断力と能力、水道施設がある、地形(配管網の勾配、ポンプアップ施設が必要か)、下水の詰りでオーバーフローして住民が大きな問題を抱えている、農業に影響しない、等多々ある。また2つの村に跨るときは紛争がなく、2つの村が同じ問題を抱えていた場合実施した。建設後は1年保証することでプロジェクト側が管理して、CDR+MoEWに引き渡した。管理はWEの責任であるが、何もしない。現在は、荒れ果てるだけであるが、稼働はしている。円借で実施したSAIDA(南部県)の下水処理場は、結局WEの管理が出来ていないため荒れ果てている。

特に下水本管が谷底に配管され、洪水時にはマンホール(30m間隔)から流石(30cmの玉石)、砂、砂利が管内に流れ込み管が詰まって機能していなかったが、2013年、EoJの協力で観測カメラと高圧洗浄機、バックホウ、人力で修繕が実施された。しかし、また詰まってしまうだろう。

WEで管理させるには、200US\$/年の水道費に下水料金を上乗せして、下水処理施設を管理するようEoJが要求したと思うが？(確認要)

ムクータルにはいくつもの小規模な下水処理施設がUSAIDによって建設されたが、これは政治的有力者がいたので実施された。提案事項として、維持管理費を分散するためには、いくつかの村を含めて1つの処理施設を建設する方が得策である。また、一度に大きな処理施設(下流)でカバーするより、上流、中流、下流と3段階でがする方が得策である。また、SAIDAのように谷底に配管することは得策ではなく、洪水の水位より上側に配管してコンクリート巻きしなければいけない。また脇にアクセス道路を設置しなければいけない。SAIDAの谷底に配管されたものは、洪水時に本管も流されているので鉄筋コンクリートで巻いて強化する必要がある。

Collected documents or any specified note

YMCAがこれまで実施した下水システムリスト

Any comments

谷底に配管するなど常識では考えられないので、設計ミスといえる。

(21) UN-HABIT

Organization	UN-HABIT		
Interviewee (Name, Title/Position, Contact)	Mr. Tarek Osseiran – Habit program Officer Mr. Elie Mansour – WASH Engineer		
Interviewer/Attendees	吉川・鎌田（調査団） Ms. Myriam Rabbath（JICA）		
Date & Time	2016年6月29日 10:30– 11:30	Meeting Place	UN-HABIT office Cite sportive avenue, Jnah

Purposes of the interview

(詳細計画策定調査に係る情報収集・交換)

Summary of the interview

問題は、電気、水道、下水で MoEW には能力がなく、危機後は政治色が強くなり機能していない。上下水管理は WE であるが何もしない。仕方なく Municipality が動いて管理している状況である。尚、下水は 2014 年前までは Municipality が維持管理しているところもあったが、一応、2014 年に法律で下水管理も WE となっている。尚、WE のトップは MoEW の大臣が任命する。

ベイルートの水は Jeita、Hamwdajdaieh の湧水源と Doum の 5 井戸がメインとなっている。

尚、Jeita の水は汚染 (BOD, COD が高い) されているので、処理施設が必要である。

下水は kesrouan、Mtem は未処理で海に放流、alley は沿岸部で洪水状態ある。(?) 処理場がない。

また、Alley 南部の井戸 (650m) は 50m も水位が下がった。

更に漏水率は 50% 以上

本計画については 10,000US\$ でも改善できる箇所は多いので実施するに越したことは無い。

CDR が行うような大型処理施設ではなく、小型の処理施設が有効である。(いくつかのビルで一つの浄化槽のようなものを設置する)

UN-habit 等の国際機関の会議は 1-2 回/6 か月、MOEW が主催する形で開催される。ただ、集まった機関がどのような内容の活動をしているかを発表するだけであり、その発言を受けてお互いが連携しようとするものではない。

USHABITAT は、現在、RTO (Regional Technical Office) を 8 か所設けているが、将来的にはそれをもっと増やしたいとの説明があった。

More information study needed

Collected documents or any specified note

Any comments

本計画に対する目新しいものはない。中型の上下水道プロジェクトを実施している。

(22) CISPNGO

Organization	CISP NGO		
Interviewee (Name, Title/Position, Contact)	Mr. シモネ - WASH Extra Coordinator Mr.??? - Toripli North Mr.??? – South		
Interviewer/Attendees	吉川・鎌田（調査団） Ms. Myriam Rabbath（JICA）		
Date & Time	2016年6月30日 15:00–16:00	Meeting Place	CISP NGO office Beirut, Fum El Chebbak, Mdawar Street, Adliyeh Building, second floor

Purposes of the interview

(詳細計画策定調査に係る情報収集・交換)

Summary of the interview

UNHCR の支援（約 5,000US\$）で南部の Marjoun の Settlement に対し、5m³/日のプラントを設置し、管理をしている。

現在、UNICEF の支援で北部の Koura で 3-4,000m³/day の 1000 人の settlement を対象にした WWTP 建設を実施している。また、Unicef の Settlement の調査（レバノン全体）を実施する予定である。

North 県では settlement のマンホール内のスラッジをトリポリの WWTP に運び処分している。処分場ではオイル等が入っていると受け付けない。WE が責任であるが、人がいない等、運営維持管理されているとは言えない状態である。トラックで運ぶ業者が、近くの川などに捨ててしまう場合もある。

施設設計等は問題ないが、Municipality、UoM、郡、県の許可で色々複雑で問題が多い。小さいプロジ North WE はアドミが 30 名程度、技術が 50 名程度いるが、通っているうちに親しくなり関係書類の提供など融通が利くようになった。意外と管理運営されているように思う

South WE の職員数は不明であるが、North WE のような感じで、職員との親密感があった。

More information study needed

Collected documents or any specified note

Any comments

付属資料 4. 収集資料名一覽

付属資料4. 収集資料名一覧

番号	資料の名称	形態(図書、ビデオ、地図、写真等)	発行機関
	MoSA		
MoSA-1	LHSP - MoSA presentation	PDF	MoSA
MoSA-2	2015 MRR(MoSA)_ML(NORTH)	Wrd	MoSA
MoSA-3	2015MRR(MoSA)_ML(SOUTH)	Wrd	MoSA
MoSA-4	Report on the Infrastructure Action Plans of Municipalities via the MRR 2016	Exl	MoSA
	UNDP		
DP-1	Lebanon Environmental Assessment of the Syrian	図書	UNDP
	UN-Ocha		
Ocha-1	Beirut and Mount Lebanon Governorates Profile	PDF	Web
Ocha-2	Reach in ML 2015	PDF	Web
	MoE		
MoE-1	Groundwater resources of Lebanon 2014	図書 & CD	MoE
MoE-2	Fundamentals of EIA	図書	MoE
MoE-3	State and Trends of the Lebanese Environment 2010	図書	MoE
MoE-4	National Report to the United Nations Conference on Sustainable Development (RIO+20)	図書	MoE
MoE-5	Policy Paper & Action Plan for Industrial Wastewater Management in Lebanon	図書	MoE
MoE-6	LEPAP (Lebanon Environmental Pollution Avatement Project)	パンフレット	MoE
	MoEW		
MoEW-1	National Water Sector Strategy	図書	MoES
MoEW-2	National Strategy for the Wastewater Sector	図書	MoES
	BIO-MICROBICS		
BIO-1	FAST with SFR	パンフレット	MIO-MICROBICS
BIO-2	Product Catalogue	CD	MIO-MICROBICS
BIO-3	Jallad Environment	PDF	MIO-MICROBICS
	UKAID		
UK-1	MARKET OVERVIEW SMALL & MEDIUM ENTERPRISES IN BEIRUT & MOUNT LEBANON 2016	PDF	Web
	WET		
WET-1	Drinking water (1999) based on WHO Guidelines (2006)	PDF	WET
WET-2	Lebanon Drinking Water 設計基準	PDF	WET
	ESFD		
ESFD-1	BOQ_well	Exl	ESFD
ESFD-2	Priced-BOQ_Potable water networks	Exl	ESFD
ESFD-3	Consultants list	PDF	ESFD
ESFD-4	Contractors list	PDF	ESFD
	ACTED		
ACTED-1	ACTED NGO 2013_2014_CSP_Catalogues	PDF	ACTED
ACTED-2	ACTED Water and wastewater management in	PDF	ACTED
	KESET		
KESET-1	YMCA Waste Water Treatment Centers List	Wrd	KESET
KESET-2	SAYNIK Waste Water Treatment Plant Report	Wrd	KESET

番号	資料の名称	形態(図書、ビデオ、地図、写真等)	発行機関
	既存収取資料の更新版		
F-1	Energy and Water Sector- Results Framework	Exl	
F-2	LHSP - MoSA presentation 2015	PP	
F-3	LHSP annual report 2013-2014	Wrd	
F-4	List of SDCs_MoSA_Aug 2015	Wrd	
F-5	Needs(MoSA)_ML(BSS)+BEIRUT_Aug 4 2015	Wrd	
F-6	SDC brief	Wrd	
F-7	SDC presen briefing	PP	
F-8	MoEW_National Wastewater Strategy_2011	PDF	
F-9	MoEW_National Water Sector Strategy 2010-2020	PDF	
F-10	MoSA_National Social Development Strategy - 2011	PDF	
F-11	LCRP_ENG_2016-full version	PDF	
F-12	LCRP_2015_End of Year Report	PDF	
F-13	MoSA organization chart	PDF	
F-14	VulnerabilityMapMarch2015	PDF	
F-15	Results and Achievements 2014	PDF	
F-16	Lebanon Union of Municipalities_UN-Habitat	PDF	
F-17	SDC Mt Leb - Needs & Situation	Exl	
F-18	2015 LCRP Support to Public Institutions dashboard	PDF	
F-19	UNHABITAT_RTO Improving municipal planning	PDF	
F-20	UN-HABITAT RTO presentation	PPP	
F-21	UNHCR Syrian Refugees Registered byC adastral	PDF	

付属資料 5. 写真

上水道

下水道



一般住宅の深井戸(深度180m)

生活水に使用

Ghaboun Municipality in Aley district

2016年6月16日



川幅5m程度の川(上流に水源)

冬と夏では水位が2m近く変化、上流側が工事で濁っているが、通常はきれいな川であり、魚も生息している。

Ghaboun Municipality in Aley district

2016年6月16日



Aley SDC Office

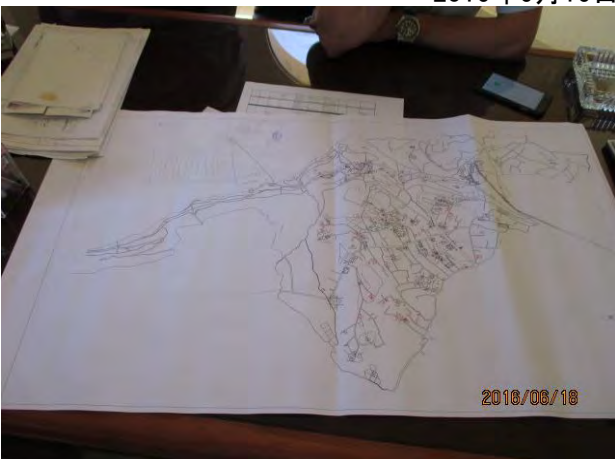
2016年6月16日



LHSPのポスター

Aley SDC Office

2016年6月16日



簡易な住宅地図

Jdeidet El Chouf Municipality in Aley District



Meeting

人口は25,000人+7,000人の難民。

Jdeidet El Chouf Municipality in Aley District



湧水場所 (推定10-20L/s)

Jdeidet El Chouf Municipality in Alay District
2016年6月23日



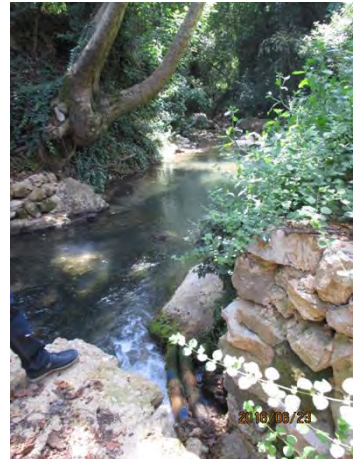
湧水場所 (推定10L/s)
冬場は多くなり越流する。

Jdeidet El Chouf Municipality in Alay District
2016年6月23日



湧水場所からの導水管(φ50mm×2)

Jdeidet El Chouf Municipality in Alay District
2016年6月23日



湧水の下流側の河川(無色透明)

Jdeidet El Chouf Municipality in Alay District
2016年6月23日



湧水の下流側の河川(無色透明)

Jdeidet El Chouf Municipality in Alay District
2016年6月23日



湧水の上流側の河川(無色透明)

Jdeidet El Chouf Municipality in Alay District
2016年6月23日



高所にある配水池(2,000m³+60m³)

Jdeidet El Chouf Municipality in Aley District
2016年6月18日



中継ポンプ所と配水池
配水池周りの配管状況(HDPE pipe)

Jdeidet El Chouf Municipality in Aley District
2016年6月18日



中継ポンプ所と配水池
下側に10m³程度の水槽があり、水中ポンプで揚水している

Jdeidet El Chouf Municipality in Aley District
2016年6月18日



中継ポンプ所と配水池
下側に10m³程度の水槽があり、水中ポンプで揚水

Jdeidet El Chouf Municipality in Aley District
2016年6月18日



中継ポンプ所と配水池
20m³の配水池

Jdeidet El Chouf Municipality in Aley District
2016年6月18日



中継ポンプ所と配水池
制御盤:リレースイッチ故障

Jdeidet El Chouf Municipality in Aley District
2016年6月18日



Master plan for wastewater in Aley
Aley Branch office in BMLWE

2016年6月22日



Master plan for water supply
Aley Branch office in BMLWE

2016年6月22日



Existing water supply system
水源は2力所でChouf郡から導水(φ 400mm)されて
各都市に分水される。
Aley Branch office in BMLWE

2016年6月22日



Existing water supply system
Aley付近を拡大

Aley Branch office in BMLWE

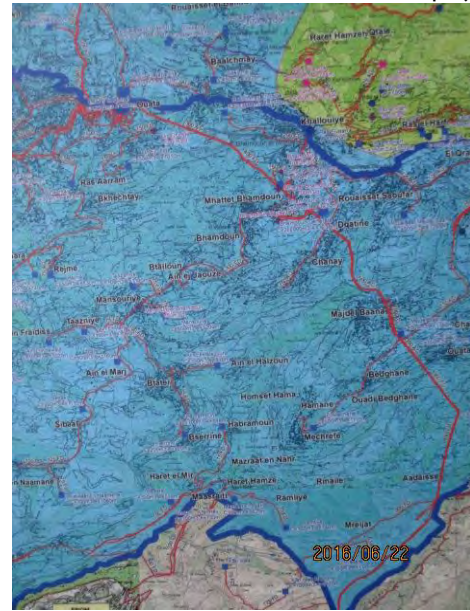
2016年6月22日



Existing water supply system
取水地付近を拡大

Aley Branch office in BMLWE

2016年6月22日



Master plan for water supply
取水地付近を拡大

Aley Branch office in BMLWE

2016年6月22日



Aleyの5,000m³配水池(56年経過)
配水池屋上
Aley in Aley district

2016年6月22日



Aleyの5,000m³配水池(56年経過)
配水池からの配水網への分水
Aley in Aley district

2016年6月22日



Aleyの5,000m³配水池(56年経過)
倉庫
Aley in Aley district

2016年6月22日



Aleyの5,000m³配水池(56年経過)
配水池からの配水網への分水
Aley in Aley district

2016年6月22日



Mhattet 分水場(広域送水網からの分水)
φ400mmから分水されている
Mhattet in Aley district

2016年6月22日



Mhattet 分水場(広域送水網からの分水)
φ400mmから分水されている
Mhattet in Aley district

2016年6月22日



Mhattet 分水場 (広域送水網からの分水)
φ400mmから分水されている
Mhattet in Aley district

2016年6月22日



Mhattet 分水場 (広域送水網からの分水)
配管状況
Mhattet in Aley district

2016年6月22日



Mhattet ポンプ場
高所住宅地にポンプアップしていた。現在未使用
Mhattet in Aley district



Mhattet ポンプ場
高所住宅地にポンプアップしていた。現在未使用
Mhattet in Aley district

2016年6月22日



Btaterの水源
写真奥が深井戸、手前が失敗井を利用した中間貯水池
井戸深度420m、10L/s ?
Btater Municipality in Aley District

