

Republic of Lebanon
Council for Development and Reconstruction
GREATER BEIRUT WATER SUPPLY AUGMENTATION PROJECT
Environmental AND Social impact Assessment
RESETTLEMENT ACTION PLAN

May 2014

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ABBREVIATIONS AND ACRONYMS

BMLWE	Beirut and Mount Lebanon Water Establishment
BVCF	BisriValley Community Fund
C&CP	Consultation and Communication Programme
CBO	Community-Based Organisation
CDR	Council for Development and Reconstruction
CITES	Convention on International Trade in Endangered Species
CoM	Council of Ministers
DGA	Directorate General of Antiquities
DLRC	Directorate of Land Registration and Cadastre
DPF	Displaced People Fund
d/s	Downstream
EC	Expropriation Commission
ED	Expropriation Department
ESIA	Environmental and Social Impact Assessment
GBWSAP	Greater Beirut Water Supply Augmentation Project
GoL	Government of Lebanon
GRM	Grievance Redress Mechanism
HEP	Hydro-electric Plant
IUCN	International Union for Conservation of Nature
km	kilometre
LL	Lebanese Pound
m	metre
masl	metres above sea level
M&E	Monitoring and Evaluation
MEW	Ministry of Energy and Water
MoF	Ministry of Finance
NGO	Non-Governmental Organization
OP	Operating Procedure (World Bank)
PAP	Project Affected Person
PIU	Project Implementation Unit
PoA	Power of Attorney
PoE	Panel of Experts
PDESIA	Preliminary Draft Environmental Social Impact Assessment
PIC	Project Information Centre
RAP	Resettlement Action Plan
UNHCR	United Nations High Commission for Refugees
u/s	Upstream
WB	World Bank

EXECUTIVE SUMMARY

INTRODUCTION

The Greater Beirut Water Supply Augmentation Project (GBWSAP) proposal to construct a dam and reservoir has the advantage that no significant settlements lie within the area to be inundated or within at least 500 m of the expected reservoir shoreline. While land take will be extensive within the proposed area to be expropriated, some 570 ha, residential properties are few and there are no commercial or industrial premises and no significant public infrastructure or community facilities within the impoundment area. In total, there are some 966 separate cadastral plots, within these 570 ha, that will be expropriated from 861 landowners, including around 135 building structures which include residential, water tanks, storage rooms, generator rooms, religious places, or animal refuge. The occupied residential accommodations house seasonal farm workers, mostly non-Lebanese, that will need to be relocated. Twenty six designated archaeological sites and one heritage site, within the area to be expropriated were found.

Land take and resettlement will also occur for other project activities and associated infrastructure such as the distribution lines and access road in the lower catchment along the conveyor line. There will be a need to expropriate a total of 7.5 ha of lands that are included already into the 570 ha, for the purpose of the conveyor line downstream.

The objectives of the Resettlement Action Plan (RAP) are:

- To identify affected people and the scale of the impacts caused by expropriation;
- To identify compensation entitlements;
- To establish a legal and policy framework for the programme that will ensure that all losses incurred by the taking of the land are fully compensated;
- To ensure that the applicable Expropriation Procedures are well defined;
- To identify the appropriate structure for implementation and programme stages; and,
- To identify the means by which RAP implementation will be monitored.

The project held a series of Public Consultation Sessions to inform the PAPs of the resettlement impacts and their mitigation measures; and to allow them to participate and air their opinions. The primary concerns of the PAPs, relating to expropriation and resettlement, were:

- The need to preserve archaeological, historic and cultural heritage;
- The adopted policies for lands expropriation;
- The fairness and means of the compensations and,
- The process of appeal.

PROJECT DESCRIPTION

To overcome increasing severe shortages in public water supply, the GoL through the CDR, the MEW, and the BMLWE, has initiated the Greater Beirut Water Supply Augmentation Project (GBWSAP) to identify the most significant environmentally and socially acceptable, technically viable and economically efficient alternative to the medium and long term provision of potable quality water throughout the Greater Beirut Area. There are lands that will be taken, from their private owners, to accommodate the various structures of the project, affecting local people in their settlements, lands and assets.

With this perspective, the Resettlement Action Plan (RAP) addresses issues related to Expropriation, Resettlement and Compensation covering the Bisri site, where GBWSAP main components will be built and consisting of:

- The upper catchment containing the inundation area (398ha), and a reservoir that extends for about 4 km upstream of the dam axis on NahrBisri;
- The lower catchment downstream incorporating the associated infrastructure, access roads and pipelines leading to the existing AwaliHydo-Power Plant; and
- A 15 m horizontal buffer zone around the periphery of the reservoir to allow for a shoreline access road and about 700 m downstream of the dam, to allow for the construction of appurtenances and appropriate security.

The coverage of inundation and the expropriation limit, will affect lands from 9 municipalities together with 6 other cadastral regions as shown in the Table below.

Administrative Divisions within the Project Area

Caza	Municipality	Cadastral Region
Chouf	Mazraat El Dahr	Mazraat El Dahr
	Bsaba	Bsaba
	Mazraat El Chouf	Mazraat El Chouf
	Aamatour	Aamatour
	Bater	Bater
	Administered by the Ka'emMaqam	Khirbet Bisri and Deir-el-Mkhaless
Jezzine	Midane	Midane
	Benouati	Benouati
	Aariye	Aariye
	Bkassine	Bkassine
	Administered by the Ka'emMaqam	Bisri, Harf, Gbatiyeh, and Bhannine

The current lands distribution, that is broken down into lands use categories, is below:

Estimated Distribution of Land Use within Expropriated Area

LandUse	Approximate Area - ha	% of Total expropriation
Irrigated Agricultural Fields at minimum distance of 100m of river	148	26%
Natural bush vegetation sloped	131	23%
Natural bush vegetation flat	105	18%
Other open rocky and steep slopes lands	99	17%
Accessible Natural Pine Woodlands	82	14%
Poly-tunnels	4	0.7%
Built-up Areas	1	0.2%
Total	570	100%

SOCIAL BASELINE CONDITIONS

The Households and Landowners Surveys were carried out in February to April 2014 based on the finalized project design and expropriation limits along with well-identified plots ownership titles.

In the context of the RAP, Project Affected Person (PAP) is defined as any person, residing or not residing in the project area, that will be impacted negatively and lose their land, livelihood, or asset. The affected communities are divided into Residential PAPs, Non-Residential PAPs, and Vulnerable Groups.

The surveys disclosed the following results:

- There are total of 238 residents that were identified by the Household Survey. Of these 238, there are 17 Lebanese landowner Residents, 47 Lebanese tenant

residents who are Non-owners and the other 174 are all non-Lebanese residents with or without a rental contract.

- As identified by the Landowners Survey, there are estimated 861 Lebanese landowners that will be affected by the Project, 6 of whom reside in the Valley with their family members (totalling 17 residents as mentioned above), 90 are considered Non-absentee Landowners¹ and the remaining 765 are considered as Absentee Landowners, according to the below mentioned definition.
- Number, category and distribution of Project Affected Persons are given in Table below.

Project Affected Persons

District	Residents within the expropriation limits			TOTAL	Landowners (households)			TOTAL
	Lebanese		Non Lebanese		Resident Landowners	Non-Absentees	Absentees	
	Landowners	Non-Owners	Residents					
Chouf	15	17	123	155	5	68	509	582
Jezzine	2	30	51	83	1	22	256	279
TOTAL	17	47	174	238	6	90	765	861

- The majority of resident and Non-absentee Landowners employ seasonal workers to carry out agricultural activities that is the main occupational sector for resident people;
- There was a 50% gender split between female and male and 55% of the age group were adults²;
- Not all workers receive health insurance³ and since there is no unemployment welfare, the labour force depends on employment for health benefit;
- The whole of the project area is given over to agricultural activity which includes open fields variously tilled, cropped, laid fallow or under poly-tunnels. The majority of the trees are Oak, Citrus, Pine, and Olives; while flowers and strawberries are grown in poly-tunnels;
- There are no industrial or non-agricultural commercial enterprises within the area to be expropriate;
- The 90% of active resident population works in the agriculture with the 60% of workers earning less than 500\$ per month;
- There is very little access to public utility services within the reservoir area such as domestic water source, public sewerage connection, electricity supply and solid waste disposal;
- The Social Survey has identified that un-contractual workers and property tenants with no legal right as the most vulnerable group. The distribution of persons into each group and their level of vulnerability are given in details in Social Baseline Conditions Section of the present report.

¹Non-Absentee Landowners are those, not living in the expropriated area, and where at least one of the following criteria applies i) do rely on the land for their income or livelihood or ii) do live in the villages surrounding the valley i.e the Project Catchment Area..

²Adults range between 18 and 65

³NSSF (National Social Security Fund) is a health insurance and end-of service pension

PROJECT IMPACTS

The development of dams always involves the permanent occupation of land, not only for dam construction and reservoir impoundment, but also for new access roads. Land acquisition will result in resettlement of displaced PAPs, relocation of their businesses and rehabilitation of their livelihoods. Road construction will open up poorly accessible remote areas, affording them better access to regional centres, government facilities and public services. However, this might have a downside such as abuse of existing communities, landscape and ecology.

The Expropriation File along with the 2014 Socio-economic and Landowners Surveys have allowed to identify and quantify the impacts generated over people and their properties as a result of land and asset acquisition and that need to be mitigated, as presented here after.

Magnitude of Land Take: While the 69% of lands to be expropriated will be taken from the ChoufCaza, only 31% will be taken from JezzineCaza. Among the cadastral regions, Aamatour and Mazraat El-Chouf will be heavily affected by the land takes with total of 54% of Project total lands to be expropriated. The split of land take between cadastral regions is shown in the table below.

Extent of Land Take within the Reservoir Area

Casa	Cadastral Region	No. Plots	No. of plots totally expropriated	No. of plots partially expropriated	Expropriated Area (ha)	% Area Expropriated
Chouf	Aamatour	310	279	31	160	31%
	Mazraat El Chouf	277	225	52	120	23%
	Mazraat El Dahr	55	36	19	42	8%
	All others	39	15	24	36	7%
ChoufSub-Total		681	555	126	358	69%
Jezzine	Midane	80	70	10	48	9%
	Harf	69	64	5	46	9%
	Bisri	74	62	12	44	9%
	All others	62	35	27	21	4%
JezzineSub-Total		285	231	54	159	31%
Expropriation Grand Total		966	786	180	517	100%
"DomainePublique" (river + roads)					53	
Total Land take					570	

Current Land Use: The lands to be taken vary in type, ownerships and use. While the "Domaine Public" Lands total an area of 53 ha, 517 ha of lands will be taken to their private owners. The Table below summarises the type, use and areas of lands that will be affected.

Type and Use of Lands to be Taken

Land use and cover	Total m ²	Ownership	
		Public m ²	Private m ²
Irrigated Agricultural Fields at distance of >100m from river	1,480,000	51,874	1,428,126
Other open and rocky with steep slopes lands	990,000	31,515	958,485
Natural bush vegetation flat	1,050,000	322,610	727,390
Accessible Natural Pine Woodlands	820,000	42,015	777,985
Natural bush vegetation sloped	1,310,000	82,089	1,227,911
TOTAL*	5,650,000	530,102	5,119,898

* the total area does not include the 1 and 4ha of Built-up area and Poly-Tunnels that are included under the structures and other attachments categories respectively shown here after.

Structures: There are total of 134 structures to be demolished and one church to be relocated as a result of the Project. While 49 residential dwellings are inhabited the remaining are either empty or non-residential structures, such as animal shelters, agricultural warehouses, etc. Table below summarises the number type use and areas of the structures that will be affected.

Structural Assets Affected

Structural Asset	Nr	m ²
Residential Structures inhabited	49	3,349
Empty Structures	26	2,902
Non-residential structures including one church	60	3,877
TOTAL	135	10,128

Field Crops: Seasonal field crops could be either found covered under poly-tunnels mainly strawberry and flowers plantations or un-covered vegetables that accounts for the largest field crops area as shown in Table below.

Field Crops

Field Crops	m ²
Strawberry under Poly-tunnels metal – plastics	40,000
Rose and other Flowers under Poly-tunnels metal - plastics	27,000
Open Field crops (Tomato, Lettuce , fava bean, cabbages and others)	200,000
Total	267,000

Trees: There are total of 110,814 trees that will be cut from the Valley. These include 28,737 young trees and 82,077 mature trees. Details of types and number of trees that will be cut are given under Project Impacts Section.

Land attachments: There are also other assets that could be attached to the lands and that will be affected by the Land Take. These include all equipment and assets that are primarily related for servicing the major occupation sectors into the Valley that are the plant and animal production sectors. Table below provides the quantities of the lands attached assets.

Other Land attachments

Other Land attachments	Unit	Quantity
Water ground tank, concrete	cubic meter	985
Water tank, elevated, plastic on metal frame	cubic meter	910
Poly-tunnels, metal and plastic	meter square	40,000
Agricultural and irrigation Equipment *	meter square	227,000
Animal shed, concrete walls and floor	meter square	2,220
Metal overhead Pergola	square meter	115
Metal pipes	linear meter	65
Metal wired fence	linear meter	1,680
Water channel, open, concrete	linear meter	990

* for total area cover refer to field crops area.

Property tenancy: The 2014 Social Survey has revealed that 35 households are non-Lebanese (totalling 174 persons) of which 34 households (housing 165 persons) have no legal Tenancy Right. Similarly; the 8 counted Lebanese non-owner-households (totalling 47 persons) have no Tenancy rights to the property they occupy, and as such none of these is protected under the Lebanese law. Table below summarises the Impact over Properties Tenancy in the valley.

Impact over Tenancy Rights

TENANCY RIGHT	Nr Households			Nr of Persons		
	Lebanese	Other-Arabs	Total	Lebanese	Other-Arabs	Total
Resident-Owner	6	0	6	17	0	17
Resident-Renter	0	1	1	0	9	9
Resident Upon Mutual Agreement	8	34	42	47	165	212
TOTAL	14	35	49	64	174	238

Employment: Of the total 238 Valley residents, there are 103 who compose the working force, of which 39 are Lebanese and the remaining 64 are non-Lebanese. The 87% of the working force is employed as skilled agricultural and fishery workers as shown below.

Impact over Employment

EMPLOYMENT (Number of individuals affected)	Lebanese	Other-Arabs	GRAND TOTAL
Skilled agricultural and fishery workers	30	60	90
other Working force	9	4	13
TOTAL	39	64	103

Foreigners: All 174 foreigners reside in the project area. Among these, 64 are part of the working force in the valley. Some of them are refugees and some others are not. The details are shown in Table below.

Impact over Resident Foreign Population

Number of people	Total foreigners	Of them total Working Foreigners
Non-Refugees	72	36
Refugees Registered with UNCHR	79	25
Refugees Not Registered with UNHCR	23	3
GRAND TOTAL	174	64

Summary of all impacts: Table below summarises the magnitude of impacts as presented above, due to the Lands take over people, their rights, assets, lands, employment and other attachments.

Summary of Resettlement Impacts

Summary of Resettlement Impact	Land ha	Structures Nr	Trees Nr	Field Crops m ²	Owners Nr	Tenants Nr	Workers Nr
Reservoir area including all buffer zone around	485	119	107,426	186,000	789	187	89
Dam foot print	29	12	1192	67,000	23	34	14
Associated facilities: transmission line, access road*	56	4	2196	14,000	49	0	0
TOTAL	570	135	110,814	267,000	861	221	103

**Although Power Plant location and area are yet to be finalised by the Dam Designer, it has been estimated that the plant will require an area of about 10,000 m² that are not included in the above total land area.*

EXISTING LEGAL AND POLICY FRAMEWORK

The prime legislative instrument for expropriation is the 1991 Expropriation Law 58, which authorises expropriation of private property in the public interest where deemed to be for the public utility, and only in exchange of fair and adequate compensation. It provides for the determination of compensation and appeals procedure for dispute resolution. Therefore; the Lebanese government may pay an interim amount before the appeal process has been completed while leaving the payment of balance amount until the Appeal Committee decision.

In accordance with CDR policy, and while simultaneously complying with GoL procedures, the assessment needs to follow the requirements of World Bank Policy on Involuntary Resettlement OP 4.12 to render it acceptable for any future funding. But there are some significant issues upon which current local practice deviates from Bank requirements and the Consultant proposes the following measures to resolve them:

Discrepancies and Gap-Filling Measures

Discrepancy	Gap-Filling Measures for Bisri
Stakeholder Consultations	<ul style="list-style-type: none"> • Stakeholder consultations have been held in project affected villages and in Beirut. • A Project Information Centre (PIC) will be established.
	<ul style="list-style-type: none"> • Public consultations have been held to elicit PAP participation. • A dedicated phone line for consultation sessions has been announced in the Press.
PAP Participation	<ul style="list-style-type: none"> • Public consultations have been held to elicit PAP participation. • A dedicated phone line for consultation sessions has been announced in the Press.

Compensation Terms	<ul style="list-style-type: none"> All compensation value will be determined based on full replacement cost of affected assets.
Grievance Redress	<ul style="list-style-type: none"> To make Appeal more accessible to poor PAPs, for those whose total landholding is less than 1,000 m² or their total asset value less than LL 10 million, the project will pay the Appeal fee and the cost of legal representation.
PAPs without Title	<ul style="list-style-type: none"> PAPs without title have been identified by a 100% household survey and appropriate payments will be made via the title-holder, with PAPs asked to sign to confirm receipt.

COMPENSATION ENTITLEMENTS

Compensation is paid in cash, provided it is adequate, and paid in time and in full. Bank funded projects are expected to compensate all persons affected by the project and for all losses of assets and investments (e.g lands, structures, trees, fixtures, lands attachments, etc.). In accordance with Lebanese expropriation procedures, rates of compensation shall be determined by the Expropriation Commission (EC) upon the receipt of the approved-on Expropriation Decree. Meanwhile indicative compensation rates⁴, provided by ED at the CDR, are shown in Tables below just for guidance and will not commit neither CDR nor the PAPs, as the final rates will be established based on the EC assessment and valuation.

Compensation Rates

LAND	LBP/m²
Accessible Natural Pine woodland	50,000
Irrigated Agricultural field, Riparian to river	50,000
Irrigated Agricultural field, <100m from river	40,000
Irrigated Agricultural field, >100 m from river	40,000
Abandoned agricultural land	40,000
Other open land, good soil cover, flat	40,000
Other natural woodland	40,000
Natural bush vegetation, flat	40,000
Other open land, poor soil cover, sloped	30,000
Natural bush vegetation, sloped	30,000
Other open rocky and steep slopes lands	20,000
STRUCTURE	LBP/m²
New house	500,000
Basic house, concrete	100,000
Old house renovated	100,000
Storage room, concrete	50,000
Old degrading house	50,000
Old house	50,000
Concrete shelter for Agricultural workers	50,000

⁴ The compensation rates in the RAP were determined based on the existing prevailing market prices of affected assets. The actual compensation rate will be determined by the Expropriation Commission based on the market price at the time of actual expropriation. The Government of Lebanon will cover the difference in case the actual compensation rates are higher than the existing one in this RAP.

Shelter, wood, plastic		25,000
Animal shed, concrete walls and floor		15,000
Tent, cloth		10,000
Land Attachments Assets	Unit	LBP
Water ground tank, concrete	cubic meter	100,000
Water tank, elevated, plastic on metal frame	cubic meter	600,000
Metal mounted shelter	square meter	1,500
Metal overhead Pergola	square meter	1,000
Metal pipes	linear meter	1,000
Water channel, open, concrete	linear meter	15,000
Animal enclosure, wire netting, earth floor	linear meter	5,000
Metal wired fence	linear meter	7,000
Razor wire	linear meter	500
Agricultural and Irrigation Equipments	square meter	20,000
Poly-tunnel, metal, plastic,	square meter	10,000
FIELD CROPS		LBP/m²
Rose		50,000
Other Flowers		50,000
Strawberry		20,000
Tomato		20,000
Lettuce		20,000
Cabbage		20,000
Grape Vine		10,000
Sweet Pepper		10,000
Basil		10,000
Grains		5,000
TREES	LBP/Tree	
	Young	Mature
Pine	150,000	400,000
Oak	150,000	400,000
Poplar	40,000	75,000
Cypress	40,000	75,000
Cactus	40,000	75,000
Willow	40,000	75,000
TREE CROPS	LBP/Tree	
	Young	Mature
Olive	300,000	750,000
Mango	200,000	750,000
Chestnut	200,000	750,000
Date Palm	200,000	750,000
Pistachio	150,000	300,000
Almond	150,000	400,000
Kiwi	150,000	400,000
Loquat	150,000	400,000

Peach	150,000	400,000
Pomegranate	150,000	400,000
Avocado	150,000	400,000
Pear	150,000	400,000
Orange	150,000	400,000
Apple	150,000	400,000
Fig	150,000	400,000
Lemon	150,000	400,000
Apricot	150,000	400,000
Sumac	150,000	400,000
Pomelo	150,000	400,000
Other Trees	150,000	400,000

To prevent opportunistic migration into the Project Area, for the purpose of claiming compensation or other assistance, a cut-off date of Eligibility to compensation has been set as of *March 20, 2014*⁵. Local people in the project areas have been well informed about this through public announcement of the cut-off date in local newspapers. Establishing an official cut-off date for the project provides the primary basis for determining who is eligible and for what compensation. Eligibility for compensation for the losses occurring and status of persons affected, with the compensation basis are presented in Table below.

⁵ Please see the Appendix B for the advertisement

Entitlement Matrix

Eligible Persons		Nr of households/persons	Loss of:	Compensation Payable
Lebanese Nationals	Resident Landowners Living in the <u>area to be expropriated</u> and do rely on owned land for their livelihood	6/17	Land House Structure Trees Crops other assets livelihood	<u>PAPs shall be compensated at the replacement cost as estimated by the EC for:</u> - land loss and disturbance of livelihood; - Transitional allowance for moving of household and belongings; - income and loss of earnings; - costs incurred for improving the property assets and land productivity; - rehabilitation that is sufficient to enable PAP to re-establish in similar condition; - allowances for continued post project use of any lands at existing levels of productivity; - assistance of replacing and transition costs to new location for PAP's movable goods and assets.
	Non-absentee Landowners where at least one of these two criteria applies: - Living in the Project catchment area - do rely on owned land for their livelihood	90/-	Land Structure Trees Crops other assets livelihood	<u>PAPs shall be compensated at the replacement cost as estimated by the EC for:</u> - land loss and disturbance of livelihood; - income and loss of earnings; - costs incurred for improving the property assets and land productivity; - rehabilitation that is sufficient to enable PAP to re-establish in similar condition; - allowances for continued post project use of any lands at existing levels of productivity; - assistance of replacing and transition costs to new location for PAP's movable goods and assets.
	Absentee Landowners	765/-	Land other assets	<u>PAPs shall be compensated at the replacement cost as estimated by the EC for:</u> - land loss ; - consequential loss of any land's asset.
	Total of Landowners	861/17		

Eligible Persons		Nr of households/persons	Loss of:	Compensation Payable	
	Non-Owner residents	8/47	House Structure Trees Crops other assets livelihood	<i>PAPs shall be compensated at the replacement cost as estimated by the EC for the housing tenancy:</i> - those with Tenancy post-1991 contract at a rate of 3 months payment and landlord is instructed to return all in-advance money received to tenant; - those with no Formal Tenancy Contract for the incurred costs for improvement brought to the land and property as valued by the EC as a case-by-case basis; <i>'PAPs shall be compensated at the replacement cost as estimated by the EC for other than housing:</i> - any consequential loss of trees and crops and other land attachments; - assistance to recover livelihood and rehabilitation. - assistance of replacing and transition costs to new location for PAP's movable goods and assets.	
Foreigners	Labor residents	Non refugees	Job Full timer / Part timer and Shelter	<i>PAPs shall be compensated for Jobs loss as it follows:</i> - loss of income of full timer at a rate of 10\$ daily for total of 156 days. - loss of income of part timer for 3-month-payment based on their currently received monthly wage. <i>PAPs shall be compensated for shelter loss as it follows:</i> - those with Tenancy post-1991 contract at a rate of 3 months payment and landlord is instructed to return all in-advance money received to tenant; - those with no Formal Tenancy Contract for the incurred costs for improvement brought to the land and property as valued by the EC as a case-by-case basis.	
		Refugees	4/28	Shelter	Project will Provide assistance to get PAPs connected to the UNHCR.
	Non Labor residents	Non refugees	7/36	Shelter	<i>PAPs shall be compensated for shelter loss as it follows:</i> - those with Tenancy post-1991 contract at a rate of 3 months payment and landlord is instructed to return all in-advance money received to tenant; - those with no Formal Tenancy Contract for the incurred costs for improvement brought to the land and property as valued by the EC as a case-by-case basis.
		Refugees	17/74		Project will Provide assistance to get PAPs connected to the UNHCR.
	Total of residents in the Valley*		49/238		

*the 49/238 Households/persons include the 6/17 Resident Landowners, as above. All resident Lebanese Nationals are from 14 Owner and Non-owner households while all foreigners are from 35 household totaling the 49 households.

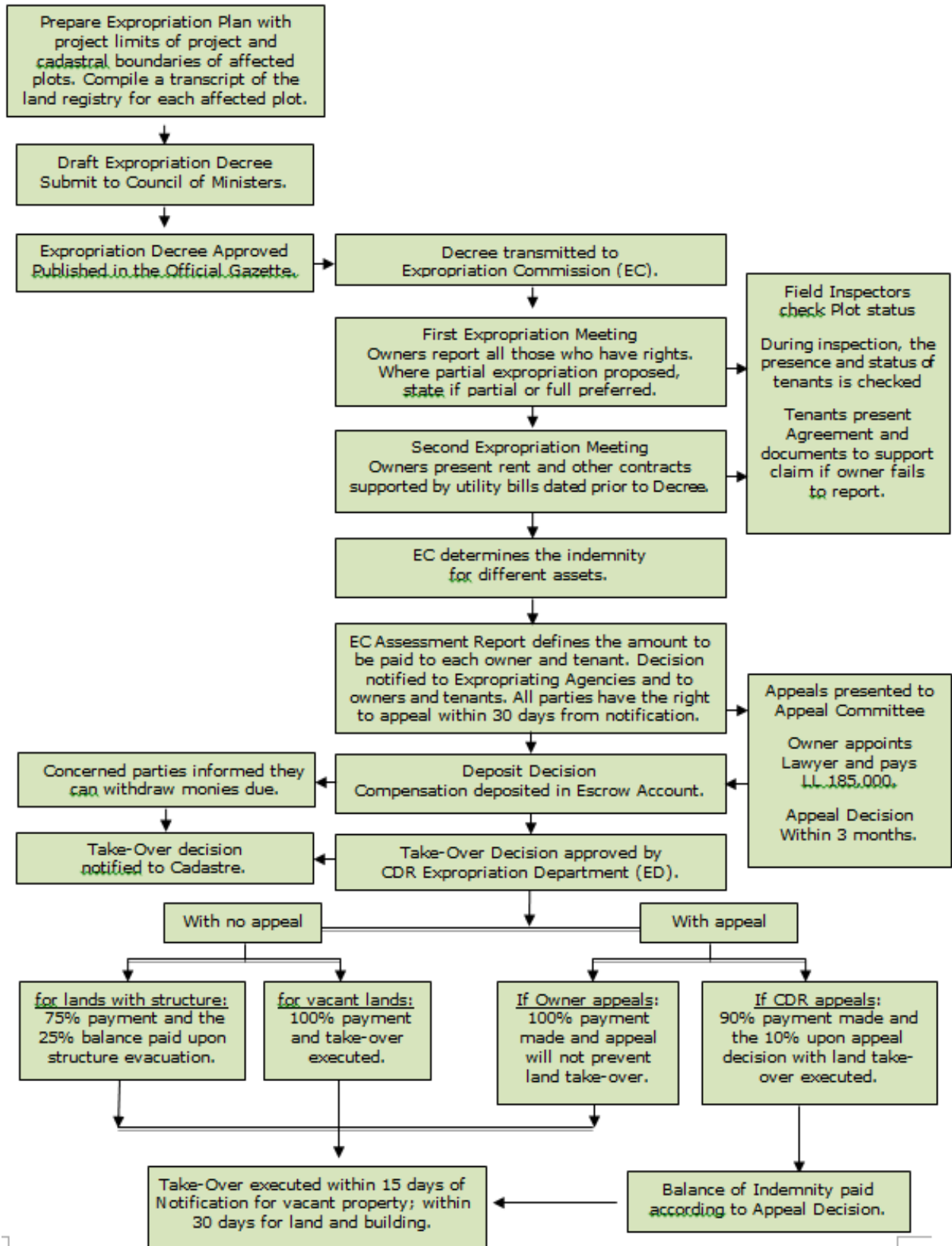
IMPLEMENTATION STRUCTURE

A summary of agency roles and responsibilities for RAP execution is given in the table below.

Role and Responsibilities for RAP Implementation

Stage	Agency	Responsibility
Final Design/ Design Review	CDR	<ul style="list-style-type: none"> • Approve final design; • Define land to be acquired; • Prepare Resettlement Plan; • Budget for rescue archaeology and building relocation.
Negotiation	PIC of PIU	<ul style="list-style-type: none"> • Undertake Community liaison and support to PAPs.
	ED within CDR	<ul style="list-style-type: none"> • Initiate the Expropriation Decree; • Ensure expropriation tasks accord with the Lebanese Law and the World Bank Policy on Involuntary Resettlement OP 4.12; • Liaise with project engineers drafting the Decree and the consultant preparing the expropriation files; • Verify expropriation files.
Implementation	CoM	<ul style="list-style-type: none"> • Approve the Expropriation Decree.
	EC	<ul style="list-style-type: none"> • Determine all compensations;
	Municipal Councils	<ul style="list-style-type: none"> • Assist PAPs with grievance redress.
	Ed of CDR	<ul style="list-style-type: none"> • Deposit determined indemnity values in escrow accounts; • Takes possession of the property.
	ED	<ul style="list-style-type: none"> • Inform beneficiaries of deposition.
	CDR or PAP	<ul style="list-style-type: none"> • If required, appeal EC decision to Appeals committee.
	DLRC	<ul style="list-style-type: none"> • Implementation of RAP, Monitoring and Evaluation activities
	ED	
	CDR/SC	
Appeals Committee	<ul style="list-style-type: none"> • Ultimate determination of disputes. 	

The Expropriation Procedure for Lebanon is illustrated in the figure below.



IMPLEMENTATION PROGRAMME

Table below predicts the time the Resettlement Action Plan needs to be implemented in its entirety starting from the preparation of the expropriation files to the Expropriation, Compensation, lands Take over and Monitoring of activities, showing who would be involved for what activity.

Project Implementation Schedule

Activities	Responsible institutions	Actual or predicted time
Landholding and Asset Census	Dam Designer	January 2014
Social Surveys	ESIA/RAP Consultant	February-April 2014
Public Consultations	ESIA/RAP Consultant	April 2014
Disclosure of RAP	ESIA/RAP Consultant	May 31, 2014
Publication of Expropriation Decree	CoM	After CoM has confirmed financing is secured. (Predicted January 2015)
Publication of EC's Assessment Report	EC	After completion of EC valuation procedures (Predicted April-May 2016)
Assessment open for Appeal	ED, PAPs and AC	30 days from publication of EC's Assessment. Decision with 3 months.
Land Evacuation	CDR supported by the relevant authorities	Total time frame predicted for land take to be 22-24 months from publication of Expropriation Decree. (Completion predicted February-May 2018).
Resettlement	CDR supported by the relevant authorities	15 days after payment for vacant land, 30 days after payment for land with buildings.
Initiation of construction	CDR and Contractor	May 2016
Internal RAP monitoring	CDR, ED and DLRC	One month after the Date of Loan and bi-annually thereafter until land take and resettlement completed.
External RAP monitoring	External Monitoring agency	Six months after the Date of Loan and every six months thereafter until land take and resettlement completed.

RESETTLEMENT COST AND BUDGET

The Expropriation Department at CDR provided the ESIA/RAP Consultant with General Standards Compensation OF Costs for various lost assets. The information provider insists on the fact that the listed figures are to be considered for general guidance only, while not committing neither CDR nor PAPs, because it is up to the Expropriation Commission (EC), at later stage, to set the final asset value to be compensated. The provided indicative rates, along with various item-quantities that compose the overall operation of Resettlement, are used to estimate the total costs for implementing the whole Resettlement operation of Bisri Project.

As such; the Total Cost of Resettlement nears the \$ 170 million. These include the costs for acquiring the lands, compensation for all lost assets, restoring the livelihood of affected PAPs, etc. Table below summarises the detailed costs making up the Total Project Resettlement Cost.

Resettlement Total Cost

Compensation Costs	Total USD
Compensation for Lands to be taken	\$120,751,312
Compensation for Structures to be demolished	\$1,054,590
Compensation for Field crops losses*	\$0
Compensation for Trees losses	\$24,659,727
Compensation for other Lands attachment losses	\$3,763,058
Total for all Compensations	\$150,228,686

* Construction works shall not be started until field crops season is over.

Other Costs	Total USD
Assistance with resettlement and livelihood re-establishment	\$3,000,000
Benefit Sharing through BVCF	\$1,500,000
RAP Monitoring and Evaluation	\$500,000
Total for all Other costs	\$5,000,000

Miscellaneous (10%)	\$15,522,869
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GRAND TOTAL (USD)	\$170,751,555
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1 INTRODUCTION

1.1 Basis for Land Acquisition and Resettlement

The Greater Beirut Water Supply Augmentation Project (GBWSAP) proposal to construct a dam and reservoir within the NahrAwali catchment, has the advantage that no significant settlements lie within the area to be inundated or within at least 500 m of the expected reservoir shoreline. While land take will be extensive within the proposed area of inundation, some 570 ha, residential properties are few and there are no commercial or industrial premises and no significant public infrastructure or community facilities within the impoundment area. In total, the Bisri dam Project will need to expropriate some 966 separate cadastral plots from about 861 landowners⁶, where about 135 building structures are found, these could be residential, water tanks, storage rooms, generator rooms, religious places, or animal refuges. The occupied residential accommodations at present, that will be affected, are used mainly as houses for seasonal farm workers that will need to be relocated. These workers are mostly non-Lebanese, mainly Syrian, Syrian Kurd, Palestinian and Egyptian, the majority of which may stay on the land till the next planting season.

Twenty six designated archaeological sites and one heritage site, within the area to be expropriated were found. Most remarkably are; one cultural heritage site, a small church, and adjacent monastic remains.

Land take and resettlement will also occur for other project activities and associated infrastructure such as the conveyor distribution lines and access road downstream the proposed dam down to the Awali HEP. The expropriation limits, related to the cut and fill of this conveyor line and the associated road, are being now defined by the Dam Designer as his detailed design is being finalized. These limits confine a total area of about 7.5 ha to be expropriated downstream the dam.

A fundamental principle of resettlement policy, under dam projects, is that it should provide Project Affected Person (PAP) with standards of living at least equivalent to, and preferably better, than their pre-relocation conditions, compensated not only for physical loss but also for discomfort and social loss. Bisri dam when constructed should allow PAPs priority advantage to new economic opportunities such as tourism, fisheries, or increased irrigation, to restore and improve their standard of living. PAPs are expected to be compensated for their loss of livelihood, land take, assets loss and resettlement.

In accordance with the Council of Development and Reconstruction (CDR) policy, the assessment complies with the structure and guidelines of the World Bank Policy on Involuntary Resettlement OP 4.12 as well as with the requirements of the Government of Lebanon (GOL). Involuntary Resettlement (OP/BP 4.12) is one of the five World Bank Safeguard policies that are triggered by the project. The fundamental goals and procedures adopted while planning and executing a land acquisition and resettlement

⁶These could be single or multi-owners land plots,

programme for a World Bank assisted project are laid down in OP 4.12⁷ on Involuntary Resettlement. Broadly, this has three prime policy objectives:

- Wherever feasible, involuntary resettlement should be avoided or minimised through the pursuit of alternative project designs;
- Where resettlement is unavoidable, this should be conceived and executed as sustainable development by providing sufficient investment to enable displaced persons to share project benefits. Displaced persons should be meaningfully consulted and have opportunities to participate in the planning and implementation of resettlement programmes; and,
- Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living, or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to project implementation, whichever the higher.

When differences exist between the Bank policy on Involuntary Resettlement OP 4.12 and relevant Lebanese laws and regulations, the Bank policy will apply.

For instance a specific problem with Lebanese expropriation Law is that it affords no provision for those who derive a livelihood from land to which they have no title, a category into which the majority of those displaced by the Bisri project fall.

The present RAP will help identifying all key discrepancies between the Lebanese Expropriation Law and the World Bank OP4.12 for the Involuntary Resettlement. It will also propose the filling-the-gaps measures between the two. The details of these deviations and the measures proposed to resolve them for the Bisri Project are given under section 5 of this report.

Under Lebanese Law, compensation for land and asset expropriation and resettlement is made via a single/multiple cash payments, with no provision for land-swaps or other assistance in re-establishing a home or livelihood. Funding agencies, on the other hand, such as the World Bank are usually more considerate and will usually expect PAPs to be compensated for loss of livelihood, even where that livelihood is obtained by working land to which they have no title.

Also, OP 4.12 requires PAPs to be compensated in full before land and assets are taken. Under Lebanese Law, it is possible to appeal the value of the compensation but not the act of expropriation and as such, the appeal of any party will not prevent the execution of the Land take-over decision.

As said earlier, the Resettlement Action Plan (RAP) identifies measures to fill the gaps between the Lebanese expropriation Law and World Bank O.P 4.12 policy. As such, to render the act of expropriation complete and meaningful, the Lebanese procedure of expropriation has to be read in conjunction with these proposed measures, as it will be discussed in further sections of the report.

⁷ World Bank Operational Policy OP 4.12 *Involuntary Resettlement*, December 2001.

1.2 Report Objectives

The Resettlement Action Plan presents the results of the detailed Cadastral Survey, Socio-economic and Landowners Surveys comprising structured questionnaires for Landowners, Households and agricultural establishments. Furthermore it details all the Policies regarding the Compensation Entitlement and Standards and the Expropriation Procedures to be followed.

The preliminary land use and socio-economic survey for Bisri site undertaken during winter 2013 has been updated by a household Survey held during Winter 2014 that was completed by Landowners Survey two months later. The detailed Cadastral Survey and Assets Census, completed by the Dam Designer, have been the basis for the 2014 Social Surveys. The present RAP builds upon all these findings while the Final Engineering Design that is expected to come to an end in the upcoming months is unlikely to heavily affect the previously mentioned basis of the current RAP.

Therefore and given the work that has now been completed, the objectives of the present report are:

- To identify affected people and the scale of the impacts on lands, residences, assets and activities caused by the expropriation of property;
- To establish a legal and policy framework for the programme that will ensure that all losses incurred by the taking of the land are fully compensated and that they suffer no diminution of livelihood or assets;
- To define the eligibility for compensation and,
- To identify the appropriate structure for implementation and programme stages;
- To define a timeframe for implementation and identify the means by which RAP implementation will be monitored.

1.3 Report Structure

The present report is action-oriented, but it also accommodates World Bank reporting guidelines. While the present Section 1 briefs the background of the Resettlement Plan, the remaining part of the present report contains two distinct parts; the first comprising Sections 2 to 5 that provides the context of the Resettlement Action Plan (RAP). Section 2 describes the project and its current status, while Section 3 summarises socio-economic status of the affected populations. Section 4 quantifies all the expected project impacts over people and their assets, while Section 5 reviews the legal and policy framework for compensation entitlements and the measures needed to fill the gaps between the Lebanese Law and the World Bank policy.

The second part of the report comprising Sections 6 to 8 discusses the land acquisition and resettlement specific to the project. Section 6 describes the compensation entitlements that should be offered with the preliminary compensation rates, while Sections 7 and 8 respectively deal with RAP institutional arrangements and responsibilities, and the proposed implementation programme.

Section 9 reviews the Public Consultation Sessions that were undertaken and Finally Section 10 puts a cost for all the expected impacts of the project in an attempt to estimate the total budget value of the whole resettlement operation.

1.4 Completion of Cadastral Records

In concluding the present chapter it is important to understand the cadastral records on which the findings of the present RAP are based. Responsibility for cadastral mapping and land ownership records lies with the Directorate of Land Registration and Cadastre within the Ministry of Finance, generally referred to as the *Cadastre*. Understandably, this work has prioritised urban areas and suburbs where development has been extensive. Rural areas with little development, such as the Bisri dam and reservoir site, have not been updated. Therefore the Design Consultant has prepared detailed expropriation files along with a Cadastral Survey of the whole area, where all plots limits and ownerships falling under the project expropriation limits have been identified.

2 PROJECT DESCRIPTION

2.1 Introduction

This chapter of the RAP provides a brief description of the project background and scope, and discusses the details of the project, its location and geographical setting, the nature of the land to be acquired, and other aspects that impinge on the approach to land expropriation and resettlement.

The potential for dams in Lebanon has long been recognized; **Section 2.2** describes the project background and explains the interface between the GBWSP and GBWSAP. **Section 2.3** describes the present GBWSAP, while **Section 2.4** summarises the prime characteristics of the site. **Section 2.5** lists the administrative divisions and **Section 2.6** discusses the present land use throughout the project area and its surrounding.

2.2 Project Scope and Background

To overcome increasing severe shortages in public water supply, the Government of Lebanon (GoL) through the Council for Development and Reconstruction (CDR), the Ministry of Energy and Water (MEW), and the Beirut and Mount Lebanon Water Establishment (BMLWE), has initiated the Greater Beirut Water Supply Augmentation Project (GBWSAP) to identify the most significant environmentally and socially acceptable, technically viable and economically efficient alternative to the medium and long term provision of potable quality water throughout the Greater Beirut Area..

The Consultant was assigned the preparation of a detailed action plan for resettling people who live currently in the area to be inundated by the project. With this perspective, the Resettlement Action Plan (RAP) will address expropriation, resettlement and compensation issues covering the Bisri Scheme which comprises of the upper catchment containing the inundation area, the Dam site and the lower catchment downstream incorporating the access roads and conveyor pipelines leading to the Awali Hydro-Electric Plant.