2016年6月22日



Btaterの制御盤室と発電機
建物内に制御盤、奥に発電機
Btater Municipality in Aley District

2016年6月22日



Btaterの変圧器

Btater Municipality in Aley District

2016年6月22日



Btater Municipality

職員13名、人口10,000人+避難民2,000人

Btater Municipality in Aley District

2016年6月22日



配水池(奥400m³+手前50m³程度)、手前は制御建屋
Aamatour in Aley District

2016年6月23日



配水池(奥400m³+手前50m³程度)
Aamatour in Aley District

2016年6月23日



配管状況

Aamatour in Aley District

2016年6月23日



制御盤と塩素注入器

Aamatour in Aley District

2016年6月23日



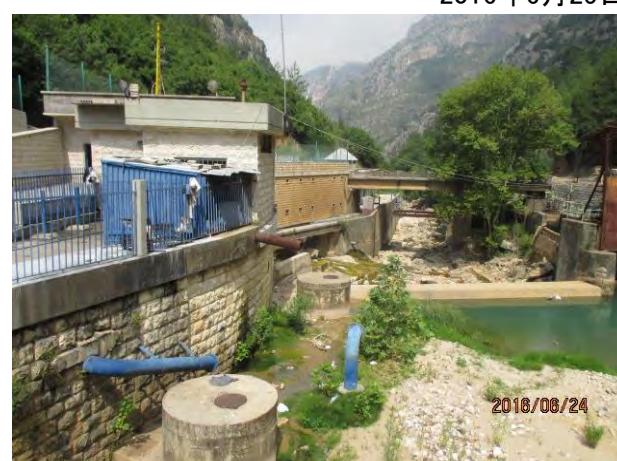
14km北北東にあるJdeidetの水源(Bizhel)
1996年の円借で建設
Jbail郡とKesrouan郡の郡境界を流れるIbrahim川
2016年6月25日



14km北北東にあるJdeidetの水源(Bizhel)
1996年の円借で建設
Jbail郡とKesrouan郡の郡境界を流れるIbrahim川
2016年6月25日



14km北北東にあるJdeidetの水源(Bizhel)
堰の上流から伏流水を取水
Bizhel in Kesrouan District
2016年6月25日



14km北北東にあるJdeidetの水源(Bizhel)
奥の建物は水力発電所
Bizhel in Kesrouan District
2016年6月25日



14km北北東にあるJdeidetの水源(Bizhel)
奥の建物は水力発電所
Bizhel in Kesrouan District
2016年6月25日



14km北北東にあるJdeidetの水源(Bizhel)
堰の上流から伏流水を取水
Bizhel in Kesrouan District
2016年6月25日



14km北北東にあるJdeidetの水源(Bizhel)
送水管(φ800mm?) コンクリートスラブ下
Bizhel in Kesrouan District

2016年6月25日



14km北北東にあるJdeidetの水源(Bizhel)
発電機

Bizhel in Kesrouan District

2016年6月25日



14km北北東にあるJdeidetの水源(Bizhel)
制御盤

Bizhel in Kesrouan District

2016年6月25日



14km北北東にあるJdeidetの水源(Bizhel)
流量計測

Bizhel in Kesrouan District

2016年6月25日



14km北北東にあるJdeidetの水源(Bizhel)
塩素ガス注入(インド製)

Bizhel in Kesrouan District

2016年6月25日



14km北北東にあるJdeidetの水源(Bizhel)
塩素ガス注入装置

Bizhel in Kesrouan District

2016年6月25日



Hautauch ポンプステーション
5台中3台稼働(2台縦型、1台横型)、220KW
Jounie Municipality in Kesrouan District



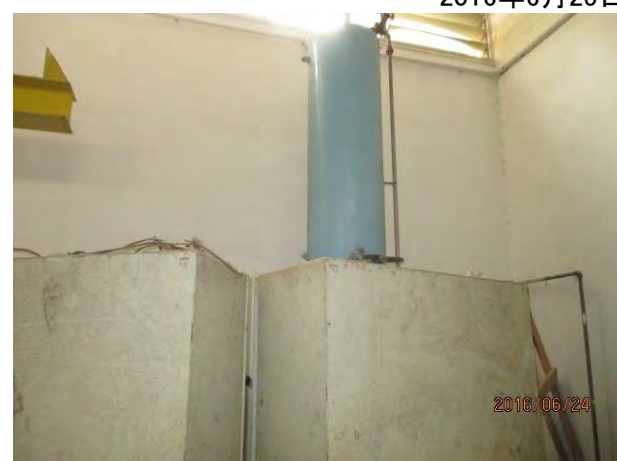
Hautauch ポンプステーション
5台中2台故障(奥2台横型)
Jounie Municipality in Kesrouan District

2016年6月25日



Hautauch ポンプステーション
5台中3台稼働(2台縦型、1台横型)、220KW
Jounie Municipality in Kesrouan District

2016年6月25日



Hautauch ポンプステーション
サージタンク
Jounie Municipality in Kesrouan District

2016年6月25日



高所配水池 in Ghadir Area
容量は不明(5,000m³) 半地上式鉄筋コンクリート
Jounie Municipality in Kesrouan District

2016年6月25日



高所配水池 in Ghadir Area
流入管 ϕ 100mm DIPで接合部ゴムから漏水
Jounie Municipality in Kesrouan District

2016年6月25日



高所配水池 in Ghadir Area
流入管 ϕ 100mm DIPで接合部ゴムから漏水
Jounie Municipality in Kesrouan District

2016年6月25日



高所配水池 in Ghadir Area
半地上式鉄筋コンクリート 壁表面は石積
Jounie Municipality in Kesrouan District

2016年6月25日



Jounie Branch office in BMLWE
Jounie Municipality in Kesrouan District

2016年6月25日



Jounie Branch office in BMLWE
Jounie Municipality in Kesrouan District

2016年6月25日



HDPE Pipe Class 16 (イタリアから輸入)
Albina Supplier in Beirut

2016年6月30日



High Pressure PVC Pipe (イタリアから輸入)
Albina Supplier in Beirut

2016年6月30日

写真集 (下水道編) 1 / 5



Jdeidet El Chouf Municipality in Alay District
の下水処理場流入渠 (2016.6.18)



同処理場最初沈殿槽 (2016.6.18)



同処理場表面曝気槽 (2016.6.18)



同処理場最終沈殿池 (2016.6.18)



同処理場塩素混和池 (2016.6.18)



処理水法流先 (2016.6.18)



Moukhtara Municipality in Alay District 処理場入口にある USAID の案内板 (2016.6.23)



同処理場の散水ろ床施設
(処理水量 450m³/日、処理人口 3,000 人、
2007 年竣工) (2016.6.23)



同処理場の曝気施設 (2016.6.23)



同処理場の汚泥天日乾燥床 (2016.6.23)



Ammatour Municipality in Alay District の処理場散水ろ床施設 (処理水量 900m³/日、処理人口 9,000 人、
2007 竣工) (2016.6.23)



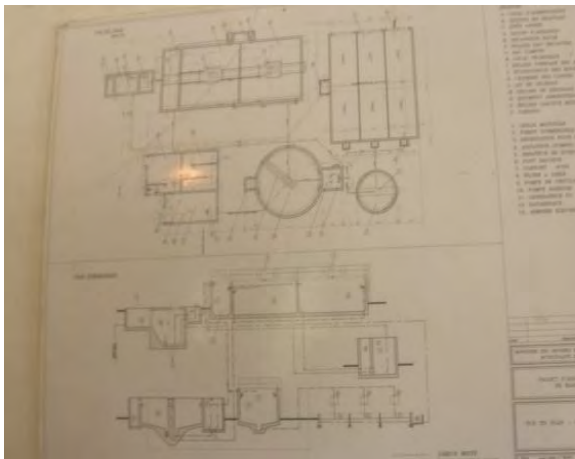
同処理場の曝気施設 (2016.6.23)



同処理場処理水放流地点 (鼠色の樋から放流)
(2016.6.23)



処理水の状況 (2016.6.23)



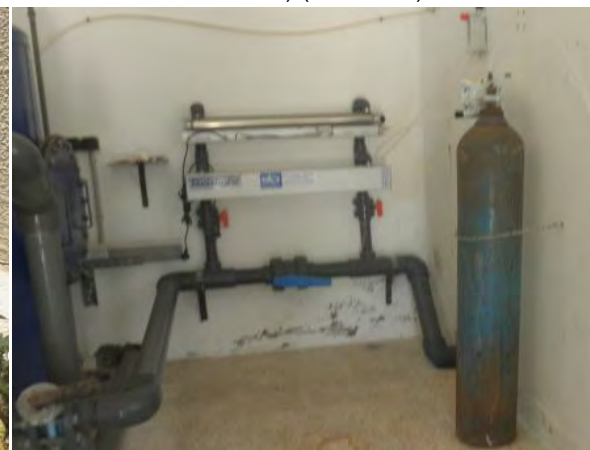
Baadaran Municipality in Alay District の
処理場平面図 (2016.6.23)



同処理場施設配置
(処理水量 450m³/日、処理人口 3,000 人、
2007 年竣工) (2016.6.23)



同処理場処理水(2016.6.23)



同処理場滅菌用塩素ポンベ(2016.6.23)



Khraibeh Municipality in Alay District 処理場入口にある USAID の案内板 (2016.6.23)



同処理場の散水ろ床施設
(処理水量 450m³/日、処理人口 3,000 人、
2007 年竣工) (2016.6.23)



同処理場曝気槽 (2016.6.23)



同処理場処理水放流先 (2016.6.23)



Jounieh 市の汚水中継ポンプ場流入渠 (2016.6.24)



中継ポンプ (200HP×3 台) (2016.6.24)



内 1 台の状況 (完全に故障し取り替えが必要)
(2016.6.24)



ポンプ場から約 4km 離れた海中放流先
この道路の下 1m の深さに放流管埋設
(2016.6.24)



放流先近くで釣りを楽しむ人々 (2016.6.24)



この先で放流 (水深約 1m) (2016.6.24)



ベイルート市内の汚水マンホール (2016.6.24)



ベイルート市雨水マンホール (2016.6.24)

付属資料 6. 参考資料

- (1) MRR 2015 の結果
- (2) MRR 2016 から各 Municipality の水に関する問題
- (3) レバノン下水処理場一覧
- (4) 各セクターの戦略 LCRP 2015-2016

(1) MRR 2015 の結果 (SOUTH & NORTH ML)

Report on the Action Plans of Municipalities via the MRR 2015

SOUTH MOUNT LEBANON

1-Municipality of Remhala - Aley District:

Sector	Proposed Projects	Order of Priority
Health Sector	- Building a prototype center, enclosing an infirmary, a public library and a hall. - Awareness and vaccination campaigns.	1
Education Sector	-Renovating the private school and constructing the public school.	4
Social Sector	- Implementation of cultural and entertainment activities. - The establishment of dorms for young people - completing the rehabilitation of the Church building	7
Livelihood Sector	Create jobs opportunities	6
Infrastructure Sector	- Developing the water network. - Enlarging and developing electricity generators. - Establishing drainage channels for rain water over the entire town roads.	2
Agriculture Sector	- Rehabilitation and expansion of agricultural roads - Reforestation. - The establishment of irrigation canals. -The establishment of a press.	3
Environment / Tourism Sector	- Restoration of archaeological homes - Setting up alleyways inside the town and stairs. - Redevelopment of mills.	5

2- Municipality of Baourtah - Aley District:

Sector	Proposed Projects	Order of Priority
Health Sector	- Support the infirmary with medical equipment	3
Education Sector	- Creation of special educational opportunities for refugees.	7
Social Sector	- The establishment of youth and cultural clubs.	2
Livelihood Sector	- The organization of the Syrian presence in the town and creation of jobs opportunities.	4
Infrastructure Sector	- Rehabilitation of sewage network. - Rehabilitation of internal roads.	1
Agriculture Sector	- Agricultural labor force training	6
Environment/Tourism Sector	-Reforestation -Developing the means to protect against fires.	5

3- Municipality of Souk El-Gharb - Aley District:

Sector	Proposed Project	Order of Priority
Health Sector	<ul style="list-style-type: none"> - Establishing a hospital. - Rehabilitation of the infirmary to receive emergency cases with night shifts. 	4
Education Sector	<ul style="list-style-type: none"> - Re-opening of the public school. - Develop a modern reading center with modern installations 	5
Social Sector	<ul style="list-style-type: none"> - To revive the cultural and sports activities, and carrying out festivals. - Enabling residential projects with comfortable installments to support the return of natives to the town. - Developing a social Association. 	2
Livelihood Sector	-Developing new branches of banks and other institutions.	3
Infrastructure Sector	<ul style="list-style-type: none"> - Digging artesian wells, setting up a related network and linking this network to the main network. - Strengthen and enlarge the electrical transformers. - Rehabilitation of internal roads - Completion of sewage network and linking all houses to it. - Establishing a water purification station 	1
Agriculture Sector	<i>There is no agriculture.</i>	8
Environment Sector	<ul style="list-style-type: none"> - carry out awareness campaigns for waste sorting and reforestation - Construction of forest roads 	6
Tourism Sector	-Reconstruction of the old hotels and other tourism projects.	7

4- Municipality of El-Mansouriyeh, Ain El-Marj - Aley district

Sectors	Proposed Projects	Order of Priority
Health Sector	<ul style="list-style-type: none"> - Provide a fully equipped ambulance. - Provide the infirmary clinic with expert medical staff, medicines and installations 	2
Education Sector	<ul style="list-style-type: none"> - Establish a School. - Enhancing the stadium and its roof. - Establish a Club. 	6
Social Sector	<ul style="list-style-type: none"> - Activate the role of cooperatives and associations. - Create opportunities for education. - Ensuring societal safety through the control of the presence of displaced people. 	7
Livelihood Sector	- Investing existing efforts and skills in an integrated project	5
Infrastructure Sector	<ul style="list-style-type: none"> -The establishment of a sewage network - Do maintenance of the potable water pumping network in a balanced manner. - Establish a water purification station - Rehabilitation of roads and the electricity grid. 	1
Agriculture Sector	<ul style="list-style-type: none"> - Support agricultural cooperatives and awareness campaigns. - Constructing, equipping, and paving agricultural roads. - Not importing from abroad - Carrying out agricultural festivals for the clearance of production. 	3
Environment/Tourism Sector	<ul style="list-style-type: none"> - Reforestation campaigns and creation of reserves. -The implementation of all infrastructure projects. 	4

5- Municipality of Kayfoun - Aley district

Sectors	Proposed Projects	Order of Priority
Health Sector	- Activate the role of infirmaries, and provide them with medical staff, medicines and installations	3
Education Sector	- Provide the school with necessary installations - Implement sports activities - Organize educational awareness campaigns for parents	4
Social Sector	- Organize awareness on the dangers of drugs, and identify proximity rehabilitation centers. - Equip the sports stadium. - Have consecutive patrols for security forces	2
Livelihood Sector	- Conditions to the employment of foreign laborers, and create job opportunities	5
Infrastructure Sector	- Rehabilitate waste water network, and establish networks in neighborhoods - Dig artesian well - Complete the Jisr El Qadi wells project with a water purification station	1
Agriculture Sector	- Fix the waste water network - Supply water - Benefit from the outputs of the "Green Project"	6
Environment/Tourism Sector	- Modernizing existing factories.	7

6- Municipality of Hammana – Baabda district

Sectors	Proposed Projects	Order of Priority
Health Sector	- Provide a fully equipped ambulance. - Provide doctors in specific shifts within the town	4
Education Sector	- Establish a building dedicated for a vocational school - Provide gas oil at low cost - Build a rood for the playground / stadium - Establish a university with all specialization types	6
Social Sector	- Unify efforts between clubs - Encourage natives to return to the town and live in it	2
Livelihood Sector	- Create job opportunities	3
Infrastructure Sector	- Redoing the maintenance of the local station and expanding it - Complete the sewage network project - Maintain the river source of potable water	1
Agriculture Sector	- Provide water for irrigation - Encourage and incentivize youth towards agriculture - Modernize the agriculture cooperatives	7
Environment Sector	- Carry out agricultural awareness and encouragement campaigns, and stop the random pruning - Have patrols by the municipal police - Sort and reuse waste by contractors	5
Tourism Sector	- Encourage eco-tourism - Rehabilitate and reopen the cinema theater	8

7- Municipality of Saoufar – Aley district

Sectors	Proposed Projects	Order of Priority
Health Sector	<ul style="list-style-type: none"> - Increasing awareness campaigns. - Set up a clinic with fully equipment. - Securing an ambulance. - Renewing of the Red Cross Center. - Restore the old hospital building. 	3
Education Sector	<ul style="list-style-type: none"> - Audio-visual equipment for schools. - The establishment of a technical school. 	4
Social Sector	<ul style="list-style-type: none"> - The establishment of a public library and theater. - Activating the "Halla" program. - Reviving public/joint transport 	5
Livelihood Sector	<ul style="list-style-type: none"> - Create jobs opportunities. - The establishment of cafes on public roads. 	7
Infrastructure Sector	<ul style="list-style-type: none"> - Adaptation of the water network. - Digging artesian wells. - Update and maintain the sewerage network. - Renewal of electric generators. 	1
Agriculture Sector	<ul style="list-style-type: none"> - Awareness and guidance about how to use chemicals 	8
Environment Sector	<ul style="list-style-type: none"> - Reforestation campaigns. - Rehabilitation of public parks. 	6
Tourism Sector	<ul style="list-style-type: none"> - Encouraging the building of cafes and tourist centers. - Advertising campaigns. - Restoration of the Grand Hotel of Sawfar and the old houses. 	2

8- Municipality of Aaramoun – Aley district

Sectors	Proposed Projects	Order of Priority
Health Sector	<ul style="list-style-type: none"> - Equip infirmaries with adequate equipment. - Provide specialized doctors. 	1
Education Sector	<ul style="list-style-type: none"> - Secure audio-visual equipment. 	3
Social Sector	<ul style="list-style-type: none"> - Equip the association with requested equipment. - Awareness and educational lectures 	2
Livelihood Sector	<ul style="list-style-type: none"> - Activating the role of the "Halla" program in MoSA 	7
Infrastructure Sector	<ul style="list-style-type: none"> - Adaptation of the water network. - Make enhancements on the artesian well - The rehabilitation and paving of roads. - Adaptation and maintenance of the sewage network. - Establish a water purification station. 	4
Agriculture Sector	<ul style="list-style-type: none"> - Rehabilitation of agricultural roads. - Awareness for the farmers. 	6
Environment Sector	<ul style="list-style-type: none"> - Renew containers for sorting waste. 	5

9- Municipality of Chhim – Chouf district

Sectors	Proposed Projects	Order of Priority
Health Sector	<ul style="list-style-type: none"> - Equip health centers - Awareness programs 	2
Education Sector	<ul style="list-style-type: none"> - Course programs for students and parents. - Provide equipment and maintenance. 	4
Social Sector	<ul style="list-style-type: none"> - The establishment of clubs and cultural centers. - Carry out awareness campaigns. - Properly equip Treatment centers. 	5
Livelihood Sector	<ul style="list-style-type: none"> - Design a local and economic development plan 	6
Infrastructure Sector	<ul style="list-style-type: none"> - Expansion and update of the sewage network. - Operate the refinery in Jiyeh. 	1
Agriculture Sector	<ul style="list-style-type: none"> - Construction of agricultural roads and water reservoirs. - The establishment of sorting and packaging centers. 	7
Environment / Tourism Sector	<ul style="list-style-type: none"> - Environmental awareness campaigns. - Install filters in factories. 	3

10- Municipality of Daraya – Chouf district

Sectors	Proposed Projects	Order of Priority
Health Sector	<ul style="list-style-type: none"> - Create a primary health care center. - The creation of pathways for people with disabilities, and integration programs. 	1
Education Sector	<ul style="list-style-type: none"> - Equip and maintain buildings and the winter playground. 	5
Social Sector	<ul style="list-style-type: none"> - Establishment of a cultural center and a youth club. 	3
Livelihood Sector	<ul style="list-style-type: none"> - Create a parking lot - Develop a study to identify important sectors for the region. 	7
Infrastructure Sector	<ul style="list-style-type: none"> - Completion of sewage network. - Development of new water channels. 	6
Agriculture Sector	<ul style="list-style-type: none"> - Establishment of artificial lakes. - Construction of agricultural roads. - Guidance programs for farmers 	4
Environment / Tourism Sector	<ul style="list-style-type: none"> - Hygiene awareness campaigns 	2

11- Municipality of Jiyye – Chouf district

Sectors	Proposed Projects	Order of Priority
Health Sector	<ul style="list-style-type: none"> - Create a Dental Clinic and a physio-therapy center - Equip and train infirmary staff 	2
Education Sector	<ul style="list-style-type: none"> - Training sessions for teachers. - Repair and maintenance of schools buildings - Use of modern techniques for education. 	4
Social Sector	<ul style="list-style-type: none"> - Establishment of social clubs, and educational and sports activities. 	5
Livelihood Sector	<ul style="list-style-type: none"> - Restoration of the touristic port of Jiyye. 	6
Infrastructure Sector	<ul style="list-style-type: none"> - Drilling of new artesian wells. - Completion of sewage network. 	3
Agriculture Sector	<ul style="list-style-type: none"> - Establish water lakes for irrigation. - Establishment of agricultural guidance programs. 	7
Environment Sector	<ul style="list-style-type: none"> - Installation of filters to production plants. - Renovation and operation of sewage pumping station. 	1
Tourism Sector	<ul style="list-style-type: none"> - Renovation of the archaeological touristic city. 	8

12- Municipality of Rmeileh – Chouf district

Sectors	Proposed Projects	Order of Priority
Health Sector	<ul style="list-style-type: none"> - Support infirmaries with medicines and human resources. - Establishment of an emergency and first-aid center - Establishment of health awareness sessions and campaigns. 	1
Education Sector	<ul style="list-style-type: none"> - None 	7
Social Sector	<ul style="list-style-type: none"> - Create a sports court and cultural center. - Create public parc and sidewalks. 	4
Livelihood Sector	<ul style="list-style-type: none"> - Establishment of a permanent exhibition for local products. - Establishment of a touristic amphitheater for festivals. 	6
Infrastructure Sector	<ul style="list-style-type: none"> - Completion of waste water projects. - Modernization of the drinking water network. - Develop studies for the extension of the sewerage network and its replacement with a better one. 	2
Agriculture Sector	<ul style="list-style-type: none"> - Construction of agricultural roads. - Awareness campaigns and guidance about how to use fertilizers and irrigation water 	5
Environment / Tourism Sector	<ul style="list-style-type: none"> - Installation of filters for factories - Campaigns for cleaning the seashore 	3

13- Municipality of Ketermaya – Chouf district

Sectors	Proposed Projects	Order of Priority
Health Sector	<ul style="list-style-type: none"> - Renovating the health care center. - Undertake a study on emergency cases, and healthcare installations for people with special needs. 	1
Education Sector	<ul style="list-style-type: none"> - Provide equipment for public schools. - Implement rapid and intensive training for students. - Carry out an intensive courses for students and parents. 	2
Social Sector	<ul style="list-style-type: none"> - Support cultural and social associations. - Raise awareness and encourage memberships in associations. 	5
Livelihood Sector	<ul style="list-style-type: none"> - Establishment of productive projects for youth employment. - Encourage the agricultural sector to employ displaced people 	3
Infrastructure Sector	<ul style="list-style-type: none"> - Treat the existence of septic tanks - Establish water purification stations at national level. 	6
Agriculture Sector	<ul style="list-style-type: none"> - Reforestation of areas with olives and carobs. - Establishment of an agricultural Office and irrigation projects. 	7
Environment / Tourism Sector	<ul style="list-style-type: none"> - Installation of filters for air purification. - Establishment of a special waste treatment plant. 	4

14- Municipality of Barja – Chouf district

Sectors	Proposed Projects	Order of Priority
Health Sector	<ul style="list-style-type: none"> - Providing medicines and equipment for infirmaries - Maintenance and restoration of health centers. - Providing training to nursing and medical staff on a regular and mandatory basis - Creation of pathways for disabled people in infirmaries 	2
Education Sector	<ul style="list-style-type: none"> - Provide schools with modern educational equipment - Carry out training workshops for teachers. - Maintain buildings especially toilets - Establishment of libraries in schools. - Completion of the educational complex. 	3
Social Sector	<ul style="list-style-type: none"> - Set up a municipal hall for all activities. - Establishment of social awareness programs. - Establishment of seminars in schools. 	4
Livelihood Sector	<ul style="list-style-type: none"> - None 	
Infrastructure Sector	<ul style="list-style-type: none"> - Development of septic tanks with pumps. - Establishment of a modern network for new neighborhoods. - Operate the water purification station - Secure new transformers 	5
Environment / Tourism Sector	<ul style="list-style-type: none"> - Supplying factories with filters. - Reforestation and awareness campaigns 	1

15- Municipality of Neemeh – Chouf district

Sectors	Proposed Projects	Order of Priority
Health Sector	<ul style="list-style-type: none">- Equip health care centers with necessary equipment- Train medics	4
Education Sector	<ul style="list-style-type: none">- Train teachers and build their capacities- Establish a public library- Awareness sessions for parents and students	1
Social Sector	<ul style="list-style-type: none">- Training and capacity building sessions for the youth- Create fair job opportunities	3
Livelihood Sector	<ul style="list-style-type: none">- Give incentives for investments in production projects	5
Infrastructure Sector	<ul style="list-style-type: none">- Completion of waste water projects.- Set in place building and monitoring conditions	6
Agriculture Sector	<ul style="list-style-type: none">- Completion of irrigation water networks	7
Environment / Tourism Sector	<ul style="list-style-type: none">- Training sessions for waste sorting- Farming projects in houses- Turning waste into fertilizers and energy sources	2

Report on the Action Plans of Municipalities via the MRR 2015

NORTH MOUNT LEBANON

16- Municipality of Mayrouba – Al Matn District:

Sector	Proposed Projects	Order of Priority
Health Sector	<ul style="list-style-type: none"> - Turn the infirmary in Hrajel into a hospital - Provide medicines and equipment to the infirmary - Equipped ambulance 	2
Education Sector	<ul style="list-style-type: none"> - Awareness to parents to increase their trust in public schools - The government must modernize the laboratory 	6
Social Sector	<ul style="list-style-type: none"> - Establish an elderly care facility - Communicate with the centers of MoSA 	7
Livelihood Sector	<ul style="list-style-type: none"> - Create job opportunities through benefitting from existing resources 	8
Infrastructure Sector	<ul style="list-style-type: none"> - Establish a water purification station - Dig artesian wells - Establish a water reservoir - Establish pavements 	1
Agriculture Sector	<ul style="list-style-type: none"> - Adapt the irrigation canals - Support the refrigerators - Cooperate to sell production 	4
Environment Sector	<ul style="list-style-type: none"> - Awareness for waste sorting - Enforce laws 	3
Tourism Sector	<ul style="list-style-type: none"> - Support for the restoration of heritage hotels - Enable the role of the Ministry of Tourism 	5

17- Municipality of Dhour Ech Choueir – Al Matn District:

Sector	Proposed Projects	Order of Priority
Health Sector	<ul style="list-style-type: none"> - Provide medicines - Conduct awareness campaigns. 	3
Education Sector	<ul style="list-style-type: none"> - Provide gas oil and means of transportation - Provide means of clearing roads during winter 	4
Social Sector	<ul style="list-style-type: none"> - Awareness campaigns against drugs - Sports and cultural activities - Support the club through providing installations and a closed equipped court 	1
Livelihood Sector	<ul style="list-style-type: none"> - Support from the municipality for investment projects in the town - Awareness and networking with existing resources - Orient towards vocational specializations in schools 	2
Infrastructure Sector	<ul style="list-style-type: none"> - Establish wells, and gather and pump rainwater - Establish a water purification station - Adapt the waste water network - Adapt the roads and pavements 	5
Agriculture Sector	<ul style="list-style-type: none"> - Reclaim lands - Agricultural awareness and encouragement lectures 	8
Environment Sector	<ul style="list-style-type: none"> - Waste sorting - Support walls 	6
Tourism Sector	<ul style="list-style-type: none"> - Establish public gardens and entertainment centers 	7

18- Municipality of Bourj Hammoud – Al Matn District:

Sector	Proposed Projects	Order of Priority
Health Sector	<ul style="list-style-type: none"> - Equip medical centers - Establish a public hospital and specialized treatment institutions 	4
Education Sector	<ul style="list-style-type: none"> - Develop curriculums and support school programs - Rehabilitate schools and find specialized staff 	5
Social Sector	<ul style="list-style-type: none"> - Awareness campaigns and forums - Adapt and enable playgrounds and theaters - Establish recruitment and professional training agencies 	3
Livelihood Sector	<ul style="list-style-type: none"> - Establish a school for crafts 	1
Infrastructure Sector	<ul style="list-style-type: none"> - Enable the industry - Organize and restore facades of buildings 	6
Agriculture Sector	<ul style="list-style-type: none"> - None 	7
Environment/Tourism Sector	<ul style="list-style-type: none"> - Maintain the waste water networks - Collect and recycle garbage - Increase monitoring and support of fishermen 	2

19- Municipality of Jdeideh, Baushrieh, Al Sad – Al Matn District:

Sector	Proposed Projects	Order of Priority
Health Sector	<ul style="list-style-type: none"> - Put in place facilitating arrangements for special needs individuals - Enact the elderly insurance, and build an elderly care facility - Support and equip the health centers 	1
Education Sector	<ul style="list-style-type: none"> - Provide modern installations/methodologies for schools - Awareness campaigns for students and parents 	5
Social Sector	<ul style="list-style-type: none"> - Create job opportunities after competing with the Syrian labor force - Enforce laws to limit conflicts 	4
Livelihood Sector	<ul style="list-style-type: none"> - Secure a guiding plan - Sell production - Coordinate between economists and local committees 	3
Infrastructure Sector	<ul style="list-style-type: none"> - Adapt the waste water network - Sort and recycle garbage - Provide parking lots 	2
Agriculture Sector	<ul style="list-style-type: none"> - None 	7
Environment/Tourism Sector	<ul style="list-style-type: none"> - Supply water - Awareness campaigns against cutting of trees and for the preservation of green spaces 	6

20- Municipality of Hamlaya – Al Matn district

Sectors	Proposed Projects	Order of Priority
Health Sector	<ul style="list-style-type: none"> - Equipped ambulance. - Provide medicines and awareness campaigns 	1
Education Sector	<ul style="list-style-type: none"> - Establish a public School. - Establish an elderly care facility and entertainment centers - Establish a cultural complex 	5
Social Sector	<ul style="list-style-type: none"> - Establish a cultural complex - Provide heating - Provide a roof for the courts of existing clubs 	2
Livelihood Sector	<ul style="list-style-type: none"> - Provide higher education - Create job opportunities through religious tourism projects 	6
Infrastructure Sector	<ul style="list-style-type: none"> - Provide a water syphoning vehicle - Establish a sewage network - Establish a water purification station 	3
Agriculture Sector	<ul style="list-style-type: none"> - Provide irrigation water - Awareness and orientation for youth on agriculture and marketing of products 	7
Environment/Tourism Sector	<ul style="list-style-type: none"> - Establish a landfill or incineration plant during winter - Recycle garbage - Put in place an administrative framework for organizing the tourism sector 	4

(2) MRR 2016 から各 Municipality の水に関する問題

Report on the Infrastructure Action Plans of Municipalities via the MRR 2016

Village of Aaramoun							
	Description	Pollution, Outbreak of epidemics and diseases	Action Party 1	Municipality	Affected 1	Owners of private generators	
	Main Sector	Infrastructure	Action Party 2		Affected 2	Residents	
	Other Sector		Action Party 3		Affected 3		
	Degree of Impact	4: Large	Action Party 4		Affected 4		
	Risk Recurrence	4: High Probability	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	4			
			Problem 1				
	Main Sector	Infrastructure					
	Priority	1					
	Description of Problem	Unavailability of continuous water supply					
	Reasons of Problem	Reliance on 1 source of water (Barouk water) Old network Population density					
	Impact of Problem	Water not arriving to houses, and as a result increased need for purchasing water and additional costs borne by residents					
	Available Resources	Availability of a network / Availability of 2 artesian wells					
	Unavailable Resources	Pump and financial resources					
	Suggested Solutions	Rehabilitation of water network / Placing a pump for the artesian well					
			Problem 2				
Risk 1	Main Sector	Infrastructure					
	Priority	2					
	Description of Problem	Old wastewater network					
	Reasons of Problem	Financial					
	Impact of Problem	Air pollution and bad odors					
	Available Resources	Request sent to CDR for offering pumps					
	Unavailable Resources	Financial, and treatment plant					
	Suggested Solutions	Rehabilitation and maintenance of the network to connect it to all residential houses / Construction of treatment plant					
				Problem 3			
	Main Sector	Infrastructure					
Priority	3						
Description of Problem	Unavailability of continuous electricity supply						
Reasons of Problem	Improper handling / neglect by the government						
Impact of Problem	Additional costs borne by citizens						
Available Resources	Availability of generators at the municipality						
Unavailable Resources	Municipal police						
Suggested Solutions	Municipality to supervise and impose taxes on the owners of private generators						

Village of Baauerta							
Risk 1	Description	Increase in pollution and diseases / Loss of agriculture	Action Party 1		Affected 1	Community	
	Main Sector	Infrastructure	Action Party 2		Affected 2		
	Other Sector		Action Party 3		Affected 3		
	Degree of Impact	5: Very Large	Action Party 4		Affected 4		
	Risk Recurrence	4: High Probability	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	6			
	Problem 1						
	Main Sector	Infrastructure					
	Priority	1					
	Description of Problem	Discharge of wastewater directly into agricultural lands and in between houses					
Reasons of Problem	Residential overcrowding, and presence of a large number of individuals within a same house						
Impact of Problem	Mixing of wastewater with underground water						
Available Resources							
Unavailable Resources	Septic pits						
Suggested Solutions	General enlarging of wastewater network						
Problem 2							
Main Sector	Infrastructure						
Priority	2						
Description of Problem	Water scarcity						
Reasons of Problem	Increased demand for water supply due to displacement, and increase in town's population number / Mismanagement of water						
Impact of Problem	Underground water drying out Damage to the special system extracting water from the underground Scarcity in availability of water						
Available Resources							
Unavailable Resources	Digging wells Tanks Water linkages from the village to the residential compounds Internal network for projects						
Suggested Solutions	Government supplying potable water to satisfy fully the needs Guidance and awareness in water usage						
Problem 3							
Main Sector	Infrastructure						
Priority	3						
Description of Problem	Unavailability / incomplete wastewater network						
Reasons of Problem	Failure of ministries						
Impact of Problem	Harm to local residents, and to access to agriculture lands						
Available Resources							
Unavailable Resources	Asphalt and pavements						
Suggested Solutions	Rehabilitation of roads						

Village of Baouhriye							
Risk 1	Description	Pressure on the wastewater network	Action Party 1	Municipality	Affected 1	Residents	
	Main Sector	Infrastructure	Action Party 2	Volunteers	Affected 2	Merchants	
	Other Sector		Action Party 3		Affected 3		
	Degree of Impact	5: Very Large	Action Party 4		Affected 4		
	Risk Recurrence	5: Very High Probability	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	2			
	Problem 1						
	Main Sector	Infrastructure					
	Priority	1					
	Description of Problem	Pressure on the wastewater network					
Reasons of Problem	Increase in the number of Displaced Syrians						
Impact of Problem	Pollution of underground water						
Available Resources	Municipality, and Ministry of Public Works						
Unavailable Resources	Funding						
Suggested Solutions	Construction of wastewater treatment plant						

Village of Barja							
Risk 1	Description	Pollution of underground water	Action Party 1	Ministry of Energy & Water	Affected 1	Local community	
	Main Sector	Infrastructure	Action Party 2	NGOs	Affected 2		
	Other Sector		Action Party 3	UN Agencies	Affected 3		
	Degree of Impact	4: Large	Action Party 4		Affected 4		
	Risk Recurrence	4: High Probability	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	5			
	Problem 1						
	Main Sector	Infrastructure					
	Priority	1					
	Description of Problem	Inability of existing old networks to handle the increase in pressure					
	Reasons of Problem	Population density					
	Impact of Problem	Networks burstin on main roads					
	Available Resources	Incomplete networks					
	Unavailable Resources	Financial resources Engineers					
	Suggested Solutions	Construction of new network in new neighborhoods					
	Problem 2						
	Main Sector	Infrastructure					
	Priority	2					
	Description of Problem	Not all neighborhoods and residents of Barja are connected to the wastewater network					
	Reasons of Problem	Absence of funding No lands appropriated					
Impact of Problem	Infiltration of wastewater and spreading of disease Resorting to septic pits without any proper studies						
Available Resources	Some septic pits without pumps						
Unavailable Resources	Financial resources Engineers						
Suggested Solutions	Construction of common (shared) septic pits with pumps for the inaccessible locations						
Problem 3							
Main Sector	Infrastructure						
Priority	3						
Description of Problem	Absence of full maintenance for the existing wastewater networks						
Reasons of Problem	Absence of funding						
Impact of Problem	Wearing out of the wastewater network, and merging of wastewater network with water network						
Available Resources	Existing wastewater networks						
Unavailable Resources	Financial resources Engineers Experts						
Suggested Solutions	Continuous maintenance, and separation of wastewater network from water network						
Problem 4							
Main Sector	Infrastructure						
Priority	4						
Description of Problem	No treatment of wastewater before disposing of it in random manner						
Reasons of Problem	Not operating the treatment plant						
Impact of Problem	Pollution of soil, underground water and sea						
Available Resources	Treatment plant is not properly equipped						
Unavailable Resources	Financial resources Experts						
Suggested Solutions	Striving to make the treatment plant operational						

Village of Borj Hammoud							
Risk 1	Description	Increase in environmental pollution	Action Party 1	Municipality	Affected 1	Residents	
	Main Sector	Environment	Action Party 2		Affected 2		
	Other Sector		Action Party 3		Affected 3		
	Degree of Impact	3: Medium	Action Party 4		Affected 4		
	Risk Recurrence	3: Probable	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	5			
	Problem 1						
	Main Sector	Infrastructure					
	Priority	1					
	Description of Problem	Population density and absence of green zones					
Reasons of Problem	Lack of maintenance of wastewater network						
Impact of Problem	Contamination of potable water						
Available Resources	Human resources						
Unavailable Resources	Financial resources						
Suggested Solutions	Enlarging the cleaning teams						
Problem 2							
Main Sector	Infrastructure						
Priority	2						
Description of Problem	Pollution of water from industrial solid waste						
Reasons of Problem	Absence of supervision over factories and slaughter houses						
	Pollution of the sea						
Impact of Problem							
Available Resources	Human resources						
Unavailable Resources	Financial resources						
Suggested Solutions	Setting in place awareness programs on the regulation of garbage throwing						
Problem 3							
Main Sector	Environment						
Priority	3						
Description of Problem	Pollution of air from generators and gas oil						
Reasons of Problem	Lack of maintenance of wastewater network						
Impact of Problem	Propagation of asthma and cancer types						
Available Resources	Human resources						
Unavailable Resources	Financial resources						
Suggested Solutions	Reforestation of public spaces						

Village of Chhim							
Risk 1	Description	Increase in environmental pollution	Action Party 1	Ministry of Energy & Water	Affected 1	Local community	
	Main Sector	Infrastructure	Action Party 2	Municipality	Affected 2		
	Other Sector		Action Party 3		Affected 3		
	Degree of Impact	5: Very Large	Action Party 4		Affected 4		
	Risk Recurrence	4: High Probability	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	1			
	Problem 1						
	Main Sector	Infrastructure					
	Priority	1					
	Description of Problem	Pollution of underground potable water					
	Reasons of Problem	Population density resulting from refugees influx					
	Impact of Problem	Increase in the cases of food poisoning					
	Available Resources	Human resources					
	Unavailable Resources	Engineers Financial resources					
	Suggested Solutions	Enlarging and renovating the network					
Problem 2							
Main Sector	Infrastructure						
Priority	2						
Description of Problem	Weakness of wastewater networks						
Reasons of Problem	Lack of cooperation among municipalities regarding wastewater networks Old and disorganized network Shortage in financial resources						
Impact of Problem	Contamination of potable water, and environmental pollution Increase in skin diseases						
Available Resources	Human resources						
Unavailable Resources	Financial resources						
Suggested Solutions	Operating the treatment plant in Jiyeh						

Village of Chiayah							
Risk 1	Description	Threat to health and general safety	Action Party 1	Ministry of Energy & Water	Affected 1	Town inhabitants	
	Main Sector	Infrastructure	Action Party 2	Municipality	Affected 2	Displaced Syrians	
	Other Sector		Action Party 3	Ministry of Environment	Affected 3		
	Degree of Impact	5: Very Large	Action Party 4		Affected 4		
	Risk Recurrence	5: Very High Probability	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	1			
	Problem 1						
	Main Sector	Infrastructure					
	Priority	1					
	Description of Problem	Shortage and pollution of water					
	Reasons of Problem	- Lack of investment in rain water catchment - Population density - Misuse of water					
	Impact of Problem	Spreading of diseases					
	Available Resources	- Municipality - Experts - Specialists					
	Unavailable Resources	- Water purification filters - Artesian wells - Additional potable water networks					
	Suggested Solutions	- Plan for handling the issue of wastewater - Coordination with relevant parties to work on providing additional water networks					

Village of Choueir							
Risk 1	Description	Increase of pollution	Action Party 1	Municipality	Affected 1	Residents	
	Main Sector	Infrastructure	Action Party 2		Affected 2		
	Other Sector		Action Party 3		Affected 3		
	Degree of Impact	5: Very Large	Action Party 4		Affected 4		
	Risk Recurrence	5: Very High Probability	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	5			
	Problem 1						
	Main Sector	Infrastructure					
	Priority	2					
	Description of Problem	Breakdown of water stations					
Reasons of Problem	Mud and frost Water pollution						
Impact of Problem	Water not reaching the houses Health problems						
Available Resources	Rain water Existence of municipality Communication with relevant ministries						
Unavailable Resources	Human resources, wells						
Suggested Solutions	Empowering role of ministry for this issue Construction of wells Rain water catchment and pumping						
Problem 2							
Main Sector	Infrastructure						
Priority	4						
Description of Problem	Absence of 24 hours (government) electricity supply						
Reasons of Problem	Old electricity network						
Impact of Problem	Burden on municipality to provide electricity						
Available Resources	Availability of generators owned by the municipality, with the financial costs of operation and maintenance						
Unavailable Resources	Cables						
Suggested Solutions	Rehabilitation of the network in some areas and continuation of its maintenance						

Village of Daraiya							
Risk 1	Description	Increase of population density	Action Party 1	Municipality	Affected 1	Residents	
	Main Sector	Infrastructure	Action Party 2	Ministry of Energy & Water	Affected 2		
	Other Sector		Action Party 3		Affected 3		
	Degree of Impact	4: Large	Action Party 4		Affected 4		
	Risk Recurrence	4: High Probability	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	6			
	Problem 1						
	Main Sector	Infrastructure					
	Priority	1					
	Description of Problem	Incomplete wastewater network					
Reasons of Problem	Absence of funding to complete the network						
Impact of Problem	Increase in pollution and spreading of bad odors						
Available Resources	Structure of the network Human resources						
Unavailable Resources	Expert engineers Financial resources						
Suggested Solutions	Completion of the wastewater network						
Problem 2							
Main Sector	Infrastructure						
Priority	2						
Description of Problem	Unavailability of rain drain canals						
Reasons of Problem	New road, and no redirection at the municipality						
Impact of Problem	Damage to buildings and wasting of water in the Horsh area						
Available Resources	Human resources						
Unavailable Resources	Financial resources						
Suggested Solutions	Construction of new water canals						