2.3 GBWSAP Description

Bisri site, where the GBWSAP will be constructed, is located some 15 km inland from the Mediterranean coastline at Saida, and 35 km south of central Beirut, as shown in Figure 2.1. GBWSAP involves the construction and operation of a series of infrastructure, notably:

- A clay Rock-fill dam of 73m height with 12m and 760m dam crest width and length respectively ,
- An impoundment of c. 398 ha of lands at a normal water level of 461m behind the constructed dam accommodating for a total storage capacity of 125 Mm³,
- Twin-1400mm-water conveyor line of c. 4 km length, with a conveyance capacity of 6m³/s, transporting the dam water to the Awali Lac downstream, from where

water, of the Dam, will be channelled into the exiting Joun Tunnel until the Take-off point located upstream Joun HEP,

- On top of the c. 4km buried conveyor line, a service access road of same conveyor length will be constructed together with an access road around the lake as well,
- One small Hydropower Plant (0.2MW) at the feet of Dam and another 8-10MW downstream plant at the discharge of the water transmission line will be constructed.

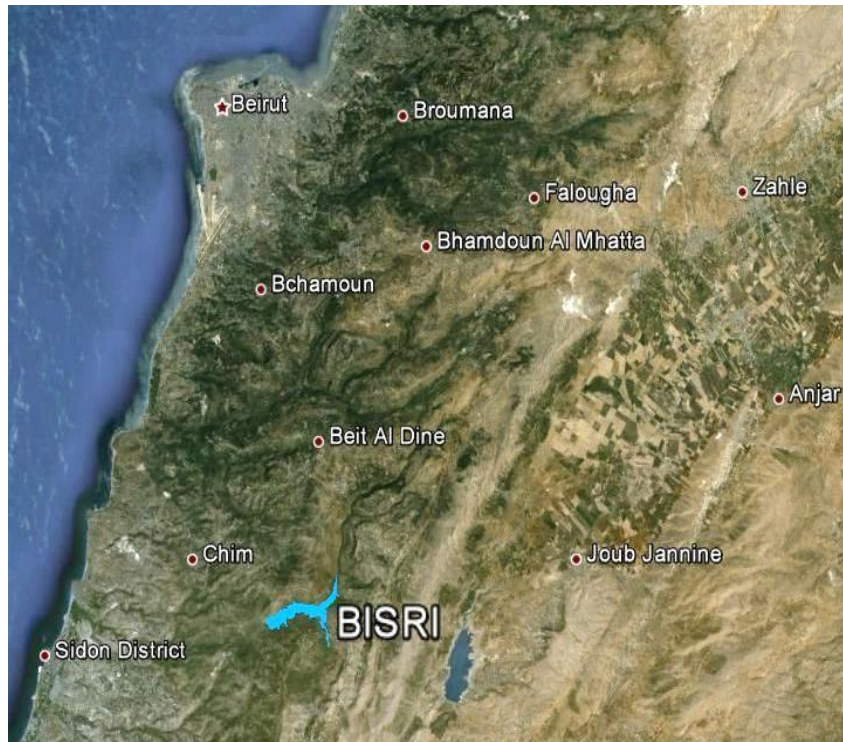


Figure 2.1: Location of the Bisri Scheme

With a dam basis at an elevation of c.395 masl, the reservoir extends for about 4 km upstream of the dam axis on NahrBisri, then it forks in southerly and northerly directions for a total approximate length of 2 km each, as illustrated in the following Figure. At meanwater level, 468masl, the total storage volume of the reservoir is estimated at 125Mm³ and the area expected to be inundated is 434ha.

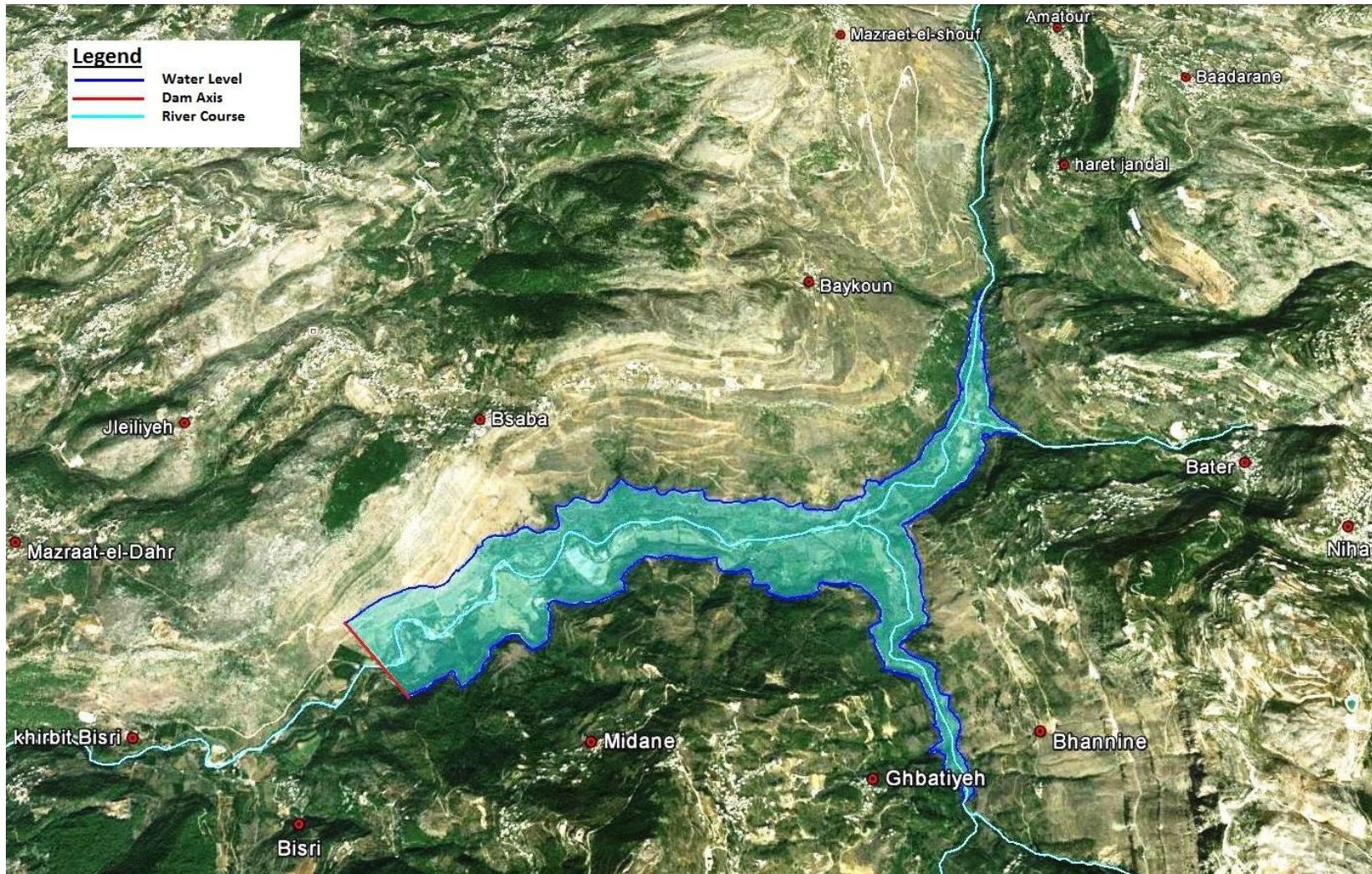


Figure 2.2: Bisri Dam and Reservoir on Nahr Bisri

2.4 Site Characteristics

2.4.1 Landscape and Topography

The two lobes of Bisri Reservoir formed by NahrBarouk from the north and WadiBhannine from the south together drain a substantial portion of the southern Chouf Mountains. These two watercourses merge at MarjBisri to form NahrBisri, which after a further 5 km becomesNahrAwali, the name retained thereafter to the sea. Above the dam site on NahrBisri the surface water catchment extends to some 215 km². Typical scenery throughout the Bisri reservoir site and adjacent areas is shown in Figure 2.3.

The upper catchment is characterized by the steep slopes and cliffs, with small villages on hilltops and cliff edges. While natural beauty is an important resource, the lack of landscape management and planning control has resulted in severe degradation over the last two decades. In the lower catchment downstream of Bisri Village, the river again occupies a narrow steep sidedvalley in which agriculture is largely limited to tree-crops grown on terraced slopes. The watercourse provides both the physical and administrative boundary between the Chouf and JezzineCazas.

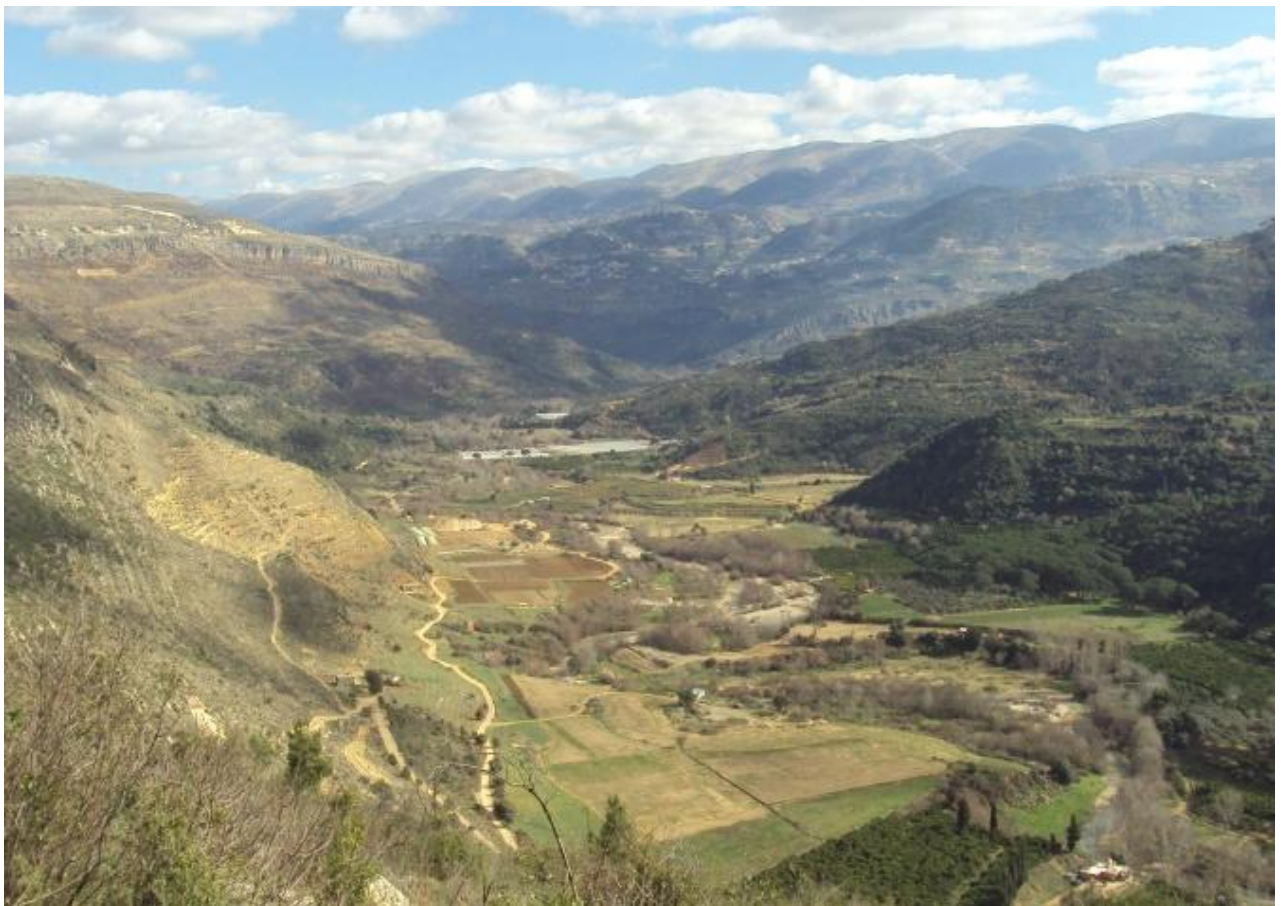


Figure 2.3: Typical Landscape and Scenery of the Bisri Area

2.4.2 Archaeology, Historic and Cultural Heritage

By comparison to today's peace and tranquillity, history relates the broad, flat and fertile valley of NahrBisri to have been a hive of human and community activity. In Roman times the valley is believed to be the main route from Saida to Damascus, and more recently afforded refuge for religious minorities.

In 2004 and 2005, a Polish-Lebanese team from the Polish Center for Archaeology at the University of Warsaw and the Lebanese Institute of Archaeology, undertook a survey of sites throughout the valley and surrounding hills. As a result, a total of 78 sites were identified, of which 27 fall within the area of expropriation for Bisri Project, as shown in Figure 2.4.

Notwithstanding the large number of sites throughout the Bisri valley, those which are expected to be the most significant are the ones that are listed in the table below.

Table 2.1: Heritage Sites in Bisri Reservoir⁸

Site	Description
The Granite Columns at MarjBisri	A Roman-Persian era Temple of which four columns and some temenos boundary stones remain visible.
MarjBisri Bridge	A single-arched stone bridge believed to date from the Mamluke-Ottoman period.
Mar Moussa el Habchi	A small vaulted Maronite church dating from the 13th Century, rebuilt authentically in modern times.
St. Sophia Monastery	Adjacent to Mar Moussa Church but said to predate it, the stables and stable yard, together with one end of a Byzantine wall are all that now remain.

⁸ Relocation of cultural heritage will be covered by ESIA/ESMP rather than by RAP.

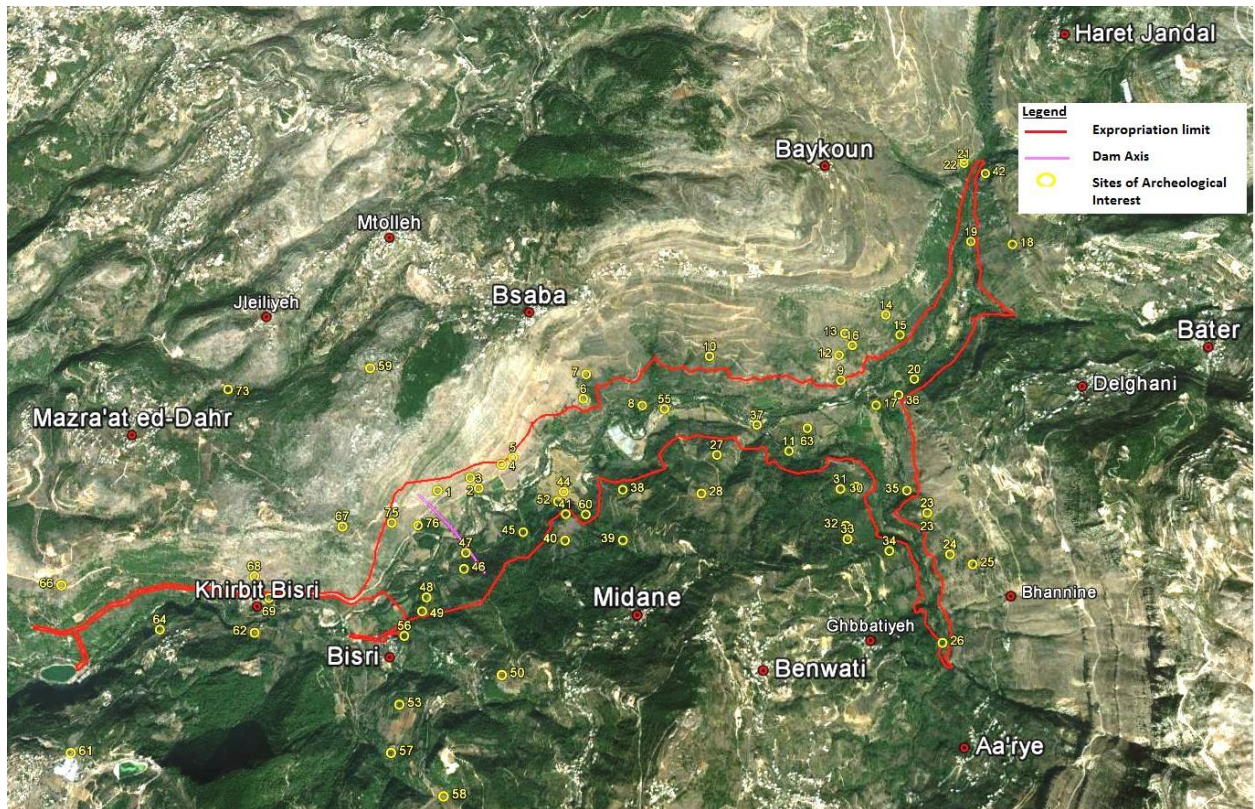


Figure 2.4: Location of Heritage Sites within Bisri Reservoir

The Granite Columns

Close to the confluence of NahrBarouk withWadiBhannine lies the Roman Temple of MarjBisri, believed to be associated with the Temple of Ashmoun,dating back to the 7th Century BC. Originally Phoenician, Ashmoun was constructed over several centuries and shows Roman and Persian influences, with colonnades, mosaics, and the foundations of a Byzantine church. Both Ashmoun and MarjBisri are believed to lie on the ancient road from Saida to Damascus, used by, among others, Alexander the Great, with MarjBisri at the crossing point of NahrBarouk, where it afforded refuse and respite prior to ascending Jebel Niha. The site of MarjBisri and its immediate vicinity are shown in Figure 2.5.

The visible remains of MarjBisri are limited to four black granite columns, perhaps the entrance to the main temple, and several large dressed stone blocks exposed in the adjacent river bank, believed to be the wall of the Temenos, the sacred area surrounding the temple. Pottery shreds of both Roman and Persian origin have been found in the vicinity and it is assumed buried remains of other buildings and at least a small village will also be present. With the reservoir full, the MarjBisri Temple site will be covered by some 30 m of water.

MarjBisri Historic Bridge

While a bridge over the river, c. 30m from the columns, is thought to have existed since medieval times, the present single-arch structure is believed to date from the Mamluke-Ottoman period (Figure 2.5).



MarjBisri columns



Marj Bisri bridge

Figure 2.5: Photographs of MarjBisri

Mar Moussa El Habchi Church

Mar Moussa Church, shown in Figure 2.6, is located on the lower slopes of the valley just 200 m from the proposed dam axis, and 75 m from the base of the dam's back slope. While the church is small and unimposing, its importance in local culture and tradition was evident from the concerns raised during public consultation.

The site is believed to have been used for worship since the 13th century, but the church was rebuilt some time ago. Because access is limited to an un-metalled track, services are no longer held other than on Mar Moussa Day, on the last Sunday of August, each year.

Being so close to construction activity, it is expected that the church will be irreparably impacted. The local community has already indicated they wish to see it relocated. Given the nature and relative simplicity of the structure, it will be feasible to dismantle the main features, although the smaller stones in the vaulted roof, which may in any case not pre-date the present structure, may need to be replaced.



Mar Moussa Church



Engraved lintel over one of the windows



Part of the interior



Remains of the monastery

Figure 2.6: Images of Mar Moussa el-Habchi Church and Ste-Sophia Monastery

Saint Sophia Monastery

Saint Sophia just 30 m from Mar Moussa Church is thought to predate it. All that is seen today are the walls and arches of what may have been stables. An adjacent thick stone wall, reportedly Byzantine, is believed to be the Monastery boundary wall (Figure 2.6).

2.5 Administrative Divisions

The area, directly and irreversibly affected by the construction of Bisri dam and conveyor line and inundated by its impoundment reservoir, spans the jurisdictions of two cazas, 9 municipalities and 15 cadastral regions, as listed in Table 2.2 below. The coverage of cadastral regions within the Bisri Dam reservoir and the expropriation limit is shown in Figure 2.7.

Table 2.2: Administrative Divisions within the Project Area

Caza	Municipality	Cadastral Region
Chouf	Mazraat El Dahr	Mazraat El Dahr
	Bsaba	Bsaba
	Mazraat El Chouf	Mazraat El Chouf
	Aamatour	Aamatour
	Bater	Bater
	Administered by Chouf Ka'emMaqam	Khirbet Bisri and Deir-el-Mkhaless
Jezzine	Midane	Midane
	Benouati	Benouati
	Aariye	Aariye
	Bkassine	Bkassine
	Administered by Jezzine Ka'emMaqam	Bisri, Harf, Ghabtiyeh, and Bhannine

The present RAP incorporates some areas, from a new cadastral region, to be expropriated. This region is Deir-el-Mkhaless, where some lands will be taken for the purpose of constructing the Dam and Awali HEP conveyor line.

Under the Municipal Law of 1977, municipalities are permitted to form federations to pursue strategies and take on projects of common interest that exceed the financial possibilities of a single municipality. There are currently 37 municipal federations throughout Lebanon, four of which include municipalities within the Bisri project area, as listed in Table 2.3.