Village of Hamlaya							
Risk 1	Description	Increase in the level of diseases, epidemics and pollution	Action Party 1	Municipality	Affected 1	Residents of the community	
	Main Sector	Infrastructure	Action Party 2		Affected 2		
	Other Sector		Action Party 3		Affected 3		
	Degree of Impact	5: Very Large	Action Party 4		Affected 4		
	Risk Recurrence	5: Very High Probability	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	6			
	Problem 1						
	Main Sector	Infrastructure					
	Priority	1					
	Description of Problem	Inexistence of wastewater network					
Reasons of Problem	Financial						
Impact of Problem	Diseases Infiltration of wastewater Bad odors						
Available Resources	None						
Unavailable Resources	Tank truck Network						
Suggested Solutions	Providing a tank truck to remove the wastewater / Construction of a wastewater network						
Problem 2							
Main Sector	Infrastructure						
Priority	2						
Description of Problem	Type of land is mountainous						
Reasons of Problem	Geographical						
Impact of Problem	Causing water pollution						
Available Resources	Existence of active municipality Location Existence of a project plan at CDR not yet executed Municipality obtaining the plans						
Unavailable Resources	2 treatment plants						
Suggested Solutions	Construction of 2 wastewater treatment plants at the river bank, and the use of effluent for irrigation						

Village of Hammana							
Risk 1	Description	Risk of land slides and road slides	Action Party 1	Municipality	Affected 1	Local residents	
	Main Sector	Infrastructure	Action Party 2		Affected 2	Cars	
	Other Sector		Action Party 3		Affected 3		
	Degree of Impact	5: Very Large	Action Party 4		Affected 4		
	Risk Recurrence	5: Very High Probability	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	1			
	Problem 1						
	Main Sector	Infrastructure					
	Priority	1					
	Description of Problem	Increased pressure on wastewater system Old plant established for a specific number of inhabitants; unable to handle the increase in population due to the influx Large number of inhabitants in same house					
Reasons of Problem	Environmental pollution						
Impact of Problem	Availability of study						
Available Resources	Larger capacity Air blowers Valves Electronic control panel Tools for treating wastewater Incubators Curing concrete Painting Landscaping Polishing water						
Unavailable Resources	Rehabilitation of existing plant, and expanding it at a later time						
Suggested Solutions	Problem 2						
Main Sector	Infrastructure						
Priority	3						
Description of Problem	Contamination of potable water						
Reasons of Problem	Merging of wastewater with potable water						
Impact of Problem	Diseases and epidemics among local residents						
Available Resources	Presence of water						
Unavailable Resources	Human resources specifically workers, and financial resources to cover costs						
Suggested Solutions	Maintenance of river source for potable water						

Village of Haret En Naame							
Risk 1	Description	Increase in population density and haphazard construction of buildings	Action Party 1	Municipality	Affected 1	Local residents	
	Main Sector	Infrastructure	Action Party 2		Affected 2		
	Other Sector		Action Party 3		Affected 3		
	Degree of Impact	4: Large	Action Party 4		Affected 4		
	Risk Recurrence	4: High Probability	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	6			
	Problem 1						
	Main Sector	Infrastructure					
	Priority	1					
	Description of Problem	Inexistence of potable water network					
Reasons of Problem	Absence of financing sources						
Impact of Problem	Spreading of epidemics						
Available Resources	Human resources						
Unavailable Resources	Financial resources						
Suggested Solutions	Completion of wastewater network						
Problem 2							
Main Sector	Social Cohesion						
Priority	2						
Description of Problem	Bad organization of roads						
Reasons of Problem	Lack of monitoring and control						
Impact of Problem	Chaos and inability to regulate traffic						
Available Resources	Human resources						
Unavailable Resources	Financial resources						
Suggested Solutions	Setting conditions and monitoring over construction						

Village of Haret Hreik							
Risk 1	Description	Threat to health and general safety	Action Party 1	Ministry of Energy & Water	Affected 1	Town inhabitants	
	Main Sector	Infrastructure	Action Party 2	Municipality	Affected 2	Displaced Syrians	
	Other Sector		Action Party 3	Ministry of Environment	Affected 3		
	Degree of Impact	3: Medium	Action Party 4		Affected 4		
	Risk Recurrence	3: Probable	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	4			
	Problem 1						
	Main Sector	Infrastructure					
	Priority	1					
	Description of Problem	Shortage and pollution of water					
Reasons of Problem	<ul style="list-style-type: none"> - Weakness of artesian wells - Inexistence of maintenance of water network 						
Impact of Problem	Increases in diseases						
Available Resources	<ul style="list-style-type: none"> - Municipality - Service centers and associations 						
Unavailable Resources	<ul style="list-style-type: none"> Water tanks for storage Connections to the network 						
Suggested Solutions	<ul style="list-style-type: none"> - Plan for the catchment of rain water - Awareness and guidance on the disposal of water - Support to the water network 						

Village of Jive							
Risk 1	Description	Increase of water pollution	Action Party 1	Ministry of Energy & Water	Affected 1	Town host families	
	Main Sector	Infrastructure	Action Party 2	Municipality	Affected 2	Local community	
	Other Sector		Action Party 3		Affected 3		
	Degree of Impact	4: Large	Action Party 4		Affected 4		
	Risk Recurrence	4: High Probability	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	3			
	Problem 1						
	Main Sector	Infrastructure					
	Priority	1					
	Description of Problem	Few sources of potable water					
Reasons of Problem	Increase in the number of residents and refugees						
Impact of Problem	Water shortage						
Available Resources							
Unavailable Resources	Financial resources						
Suggested Solutions	Digging of new artesian wells						
Problem 2							
Main Sector	Infrastructure						
Priority	1						
Description of Problem	Absence of wastewater network in the new neighborhoods of Barja						
Reasons of Problem	Absence of funding						
Impact of Problem	Resorting to septic pits without proper studies						
Available Resources	Incomplete networks						
Unavailable Resources	Financial resources Engineers						
Suggested Solutions	Construction of new network for the new neighborhoods						
Problem 3							
Main Sector	Infrastructure						
Priority	2						
Description of Problem	Inability of existing network's capacity to handle increase in pressure						
Reasons of Problem	Absence of funding No lands appropriated						
Impact of Problem	Network bursting on main roads Infiltration of wastewater and spreading of diseases						
Available Resources	Some septic pits without pumps						
Unavailable Resources	Financial resources Engineers						
Suggested Solutions	Construction of common (shared) septic pits with pumps for the inaccessible locations						
Problem 4							
Main Sector	Infrastructure						
Priority	2						
Description of Problem	Inexistence of wastewater system						
Reasons of Problem	Shortage in networks						
Impact of Problem	Pollution of underground water						
Available Resources							
Unavailable Resources	Financial resources						
Suggested Solutions	Completion of the wastewater network						
Problem 5							
Main Sector	Infrastructure						
Priority	3						
Description of Problem	Absence of full maintenance for the existing wastewater networks						
Reasons of Problem	Absence of funding						
Impact of Problem	Wearing out of the wastewater network, and merging of wastewater network with water network						
Available Resources	Existing wastewater networks						
Unavailable Resources	Financial resources Engineers Experts						
Suggested Solutions	Continuous maintenance, and separation of wastewater network from water network						
Problem 6							
Main Sector	Infrastructure						
Priority	4						
Description of Problem	No treatment of wastewater before discharging it in random way						
Reasons of Problem	Not operating the treatment plant						
Impact of Problem	Pollution of soil, underground water and sea						
Available Resources	Non equipped treatment plant						
Unavailable Resources	Financial resources Experts						
Suggested Solutions	Working on operating the treatment plant						

Village of Kaifoun						
	Description	Increase in pollution and diseases / Loss of agriculture	Action Party 1	Ministry of Energy & Water	Affected 1	Citizens
	Main Sector	Infrastructure	Action Party 2	Municipality	Affected 2	
	Other Sector		Action Party 3		Affected 3	
	Degree of Impact	5: Very Large	Action Party 4		Affected 4	
	Risk Recurrence	4: High Probability	Action Party 5		Affected 5	
	Duration of Impact	Always	Priority	1		
			Problem 1			
	Main Sector	Infrastructure				
	Priority	1				
	Description of Problem	Water scarcity especially in summer				
	Reasons of Problem	Water supply				
	Impact of Problem	Need to buy water is an additional cost on inhabitants				
	Available Resources	Barouk water Availability of a study Support of Mrs. Layla Al Solh (well known Lebanese ex-Minister and philanthropist)				
Risk 1	Unavailable Resources	Wells of Jisr Al Gadi area Other well				
	Suggested Solutions	Completion of the project of the Jisr Al Gadi wells with a treatment station Digging a well and retrieving its water Follow up with the MoEW Tanks/reservoirs				
			Problem 2			
	Main Sector	Infrastructure				
	Priority	2				
	Description of Problem	Old wastewater network				
	Reasons of Problem	Increase in the population number, and inability of wastewater network's capacity to handle it				
	Impact of Problem	The wastewater is discharged in the valley, polluting the underground water Pollution and loss of agriculture				
	Available Resources	Line to the Ghadir treatment plant that benefits the upper area (of town) and not the lower area				
	Unavailable Resources	Line to the Ghadir treatment plant				
	Suggested Solutions	Sewage line in the neighborhoods Rehabilitation of the wastewater network Commissioning an expert party to undertake full study and mapping of the wastewater situation, to link a new network to the old network				

Village of Ketermaya							
Risk 1	Description	Increase in air and water pollution	Action Party 1	Municipality	Affected 1	Town host families	
	Main Sector	Infrastructure	Action Party 2		Affected 2		
	Other Sector		Action Party 3		Affected 3		
	Degree of Impact	4: Large	Action Party 4		Affected 4		
	Risk Recurrence	4: High Probability	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	6			
	Problem 1						
	Main Sector	Infrastructure					
	Priority	1					
	Description of Problem	Pollution of underground water					
Reasons of Problem	Existence of private septic pits but inexistence of wastewater canals						
Impact of Problem	Contamination of water with germs and causing diseases						
Available Resources	Human resources						
Unavailable Resources	Financial resources						
Suggested Solutions	Management (treatment) of the presence of septic pits						
Problem 2							
Main Sector	Infrastructure						
Priority	2						
Description of Problem	Pollution of the sea and damage to the beach						
Reasons of Problem	Unavailability of wastewater treatment plants						
Impact of Problem	Pollution of the sea water and threat to fishing resources						
Available Resources	Human resources						
Unavailable Resources	Financial resources and experts						
Suggested Solutions	Establishment of wastewater treatment plants on national level						

Village of Kfar Nabrah							
Risk 1	Description	Pollution of underground water	Action Party 1	Ministry of Interior	Affected 1	Town inhabitants	
	Main Sector	Infrastructure	Action Party 2	Ministry of Environment	Affected 2		
	Other Sector		Action Party 3	NGOs	Affected 3		
	Degree of Impact	5: Very Large	Action Party 4		Affected 4		
	Risk Recurrence	5: Very High Probability	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	1			
	Problem 1						
	Main Sector	Infrastructure					
	Priority	1					
	Description of Problem	Unavailability of wastewater system					
Reasons of Problem	Unavailability of financial resources						
Impact of Problem	Diseases and epidemics caused by the propagation of wastewater on the roads						
Available Resources	None						
Unavailable Resources	Wastewater network						
Suggested Solutions	Providing financial liquidity sufficient for the construction of wastewater networks and treatment plant, and linking them to all the houses						

Village of Mairouba							
Risk 1	Description	Spreading of cancer and other diseases	Action Party 1	Municipality	Affected 1	Town residents	
	Main Sector	Infrastructure	Action Party 2		Affected 2		
	Other Sector		Action Party 3		Affected 3		
	Degree of Impact	4: Large	Action Party 4		Affected 4		
	Risk Recurrence	5: Very High Probability	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	1			
	Problem 1						
	Main Sector	Infrastructure					
	Priority	2					
	Description of Problem	Inefficiency of the newly established water network					
Reasons of Problem	Problems in the study and its implementation Providing water to Ooyoun Al Siman area Wasting of water, water not reaching Mairouba						
Impact of Problem	Water shortage Water not fully distributed upon neighborhoods						
Available Resources	Existence of dam Availability of land owned by convents						
Unavailable Resources	Land and financial resources						
Suggested Solutions	Construction of an independent water tank/reservoir dedicated for Mairouba Digging of artesian well in addition to the dedicated tank/reservoir						
Problem 2							
Main Sector	Infrastructure						
Priority	4						
Description of Problem	Problems in the electricity network						
Reasons of Problem	Old electricity network						
Impact of Problem	Electricity not supplied fully to houses						
Available Resources	Existence of old network, and availability of wooden poles for public lighting						
Unavailable Resources	Financial resources New network, and iron poles for public lighting						
Suggested Solutions	Rehabilitation and maintenance of the electricity network, and setting additional networks Establishing public lighting in internal roads using solar power						

Village of Mansouriyeh							
Risk 1	Description	Environmental pollution and population displacement	Action Party 1	Municipality	Affected 1	Residents	
	Main Sector	Infrastructure	Action Party 2		Affected 2		
	Other Sector		Action Party 3		Affected 3		
	Degree of Impact	5: Very Large	Action Party 4		Affected 4		
	Risk Recurrence	5: Very High Probability	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	1			
	Problem 1						
	Main Sector	Infrastructure					
	Priority	2					
	Description of Problem	Breakdowns in the electricity network					
Reasons of Problem	No maintenance of the electricity network Weakness of connection lines between Mansouriyeh and Aain Al Marj areas No maintenance of road network						
Impact of Problem	Displacement and safety of population Land slides						
Available Resources	Existence of small generator Existence of electricity poles Human resources specifically engineers and labor force						
Unavailable Resources	Equipment, and financial resources						
Suggested Solutions	Enlarging capacity of the generator or getting a new one Rehabilitation of network in Aain Al Marj area Construction of network in Aain Al Fardis area Rehabilitation of roads						
Problem 2							
Main Sector	Infrastructure						
Priority	3						
Description of Problem	Scarcity of potable water						
Reasons of Problem	Scarcity in water pumped from Barouk Breakdowns in water network due to wearing out of pipes Improper handling / neglect by the government						
Impact of Problem	Health impacts and impact on summer tourism						
Available Resources	Availability of public tank, land and studies						
Unavailable Resources	Financial						
Suggested Solutions	Rehabilitation of the network to ensure equitable pumping Construction of treatment plant						

Village of Remhala							
Risk 1	Description	Increase in pollution	Action Party 1	Municipality	Affected 1	Residents	
	Main Sector	Infrastructure	Action Party 2		Affected 2		
	Other Sector		Action Party 3		Affected 3		
	Degree of Impact	4: Large	Action Party 4		Affected 4		
	Risk Recurrence	4: High Probability	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	2			
	Problem 1						
	Main Sector	Infrastructure					
	Priority	1					
	Description of Problem	Weak electricity (governmental)					
Reasons of Problem	Increase of consumption pressure on the network						
Impact of Problem	Electricity not reaching town residents						
Available Resources	Generator owned by the municipality Facilitations offered by the Ministry of Energy and Water						
Unavailable Resources	Electricity not reaching town residents						
Suggested Solutions	Increasing station inputs, and installing new electricity stations for some of the neighborhoods Enlarging and equipping the generator Support for alternative energy; using solar power for public lighting and water heating Replacing the generator						
Problem 2							
Main Sector	Infrastructure						
Priority	2						
Description of Problem	Unavailability of water						
Reasons of Problem	Unavailability of sufficient water sources Old water network						
Impact of Problem	Water not reaching town residents Water not reaching all parts of town						
Available Resources	Artesian well						
Unavailable Resources	Water purification and treatment plant Electricity plant						
Suggested Solutions	Finding new water sources, and rehabilitation of the network						

Village of Rmaile							
Risk 1	Description	Increase in disease level	Action Party 1	Municipality	Affected 1	Residents	
	Main Sector	Infrastructure	Action Party 2	Ministry of Energy & Water	Affected 2		
	Other Sector		Action Party 3		Affected 3		
	Degree of Impact	4: Large	Action Party 4		Affected 4		
	Risk Recurrence	4: High Probability	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	2			
	Problem 1						
	Main Sector	Infrastructure					
	Priority	1					
	Description of Problem	Absence of sewer line Roads are not maintained and rehabilitated					
Reasons of Problem	Lack of funding Delay by CDR in execution of infrastructure projects						
Impact of Problem	Increased reliance on septic pits which is polluting the underground water Collapse of roads Decrease in investments in tourism						
Available Resources	Wastewater network Land intended for use						
Unavailable Resources	Funding sources Human resources						
Suggested Solutions	Completion of wastewater projects						
Problem 2							
Main Sector	Infrastructure						
Priority	2						
Description of Problem	Main network for potable water is unavailable						
Reasons of Problem	Lack of funding BMLWE not carrying out studies and not executing projects						
Impact of Problem	Potable water not available to all residents						
Available Resources	Wastewater network						
Unavailable Resources	Funding sources Human resources						
Suggested Solutions	Renewing the potable water network						
Problem 3							
Main Sector	Infrastructure						
Priority	3						
Description of Problem	Increase in the number of refugees and discharging their water in legal manner						
Reasons of Problem	Lack of directed planning and of civic organization						
Impact of Problem	Pollution of underground water						
Available Resources	Volunteers						
Unavailable Resources	Funding sources Human resources						
Suggested Solutions	Putting in place studies for enlargement of the network and for its replacement in a better way						

Village of Sofar						
	Description	Additional displacement whether temporary or permanent, worsening economy and worsening tourism	Action Party 1	Municipality	Affected 1	Town residents
	Main Sector	Infrastructure	Action Party 2		Affected 2	
	Other Sector		Action Party 3		Affected 3	
	Degree of Impact	4: Large	Action Party 4		Affected 4	
	Risk Recurrence	4: High Probability	Action Party 5		Affected 5	
	Duration of Impact	Always	Priority	1		
	Problem 1					
	Main Sector	Infrastructure				
	Priority	1				
	Description of Problem	Shortage and scarcity of water				
	Reasons of Problem	Transgressions on the network The need for rehabilitation				
	Impact of Problem	Impact on agriculture Additional cost on residents for purchasing water				
	Available Resources	Network / availability of springs / availability of tank Availability of study at the municipality for the construction of 3 tanks/reservoirs to be used during winter time				
	Unavailable Resources	Funding sources Human resources				
	Suggested Solutions	Activating governmental supervision to prohibit transgressions on the network Rehabilitation of the network Finding other water sources, such as drilling artesian wells to reach underground water Awareness and guidance on the discharge of water Rehabilitation of some existing tanks/reservoirs				
	Problem 2					
Risk 1	Main Sector	Infrastructure				
	Priority	2				
	Description of Problem	Problem in the wastewater network				
	Reasons of Problem	Need for linking secondary networks to the main networks, in order to have new residential units connected Absence of treatment plants Maintenance of wastewater networks Unability of current network's capacity to handle the surrounding areas				
	Impact of Problem	Pollution of the environment, agriculture and water				
	Available Resources	Existence of main network Existence of a study for Sofar and surrounding villages				
	Unavailable Resources	Secondary networks Maintenance of the main network Treatment plant Financial resources				
	Suggested Solutions	Renovating and rehabilitating the wastewater network Construction of treatment plants Separating Sofar's wastewater network from surrounding areas				
	Problem 3					
	Main Sector	Infrastructure				
Priority	4					
Description of Problem	Continuous cuts in electricity (governmental)					
Reasons of Problem	Governmental neglect Continuous need for rehabilitation of the network					
Impact of Problem	Additional cost on residents due to expensive prices of generators in the area					
Available Resources	Availability of private generators, and of network					
Unavailable Resources	Relevant parties in government					
Suggested Solutions	Execution of the decree prohibiting power to be cut from touristic villages in the summer season Maintenance and updating of the station by the Ministry of Energy & Water specially during winter Updating generators Stopping transgressions on the network					

Village of Souq Al Gharb							
Risk 1	Description	Spreading of diseases and terminating the summer tourism season	Action Party 1	Municipality	Affected 1	Residents	
	Main Sector	Infrastructure	Action Party 2		Affected 2		
	Other Sector		Action Party 3		Affected 3		
	Degree of Impact	5: Very Large	Action Party 4		Affected 4		
	Risk Recurrence	5: Very High Probability	Action Party 5		Affected 5		
	Duration of Impact	Always	Priority	1			
	Problem 1						
	Main Sector	Infrastructure					
	Priority	1					
	Description of Problem	Potable water from Barouk spring not reaching residents					
	Reasons of Problem	Improper distribution of water by the government					
	Impact of Problem	Loss of agriculture Increased cost on residents to buy water					
	Available Resources	An artesian well was dug, but no water was found for pumping Availability of study Preliminary approval by the relevant ministry					
	Unavailable Resources	Dedicated network Tank/reservoir Well Generators					
	Suggested Solutions	Digging a new artesian well in a location different than previous one, and linking it to the main network					
Problem 2							
Main Sector	Infrastructure						
Priority	3						
Description of Problem	Old electricity network						
Reasons of Problem	Lack of follow up and maintenance by the government						
Impact of Problem	Additional costs borne by residents						
Available Resources	Municipal generators providing electricity at cost price						
Unavailable Resources	Transformers, network and financial resources						
Suggested Solutions	Rehabilitation of the network Strengthening and enlarging capacity of generators						

(3) レバノン下水処理施設一覧

レバノン全国の下水道施設

No.	Caza	Project Name	Treatment	Status	Capacity	Managed	Funding Agency	Population served
1	Bekaa	laat	Secondary	Completed	120 000	Bekaa Water Establishment	IBRD	88 000
2	West Bekaa	Jeb Jannine	Tertiary	Completed	10 000	CDR	IDB	67 000
3	Zahle	Ferzol	Secondary	Completed	1 000	Municipality	USAID	7 400
4	West Bekaa	Mashghara	Secondary	Completed	5 000	Union of Municipalities	USAID	357 000
5	Batroun	Chekka	Secondary	Completed	-	CDR	-	24 000
6	Bekaa	Eastern Bekka	Secondary	Completed	160	Municipality	USAID	1 000
7	Bekaa	Western Bekka	Secondary	Completed	160	-	USAID	6 000
8	Rashaiya	Yanta Southern	Secondary	Completed	240	Municipality	USAID	1 250
9	Rashaiya	Yanta Northern	Secondary	Completed	120	Municipality	USAID	750
10	Chouf	Nabi Younes	-	Completed	-	-	France	88 000
11	Maten	Bourj Hammoud	Primary	under preparation	-	-	-	2 000 000
12	Baalbak	Deir Al Ahmar	Secondary	Completed	3 000	Municipality	USAID	3 500
13	Chouf	Barouk	-	Under preparation	8 000	-	-	-
14	Chouf	Safa	-	Under preparation	20 000	-	-	-
15	Keserwan	Jeita-Keserwan	-	Under preparation	-	-	-	505 000
16	Nabatieh	Nabatieh	Secondary	Under preparation	-	-	-	100 000

No.	Caza	Project Name	Treatment	Status	Capacity	Managed	Funding Agency	Population served
17	Baabda	Hammana	Secondary	Completed	1 050	-	-	7 000
18	Rachaiya	Kawkaba	Secondary	Completed	135	Municipality	USAID	2 000
19	Nabatieh	El Mari	Secondary	Completed	220	Municipality	USAID	1 300
20	Dinniyeh	Markibta	Secondary	Completed	195	Municipality	USAID	1 300
21	Jezzine	Wadi jezzine	Secondary	Completed	150	Municipality	USAID	1 500
22	Saida	Barteh	Secondary	Completed	195	Municipality	USAID	1 300
23	Jezzine	Ghobbatie	Secondary	Completed	250	Municipality	USAID	2 800
24	Jezzine	El Rihan	Secondary	Completed	820	Municipality	USAID	4 500
25	Jezzine	Snayya	Secondary	Completed	60	Municipality	USAID	600
26	Jezzine	Haytoura	Secondary	Completed	100	Municipality	USAID	1 000
27	Jezzine	Aychieh	Secondary	Completed	150	Municipality	USAID	1 500
28	Chouf	Ammatour	Secondary	Completed	900	Municipality	USAID	-
29	Chouf	Maasser El Chouf	Secondary	Completed	450	Federation of Higher	USAID	3 000
30	Chouf	Khraibeh	Secondary	Completed	450	Municipality	USAID	3 000
31	Chouf	Bchetfine	Secondary	Completed	120	Municipality	USAID	1 200
32	Baabda	Qornayel	Secondary	Completed	900	Municipality	USAID	6 000
33	Hasbaya	Al Fardis	Secondary	Completed	120	Municipality	USAID	1 200
34	Hasbaya	Ain Qenia	Secondary	Completed	1 125	Municipality	USAID	7 500
35	Hasbaya	Hebbariye	Secondary	Completed	920	Municipality	USAID	9 200

No.	Caza	Project Name	Treatment	Status	Capacity	Managed	Funding Agency	Population served
36	Hasbaya	Kfar Hamam	Secondary	Completed	115	Municipality	USAID	1 700
37	Hasbaya	Mimes 1&2	Secondary	Completed	120	Municipality	USAID	3 000
38	Rachaiya	Ain Harcha	Secondary	Completed	120	Municipality	USAID	1 200
39	Chouf	Jabaa El chouf	Secondary	Completed	300	Federation of Higher Chouf	USAID	2 000
40	Nabatieh	Kfar Fila	Secondary	Completed	525	Municipality	USAID	3 500
41	Hasbaya	Chouaia	Secondary	Completed	50	Municipality	USAID	700
42	Hasbaya	Ain Jarfa 1&2	Secondary	Completed	375	Municipality	USAID	2 500
43	Hasbaya	Abou Qamaha	Secondary	Completed	90	Municipality	USAID	600
44	Hasbaya	Kfeir	Secondary	Completed	450	Municipality	USAID	3 000
45	Marjayoun	Qlaiyaa 1	Secondary	Completed	600	Municipality	USAID	4 000
46	Marjayoun	Qlayiaa 2	Secondary	Completed	200	Municipality	USAID	1 300
47	Marjayoun	Deir Mimass	Secondary	Completed	200	Municipality	USAID	1 300
48	Hasbaya	Marj el Zouhour	Secondary	Completed	120	Municipality	USAID	1 200
49	Akkar	Bqerzala	Secondary	Completed	-	Municipality	USAID	1 800
50	Akkar	Hmaira	Secondary	Completed	40	Municipality	USAID	600
51	Akkar	Charbilla	Secondary	Completed	-	Municipality	USAID	1 152
52	Rachaiya	Rachayia	Secondary	Completed	100	Municipality	USAID	6 000
53	Rachaiya	Haouch el Quninaabe	Secondary	Completed	100	Municipality	USAID	1 000

No.	Caza	Project Name	Treatment	Status	Capacity	Managed	Funding Agency	Population served
54	Sour	Sour	Secondary	-	-	CDR	EIB	200 000
55	West Bekaa	Kellaya	Secondary	-	-	MHER	-	-
56	West Bekaa	Yohmor	Secondary	-	-	MHER	-	-
57	West Bekaa	Qaraaoun	Secondary	under preparation	24 000	MHER	Italy	-
58	West Bekaa	Saghbine	Secondary	Completed	560	MHER	-	3 700
59	West Bekaa	Deir Tahnic	Secondary	-	-	MHER	-	-
60	Saida	Saida	Primary	Completed	-	CDR	Japan	390 000
61	Chouf	Serjbal	Secondary	-	-	CDR	-	-
62	Chouf	Wadi Es Sit	Secondary	-	-	CDR	-	-
63	Aley	Jisr El Kadi	Secondary	-	-	CDR	-	40 000
64	Chouf	Nabaa Es Safa & Ain Zhalta	Secondary	-	-	CDR	-	20 000
65	Aley	Ghadir Stp	Primary	Completed	-	CDR	Germany	250 000
66	Maten	Dora Stp	Primary	-	-	CDR	-	-
67	Maten	Bteghrine	Secondary	-	-	CDR	-	-
68	Zahle	Zahlé	Tertiary	Under preparation	35 000	MOE/CDR	Italy	-
69	Zahle	Timne Tahta	Secondary	Under preparation	-	MHER	-	100 000
70	Jbeil	Jbail	Secondary	Under preparation	35 500	CDR	France	800 000
71	Jbeil	Kafr	Secondary	-	-	CDR	-	-
72	Jbeil	Ain Kfaa	Secondary	-	-	CDR	-	-

No.	Caza	Project Name	Treatment	Status	Capacity	Managed	Funding Agency	Population served
73	Jbeil	Haqel	Secondary	-	-	CDR	-	-
74	Jbeil	El Kharbe	Secondary	-	-	CDR	-	-
75	Jbeil	Tartij	Secondary	-	-	CDR	-	-
76	Jbeil	Laqlouk	Secondary	-	-	CDR	-	-
77	Jbeil	Qartaba	Secondary	Under preparation	-	CDR	Italy	11 600
78	Jbeil	Lassa	Secondary	-	-	CDR	-	-
79	Jbeil	Yanouh	Secondary	-	-	CDR	-	-
80	Jbeil	Qarqaiya	Secondary	-	-	CDR	-	-
81	Batroun	Selata	Secondary	-	-	CDR	-	30 000
82	Baalbeck	Hasroun	Secondary	Under preparation	-	MHER	-	4 800
83	Bcharré	Bcharré	Secondary	Completed	-	MHER	-	17 600
84	Tripoli	Tripoli	Secondary	Completed	-	CDR	EIB	1 000 000
85	Akkar	El Abdé	Secondary	Under preparation	185 000	MHER	-	-
86	Jbeil	Bchille	Secondary	-	-	CDR	-	-
87	Jbeil	Chloumay	Secondary	-	-	CDR	-	-
88	Baalbeck	Chlifa	Secondary	-	-	MHER	-	-
89	Keserwan	Maamaltein	Secondary	Under preparation	-	CDR	-	-
90	Baalbeck	Mrah Abiad	Secondary	-	-	MHER	-	-
91	Hermel	Mrah El Dahar	Secondary	Under preparation	-	MHER	-	-
92	Hermel	Madaech	Secondary	Under preparation	-	MHER	-	-