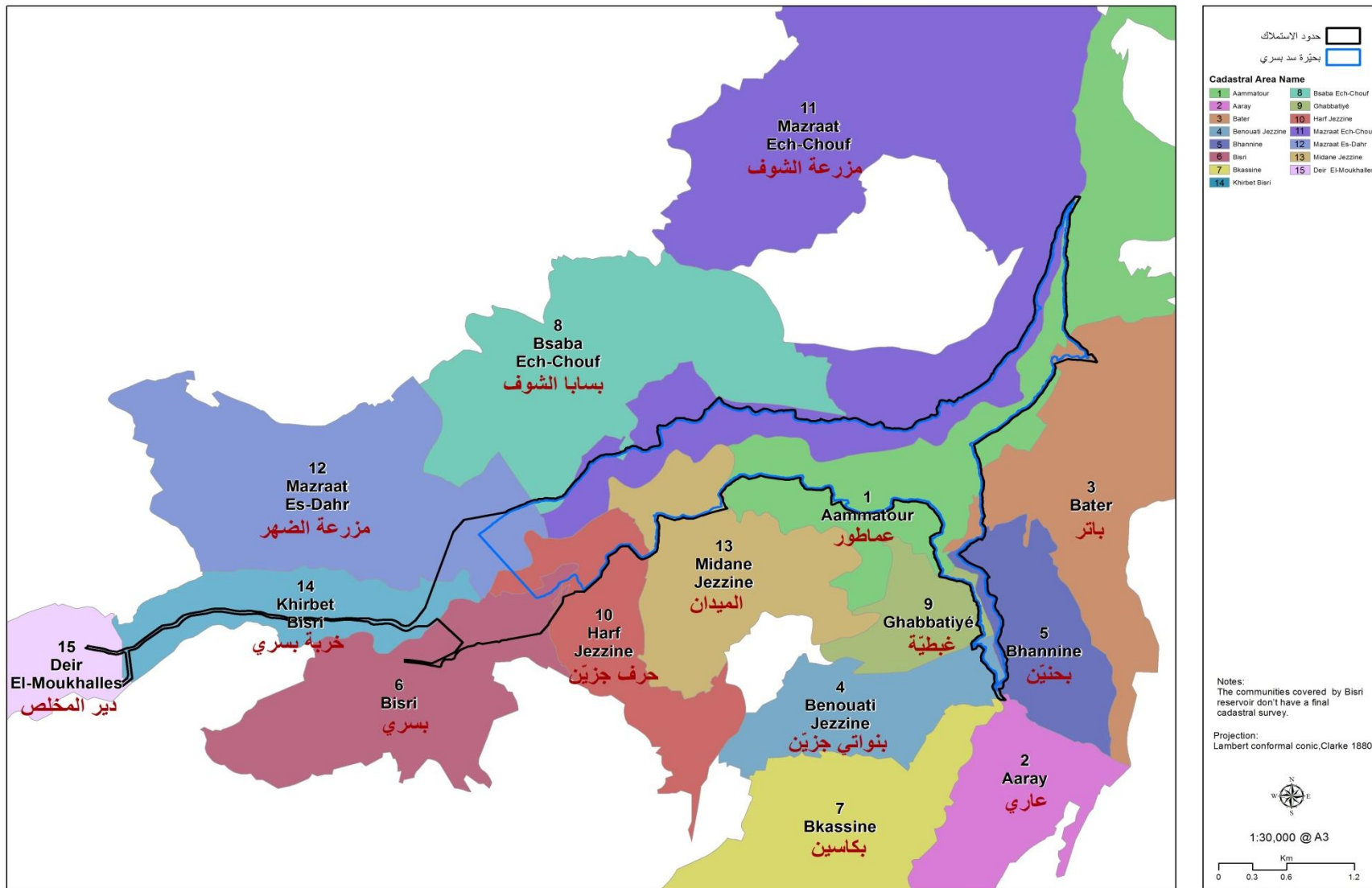


Figure 2.7: Cadastral Regions of the Bisri Project

Table 2.3: Bisri Project Municipalities in Municipal Federations

Municipal Federation	Bisri Project Municipalities
South Iqlim El kharroub	Bsaba; Mazraat El Dahr
Chouf El Souayjani	Mazraat El Chouf
Chouf El Aala	Aamatour; Bater
Jezzine	Aariye; Benouati; Bkassine; Midane

2.6 Land Utilisation

Despite the presence of extensive agriculture, the BisriValley upstream of the dam site is very sparsely populated, with no significant settlements or communities beyond family groups. The majority of land owners are absentee landlords, and most of the families present are tenant farmers or seasonal labour. Throughout the reservoir area there is a total absence of non-agricultural commercial or industrial activities.

Table 2.4 below represents a general view of the type of land uses within the reservoir area. The distribution of land uses by area only shows an initial interpretation of where the bulk land use lies (Figure 2.8). Photographs of typical examples of current usage are shown in Figure 2.9.

Table 2.4: Estimated Distribution of Land Use within Expropriated Area

Land Use	Approximate Area - ha	% of Total expropriation
Open Field/Fallow	148	26%
Natural Vegetation	131	23%
River Bed and Bankside Vegetation	105	18%
Open Land	99	17%
Pine Woodland	82	14%
Poly-tunnels	4	0.7%
Built-up Area	1	0.2%
Total	570	100%

Built up areas in the reservoir area include:

- A small number of significant farmsteads, one with a private menagerie;
- Owner's residences, mostly *second homes*;
- Water tanks, storage rooms, generator rooms;
- abandoned 2-3 storey houses now used by agricultural workers;
- Temporary poor quality shelters, some tented, used by agricultural workers;
- Abandoned collapsing old stone houses;
- Up to 26 designated archaeological sites of interest; and,
- The historic and culturally-valued Mar Moussa Church and adjacent structures.

Agricultural lands include open fields variously tilled, cropped, laid fallow or under poly-tunnels. Of the total number of trees planted, 27% are Oak, 17% are citrus, 9% are pine, and 7% for each olives and pomegranate trees. The remaining 40% are mainly fruit and forest trees and crops (such as Grapes, Peach, Pear, Apricot, Avocado, willow, poplar, etc.); while flowers and strawberries are grown in poly-tunnels.

Open land is generally unused land with only sparse natural vegetation or scrub. River bed areas include braided flow channels, gravel and sand banks, and the natural vegetation includes areas that are well vegetated but for a variety of reasons have not been developed for agriculture.

Pine woodland comprises stands of mature pine trees with relatively little undergrowth that are harvested annually for pine nuts. If properly addressed prior to clearance, they will yield significant tradable timber.

Downstream of the dam site, only the first 700m from the dam site are used as agricultural fields, the remaining area where the conveyor will be built, is mainly forest and valleys.

The 500 m zone, off the future shoreline, in which elevations reach some 800 m, comprises sparsely inhabited areas and valley slopes often devoid of significant vegetation. Where terracing is maintained, citrus and olive predominate. There are also outlying houses from the villages of Bater, Bhannine and Aariye.

The 1,000 m off the future shoreline, zone spans the tops of the surrounding hills and takes in the main areas of development at Bsaba, Aariye, Ghbatiyeh and Midane, together with outlying properties of other villages. Between the scattered settlements, terraced slopes, hilltop fields, natural vegetation and woodland prevail. The panorama of these settlements is dominated by a metalled road that links Jezzine Town to Mokhtara Village in the Chouf.

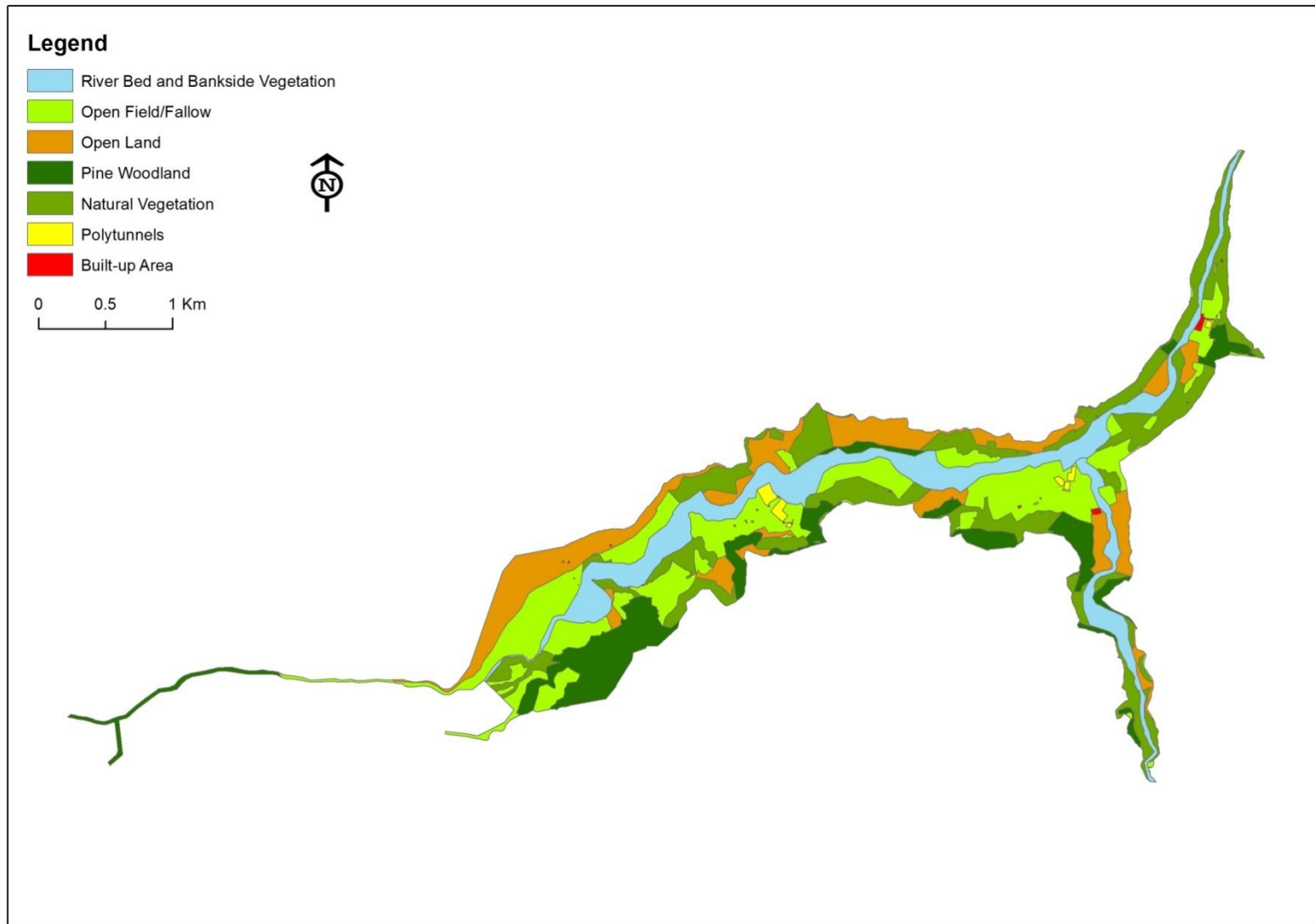


Figure 2.8: Current Land Use within Bisri Reservoir and Buffer Zone from GE Imagery



General view; cropped fields and pine woods



A substantial residence used by seasonal workers



Housing for seasonal farm workers



Housing for seasonal farm workers



Fine grass for cutting as turf



Quarry in the Chouf Sandstone



Poly-tunnels where strawberries are grown



Pine woods reminiscent of once greater forest cover

Figure 2.9: Current Land Utilisation within Bisri Reservoir

3 SOCIAL BASELINE CONDITIONS

3.1 Introduction and Methodology of Socio-economic Survey

Lebanon has long suffered the lack of accurate comprehensive socio-economic analysis because no national census has been undertaken since 1932, and while sample surveys in selected areas and communities have been carried out, no such survey is available for the sparsely populated NahrBarouk/NahrBisrivalley. The area was not included in the priority areas of the Department of Real Estate at the Ministry of Finance, for which UNDP has financed land ownership surveys and computerized storage/retrieval system.

This section will provide a broad description of the social baseline conditions of the communities and individuals affected by the project, the characteristics of the PAPs and their activity patterns. In the context of the RAP, Project Affected Person (PAP) are not limited to people living or working in the inundated area and buffer zone. PAP is defined as any person, residing or not residing in the project area, that will be impacted negatively and lose their land, livelihood, or asset. The affected communities are divided into three groups:

- Residential PAPs,
- Non-Residential PAPs, and
- Vulnerable Groups.

With finalized project design showing the expropriation limits with well identified plots ownerships, the Winter 2014 Social Survey, followed by a Landowners Survey, in March-April of the same year, were conducted.

3.2 Residential Project Affected Persons (PAPs)

Upon inundation, residents within the reservoir area will lose their source of livelihood and accommodation. Of particular relevance to the Bisri project is the temporal (seasonal) nature of both residency and employment.

3.2.1 Household Size

A Household Survey has been conducted during the months of January-February 2014, covering the 100% of Households affected by the Project. The survey has identified a total of 135 structures out of which 49 residential and inhabited dwellings and the remaining 86 are either empty structures or non-residential such as animal shelters, barns, storage rooms, warehouses for agricultural inputs, etc.

The 49 residential households, that were interviewed, grouped a total of 238 individuals living in the area making the average household size; 4.8 approximately the same as the national average⁹.

⁹ The average Household size in Lebanon was 4.23 in 2007 according to the Central Administration of Statistics.

3.2.2 Age and Sex structure

In the area to be expropriated for Bisri project, considering only the interviewed households, there was a 50% gender split between female and male (Figure 3.1); the age group was divided 44% minors¹⁰ and 55% adults¹¹ as illustrated in Figure 3.1.

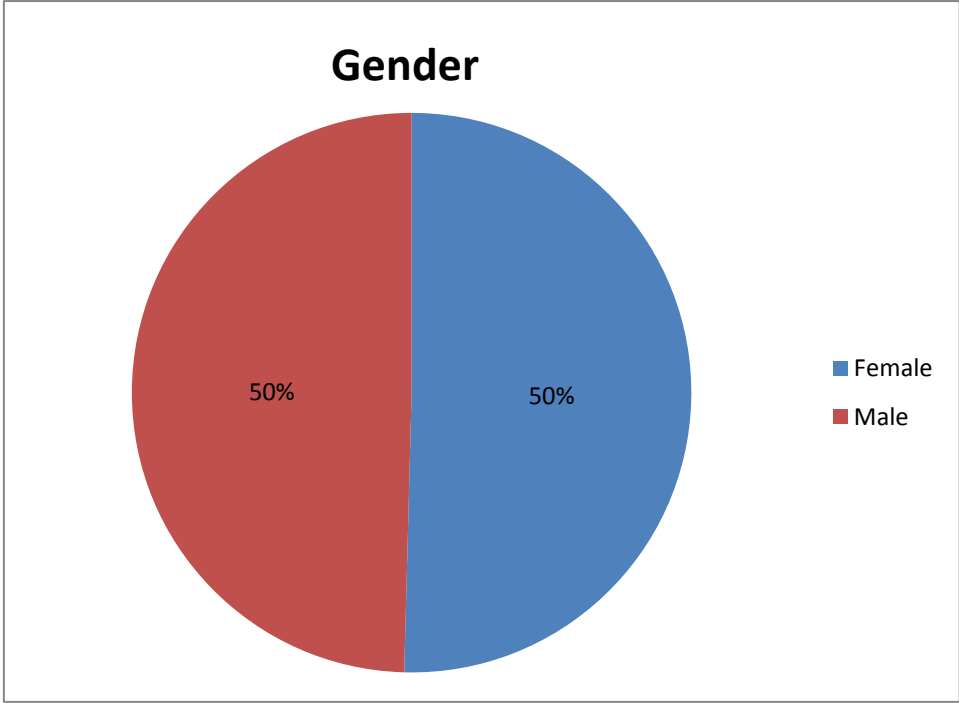


Figure 3.1: Population Distribution by Gender (Feb. 2014)

¹⁰Minors are under age 18 composed of Infants and Dependent children.

¹¹Adults range between 18 and 65

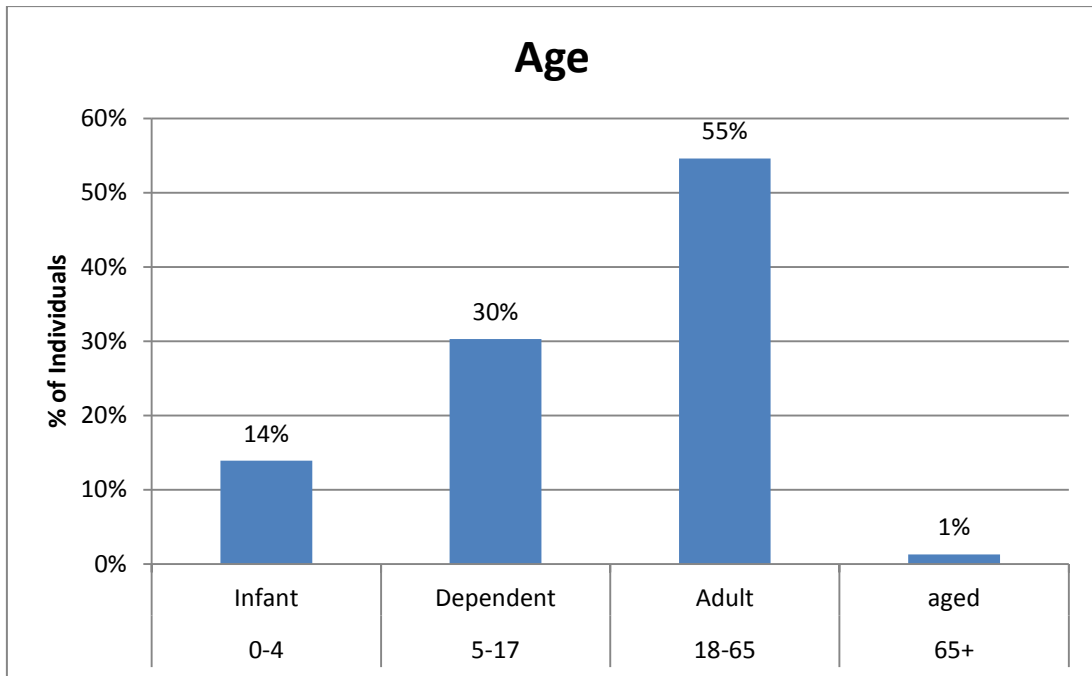


Figure 3.2: Population Distribution by Age(Feb.2014)

The population was skewed towards the adult population because most residents are present for reasons of employment, there are no educational facilities for minors, and the lack of communication and public infrastructure deters the elderly.

3.2.3 Nationalities

As shown in Figure 3.3, the majority (73%) of residents are not Lebanese nationals but other Arabs including Syrians, Syrian Kurds, Palestinians and Egyptians. While much labour is seasonal, many workers from Syria have chosen to stay on land after harvest, waiting for the next planting season because they have nowhere else to go and are unwilling to return to the on-going unrest at home.

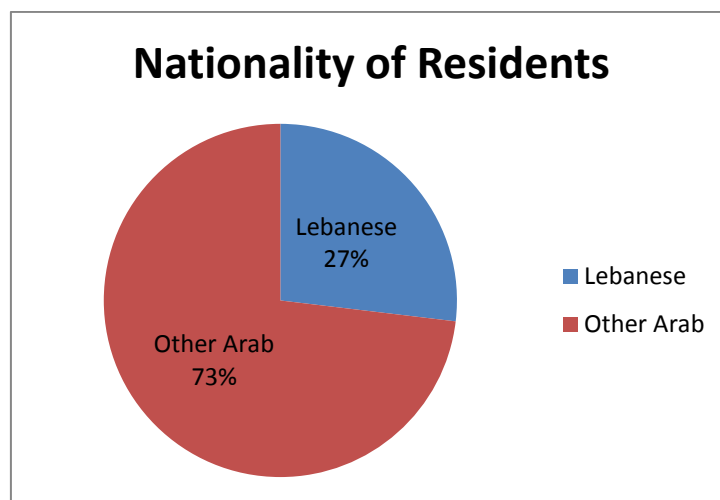


Figure 3.3: Nationality of Surveyed Residents(Feb. 2014)

3.2.4 War Refugees

Some Syrian seasonal workers have chosen to remain on site and not to return to the present turmoil of the on-going Syrian uprising. Some of which have brought their relatives into the Valley fleeing the continuing civil unrests back home.

While the 57% of the total 49 surveyed households, have considered themselves non-refugees (could be Lebanese nationals and/or long-time residing foreigner), the remaining 43% have declared themselves war refugees, of which 80% got registered with the UNHCR.

3.2.5 Education and Health

The level of education among PAP households, measured by their illiteracy rates shows high levels of illiteracy(31%) and low education levels (60%) among the resident population of the valleys as given under below Figure 3.4.