No.	Caza	Project Name	Treatment	Status	Capacity	Managed	Funding Agency	Population served
93	Hermel	Houch Beit Ismail	Secondary	Under preparation	-	MHER	-	-
94	Akkar	Michmich	Secondary	Under preparation	-	MHER	Italy	68 000
95	Akkar	Jebrayel	Secondary	under preparation	-	MHER	France	61 500
96	Akkar	Akkar Atika 1&2&3	Secondary	Completed	260	MHER	USAID	2 550
97	Akkar	Qoubayat El Gharbie	Secondary	Completed	1 350	MHER	USAID	9 000
99	Akkar	Nahr Chadra	Secondary	-	-	MHER	-	-
99	Koura	Koura	-	-	-	CDR	France	-
100	Baalbeck	Laboué	Secondary	Under preparation	-	CDR	IBRD	47 000
101	Zahle	Ablah	Secondary	Completed	2 000	Municipality	USAID	14 630
102	Zgharta	Myriata	Secondary	-	-	-	-	-
103	Minieh-Danieh	Terbol	Secondary	-	-	-	-	-
104	Hermel	El Boustan	Secondary	-	-	-	MHER	-
105	Keserwan	Zouk	Secondary	-	-	-	-	-
106	Keserwan	Mazraat Kfarzebian	Secondary	Under preparation	-	-	-	35 000
107	Keserwan	Mairouba	Secondary	-	-	-	-	-
108	Jbeil	Ghalboun	Secondary	-	-	-	-	-
109	Keserwan	Halat - Nahr Ibrahim	Secondary	-	-	-	-	-
110	Maten	Mchikha	Secondary	-	-	-	-	-

No.	Caza	Project Name	Treatment	Status	Capacity	Managed	Funding Agency	Population served
111	Bcharré	Hadchit	Secondary	-	-	-	-	-
112	Bcharré	Blaouza	Secondary	-	-	-	-	-
113	Batroun	Haouqa	Secondary	-	-	-	-	-
114	Bcharré	Bana	Secondary	-	-	-	-	-
115	Batroun	Aabdibe	Secondary	-	-	-	-	-
116	Zgharta	Mazraat Al Nahr	Secondary	-	-	-	-	-
117	Bcharré	Barhalioun	Secondary	-	-	-	-	-
118	Bcharré	Mazraat Bani Saab	Secondary	-	-	-	-	-
119	Bcharré	Qnat	Secondary	-	-	-	-	-
120	Bcharré	Beit Menzer	Secondary	-	-	-	-	-
121	Bcharré	Qnaiouer	Secondary	-	-	-	-	-
122	Bcharré	Hdet Ej Jobeh	Secondary	-	-	-	-	-
123	Bcharré	Brissat	Secondary	-	-	-	-	-
124	Zgharta	Sebaal	Secondary	-	-	-	-	-
125	Zgharta	Aintourine	Secondary	-	-	-	-	-
126	Zgharta	Aslout	Secondary	-	-	-	-	-
127	Zgharta	Mazraat Tefah	Secondary	-	-	-	-	-
128	Zgharta	El Bheira	Secondary	-	-	-	-	-
129	Zgharta	Kfar Sghab	Secondary	-	-	-	-	-

No.	Caza	Project Name	Treatment	Status	Capacity	Managed	Funding Agency	Population served
130	Baabda	Tarchich	Secondary	-	-	-	-	-
131	Aley	Majdel Baana	Secondary	-	-	-	-	-
132	Aley	Ain El Halazoun	Secondary	-	-	-	-	-
133	Aley	Habramoun	Secondary	-	-	-	-	-
134	Aley	Roueisset En Naaman	Secondary	-	-	-	-	-
135	Chouf	Klailiye	Secondary	-	-	-	-	-
136	Chouf	Moukhtara	Secondary	-	-	-	-	-
137	Chouf	Ainbal	Secondary	-	-	-	-	-
138	Chouf	Bater	Secondary	-	900	-	-	6 000
139	Chouf	Gharife	Secondary	-	-	-	-	-
140	Chouf	Bsaba	Secondary	-	-	-	-	-
141	Chouf	Bkifa	Secondary	-	-	-	-	-
142	Chouf	Majdlouna	Secondary	-	-	-	-	-
143	Chouf	Mazraat El Mahtaqra	Secondary	-	-	-	-	-
144	Chouf	Baiqoun	Secondary	-	-	-	-	-
145	Baalbeck	Harfouch	Secondary	-	-	-	-	-
146	Zahle	Aanjar/merj	Secondary	Under preparation	-	-	Italy	300 000
147	Baalbeck	Yammouné	Secondary	under preparation	340	-	CDR	2 500
148	Minieh-Danieh	Bakhaoun	-	Under preparation	-	-	Italy	48 000

No.	Caza	Project Name	Treatment	Status	Capacity	Managed	Funding Agency	Population served
149	Batroun	Batroun	-	Under preparation	-	-	France	30 000
150	Hermel	Hermel	-	Under preparation	-	-	Italy	96 000
151	Hasbaya	Hasbaiya	-	Under preparation	-	-	Italy	-
152	Bent Jbail	Bent Jbail	-	Under preparation	-	-	Italy	-
153	Chouf	Mazraat Ech Chouf	-	Under preparation	-	-	Italy	-
154	Maten	Khenshara	-	Under preparation	-	-	-	-
155	Koura	Amioun	-	Under preparation	-	-	-	-
156	Keserwan	Hrajel	-	Under preparation	-	-	Italy	40 000
157	Bent Jbail	Chakra	-	Under preparation	-	-	Italy	-
158	Keserwan	Tabarja	-	Under preparation	-	-	JBIC	425 000
159	Chouf	Chouf Coastal Area	-	Under preparation	-	-	France	-
160	Nabatieh	Jbaa	Secondary	Completed	150	Municipality	USAID	-
161	Hasbaya	Chebaa	Secondary	Completed	900	Municipality	USAID	6 000
162	Hasbaya	Khiam	Secondary	Completed	600	Municipality	USAID	6 000
163	Saida	Sarafand	-	To be financed	-	-	-	-
164	Nabatieh	Kfarsir, Yohmour, Zawtar	-	Under preparation	-	-	-	-
165	Bent Jbail	Tebnin & Chakra	-	Under preparation	-	-	-	-
166	Hasbaya	Aarkoub	-	Under preparation	-	-	-	-

出典 : Assessment of treated wastewater for agriculture in Lebanon, Final report, FAO

USAIDの支援で建設された小規模下水道施設

WE	No.	Treatment Plant	Region	Served Population	Capacity (m ³ /day)	Complete date	USAID Investment (US\$)	
South Lebanon	1	Haytoura	Jezzine	1,000	100	2006	64,500	
	2	Snayya		600	60	2004	62,000	
	3	Aychieh		1,500	150	2005	119,000	
	4	Ghobbatieh		2,800	250	2006	183,000	
	5	Wadi Jezzine		1,500	150	2005	78,000	
	6	Barteh		1,300	195	2002	88,000	
	7	El Rihane		4,500	820	2002	NA	
	8	Jibaa 1&2	Nabatieh	1,000	150	2002	9,500	
	9	Krarkila	Hasbaya	3,500	525	2002	9,300	
	10	Chebaa		6,000	900	2002	100,000	
	11	Hasbaya/Ain Qunya		14,000	2,100	2002	108,000	
	12	Ain Qunya 2&3		7,500	1,125	2002	NA	
	13	Ain Qunya 4		Olive press	8	2002	NA	
	14	Khiam		6,000	600	2002	90,000	
	15	Ouazzani		175	26	2001	45,000	
	16	Ain Jarfa 1		2,500	375	2002	49,000	
	17	Ain Jarfa 2		Olive press	8	NA	NA	
	18	Abou Qamha		600	90	2002	14,000	
	19	Kheir		3,000	450	2002	180,000	
	20	Klaya 1		Marjeyoun	4,000	600	2002	208,000
	21	Klayaa 2			1,300	200	2002	NA
	22	Deir Mimes			1,300	200	2002	NA
	23	Majr el Zouhour		Hasbaya	1,200	120	2000	133,000
		Sub-Total	65,275	9,202		1,709,500		
North Lebanon	1	Bqerzia	Akkar	1,800	NA	1998	177,000	
	2	Hmaira		600	40	2002	65,000	
	3	Charbila		1,152	NA	1999	80,000	
	4	Kaws Akkar	Akkar/Atika	1,000	100	2000	120,000	
	5	Maakouda		1,000	100	2002	65,000	
	6	El Mrahret		550	60	2000	80,000	
	7	Andeq	Qoubayat	9,000	1,350	2001	299,000	
	8	Markibta	Dennieh	1,300	195	1999	89,000	
		Sub-Total	16,402					
Bekaa	1	Bakaa 1	Bekaa	1,000	160	1998	87,000	
	2	Bakaa 2		6,000	160	2002	55,000	
	3	Rachaya		6,000	600	2005	240,000	
	4	El Housh		1,000	100	2005	126,000	
	5	Aitanit	Bekaa (Aitanit, Baaloula, Machaghara & Quroun)	35,700	5,000	2009	6,000,000	
	6	Forzol		Bekaa	7,500	1,000	2009	4,000,000
	7	Ablah		15,000	2,000	2012	4,000,000	
	8	Jabbouleh		1,000	80	2001	39,900	
	9	Deir El Ahmar		3,000	300	2002	93,000	
	10	Chouaia	Rachaya	700	50	2007	117,000	
	11	Al Fardis		1,200	120	2007	414,500	
	12	Hebbaria		9,200	920	2007	350,000	
	13	Kfar Hamam		1,700	115	2007	128,000	
	14	El Mar		1,300	220	2007	131,000	
	15	Kawkaba		2,000	130	2007	225,000	

WE	No.	Treatment Plant	Region	Served Population	Capacity (m ³ /day)	Complete date	USAID Investment (US\$)
	17	Yanta 1&2		3,000	300	2002	160,000
	17	Mimes 1&2		3,000	120	2002	160,000
	18	Ain Harcha		1,200	120	2002	145,000
		Sub-Total		99,500	11,500		16,471,400
Mount Lebanon	1	Ammatour	Chouf	6,000	900	2007	876,000
	2	Maasser El Chouf, Addatour, Ain Qani, Baadaran, Haret Jandal		3,000	450	2007	518,000
	3	Bater		6,000	900	2007	1,228,000
	4	Moukhtara		3,000	450	2007	530,000
	5	Mrosti		1,500	225	2007	267,000
	6	Khraibeh		3,000	450	2007	880,000
	7	Jbaa		2,000	300	2007	241,000
	8	Hammana	Baadba	7,000	1,050	2000	166,000
	9	Kornayel		6,000	900	2002	183,000
			Sub-Total		37,500	5,625	
	58	Grand Total		218,677			24,044,900

出典 : SMALL VILLAGES WASTEWATER TREATMENT SYSTEMS PROGRAM, USAID, Jan.2013

USAIDの援助でYMCAが建設した下水道施設

	Village Name	Casa/ Mohafaza	世帯数/ 処理人口	設計能力 m ³ /日	処理法	現況	管網延長 (m)	プログラム名
1	Kfeir	Hasbaya /Nabatyeh	550/3,500	447	AS	2001 から稼働	15,000	Integrated Rural Development Project funded by USAID from 1997 till 2002
2	Marj el Zouhour	Hasbaya /Nabatyeh	200/1,000	120	AD+EA	2001 から稼働	5,800	
3	Mymess 1 (Southern)	Hasbaya /Nabatyeh	120/600	60	AS	停止	Existed + 1,500m Additional	
4	Mymess 2 (Western)	Hasbaya /Nabatyeh	200/1,000	120	AS	停止		
5	Yanta 1 (Southern)	Rachaya/Bekaa	240/1,200	240	AS	停止	13,750	
6	Yanta2 (Northern)	Rachaya/Bekaa	200/1,000	120	AS+EA	停止		
7	Ain Harcha	Rachaya /Bekaa	200/1,000	120	AAD +EA	2002 から稼働	5,340	
8	Maakouda Akkar el Atika	Akkar/North Lebanon	200/1,000	120	AAD +EA	停止	2,400	
9	Kaws Akkar Akkar el Atika	Akkar/North Lebanon	210/1,200	140	AAD +EA	1998 から稼働 改修が必要	7,500	
10	Mrahat Akkar el Atika	Akkar/North Lebanon	120/600	60	AAD +EA	1998 から稼働	2,500	
11	Wadi Jezzine	Jezzine/South Lebanon	300/1,500	150	AAD + Enzyme	2005 から稼働	2,400	Sustainable Environmental Practices and Policies project funded by USAID from 2003 till 2008.
12	Snayyah	Jezzine/South Lebanon	120/600	60	AAD +EA	2005 から稼働	2,040	
13	Aychiyeh	Jezzine/South Lebanon	300/1,500	150	AAD +EA	2005 から稼働	3,588	
14	Ghobbatyeh	Jezzine/South Lebanon	500/2,500	250	AAD +EA	2007 から稼働	4,416	
15	Rachaya	Rachaya/Bekaa	1,200/6,000	600	TF + EA	2006 から稼働	11,288	
16	Bakka 1 (Eastern)	Rachaya/Bekaa	300/1,600	100	AAD + EA	2005 から稼働	62,400	
17	Bakka 2 (Western)	Rachaya/Bekaa		60	AAD + EA	2006 から稼働		
18	Haytoura	Jezzine/South Lebanon	200/1,000	100	TF + EA	2006 から稼働	500	
19	El Hosh	Rachaya /Bekaa	200/1,000	100	AAD + EA	2005 から稼働	4,200	

AS: Activated Sludge, AAD+EA: Anaerobic Digestion + Extended Aeration, TF+EA: Tricking Filter + Extended Aeration

出典：KESETからの供与資料


(4) 各セクターの戦略 LCRP 2015–2016

食糧

 FOOD SECURITY	Lead Ministry: Ministry of Agriculture (MoA)
	Coordinating Agencies: WFP and FAO
Contact information: Nadine Abdel Khalek <i>nkhalek@agriculture.gov.lb; Elena Rovaris elena.rovaris@wfp.org; Bruno Minjauw bruno.minjauw@fao.org</i>	



SECTOR OUTCOMES

OUTCOME	INDICATORS
OUTCOME 1: Promote food availability.	 \$45.2 m # of individuals (including adolescents and youth) receiving in-kind food assistance
OUTCOME 2: Promote food accessibility.	 \$416.6 m # of individuals receiving food assistance [cash-based transfers for food] # of farmers with enhanced farming production
OUTCOME 3: Promote food utilization.	 \$7.7 m # of agricultural institutions supported for agricultural livelihoods
OUTCOME 4: Promote stabilization.	 \$4 m # of individuals employed in the agriculture sector # of individuals supported for improved nutritional practices

PRIORITY INTERVENTIONS

- 1: Provide direct and critical food assistance to ensure improved food availability through in-kind food assistance (e.g. food parcels, community kitchens) and improved food access through cash-based transfers for food (e.g. e-cards, food vouchers) for vulnerable individuals.
- 2: Improve agriculture livelihood by increasing capacity of production of vulnerable small-scale farmers and by increasing employability in the food and agriculture sector.
- 3: Improve nutritional practices and household dietary diversity.
- 4: Strengthen food security information systems and coordination mechanisms.