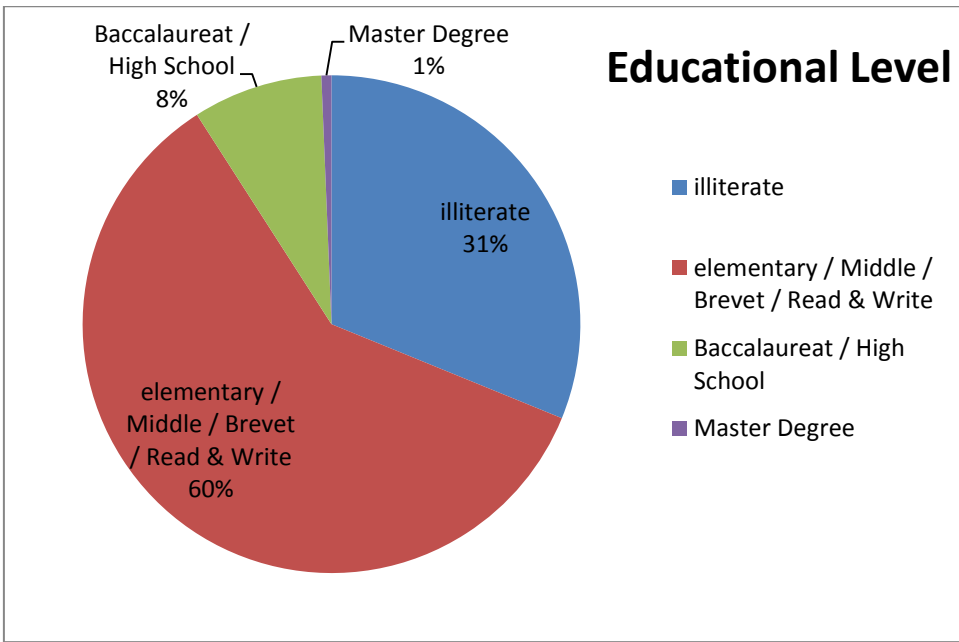


Figure 3.4: Education Level of Resident PAPs

On health, most interviewees (76%) reported no chronic health problems, the remaining 24% suffersome or more of the following: stress relateddisease, migraine, bone calcification, coronary disorder, respiratory disorder, hearing impairment, or urinary tract disorder.

Not all workers receive health insurance¹² and since there is no unemployment welfare, the labour force depends on employment for health benefit.

¹²NSSF (National Social Security Fund) is a health insurance and end-of service pension

3.2.6 Economic Activity and Income

The vast majority of the residing productive population i.e the 90% are occupied into the agricultural, farming and forestry sectors. Working field crops is the main occupation for 79% of the valley population, followed by the tree crops with 67% and only the 9% of households is occupied looking after greenhouses as illustrated in Figure 3.5. Unused plots primarily comprise natural vegetation, unfit or abandoned land. In addition to traditional field (e.g. winter vegetables) and tree crops (e.g. citrus, olives, walnuts and loquats), agricultural activities include cattle, winter grazing of sheep and goats, grass cut for turf, with strawberries and fresh flowers grown in poly-tunnels. The natural stands of pine trees are harvested for their seeds. Many of the cropped areas are irrigated.

There are no industrial or non-agricultural commercial enterprises within the area to be expropriated and given the limited access to the area, in the absence of metalled roads, there is no significant off-farm retail selling at roadside stalls.

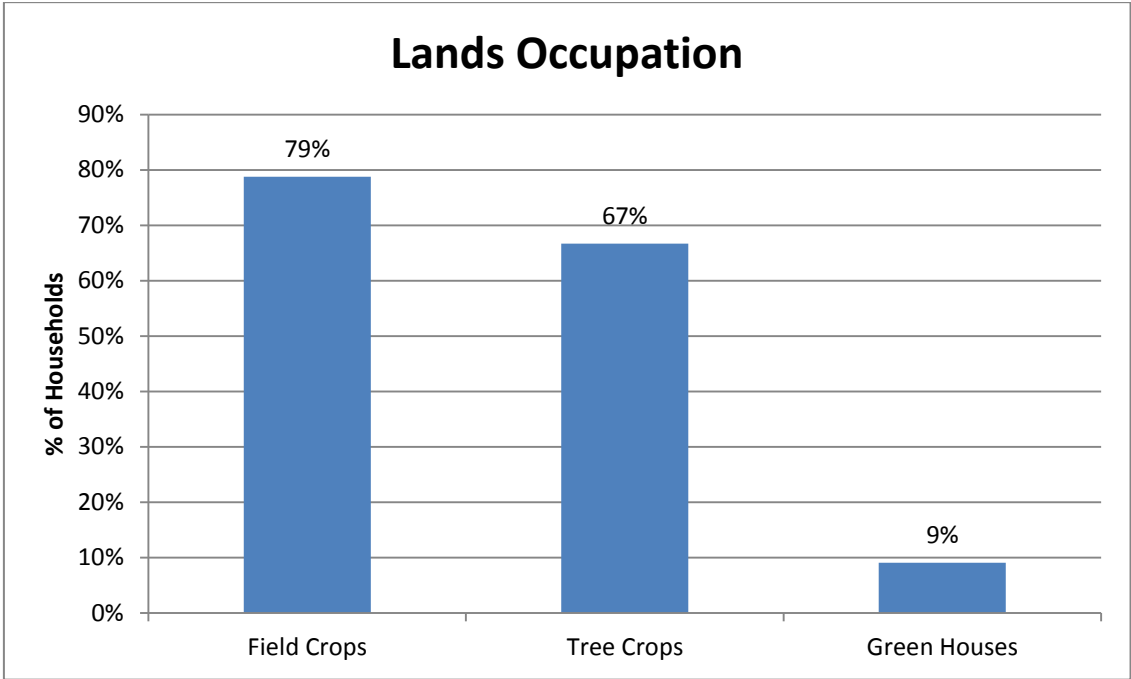


Figure 3.5: Participation of Households in Different Types of Farming

The majority of residents (87%) claims to be skilled agricultural and fishery workers, whom c.60% claims to make a monthly earning of 0-500\$ (Figure 3.6)¹³, which does not reflect readiness to relocate. Moreover, only 15% have other sources of income from agricultural farming/rental/commercial activities; the larger segment of the workers relies solely on the job salary as their main source of income.

¹³Salary data are not always reliable

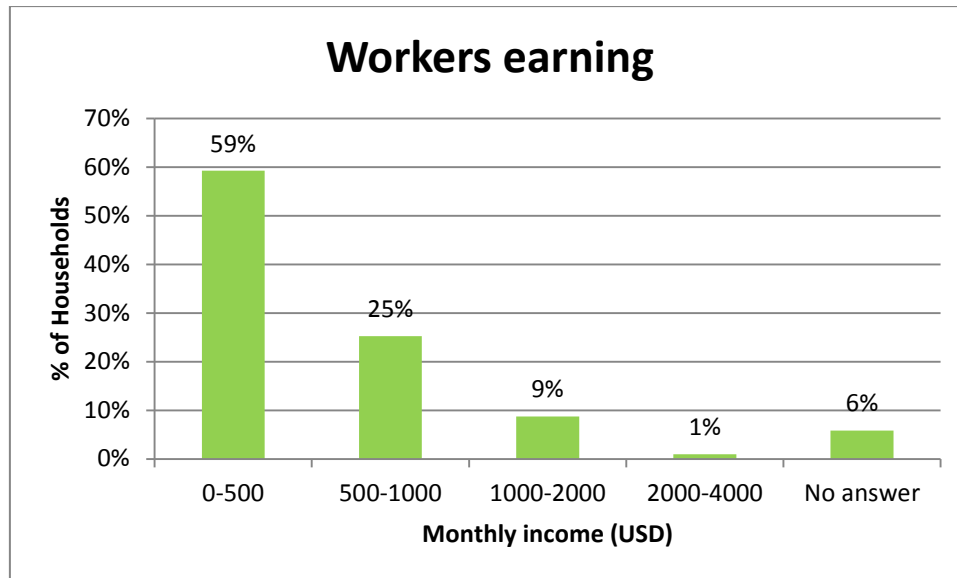


Figure 3.6: Population distribution by monthly income (\$)

The unemployed population is over the 50% of the valley population and is mainly composed of minor and/or house-makers that live with their families. The unemployment rate is much higher among non-Lebanese resident (63%) than their Lebanese counterparts (40%).

3.2.7 Key Social Indicators

The key social indicators for projects in Lebanon commonly include *demographic profile*, access to *public utility services* (roads, electricity, telecoms, water, wastewater and drainage) and *community services* (schools, health centres, recreational facilities, Non-Governmental Organizations and public open space), *land ownership and utilization*, *standards of public health*, *educational attainment*, *employment* and *income-generating activities*.

There is very little access to public utility services within the reservoir area. More than 70% of the households obtain their domestic water from springs while the remainder depends on the river and wells and very few (4%) depends on tanker fillers (Figure 3.7). None of the properties are connected to public sewerage; 55% discharge to holding tanks which in turn infiltrate to the ground, and the other 45% discharge directly to the river (Figure 3.8).

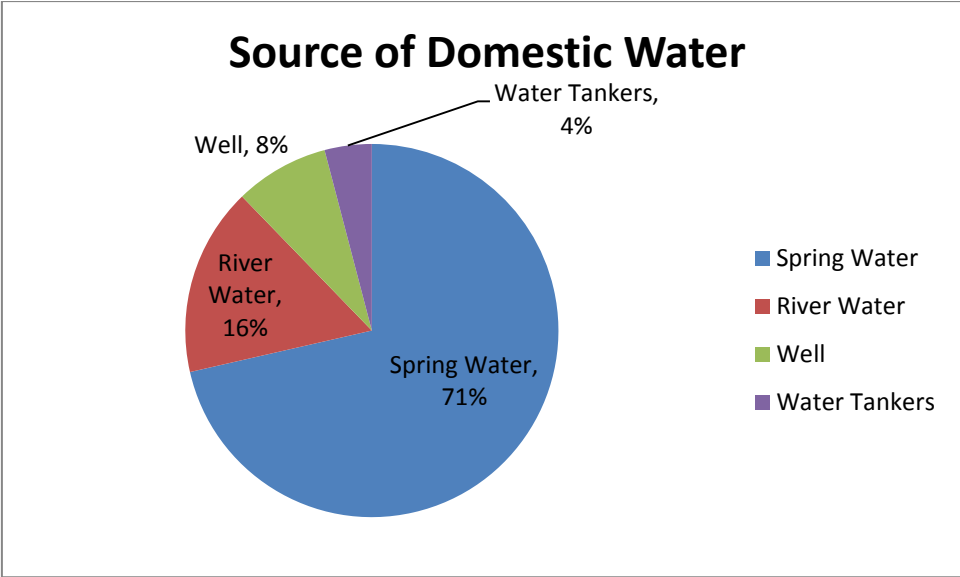


Figure 3.7: Main Source of Domestic Water

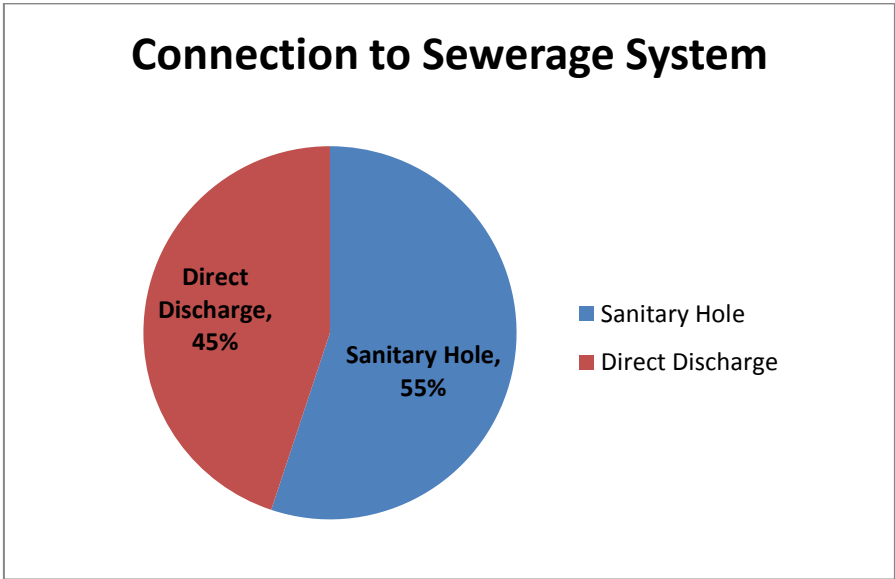


Figure 3.8: Sewage Disposal Methods

Within the reservoir and the adjacent valley slopes there are no community facilities other than the historic Mar Moussa Church adjacent to the dam, which holds ceremonies only once a year on St. Moussa Day due to the poor access road.

Most residential properties are basic in structure and facilities. 90% of the interviewed households confirmed that their main residence is in the valley. While 63% of households are composed of more than 4 family members, 84% of these households are composed of 1-2 room-house, (Figure 3.9). More than 50% of those interviewed do not have a refrigerator, air conditioner, electric generator or Landline phone (Figure 3.10).

The ability to maintain personal hygiene, clean living conditions and safe food preservation is therefore of major concern, particularly in the absence of, and at a distance from, any type of health or medical facility.

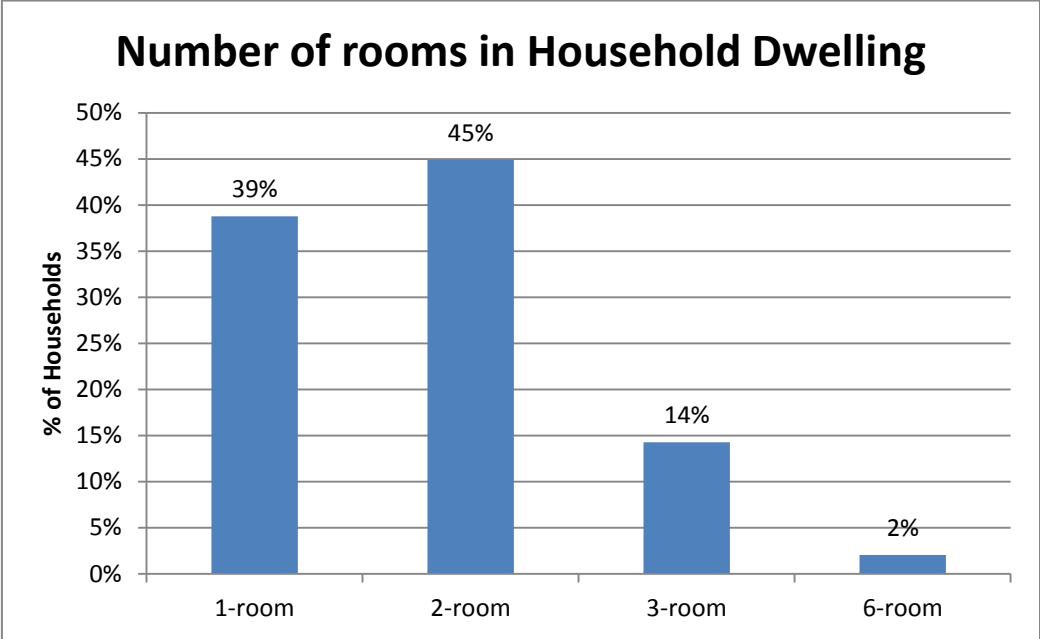


Figure 3.9: Households Lacking Standard Domestic Equipment

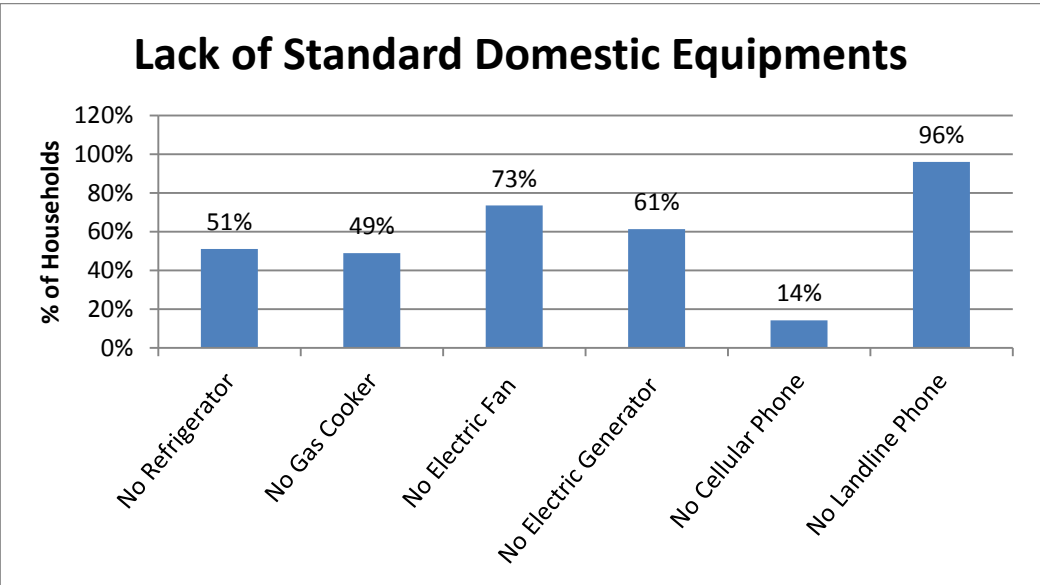


Figure 3.10: Unavailable belongings in Interviewed Households

3.3 Non-Residential PAPs

3.3.1 Landowners

To complement the 100% Household Survey that covered families resident within the area to be expropriated – the dam footprint, the area to be inundated, the buffer zone and the transmission pipeline to Awali Reservoir - the ESIA/RAP Consultant undertook a survey of

landowners not residing permanently within these areas. The cadastral plots to be expropriated and the names of the owners of each are registered with the Cadastre at the Ministry of Finance and form an integral part of the Expropriation file prepared by the dam designer. The Cadastre records do not, however, record contact details such as addresses and telephone numbers. In the absence of a national census it is therefore extremely difficult and time consuming to locate individuals, particularly since many of the 861 owners of the 966 plots were known to reside outside the immediate project area.

While municipalities and village Mukhtars are generally considered knowledgeable as to the location of individuals within close proximity of their limited area of operations, they also do not have recourse to formal records. Much therefore has to depend on longevity and social inclusion of municipality members and Mukhtars in providing access to an extensive memory bank. For the present survey the Consultant did not limit the search or data to municipalities and Mukhtars but included shop keepers and other established community residents to seek out contact details. Once the investigations identified a likely contact, meetings were arranged and the survey questionnaire completed.

Those whom the surveyors consulted for assistance in locating owners included but were not limited to, those listed in Table below.

Table 3.1: Prime Contacts for Tracing Landowners

Area	Position	Area	Position
Aamatour	Mukhtar	KhirbitBisri	Mukhtar
Aamatour	Head of Municipality	Mazraat El Chouf	Mukhtar
Aamatour	Mukhtar	Mazraat El Chouf	Head of Municipality
Al Ghabbatieh	Mukhtar	Mazraat El Chouf	Municipality Member
Bater	Clerk to the Ghaith Family	Mazraat El Chouf	Municipality Member
Bater	Clerk to the Khattar Family	Mazraat El Chouf	Clerk to the Municipality
Bater	Clerk to the Rabih Fares	Mazraat El Chouf	Two Mukhtars
Benwati	Head of Municipality	Kahlouniye	Mukhtar
Benwati	Mukhtar	Mazraat El Daher	Mukhtar
Bisri	Mukhtar	MidanJezzine	Mukhtar
Bkassine	Mukhtar	MidanJezzine	Farmer
HarfJezzine	Mukhtar	Niha	Clerk to the Ghaith Family

3.3.2 Survey Approach and Methodology

Clearly, with so many landowners resident across Lebanon and overseas, a 100% survey was impractical and could not have been completed within the available time frame. In the event, the Consultant managed to expedite the survey of 109 owners who together held 286 plots (30% of the total plots to be expropriated) covering 251 ha (44% of the total 570 ha to be expropriated). While this sample is not random, clearly giving bias to those active in their communities and living or having contacts within villages adjacent to the project site, it represents all those that could be expeditiously located. Of these 109 owners surveyed, 95 were male and 14 female.

The Non-absentee Landowners are considered as those where at least one of the following criteria applies *i) do rely on the land for their income or livelihood or ii) do live in the project areas under expropriation or iii) do live in the villages surrounding the valley.* As such; the Landowners Survey has identified among the 109 Landowners, 90 as Non-absentee of whom 19 who do not generate any income from their lands but they live in the Project catchment area. The remaining 19 Landowners are considered absentees as none of the previously mentioned criteria does apply. Details of these counts are given in hereafter Sections.

The majority of survey data were given by the landowners themselves, often sitting with one or more of their joint owners. In the absence of some owners, questionnaires by brothers, sons, wives and other close family relatives. In the case of one owner recently deceased, data were provided by his son.

At the outset of the survey it had been assumed the larger landowners would be easier to locate than those with just one or two plots. This proved not to be the case. The land holding of more than half, 57 (52%) extended to just a single plot, while a further 43, (40 %) held 2-5 plots. only 6 owners held 6-10 plots and just 3 more than 11 plots. The largest single land holding for which the owner was included in the survey extended to 25 plots.

3.3.3 Landownership Distribution

The land holdings of the 109 are spread widely throughout the expropriation area, the numbers of owners in the different communities being as listed in Table below. As was expected, the greatest number owned land in communities from where the greatest number of plots will be expropriated, i.e. Aamatour and Mazraat El Chouf.

Table 3.2: Landownerships by Village

Community	No. Owners	Community	No. Owners
Aamatour	45	Jezzine	3
Mazraat El Chouf	21	Bhennin	2
Benwati	16	Al Ghabbatieh	2
Mazraat El Dahr	10	Al Haref	2
Bisri	2	Aray	1
Al Midane	3	KhirbitBisri	2

Those surveyed were almost evenly split between 56 sole owners (51%) and 53 joint owners (49%).

3.3.4 Landowners Places of Residence

Of the 109 interviewed, 71 were recorded as local, i.e. resident within the Catchment Area of the Project. The other 38 respondents, 35%, were resident elsewhere as shown in Table below.

Table 3.3: Places of Residence of Non-Local Landowners

Location	No. Owners
Greater Beirut, including Beirut City	16
Saida and elsewhere in the South	8
Northern Parts of Mount Lebanon	10
Southern Parts of Mount Lebanon	4
TOTAL	38

3.3.5 Landownership and Livelihood

Of the 109 landowners 58 declared that the lands, they owe in the valley, generate at least part of their income. While other 32 landowners, who are permanently resident in the catchment area, declared that the owned lands do not generate any income. Table below summarizes the distribution of the income generation from the owned land among the interviewed landowners.

Table 3.4: Landownership and Livelihood

Landowners Income	Landowners Nr
those who get half of their income from the land they owe	3
those who get the main of their income from the land they owe	5
those who get most of their income from the land they owe	3
those who get some of their income from the land they owe	47
Sub-Total	58
The land they owe is not source of income	32
Sub-Total	32
GARND TOTAL	90

The remaining 19 landowners declared to live elsewhere, outside the catchment area and to generate no income from their lands.

3.3.6 Lands Occupancy

While 46 (42%) of owners claimed to take some part in the agricultural activities on their land, 63 (58%) did not. However, only 6 owners had a tenant undertaking or overseeing activities on their behalf.

Some owners employ significant numbers of seasonal workers paid a daily rate to assist with planting and harvesting, but few permanent and/or salaried employees. Only 22 of the 109 (20%) owners claimed to employ any workers. Of the 22 owners, 2 expected to relocate their workers to other land holding outside of the expropriations area, one would consider relocation, while another would think about it. The majority, 18 of the 22, would not relocate workers.

3.3.7 Landowners Opinions about the Project

As usual in such surveys, all 109 respondents were given the opportunity to record their free thoughts and opinions, which fell into three broad categories as shown in Table below.

Table 3.5: Landowners Final Thoughts

Opinion	Number	Percentage
Fundamentally opposed to the project and to land acquisition	29	27%
Tacit acceptance of the project providing rates of compensation are fair and there are benefits for affected communities	43	39%
No comment	37	34%
Total	109	100%

3.4 Vulnerable Groups

There are no indigenous tribes or ethnic minorities. The distinction between areas, municipalities and villages is essentially along confessional lines, with Muslim, Christian and Druze communities all present within the vicinity of Bisri Reservoir. Primarily comprising Lebanese citizens, each person is treated equally under the Law without institutionalised discrimination of injustice. Vulnerable groups identified in the project area are as follows:

- Lebanese residents and labours with no legal rights;
- Foreign Property occupants; and,
- Foreign farm labourers.

Such persons may require assistance at all stages of the expropriation process; negotiation, payment and physically moving to a new accommodation. The treatment of vulnerable persons will be a major expropriation monitoring and evaluation Key Performance Indicator.

3.4.1 Women and Children

While the half of the valley residing people is composed of female population, with total of 120 women, out of 238 total affected residents, the young population, composed of infants (< 5 years) and young children (< 17 years), constitutes 44% of its population.

When interviewed, 75% of the 49 households admitted that adapting to the new environment would be the problem for the displaced women and their children because of the project.

Within the agricultural families working in the reservoir area, many women play equal part in farming activities in addition to their other gender-related duties, homemaking and child-rearing. Children also participate in agricultural work and in housekeeping.

Some women are land owners or heirs of the land. Although land ownership and related legal entitlement in Lebanon is gender-neutral and numerous legal mechanisms provide absolute security of rights to any female PAP to any compensation due under the project, threats may still be found in some families where the male family members will attempt to usurp their rights.

These concerns are heightened by two factors:

- The relatively low rate of female ownership of plots compared to males suggesting a strong and continued male bias inheritance/revenue allocation; and
- The high illiteracy rate among rural women.

Unlike other countries, Lebanese Law imposes no constraint on the ability of a woman to manage her own financial resources. It is therefore proposed that a poster campaign to increase awareness of women's rights be held in the PIC and municipal centres of the affected communities, and Non-governmental Organizations (NGO)/ Community-based Organizations (CBO) offer counselling services. This is to be organized and managed by the Expropriation Consultant responsible for land acquisition management.

3.4.2 Lebanese Houses Tenants with no Legal Rights

As said earlier; 14 Lebanese households (out of 49) were identified into the Valley. Among those, eight households (totalling 47 persons) were non-Owner of the property where they live while the other six own the place where they live. None of the identified 8 non-Owner-tenants has a Tenancy legal right to claim upon relocation under the Lebanese Law. All 8 have claimed to occupy the dwelling based on a mutual agreement with the Landowner.

3.4.3 Un-contractual Lebanese Labourers

The 2014 Household Survey revealed that, within the Project area, there are 64 Lebanese nationals residing in the valley, of which 39 persons are part of the Valley working force while the remaining are unemployed. It is to be noted that none of the 39 workers has a formal job contract and as would receive limited compensation for their loss under the Lebanese Law.

3.4.4 Foreign Property Occupants

Among the total residing households that were surveyed (49), 71% were non-Lebanese tenants. While only one tenant, with his 8 family members, of these 35 foreign households (totalling 174 persons), has a legal tenancy right, the remaining 34 households (165 persons) do not have any formal tenancy-right to the property they are occupying and, hence, have declared themselves present on the property based on a mutual agreement with the landowner of the property.

3.4.5 Foreign Farm Labourers

During frequent site visits the consultants have met a variety of non-Lebanese farm labourers, including Syrians, Syrian Kurds, Palestinians and Egyptians. Those with a permanent residence elsewhere come and go seasonally, for planting and/or harvest.

Others come with their families and either take over one of the vacant houses or set up camp within the area in which they are working.

Only 64 persons of these non-Lebanese people, totalling 174 persons, were employed in a job, while the remaining 110 persons were unemployed. None, of these foreigner workers, works based on a formal employment contract, hence they have no legal work entitlement.

These people often have no permanent residence elsewhere and may remain on the site between periods of employment for the simple expediency that they have nowhere else to go. 60% of the foreign labours met at Bisri, have been in the valley for less than 2 years. Typically, as the work appears more secure to the male worker, more distant members of his extended family may join him, thus extending the family unit present on the site. With on-going uprising in Syria and continuing "Arab Spring" unrest in Egypt, many foreign workers prefer to stay between seasons for the safety of themselves and their family. Although Palestinian residents in Lebanon were given the Right-to-Work in 2010, the Executive Decree has never been implemented in practice. On eviction from their present location, Syrians may decide to go home or to join the many hundred-thousands of refugees already in Lebanon; the Egyptians may return home to an uncertain future, and the Palestinians will return to their camps, unless other employment can be secured.

3.4.6 Summary of Vulnerable Groups

Table below summarizes the distribution and vulnerability of people considered vulnerable as detailed above.

Table 3.6: Vulnerable Groups

Group	Lebanese people	Non-Lebanese people	Total no of Lebanese and Non-Lebanese People	Vulnerability
Un-contractual workers	39	64	103	None of the counted 103 workers has a formal Employment contract and as such are not protected under the Lebanese law.
Property Tenants with no Legal Right	47	165	212	While of the total 221 tenants, there are only 9 Tenants with legal Tenancy rights, the other 212 people, shown herein, reside in the property based on mutual agreement with landowners, and as such these are not protected under the Lebanese law.

4 PROJECT IMPACTS

4.1 Introduction

The development of dams always involves the permanent occupation of land, not only for dam construction and reservoir impoundment, but also for new access roads and conveyor line. Land acquisition will result in resettlement of displaced PAPs (Project Affected Persons), relocation of their businesses and rehabilitation of their livelihoods. Road construction will open up poorly accessible remote areas, affording them better access to regional centres, government facilities and public services. However, this might have a downside such as abuse of existing communities, landscape and ecology with trespass, fly-tipping, fire lighting and a range of illegal activities.

This section assesses the project impacts and relates them to PAPs, physical areas, and households. The findings and results of impact analysis will help develop measures of income restoration and livelihood rehabilitation.

4.2 Quantifying Impacts

During the month of January 2014, the ESIA/RAP consultant has received a detailed and completed Cadastral Survey from the Project Designer along with the complete expropriation file. The newly received material shows location and exact number of plots with their boundaries identifying exact plots ownership entitlements together with a complete census of physical assets, found on each plot.

The above Cadastral Survey and Expropriation Files, now reflecting the almost final design, cover all the lands that will be taken by the Project, where the following was incorporated too:

- The lands downstream the dam that need to be expropriated for the need of constructing the water conveyor line with all associated service roads.
- Clear cadastral affiliation of all the plots has been now made available.

The above Cadastral Survey and Assets Census covered the 100% of Lands affected by the project. The key purpose of the this surveying activity was to identify affected people and prepare the inventory of all affected lands with their assets and creating as such the data base of the whole Resettlement Planning.

4.2.1 Number and Areas of Affected Plots

Based on the above Cadastral Survey and Assets Census, it was possible to quantify the extent of needed expropriation with exact number of plots and their respective areas as shown in Table 4.1.

While Aamatour and Mazraat El-Chouf still maintain the highest shares of the lands to be expropriated from the total Project area, with respectively 31 and 23%, it is worth noting the increase in the lands to be taken from Khirbit Bisri and the newly added Deir-el-Mkhaless regions, for the purpose of aligning the conveyor pipe from the dam down to Awali Plant.

While 53ha, composed mainly of river-domaine and roads, are designated as "Public Domain", there are some 517ha to be expropriated from private owners. The area of lands to be taken will total 570ha.

A total of 966 cadastral plots will be expropriated in the reservoir area and downstream the dam. These plots are currently owned by 861 owners. The majority of plots (81%) are to be acquired in their entirety, while the remaining 19% will be partially acquired. The majority of land holdings are large but may be sub-divided between individuals because they are most family-holdings (Table 4.1).

Table 4.1: Extent of Land Take within the Reservoir Area

Casa	Cadastral Region	No. Plots	No. of plots totally expropriated	No. of plots partially expropriated	Expropriated Area (ha)	% Area Expropriated
Chouf	Aamatour	310	279	31	160	31%
	Mazraat El Chouf	277	225	52	120	23%
	Mazraat El Dahr	55	36	19	42	8%
	Khirbit Bisri	13	4	9	18	3%
	Bater	14	6	8	8.8	2%
	Bsaba	9	5	4	6.8	1.3%
	Deir el-Mkhaless	3	0	3	2	0.4%
	Sub-Total	681	555	126	357.6	69%
Jezzine	Midane	80	70	10	48	9%
	Harf	69	64	5	46	9%
	Bisri	74	62	12	44	9%
	Bhannine	28	15	13	10	2%
	Ghbatiyeh	4	1	3	6	1.2%
	Benouati	27	19	8	4	0.8%
	Aariye	1	0	1	0.95	0.2%
	Bkassine	2	0	2	0.3	0.1%
	Sub-Total	285	231	54	159	31%
Expropriation Grand Total		966	786	180	517	100%
"Domaine Publique" (river + roads)					53	
Total Land take					570	

As said earlier the area to be taken amounts a total of 570ha. These include areas needed for the dam, access roads, buffer zone around dam and reservoir, and conveyor pipe. It is expected that 434ha will be inundated. The estimated area that will be used for the conveyor line will take some 7.5ha of lands and some 129 ha will be used to cover the needs for roads, buffer zone around the lake and at immediate downstream of the dam. The Land use under the future project area, including the conveyor line is presented in Table 4.2 below.

Table 4.2: Future Land Use within the Project Area

Land Use Type	Area (ha)
Area to be inundated at 468m water level	434
Area of 15m offset Buffer zone around lake and area downstream the dam	128.5
Area to be expropriated for the conveyor line	7.5
Total area to be taken	570

Using the recent Cadastral Survey and Expropriation File, the ESIA/RAP Consultant was able to update the figures related to the number of plots owned by either one or multiple owners in the Project zone. Distribution of Landowners by cadastral region is given under Figure below.

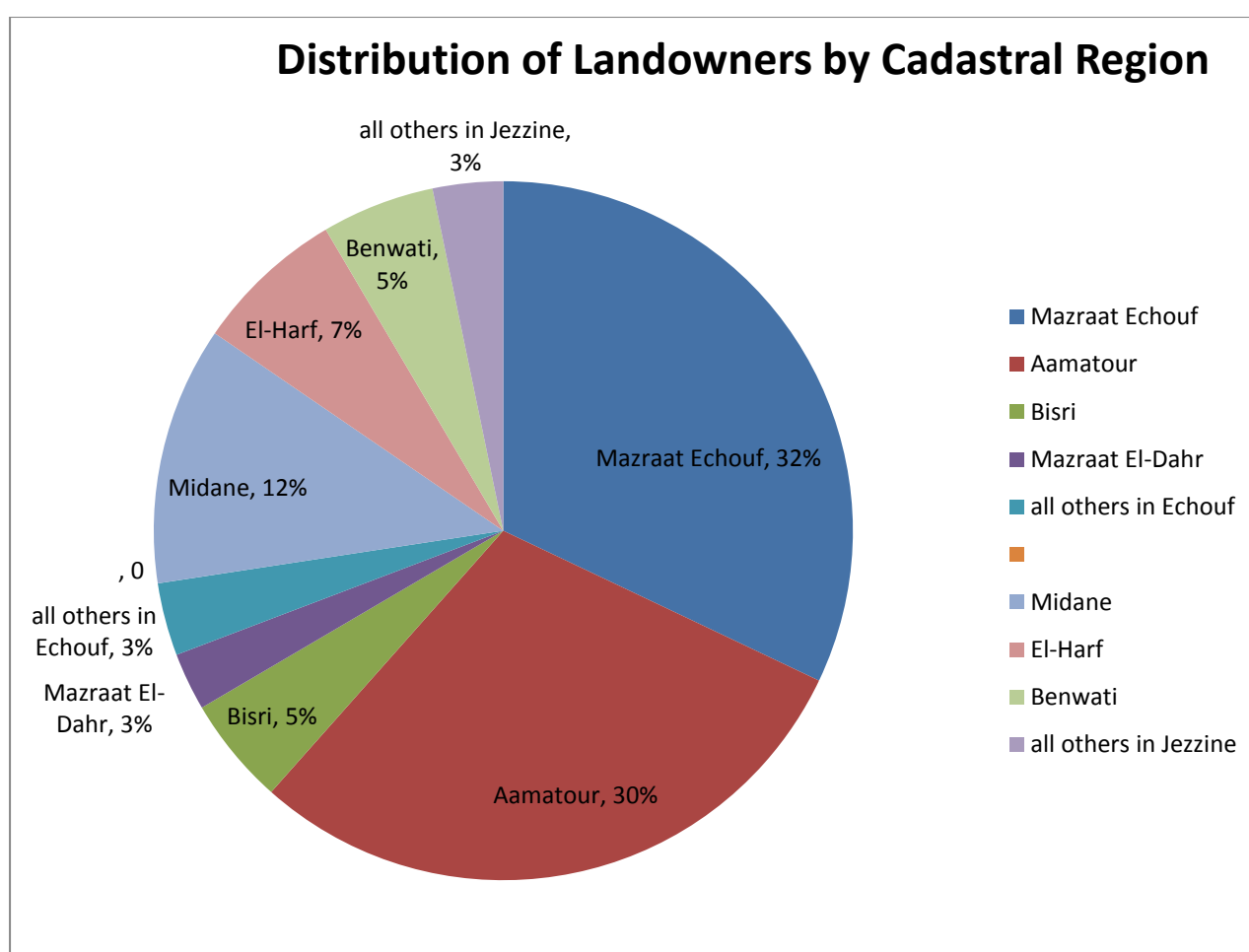


Figure 4.1: Distribution of Landowners by Cadastral Regions

4.2.2 Loss of Productive Land

While the Bisri reservoir area is sparsely inhabited, the loss of productive land and natural vegetation is extensive. Productive land is defined as the fertile soils and the yet-to-be harvested crops. At Bisri, the majority of productive land lost to the reservoir is likely to be lost to agriculture. Loss of productive land can be replaced by land clearance near the

project area, however given the general steepness of the slopes; there is little opportunity to extend crop production in the area. The Assets Census Survey that the Dam Designer prepared for the purpose of the Expropriation, has identified large varieties of planted crops that will be lost.

Therefore, the loss of agricultural land includes open fields variously tilled and improved over generations, cropped, laid fallow or under poly-tunnels.

It is estimated that loss extends to some 150 ha, 26% of the area to be taken. The braided river bed and natural bankside vegetation occupies 105 ha. The remaining area is primarily uncultivated natural vegetation on the bottomlands away from the river and generally open land and scrub on the lower valley slopes.

The lands to be taken vary in type, ownerships and use. While the "Domaine Public" Lands total an area of 53 ha, 517 ha of lands will be taken to their private owners. Table below summarises the type, use and areas of lands that will be affected.

Table 4.3: Type and Use of Lands to be Taken

Land use and cover	Total m ²	Ownership	
		Public m ²	Private m ²
Irrigated Agricultural Fields at distance of >100m from river	1,480,000	51,874	1,428,126
Other open rocky and steep slope lands	990,000	31,515	958,485
Natural bush vegetation flat	1,050,000	322,610	727,390
Accessible Natural Pine Woodlands	820,000	42,015	777,985
Natural bush vegetation sloped	1,310,000	82,089	1,227,911
TOTAL*	5,650,000	530,102	5,119,898

* the total area does not include the 1 and 4ha of Built-up area and Poly-Tunnels that are included under the structures and other attachments categories respectively shown here after.

4.2.3 Property Take/ Built-up Structures Demolition

Based on the Designer Cadastral Survey and Assets Census, the number of built-up structures to be inundated is estimated c. 135 over a total number of 88 plots with a total area of around 1.0ha. The majority already abandoned (some derelict) or only providing seasonal accommodation for agricultural labourers. The building structures are residential, water tanks, storage rooms, generator rooms, animal refuges or religious places. Table below details the type, number, use and area of structures that will be affected.

Table 4.4: Structural Assets to be Affected

Structural Asset	Structure Use	Nr	m ²
Basic housing, concrete	inhabited	36	1,899
Old house	inhabited	2	345
Concrete shelter for Agricultural workers	inhabited	11	1,105
New house	empty	14	2,159
Basic housing, concrete	empty	9	372
Old house renovated	empty	3	371
Storage room concrete	non residential	18	1,101
Animal shed, concrete walls and floor	non residential	2	194
shelter wood, plastic	non residential	15	665
Old degrading house	non residential	24	1,822
Mar Moussa Church	non residential	1	95
TOTAL		135	10,128

The Social Survey showed that most of the residential structures and premises, that were surveyed, are located in Chouf Casa (59%) as shown in Figure 4.2, with the highest percentages for Aamatour and Midane with 37% and 29% respectively.

The 66% of houses are made of concrete, while the remaining are made of wood, nylon and other less durable materials as shown in Figure 4.3.

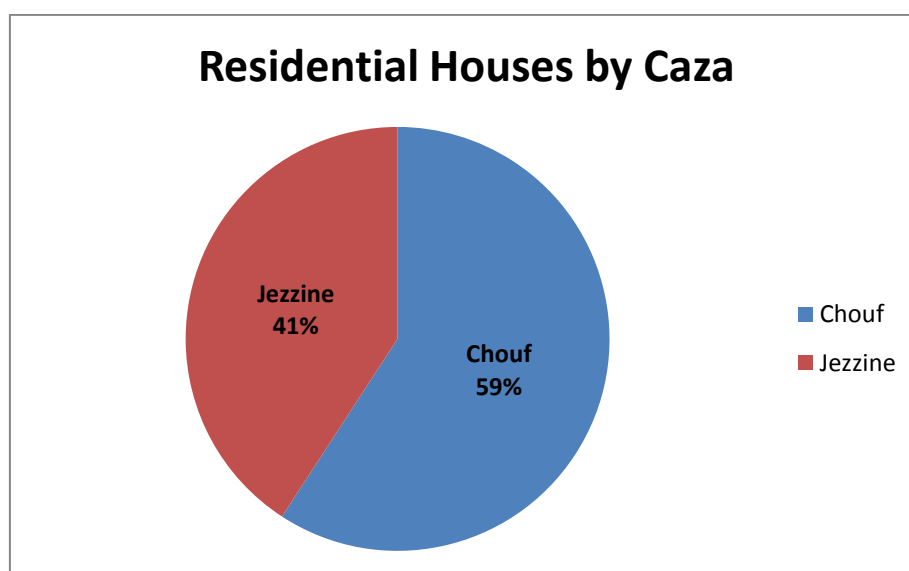


Figure 4.2: Distribution of Residential Houses by Caza

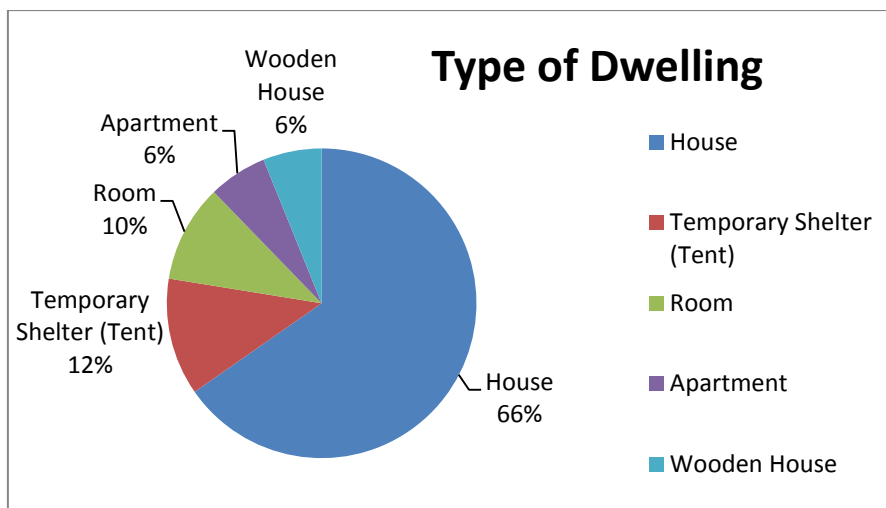


Figure 4.3: Type of Dwelling.