電気と水

 **Energy & Water**

Lead Ministry/Co-Lead: Ministry of Energy and Water (MoEW)/ Ministry of Environment (MoE)
Coordinating Agencies: UNICEF
Contact information: Suzy Hoayek suzy.hoayek@sissaf-lebanon.eu; David Adams dadams@unicef.org

PEOPLE IN NEED	PEOPLE TARGETED	REQUIREMENTS (US\$)
 2,427,000	 2,022,000	 391.2 million
 # OF PARTNERS 35	 GENDER MARKER 1	

SECTOR OUTCOMES

OUTCOME	INDICATORS
OUTCOME 1: Access to improved electricity	 \$26.5 m
OUTCOME 2: Access to safe water	 \$203.1 m
OUTCOME 3: Increase access to improved, sustainable, and culturally and gender appropriate sanitation services including wastewater management, vector control and mitigation of flood risks (stormwater drainage) for target population	 \$100.6 m
OUTCOME 4: Mitigate impacts of the Syrian crisis on the environment in Lebanon, including on air quality and landuse, and management of solid waste	 \$36 m
OUTCOME 5: Maintaining hygienic conditions	 \$22.6 m
OUTCOME 6: Contingency and preparedness	 \$2.5 m

INDICATORS

- % of target population that has equitable and reliable access to electricity to ensure sufficient electric current for lighting, operation of basic household machinery and security purposes.
- % of target population that has access to safe and equitable water in sufficient quantities for drinking, cooking, personal and domestic hygiene.
- % of target population that has access to improved, sustainable, culturally and gender appropriate sanitation and drainage services for target population.
- % of target population that has increased awareness of local/municipal authorities with respect to legislation, guidelines and measures that can be practically adopted for mitigating the impact on the environment in terms of solid waste, air quality and landuse/ecosystems.
- % of the target population that are aware of key public health risks and are capacitated to adopt good Water and Sanitation related practices and measures to prevent the deterioration in hygienic conditions and Water and Sanitation related diseases.
- All sector partners are prepared to respond to agreed emergency scenarios and are aware of priorities and targets.

PRIORITY INTERVENTIONS

- 1: Ensure sustainable and equitable access to electricity for the vulnerable population.
- 2: Ensure sustainable and gender appropriate, equitable access to safe water for the target population in sufficient quantities for drinking, cooking, personal and domestic hygiene.
- 3: Increase access to improved, sustainable, culturally and gender appropriate sanitation (solid waste and wastewater management, vector control, ...) irrigation, flood prevention, storm water management, and drainage services (mitigation of flood risks) for target population.
- 4: Mitigate impact of the Syrian crisis on the environment in Lebanon.
- 5: Enable target populations to use and maintain water and sanitation facilities, make them aware of key public health risks to prevent the deterioration in hygienic conditions and capacitate them to adopt sound hygiene practices.
- 6: Strengthen and harmonize national and local level systems in line with the actuated laws, guidelines and existing national strategies to ensure improved service provision and timely response.
- 7: Ensure preparedness to possible risks: develop relevant studies, plans, strategies and contingency stock to improve targeting, prioritization and response.

教育



EDUCATION

Lead Ministry: Ministry of Education and Higher Education (MEHE)



Coordinating Agencies: UNICEF

Contact information: Iman Assi iassi@mehe.gov.lb; Dorine Farah dfarah@mehe.gov.lb; Gemma Bennink gbennink@unicef.org

<p>PEOPLE IN NEED</p>  <p>983,284</p>	<p>PEOPLE TARGETED</p>  <p>529,933</p>	<p>REQUIREMENTS (US\$)</p>  <p>388.2 million</p>
<p># OF PARTNERS</p>  <p>Not Specified*</p>	<p>GENDER MARKER</p> <p>1</p>	

* MEHE is currently in the process of selecting NGO partners who will be able to implement different components of the Education Results Framework. The first selection is expected to be finalized in January 2016. After this, MEHE will review new submissions from NGO partners every three months.

SECTOR OUTCOMES

		INDICATORS
<p>OUTCOME 1: Ensuring equitable access to educational opportunities for boys and girls.</p>	 \$319.8 m	<p># of children and adolescents enrolled in formal education</p> <p># of children and adolescents enrolled in Non-Formal Education (NFE)</p> <p># of children and adolescents referred to formal education including Accelerated Learning Programme (ALP)</p> <p>% and # of parents who are aware of the formal school registration process</p> <p># of individuals reached with outreach and awareness sessions</p>
<p>OUTCOME 2: Improving the quality of teaching and learning.</p>	 \$62.4 m	<p>% of children in remedial language education who remain in education</p> <p># of assessments undertaken</p> <p># of active parent groups and community committees</p>
<p>OUTCOME 3: Strengthening national education systems, policies, and monitoring.</p>	 \$5.9 m	

PRIORITY INTERVENTIONS

- 1: Support enrolment to formal education for school-aged boys and girls.
- 2: Support enrolment to Non-Formal Education for children who are outside the formal system.
- 3: Outreach to get children to public schools.
- 4: Support to ensure retention in formal education.
- 5: Strengthen national education systems, policies, and monitoring.
- 6: Strengthen community engagement to support a sustainable behavioural change towards education.

基本的支援



BASIC ASSISTANCE




Lead Ministry: Ministry of Social Affairs (MoSA)

Coordinating Agencies: UNHCR and ACTED

Contact information: Hadi Haddad hadi_haddad@live.com;
Khalil Dagher dagherk@unhcr.org;
Karim Traboulsi karim.traboulsi@acted.org

PEOPLE IN NEED	PEOPLE TARGETED	REQUIREMENTS (US\$)
 1,551,638	 915,090	 356.6 million
 31	 1	
<small># OF PARTNERS</small>	<small>GENDER MARKER</small>	

SECTOR OUTCOMES

<p>OUTCOME 1: Targeted severely economically vulnerable populations have improved access to essential goods and services of their choice in a safe, dignified, and empowered manner while decreasing socio-economic vulnerability.</p>		\$174.3 m	<p>INDICATORS</p> <ul style="list-style-type: none"> % and # of severely economically vulnerable households received multi-sector cash transfers % and # of population profiled # of total affected HHs found to be socio-economically vulnerable % of total seasonally vulnerable population assisted # of households receiving seasonal cash & vouchers grants Total amount of cash distributed in USD # of unique HHs benefiting from in-kind assistance
<p>OUTCOME 2: Targeted population affected by seasonal hazards, displacement shocks, and unexpected circumstances, is able to maintain safe access to goods and services.</p>		\$137.6 m	
<p>OUTCOME 3: Strengthened social safety net (NPTP) structures to serve most socio-economically vulnerable households by building on existing mechanisms and to improve social stability.</p>		\$44.6 m	

PRIORITY INTERVENTIONS

- 1: Profile the economic vulnerability of households from a multi-sectoral perspective.
- 2: Scale-up the provision of multi-sector cash assistance for targeting economic vulnerability.
- 3: Provide cash, vouchers and in-kind support to seasonal hazards and emergency scenarios affected households.
- 4: Provide in-kind core relief item kits for households in need.
- 5: Support, expand and strengthen existing social safety net structures.

健康


HEALTH






Lead Ministry: Ministry of Public Health (MoPH)

Coordinating Agencies: WHO and UNHCR

Contact information: Zeina Ammar zammar@moph.gov.lb;
Dr. Alissar Rady radya@who.int; Dr. Michael Woodman woodman@unhcr.org

PEOPLE IN NEED  2,565,470	PEOPLE TARGETED  1,602,000	REQUIREMENTS (US\$)  290.9 million
# OF PARTNERS  33	GENDER MARKER 1	

SECTOR OUTCOMES

		INDICATORS
OUTCOME 1: Improved access to PHC services.	 \$126.4 m	# of PHC consultations # of children who received routine vaccination as per MoPH vaccination calendar # of persons receiving hospital and diagnostic services # of operational sentinel surveillance sites newly established # of key institutions strengthened # of public schools adhering to the school health program
OUTCOME 2: Improved access to hospital and advanced referral care.	 \$134.2 m	
OUTCOME 3: Improved outbreak control.	 \$6.8 m	
OUTCOME 4: Key institutions strengthened.	 \$23.3 m	
OUTCOME 5: Transparency and accountability of health partners ensured.	 \$20,000	

PRIORITY INTERVENTIONS

- 1: Ensure access for target populations to a standardized package of basic health services at primary health care level.
- 2: Continue to provide support for access to hospital and diagnostic services to displaced Syrians for obstetric and life-saving conditions.
- 3: Prevent and control outbreaks of epidemic-prone diseases with focus on EWARS reinforcement and vaccination activities, especially in high risk areas with the largest displaced Syrian communities.
- 4: Strengthen key institutions for enhanced decentralization, strengthening of PHCs and public hospitals' service delivery, and ensure sustainability of services.
- 5: Reinforce youth health as part of comprehensive reproductive health care well as support the Lebanese school health program.






保護（子供・女性・避難民）

 **PROTECTION**

Lead Ministry: Ministry of Social Affairs (MoSA)
Coordinating Agencies: UNHCR, UNICEF and UNFPA
Contact information: Aimee Karam karam.aimee@gmail.com;
 Lorenza Trulli trulli@unhcr.org; Nithiaraj Sellappu
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SECTOR OUTCOMES

OUTCOME	INDICATORS
OUTCOME 1: Persons displaced from Syria have their basic rights respected and enjoy access to justice and legal stay.	 \$ 39 m # of individuals who benefitted from counseling and assistance, to obtain civil, legal stay or other documentation
OUTCOME 2: Communities are empowered to contribute to their own protection solutions and community self-management encouraged.	 \$ 26 m # of children benefitting from structured community based child protection and PSS programmes
OUTCOME 3: Access to protection and services is ensured, the most vulnerable women, girls, boys and men are identified, and resettlement realized.	 \$ 33.5 m # of girls and boys at high risk who receive focused, non-specialized PSS and life-skills programming
OUTCOME 4: Vulnerable girls and boys are protected from violence, exploitation, abuse and neglect through equitable access to quality child protection services.	 \$ 48.1 m % of survivors reporting receiving quality psychosocial support and specialized services
OUTCOME 5: The risks and consequences of SGBV are reduced and access to quality services is improved.	 \$ 31.8 m # of individuals participating in community center activities including persons with disabilities and older persons # of protection interventions including referrals from the community and volunteer structures

PRIORITY INTERVENTIONS

- 1: Increase legal awareness and improve access to legal stay and civil documentation, as per Lebanese laws and regulation.
- 2: Vulnerable boys and girls are protected from violence, abuse and exploitation through strengthened national child protection systems and increased prevention and response services delivered by government, civil society actors and community members.
- 3: Ensuring safe identification and referral for SGBV survivors, access to quality response services and support to community based safety nets to prevent and mitigate risks of SGBV.
- 4: Addressing issues related to accommodation, including rent related security of tenure, as per Lebanese laws.
- 5: Security of the person – including security from violence, arbitrary detention, exploitation and prevention of discrimination.
- 6: Strengthening national systems including Social Development Centers and Community Development Centers to provide holistic and quality services for women and girls, men and boys.

生計支援

 **LIVELIHOODS**

Lead Ministry/Co-Lead: Ministry of Social Affairs (MoSA)/ Ministry of Economy and Trade (MoET)

Coordinating Agencies: UNDP

Contact information: Sabine Farah farah.j.sabine@gmail.com; Raffi Berro rberro@economy.gov.lb; Bastien Revel bastien.revel@undp.org

<p>PEOPLE IN NEED</p> <p> 555,369</p>	<p>PEOPLE TARGETED</p> <p> 134,607</p>	<p>REQUIREMENTS (US\$)</p> <p> 143.3 million</p>
<p># OF PARTNERS</p> <p> 30</p>	<p>GENDER MARKER</p> <p>2a</p>	

SECTOR OUTCOMES

<p>OUTCOME:</p> <p>Vulnerable groups, especially youth and women, access to income and employment is improved*.</p>	<p> \$143.3 m</p>	<p>INDICATORS</p> <ul style="list-style-type: none"> # of new jobs created in the MSME sector (targeted enterprises) # of Value Chains valorized and/or being upgraded # of targeted villages benefiting from improved infrastructure and environmental assets # of targeted vulnerable persons employed through public infrastructure and environmental assets improvement % of targeted job seekers who are placed into jobs (after support by employment service centers/or skills training)
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* The livelihoods strategy will be complying with the Lebanese laws and regulations

PRIORITY INTERVENTIONS

- 1: Provide (start-up) grants (cash/in-kind) coupled with incubation services/training/retraining for Micro, Small and Medium Enterprises.
- 2: Implement integrated Value Chain programmes.
- 3: Rehabilitate of public infrastructure/ environmental assets through labour intensive modalities.
- 4: Support the activities (including access to market information; career guidance; counseling; job matching; etc) and strengthen the capacity of employment services centers and livelihoods centres.
- 5: Support the Ministry of Labour in improving decent work conditions and countering child labour.
- 6: Support the Ministry of Economy and Trade in the implementation of the new Small and Medium Enterprise strategy.

シェルター



SECTOR OUTCOMES

OUTCOME 1: Displaced populations and other vulnerable groups have access to adequate shelter as the standard of shelters is either ensured, maintained or improved.	 \$118.4 m	INDICATORS # of individuals (by cohort) that benefit from the specific activity
OUTCOME 2: Living conditions within temporary settlements and poor urban areas with high ratio of displaced populations and vulnerable groups are improved.	 \$18.4 m	
OUTCOME 3: Lebanese public & private institutions are aware and responsive to the shelter situation of displaced populations and other vulnerable groups.	 \$1.9 m	

PRIORITY INTERVENTIONS

- 1: Upgrade shelters to meet minimum standards through minor repairs, or, in exchange for affordable occupancy, adequate rehabilitation.
- 2: Assist makeshift shelters in informal settlements to maintain capacity to withstand adverse weather conditions as well as other threats.
- 3: Upgrade, through a bottom-up holistic approach, highly affected neighbourhoods, through shelter and basic infrastructure activities, to assist all vulnerable groups regardless if displaced (SyrDis, PRS) or not (Leb, PRL).
- 4: Enhance the technical capacity of public and private local institutions to participate and support shelter assistance activities.

社会安定

 **SOCIAL STABILITY**

Lead Ministry: Ministry of Social Affairs (MoSA)
Coordinating Agencies: UNDP and UNHCR
Contact information: Sabine Farah
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<p>COMMUNITIES IN NEED</p> <p> 251</p> <p># OF PARTNERS</p> <p> 29</p>	<p>COMMUNITIES TARGETED</p> <p> 251</p> <p>GENDER MARKER</p> <p>1</p>	<p>REQUIREMENTS (US\$)</p> <p> 119.4 million</p>
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SECTOR OUTCOMES

<p>OUTCOME:</p> <p>Local communities and institutions ability to mitigate tensions and prevent conflict are strengthened, and the overall response on the evolution of tensions is informed.</p>	<p> \$119.4 m</p>	<p>INDICATORS</p> <ul style="list-style-type: none"> # of municipalities benefitting from comprehensive support to promote social stability (participatory process; capacity building; project implementation) # of priority municipal projects identified and implemented # of law enforcement and security actors trained on code of conducts, guidelines # of communities with functioning conflict prevention initiatives/mechanisms % of LCRP partner who mainstream conflict sensitivity in their work and are informed on tension/stabilization trends
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PRIORITY INTERVENTIONS

- 1: Support municipalities to build social stability through participatory processes, capacity-building, and implementation of priority municipal service projects to alleviate resource pressure and reduce tensions.
- 2: Support the institutionalization of municipal police through the development of codes of conduct, standard operating procedures and provision of relevant trainings to security officials.
- 3: Establish community conflict mitigation mechanisms involving and training key community members in areas of high social tensions, including women and youth.
- 4: Implement youth initiatives (summer camp, artistic activities, peacebuilding clubs, community campaigns) to promote active involvement of youth in local communities.
- 5: Mainstream conflict sensitivity in the LCRP by providing regular trend analysis and training to LCRP partners.