4.2.4 Loss of Field Crops

Seasonal field crops could be either found covered under poly-tunnels mainly strawberry and flowers plantations or un-covered vegetables that accounts for the largest field crops area as shown in Table below.

Table 4.5: Estimated Areas of Field Crops

Field Crops	m²
Strawberry under Poly-tunnels metal - plastics	40,000
Rose and other Flowers under Poly-tunnels metal - plastics	27,000
Open Field crops (Tomato, Lettuce , fava bean, cabbages and others)	200,000
Total	267,000

4.2.5 Number of Trees to be cut

There are total of 110,814 trees that will be cut from the Valley. These include 28,737 young trees and 82,077 mature trees distributed between fruit and non-fruit trees as given in Table below.

Table 4.6: Estimated Numbers of Trees

FOREST TREES	No. of Trees	
	Young	Mature
Pine	3413	6501
Oak	3635	15081
Poplar	169	3688
Cypress	22	361
Cactus	15	124
Willow	145	4993
TREE CROPS	Young	Mature
Pistachio	5	0
Almond	91	587
Kiwi	42	188
Loquat	124	211
Peach	658	1829
Pomegranate	4648	2655
Olive	1235	6090
Avocado	1175	1001
Pear	89	533
Orange	6167	12155
Apple	851	751
Fig	125	389
Lemon	287	278
Apricot	8	174
Mango	85	85
Chestnut	0	8
Date Palm	6	49
Sumac	54	0
Pomelo	9	0
OTHER TREES	5679	24346
SUB-TOTAL	28,737	82,077
GRAND TOTAL (Number)	110,814	

4.2.6 Other Affected Lands Attachments

There are also other assets that could be attached to the lands and that will be affected by the Land Take. These include all equipment and assets that are primarily related for servicing the major occupation sectors into the Valley that are the plant and animal production sectors. Table below provides the quantities of these lands attachment assets.

Table 4.7: Other Lands Attachments Assets

Other Land attachments	Unit	Quantity
Water ground tank, concrete	cubic meter	985
Water tank, elevated, plastic on metal frame	cubic meter	910
Poly-tunnels, metal and plastic	meter square	40,000
Agricultural and Irrigation Equipments	meter square	227,000
Animal shed, concrete walls and floor	meter square	2,220
Metal overhead Pergola	square meter	115
Metal pipes	linear meter	65
Metal wired fence	linear meter	1,680
Water channel, open, concrete	linear meter	990

* for total area cover refer to field crops area.

4.3 Impactover Project-Affected-Persons

The information about the persons who will be affected by the project draw heavily on the Social Survey conducted in winter-spring 2014 that was divided into Household and Landowners Surveys.

In the context of the RAP, Project Affected Person (PAP) is defined as any person, residing or not residing in the project area, that will be impacted negatively and lose their land, livelihood, or asset and right. The affected communities are divided into Residential PAPs and Non-Residential PAPs.

There are total of 238 residents that were identified by the Household Survey. Of these 238, there are 17 Lebanese Residents, 47 Lebanese residents who are Non-owners and the other 174 are all non-Lebanese residents with or without a rental contract.

As mentioned in earlier Sections, and as part of the *Residential PAPs, Non-Absentee Landowners are those, not living in the expropriated area, and where at least one of the following criteria applies i) do rely on the land for their income or livelihood or ii) do live in the villages surrounding the valley. i.e the Project Catchment Area.*

As identified by the Landowners Survey, there are estimated 861 Lebanese landowners that will be affected by the Project, 6 of whom reside in the Valley with their family members (totalling 17 residents as mentioned above), 90 are considered Non-absentee Landowners

and the remaining 765 are considered as Absentee Landowners, according to the above mentioned definition.

Number, category and distribution of Project Affected Persons are given in Table below.

Table 4.8: Project Affected Persons

District	Cadastral Region	Residents within the expropriation limits				TOTAL	Landowners (households)			TOTAL
		Lebanese		Non Lebanese	Resident Landowners		Non-Absentees	Absentees		
		Landowners	Non-Owners	Residents						
Chouf	Aamatour	11	11	75	97	3	38	213	254	
	Mazraat El Chouf	1	6	16	23	1	19	256	276	
	Mazraat El Dahr	0	0	23	23	0	9	14	23	
	KhirbitBisri	0	0	0	0	0	2	2	4	
	Bater	3	0	9	12	1	0	13	14	
	Bsaba	0	0	0	0	0	0	9	9	
	Deir el-Mkhaless	0	0	0	0	0	0	2	2	
	Sub-Total	15	17	123	155	5	68	509	582	
Jezzine	Midane	2	13	34	49	1	6	96	103	
	Harf	0	17	17	34	0	2	58	60	
	Bisri	0	0	0	0	0	2	41	43	
	Bhannine	0	0	0	0	0	2	15	17	
	Ghbatiyeh	0	0	0	0	0	2	2	4	
	Benouati	0	0	0	0	0	7	38	45	
	Aariye	0	0	0	0	0	1	0	1	
	Bkassine	0	0	0	0	0		6	6	
	Sub-Total	2	30	51	83	1	22	256	279	
GRAND TOTAL	17	47	174	238	6	90	765	861		

4.3.1 Residential Resettlement

The 2014 Social Household Survey confirmed that most landlords in the project area are absentee landowners. All the resident-six-owners are Lebanese, totalling, with their family members to 17 individuals. While the Social Survey found only one non-Lebanese household tenant, with tenancy entitlement dating after 1991, the remaining valley residents (42 households) have no tenancy title but occupy the premises. They live and work, based on a mutual agreement with the landowners. The vast majority of these tenants (80%) are non-Lebanese, as detailed in Table here below.

Table 4.9: Residence and Property Tenancy in the Project Area

TENANCY RIGHT	Nr Households			Nr of Persons		
	Lebanese	Other-Arabs	Total	Lebanese	Other-Arabs	Total
Resident-Owner	6	0	6	17	0	17
Resident-Renter	0	1	1	0	9	9
Resident Upon Mutual Agreement	8	34	42	47	165	212
TOTAL	14	35	49	64	174	238

4.3.2 Loss of livelihood

Construction of Bisri Dam will have an economic impact on families' livelihood, by forcing them to lose their source of income and employment, driving them to search for new job opportunities, and adapt to new environments.

As said earlier, the main loss to future reservoir will be from the productive agricultural lands, in the valley, where the 90% of the total working force works in the agriculture and hunting sector (Figure 4.4).

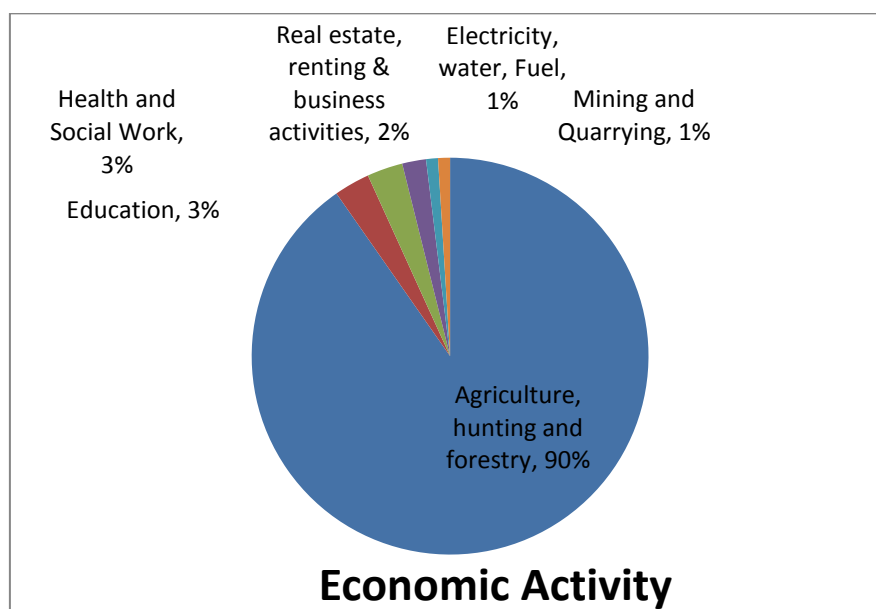


Figure 4.4: Economic Activities

As Table below depicts; 87% of total working force (90 of 103) is employed as skilled agricultural and/or fishery workers, the remaining 13% occupies jobs into other clerical or management sectors. While the 67% of the agricultural working force are non-Lebanese, the remaining 33% are Lebanese composed of owners and non-owners families that live in the Valley.

Table 4.10: Active and Non-Active Population in the Project Area

EMPLOYMENT (Number of individuals affected)	Lebanese	Other-Arabs	GRAND TOTAL
Skilled agricultural and fishery workers	30	60	90
other Working force	9	4	13
Sub-Total of Active Population	39	64	103
Non-Active Population	25	110	135
GRAND TOTAL	64	174	238

Among the 103 total working force in the Valley, the households Survey has identified 70 full timer workers and the remaining 33 have declared to be part time seasonal workers.

On the other hand, the loss of productive lands will not only affect the resident people in the valley but those also who live elsewhere but working their agricultural lands, into the valley, returns them a living. In fact; the Landowners Survey has identified a total of 58 landowners who could fully or partly rely on the lands for their income and livelihood and not living within the area to be expropriated, on top of which to be added the 6 resident Landowners who live and work their lands in the Valley.

4.3.3 Impact on Foreign Workers

Table below details the distribution of foreign population in the project area, when the 2014 Social Survey was undertaken. It shows an overall distribution of foreign workers among the residing non-Lebanese population.

Table 4.11: Foreign Population and Workers in the Project Area

Description	Unit	Total foreigners	Of them total Working Foreigners
Non-Refugees	individuals	72	36
Refugees Registered with UNCHR	individuals	79	25
Refugees Not Registered with UNHCR	individuals	23	3
GRAND TOTAL	individuals	174	64

Out of the total 174 resident foreigners (representing 35 households), 64 are employed as workers but without formal contract. 60% of these foreign households have been in the valley for less than 2 years, at the time they were surveyed (Table 4.12) and 83% of these foreign labours work as skilled agricultural and fishery workers (Table 4.13).

Table 4.12: Residency Time of Foreign Workers in the Project Area

Residency Time for Foreign workers (year)	Nr of Household	%
< 6months	12	34%
1	9	26%
1.6	1	3%
2	1	3%
2.5	1	3%
3	3	9%
4	5	14%
6	1	3%
15	2	6%
TOTAL	35	100%

Table 4.13: Occupational Activities of Foreign Workers

Foreign Workers	Nr of Household	%
Skilled agricultural and fishery workers	29	83%
Service workers and shop and market sales workers	1	3%
Plant and machine operators and assemblers	1	3%
Legislators, senior officials, and managers	1	3%
Unemployed	3	9%
TOTAL	35	100%

While none of the above foreign workers work based on contractual terms, the 97% (34) of the households they occupy is based on mutual agreement between landowners and tenants without a formal tenancy contract with the land or property owners.

Moreover, the displacement of PAPs by the project, will just aggravate further the precarious income conditions of these 64 workers with their families, knowing that 82% of these foreign workers earn less than 500USD monthly, to satisfy the needs of an average family of 4.8 members.

When asked where they would go if were forced to relocate, the answers showed high level of uncertainty of these workers. Half (51%) of them did not have a clear idea where would be their destination when asked to move, while the Lebanese Bekaa valley¹⁴ was the prime destination for those who answered positively (Table 4.14).

¹⁴ This is because that most Syrian refugees are stay in the valley, and the government of Lebanon has various programs assisting refugees in the area.

Table 4.14: Destination of Preference of Foreign Workers when Displaced

Where to move ?	Nr of Household	%
Don't Know	18	51%
Bekaa	8	23%
Syria	3	9%
Damour	2	6%
Place of work	2	6%
Tripoli	1	3%
Will not Leave	1	3%
TOTAL	35	100%

4.3.4 Land value fluctuation

Of the 966 plots to be expropriated, 81% are to be acquired in their entirety, while the remaining 19% will be partially expropriated and the land holding effectively severed. Reduction in plot areas will result in land value fluctuation that will vary according to multiple factors, including:

- The area taken, its proportion of total plot size and viability of the residual area;
- Where the land is built on, and particularly with vertical subdivisions, the effect of the land take will be greatly diluted by the number of owners;
- Whether the impact of the project for which land is taken would cause a change in the value of the remainder. For example, residual shoreline property may acquire a very high development value once the reservoir is established.

4.4 Summary of Impacts

As a result of lands acquisition, for the purpose of Bisri Project, there will be a total of 570 ha of lands to be taken from either their private and public owners. Number of buildings will be demolished totalling 135 structures constructed from various types of material. A total number of 110,814 trees will need to be cut in addition to about 27 ha of Field crops.

In all, the lands and assets loss will affect total of 861 ownerships of whom 96 landowners are considered residents and relying on their lands for their livelihood, in addition to 221 non-Owner-property tenants and 103 workers into the valley. Table below summarises the magnitude of impacts due to the lands and properties takes over people, their rights, lands, employment, and other assets.

Table 4.15: Summary of Impacts

Summary of Resettlement Impact	Land ha	Structures Nr	Trees Nr	Field Crops m²	Owners Nr	Tenants Nr	Workers Nr
Reservoir area including all buffer zone around	485	119	107,426	186,000	789	187	89
Dam foot print	29	12	1192	67,000	23	34	14
Associated facilities: transmission line, access road*	56	4	2196	14,000	49	0	0
TOTAL	570	135	110,814	267,000	861	221	103

**Although Power Plant location and area are yet to be finalised by the Dam Designer, it has been estimated that the plant will require an area of about 10,000 m² that are not included in the above total land area.*

5 EXISTING LEGAL AND POLICY FRAMEWORK

5.1 Introduction

Lebanon's overall perception of property rights is considered low. The country came 96th out of 178 states in the 2014 *Index of Economic Freedom*¹⁵. The US and UK were 12th and 14th respectively, France came 70th, and North Korea was 178th. Of the Arab states, Bahrain was 13th, UAE 28th, Qatar 30th, Jordan 39th, Kuwait 76th, Saudi Arabia 77th, Yemen 123rd and Egypt 135th. The Index reflects:

- The degree to which a nation's Laws protect private property right;
- The degree to which the government enforces those Laws;
- The likelihood that private property will be expropriated;
- The independence of the judiciary;
- The existence of a judiciary free from corruption; and, the ability of individuals and businesses to enforce contracts.

Notwithstanding this poor showing, 13-15% of the Government of Lebanon (GOL) revenue comes from real estate transactions and property taxes. During the first half of 2012, GOL collected L.L444 billion in property taxes, up 6.5% for the same period the previous year¹⁶.

This section of the RAP outlines the existing legal and policy framework related to land acquisition and resettlement in Lebanon, the process primarily controlled and managed by Decree 3339 of 1930, the *Real Estate Law* and Law 58 of 1991, the *Expropriation Law*; and identifies gaps in expropriation and resettlement policy and procedure between Lebanese Law and World Bank policies.

5.2 The 1930 Real Estate Law and Amendments

Real estate Laws and regulations in Lebanon date back to the French Mandate and its immediate aftermath. Decision 144/S of 10th June 1925 defines state owned public property to include the seashore, rivers, lakes and watercourses. Decision 275 of 25th May 1926 defines state-owned private property that may be sold.

The primary legislative instrument is Decree 3339 dated 12th November 1930, generally referred to as the *Real Estate Law*, which deals with all aspects of property acquisition and ownership. It also extends state ownership to include *...the ground and everything above and under the ground*.

Land ownership and related legal entitlement in Lebanon is gender-neutral and ownership and entitlement disputes are frequent, except where land is subject to uncontrolled movement, particularly the resettlement of persons displaced by civil unrest and invasion. Due to the system of extended families and the attitude to land holding, an individual plot

¹⁵ A series of 10 economic measurements created in 1995 by the Heritage Foundation and the Wall Street Journal to determine financial stability.

¹⁶ *The Monthly*, Information International, November 2012.

may have a large number of owners. Since ownership is recorded in terms of shareholding, the value of any transaction for an individual owner can easily be determined.

5.3 Pre and Post 1991 Tenancies

Prior to 1992, rent Laws permitted tenants to automatically renew their contracts and limited the ability of landlords to raise rent other than by minor increases at each contract renewal. It was therefore common for tenants no longer residing at the property to sublease it. With the progressive decrease in the value of the Lebanese Pound (Livre) against the US Dollar from about LL3 in 1975 to around LL1500 in the 1990s and where it remains today, rent incomes became progressively insufficient to enable landlords to meet their responsibilities for structural maintenance. To exacerbate the problem, tenancies could be willed through inheritance to offspring who were also resident at the property. Given the high prices in today's buoyant property market, it is not uncommon for landlords or developers to pay tenants six-figure sums to vacate the property and give up their rights under the old rent Laws.

The new tenancy Laws enacted in 1991 relaxed rent control and gave landlords the right to repossess their property at the end of each contract, which for long-term rentals is every 3 years. The new Laws did not curtail the inheritance of pre-1991 tenancies but with time and the progressive break-up of extended families, the practice is dying out.

In the event of loss of tenancy through expropriation, compensation is divided between the landlord and the tenant on the basis of the economic value of the tenancy. Thus the landlord is compensated for loss of income as well as for the property while the tenant receives sufficient funds to rent alternative accommodation or make a down payment towards property purchase.

5.4 The 1991 Expropriation Law

Lebanese Law protects the right to the private ownership and entitlement of land and provides a legislative framework for expropriation that includes the determination of compensation and an appeals procedure for the resolution of disputes. The expropriation requirements for any particular project are contained within an Expropriation Decree that is specific to the project, issued by the Council of Ministers (CoM). If after eight years from the date of the decree the project has not been implemented, the provision for expropriating plots expires and the decree is annulled.

Law 58 dated 29th May 1991 authorises expropriation of private property in the public interest only where deemed to be *for the public utility*, and only in exchange for fair and adequate compensation as determined by an independent judicial committee, the *Expropriation Commission* (EC). Compensatory payments are always monetary awards and comprise two components:

- Payment for damage to or loss of assets, such as buildings, trees and fences; and
- Compensation for the value of the land.

Assessments of the Commission are considered final unless the claim of public interest is challenged by the affected individual. This right to challenge the claim does not extend to an association, municipality, NGO, or corporate entity.

The *Expropriating Agencies* for the Bisri Project will be the Project Proponent CDR, the nine municipalities with land within the inundated area, and the District (*Ka'em-Makamiyah*) of Jezzine and Chouf. The nine municipalities are:

In the Caza of Chouf:

- Mazraat El Dahr; Bsaba, Mazraat El Chouf, Aamatour, Bater.

In the Caza of Jezzine:

- Midane, Benouati, Aariye, Bkassine.

Areas not covered by a municipality are directly administered by the Caza. Thus, the Ka'em-Makam (head) of the Jezzine Caza will be the administrative agency for land in Bisri, Harf, Ghbatiyeh, and Bhannine while the Ka'em-Makam for Chouf will be the agency for Kirbet Bisri and Deir El-Moukalles.

5.5 Laws related to usage of natural resources

Acquired water rights were recognized in the Order 320 of May 26, 1926, which stated that the water resources were exclusively the property of the State or the Public Domain. It was seen fit to assign a number of exceptional rules for the use of water. A major exception was recorded in Article 3 of Order 144 of June 10, 1925, which specifies the following:

Within the public domain, people who had rights of ownership or use under the old legal documents before the implementation of the Order are entitled to a fair and prior compensation for recovery of their rights for public use.

5.6 World Bank Safeguards Policies

5.6.1 General

In World Bank-assisted projects, borrowers are expected to take all necessary measures to mitigate adverse social impacts, including those associated with land acquisition. World Bank Operational Policy 4.12, Involuntary Resettlement, provides essential guidance on objectives and principles that are applicable in projects generating land acquisition and resettlement-related impacts.

Every reasonable effort is to be made to avoid or minimize the need for land acquisition, and to minimize all resettlement-related adverse impacts. If land acquisition and associated adverse impacts cannot be avoided altogether, the principle objective of the RAP, and its implementation, is to ensure that all persons subjected to adverse impacts are compensated at replacement cost (as defined below) for expropriated land and any other lost assets, and

otherwise provided with any other forms of assistance necessary to provide them with sufficient opportunity to improve, or at least restore, their incomes and living standards.

5.6.2 Key Principles

To achieve this objective, OP 4.12 establishes key principles to be followed in resettlement planning and implementation. Of particular relevance for the proposed project are the following:

- a) Wherever possible, project design and the RAP should be conceived as development opportunities, so that affected persons may benefit from the services and facilities created for, or by, project activities.
- b) All affected persons are entitled to compensation for lost assets, or to alternative but equivalent forms of assistance in lieu of compensation; lack of legal rights to the assets lost will not ban affected persons from entitlement to such compensation or alternative forms of assistance.
- c) Compensation rates as established in the RAP refer to amounts to be paid in full to the individual or collective owner of the lost asset, without depreciation or deduction for any purpose.
- d) When cultivated land is acquired, it is often preferable to arrange for land-for-land replacement. Where suitable alternative land is not available, or at the preference of the affected person, compensation in cash at full replacement cost is appropriate.
- e) Replacement house plots, sites for relocating businesses, or agricultural land should be of equivalent use value to the land that was acquired by the project.
- f) Compensation for land and other assets should be paid prior to the time of impact, so that new houses can be constructed, fixed assets can be removed or replaced, and other necessary mitigation measures can be undertaken prior to actual displacement. Adequate transitional support should be provided to affected persons or businesses required to relocate because of the project.
- g) Affected persons should be consulted during RAP preparation and project implementation; the RAP is publicly disclosed in a manner accessible to affected persons.
- h) The previous level of community services and facilities, and access to water or other physical resources, will be restored after resettlement.
- i) The borrower is responsible for meeting costs associated with land acquisition and resettlement, including for payment of compensation at replacement cost. Financial resources will be made available when required.
- j) The RAP will include adequate institutional arrangements to ensure effective and timely implementation of its provisions.

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- k) Adequate arrangements for internal and external monitoring of RAP implementation will be established.
 - l) Methods by which affected persons can pursue project-related grievances will be established as necessary, and information regarding these grievance procedures will be provided to affected persons.

5.6.3 Eligibility for Benefits

According to the World Bank definition, "affected persons" refers to all the people who, on account of the activities listed above, would have their (1) standard of living adversely affected ; or (2) right, title, interest in any house, land (including premises, agricultural and grazing land) or any other fixed or movable asset acquired or possessed temporarily or permanently; (3) access to productive assets adversely affected, temporarily or permanently; or (4) business, occupation, work or place of residence or habitat adversely affected.

OP 4.12 (Para. 15) further distinguishes among three categories of eligibility criteria for affected persons:

- (a) Those who have formal legal rights to land (including customary and traditional rights recognized under the laws of the country);
- (b) Those who do not have formal legal rights to land but have a claim to such land or assets – provided that such claims are recognized under the laws of the country or become recognized through a process identified in the resettlement plan; or
- (c) Those who have no recognizable legal right or claim to the land they are occupying

5.6.4 Replacement Costs

"Replacement cost" is defined as follows: For agricultural land, it is the pre-project or pre-displacement (whichever is higher) market value of land of equal productive potential or use located in the vicinity of the affected land, plus the cost of preparing the land to levels similar to those of the affected land, plus the cost of any registration and transfer taxes. For land in urban areas, it is the pre-displacement market value of land of equal size and use, with similar or improved public infrastructure facilities and services, and located in the vicinity of the affected land, plus the cost of any registration and transfer taxes. For houses and other structures, it is the market cost of the materials to build a replacement structure with an area and quality similar to or better than those of the affected structure, or to repair a partially affected structure, plus the cost of transporting building materials to the construction site, plus the cost of any labor and contractors' fees, plus the cost of any registration and transfer taxes. In determining replacement cost, depreciation of the asset and the value of salvage materials are not taken into account, nor is the value of benefits to

be derived from the project deducted from the valuation of an affected asset. Where domestic law does not meet the standard of compensation at full replacement cost, compensation under domestic law is supplemented by additional measures so as to meet the replacement cost standard.

Where land acquisition is minor in scale and economic impact, compensation in kind or in cash often is sufficient as a means of impact mitigation. Where land acquisition is extensive, where land acquisition directly and significantly affects the affected persons' means of livelihood, or where land acquisition requires the physical relocation of affected households, additional mitigation measures are necessary. For the proposed project, persons deemed "significantly affected," and hence eligible for additional forms of assistance, include: persons losing more than 10 percent of their productive land area, persons whose livelihoods are directly and significantly affected regardless of extent of land loss, and persons required to physically relocate homes or businesses because of the project.

5.7 World Bank Procedures for Land Acquisition and Resettlement

To ensure that its key principles are put into practice in an efficient manner, OP 4.12 requires borrowers to follow procedural steps in planning and implementation. The initial step is to determine which GoL entity bears primary organizational responsibility for all aspects of resettlement planning and implementation. CDR bears primary responsibility in the project. Other key procedural steps required by the World Bank include the following:

Eligibility criteria and project cut-off date: The borrower must establish project-specific eligibility criteria incorporating all persons deemed affected by the project and establishing eligibility for compensation or other assistance as a result of all project-related impacts. This information is described in the RAP text and is summarized in a separate Entitlements Matrix. To prevent opportunistic migration into the project area for the purposes of claiming compensation or other assistance, the borrower formally adopts a project cut-off date, and makes the cut-off date known within project-affected areas. Persons entering the project area, or initiating improvements to property, after the established cut-off date need not be considered eligible for compensation or other assistance.

Valuation and compensation procedures: The borrower establishes technical standards and operating procedures for valuation of expropriated land and other assets. Valuation methods must be based on the replacement cost criterion. Where cash compensation will be paid, the borrower establishes and discloses unit compensation rates, categorized by type or productivity of land, type of structure, and type of other fixed assets. The borrower discloses valuation results and compensation rates to affected persons. The borrower also

devises transparent processes for delivery of compensation to affected persons, without deduction for any purpose, prior to their loss of land or other assets.

Arrangements for economic rehabilitation of affected persons: For persons who are directly and significantly affected by the project, the borrower establishes means by which they may improve, or at least restore, their incomes or livelihoods. The form and extent of livelihoods assistance (supplemental to compensation for land or other assets) may vary, depending on the nature of the impact and the availability of feasible alternative mitigation measures. It is also important for the borrower to consider how affected persons may obtain opportunities to benefit directly as a result of the project. This may include opportunities for temporary construction employment, to contract for services during construction, to provide vendor service following highway construction, or other opportunities that may arise.

Arrangements for relocation of displaced households or businesses: In addition to compensation, the borrower provides transitional assistance sufficient to cover the costs of moving, temporary living subsidies until alternative structures are available, and payment for (or waiving of) any fees (registration or titling, utility hook-ups, other) imposed as a result of relocation. Where replacement housing is provided by the project in lieu of compensation, the borrower ensures that housing meets minimum standards for sanitation and safety, ensures provision of adequate community infrastructure and access to services, and takes measures, as necessary, to consult host communities receiving resettlers and to diminish risk of competitive tensions between hosts and resettlers after resettlement.

Financial and organizational arrangements: A budget reflecting all costs for compensation, other assistance, administration, and contingencies is included in the RAP, which also clearly establishes financial responsibility and arrangements for fund flow. The RAP also includes a time-bound resettlement implementation schedule, keyed to the overall schedule for project implementation. The RAP defines roles and responsibilities for all organizations involved in resettlement implementation, and provides management arrangements for responding to unforeseen circumstances that may arise.

Consultation and disclosure procedures: Providing information to, and consulting with, affected persons is essential to a process intended to enable them to adapt to changed living conditions following land acquisition or resettlement. OP 4.12 requires borrowers to consult with affected persons during the RAP preparation process, and, through monitoring or other means, throughout the resettlement implementation period. The RAP, in draft and final versions, is disclosed in a manner accessible to affected persons.

Resettlement monitoring arrangements: OP 4.12 generally requires borrowers to make arrangements for both internal and external resettlement monitoring. Internal monitoring is undertaken by, or for, the primary implementing agency to track land acquisition, payment

of compensation, and other aspects of implementation that may have a direct impact on overall project progress. External monitoring is normally undertaken by an entity independent of the implementing agency, and focuses on all aspects of resettlement implementation as they relate to fulfillment of RAP requirements and achievement of RAP objectives. External monitoring identifies problems as they arise in implementation, and monitors affected persons' views regarding implementation effectiveness. Periodic external monitoring reports are prepared and submitted to both CDR and the World Bank.

Grievance procedures: The borrower is required by OP 4.12 to ensure that affected persons are aware of, and have access to, effective means to raise grievances associated with land acquisition and resettlement. Grievance procedures can consist of customary arrangements for dispute resolution, where such can be expected to manage the range of issues associated with land acquisition or resettlement, or formal grievance arrangements established solely for project purposes, or a combination of both. The borrower's grievance procedures describe means by which grievances can be raised, organizational arrangements and performance standards for responding to grievances received means of appeal, and arrangements for recording grievances and system results.

5.8 Policy Provisions Specific to the Project

As stated above, special policy provisions are necessary to meet required standards and procedures of OP 4.12. In some cases, this reflects gaps between OP 4.12 policy standards or procedures and GoL laws and regulations. In some cases, this reflects identified implementation performance gaps, where GoL laws and regulations are not effectively observed or enforced. These special policy provisions follow.

5.8.1 Establishing an eligibility cut-off date

Establishing and disseminating an eligibility cut-off date protects the interests of both GoL and the potentially affected people.

The 2014 household Survey, and based on the final expropriation file, has identified and counted the number of Lands owners, assets and occupants. For this project, the cut-off date for eligibility was established as March 20, 2014. Establishing the official project cut-off date at or near the end of the census survey, and clearly disseminating information regarding the cut-off date within the project area, provides the primary basis for determining who is eligible for compensation or other assistance. This protects GoL and the project from opportunistic migration into, or new construction in, the project area by persons seeking compensation or assistance. This also informs potentially affected persons that compensation or assistance is not necessary for land occupied, or assets constructed or improved, after the cut-off date.

Because mistakes are sometimes made in the census survey, households with a legitimate claim to use or occupancy of land, or whose assets were missed or misrepresented, may establish eligibility for compensation or assistance. In such cases, CDR can attest that the claim in question is legitimate, and that the occupancy or use was established prior to the cut-off date. Persons who believe they have been unfairly denied eligibility for compensation or assistance may also avail themselves of the project grievance process.

5.8.2 Compensation for land at replacement cost

Land owners, or persons with “legalizable” claims to land, who are affected by land acquisition in the project are eligible to receive compensation at replacement cost. Valuation for land (and other assets) has been conducted by CDR.

5.8.3 Compensation for structures and other assets at replacement cost

All persons affected by loss of crops, productive trees, housing, ancillary structures, fences, water facilities, or other fixed assets are eligible to receive compensation at replacement cost. Compensation for structures and other fixed assets is paid without depreciation because of age or condition. Lack of legal title, permit or registration is not a barrier to compensation for structure and other assets.

As an alternative to compensation for housing at replacement cost, affected persons may be provided with direct replacement housing of an equivalent standard to prior housing, at a site with equivalent locational advantages. Such replacement housing is provided to affected persons with security of tenure comparable to their prior housing arrangements, and without imposition of fees or other transaction costs.

5.8.4 Transitional assistance for displaced households

Any households affected by housing demolition caused by the project will be provided with transitional assistance, which will consist of a moving allowance sufficient to cover relocation expenses, a temporary living allowance sufficient to cover living costs for a reasonable period in which replacement housing can be purchased or constructed, and other assistance that may be needed to prepare a replacement site for construction or habitation.

5.8.5 Transitional assistance for displaced businesses

Any person or commercial entity affected by temporary suspension of business because of loss of land or structures caused by the project will be provided with transitional assistance, which will consist of a moving allowance sufficient to cover relocation of all equipment, fixtures and inventory; an allowance to cover temporary income or profit losses for a reasonable period in which business can be restored, and payment for any other transaction costs associated with restoring operations.

5.8.6 Assistance to squatters or others lacking title or legal rights

All affected persons are eligible for compensation at replacement cost for lost structures or other assets. Squatters or others lacking legal title to land, or who have no legalizable claims to land, are provided transitional assistance in lieu of land compensation. The transitional assistance may be financial (in the form of a supplemental adjustment allowance) and/or technical (e.g., assistance in locating alternative sites for residency or conducting business). In any such cases, the affected person is afforded the opportunity to restore residence, agricultural production, or business operations under terms comparable to those existing before displacement, and with reasonable security of tenure.

5.8.7 Assistance to shareholders or labours

Shareholders or labours whose livelihoods are disrupted as a result of the project land acquisition are eligible for temporary living support. This support is proportional to the extent and duration of livelihood disruption.

5.8.8 Assistance to affected members of vulnerable groups

Persons with specific disadvantages often face additional burdens or barriers in adjusting to significant loss of land (e.g., more than 10 percent of their productive land holding), loss of livelihood, or physical relocation. The project defines the following as vulnerable persons: the blind, elderly living alone, persons with physical disabilities, persons with mental disabilities, and orphaned minors (under 16 years of age). Vulnerable persons significantly affected by the project are eligible to receive additional assistance. The form and extent of assistance to be provided may vary depending on the form and extent of vulnerability in each locational context, or may be provided in the form of a vulnerability assistance allowance.

5.8.9 Restoration of public or community facilities and services

Where the project construction requires demolition of public infrastructure, CDR ensures timely replacement, at a standard higher than, or at least equal to, the infrastructure that was lost. Where road construction may impede access to public or community services, including religious facilities, CDR undertakes timely measures to ensure that access is fully restored. To maximize the development impact of the project, opportunities to improve local infrastructure and access to services should be assessed and considered; there is little point in seeking to replace, to the same standard, infrastructure or facilities that are already substandard, obsolete, or over-utilized.

5.9 Discrepancies between Lebanese Law and World Bank Policy

From a comparative analysis of Lebanese resettlement policies and procedures and World Bank OP 4.12 safeguard policy on Involuntary Resettlement, the most significant issues upon which current local practice deviates from Bank requirements are the following:

- The extent of stakeholder consultations;
- The participation of PAPs in the resettlement process;
- The mechanism for the payment of compensation;
- The recourse to grievance redress mechanisms; and
- The treatment of those who occupy or use land without entitlement.

When differences exist between the Bank Policy on Involuntary Resettlement OP 4.12 and relevant Lebanese laws and regulation, the Bank Policy will prevail. The detail of these deviations and the measures proposed to resolve them for the Bisri Project are given in Table 5.1.

Table 5.1: Expropriation Procedural Gaps and How to Fill Them

Lebanese Expropriation Law	World Bank OP 4.12 Requirement	Proposed Gap-Filling Measures for Bisri
<p>Stakeholder Consultations Expropriation is initiated by a Council of Ministers Decree signed by the President with no requirement for prior public debate.</p>	<p>The public, including potential PAPs, should be informed of the planned project as early in the project cycle as is feasible.</p>	<p>Stakeholder consultations have been held in several project affected villages on three separate occasions. Sessions have also been held for Greater Beirut water consumers, the main beneficiaries, and for institutional stakeholders.</p> <p>A Project Information Centre (PIC) will be established once the Expropriation Decree is passed.</p> <p>CDR will follow other provisions of the GBWSAP <i>Consultation and Communication Programme</i> issued at the outset of the project.</p>
<p>PAP Participation There is no mechanism for the participation of PAPs, and no requirement to inform PAPs until publication of the Expropriation Decree</p>	<p>PAPs must be informed, consulted and given the opportunity to participate in planning, implementation and monitoring of the expropriation process and resettlement.</p>	<p>The Public Consultation Sessions have elicited PAP comment and concern, orally and in writing. Where written comments have been made, written responses by the ESIA/RAP Consultant have been included in both the ESIA and the RAP.</p> <p>The ESIA/RAP Consultant has established a dedicated mobile phone number and email address that is publically announced in the Press and at sessions to which PAP queries and comments can be directed.</p>

Lebanese Expropriation Law	World Bank OP 4.12 Requirement	Proposed Gap-Filling Measures for Bisri
<p>Compensation Terms</p> <p>Compensation is by a one-off cash payment made via an Escrow account.</p> <p>With PAPs appealing, they will receive the 100% of their awards and Land Take over is executed.</p> <p>With CDR appealing, PAPs will receive the 90% of their awards and the balance is left upon the appeal decision while Land Take over is executed.</p> <p>There is no provision for compensation in kind, land swaps, housing provision, or payment over time.</p> <p>Where access is to be provided, 25% of a plot may be taken for no compensation on the basis the remaining 75% will be of increased value.</p>	<p>All compensation is to be paid in full and at replacement costs, before the land and/or assets expropriated are taken over.</p> <p>Alternatives to cash compensation are to be offered where practical (i.e. land swap, housing provision) and if preferred by PAPs.</p> <p>Resettled PAPs are also eligible for additional payments; e.g. moving expenses, transport, small business development support, skills training, etc.</p> <p>The compensation offered for land should be the full commercial value for the entire area to be expropriated.</p>	<ul style="list-style-type: none"> The '25% rule' will not be applied and all land take will be compensated without reduction for added value before land take and at replacement cost.
<p>Grievance Redress</p> <p>There is no just and robust procedure to fully address grievance other than final appeal, the outcome of which is binding on all parties. A judge sits on the Appeal Committee and there is no higher appeal to the Court.</p> <p>Poor PAPs on low incomes are deterred from appealing by (i) the requirement to be legally represented, and (ii) the appeal application fee.</p> <p>(The provision for the Appeal Committee to take</p>	<p>Develop a specific means of registering and processing grievances at no cost to PAPs.</p>	<p>In recognition that poor PAPs may be deterred from submitting Appeals by the cost, the project proponent will pay the Appeal application fee and the cost of legal representation of those PAPs whose total landholding is less than 1,000 m² and/or their total asset value is less than LL 10 million. The mechanism to provide this will be via a grant to local NGOs, CBOs and legal practitioners in exchange for <i>pro bono</i> services¹⁷.</p>

¹⁷ There are a lot of NGOs and CBOs in Lebanon. CDR will identify one or two NGOs which are willing to provide such services and sign a MOU with them prior to actual expropriation start.

Lebanese Expropriation Law	World Bank OP 4.12 Requirement	Proposed Gap-Filling Measures for Bisri
0.3% of any additional award is no longer implemented).		
<p>PAPs without Title There is no provision for directly compensating PAPs without title to the land or assets being expropriated.</p> <p>In such cases, compensation is given to the title holder and it is left to the title holder to pass it on to the PAP. Being outside the expropriation procedure, the PAP has no access to Appeal.</p>	<p>All PAPs to be compensated for loss of livelihood, loss of access to land and assets, whether or not they have title to the facilities used.</p>	<p>The 100% survey of PAPs resident within the inundated area without title has identified the improvements made to property – building renovations, soil improvement, own crops, etc., and these will be dealt with through ad hoc payments from CDR Expropriation Department. Almost all of those within this group are non-Lebanese, not only without title but also without a formal employment contract, work permit or residency.</p> <p>Where a PAP without title is due compensation, the award is made to the title-holder and the PAP signs to confirm his/her entitlement has been received.¹⁸</p>

¹⁸ In the case of the title holders of the property cannot be found or refuse to sign the compensation package, or do not want to claim the compensation at CDR, CDR will pay the compensation directly to affected people without any legal title based on the actual impacts.

6 COMPENSATION ENTITLEMENTS

6.1 Policy and Principles of Compensation Entitlement

Resettlement and compensation are best approached as an opportunity to develop and improve living standards, and potentially stimulate economic growth rather than a project's requirement, obligation and target,

In accordance with Lebanese expropriation procedures, rates of compensation shall be determined by the Expropriation Commission (EC) upon the receipt of the approved-on Expropriation Decree that will be based on the completed Expropriation Files, that details the cadastral and ownership information by plot with a census counting all fixed and movable assets that will be lost to the project. Bank funded projects are expected to compensate all persons affected by the project and for all losses of assets and investments.

While eligibility for compensation will be detailed in the sections hereafter, The compensation shall be due for, but not limited to, the following:

- **Land** is valued at current local market rates, the factors that may affect its value taken into consideration, including but not limited to, size, shape, location within the valley, access, susceptibility to annual flooding and soil conditions;
- **Buildings** are valued based on its replacement cost by square meter, taking into consideration, materials, use, fixtures and interior decoration. Commercial premises are generally valued higher than residential properties;
- **Fixed Assets** such as poly-tunnels, stock-pens and irrigation systems, are valued at full replacement cost;
- **Un-harvested Crops** are compensated according to their full value at market, the calculation is different for field crops and perennial crops;
- **Business Evaluation** is based on audited accounts, or where unavailable, on evidence gathered from site inspection. Compensation includes provision for loss of business and clientele, loss of productive time, and the expenses associated with relocation;
- **Transition costs** are based on the full costs incurred by relocating residences and/or business enterprises, at the full market value of time of moving.
- **Cultural assets** will be relocated on the project's expense in collaboration with DGA.

The EC will be scrupulous about including every relevant factor of time and/or cost incurred by PAPs. The rule of thumb is that claimants show documents or other *prima facie* evidence of the loss or injury suffered or to be incurred.

6.2 Compensation Rates

The Expropriation Department at CDR provided the ESIA Consultant with Compensation Costs General Standards for various lost assets. The information provider insists on the fact that the listed figures are to be considered for general guidance only, because it all depends upon the final assessment of the EC and their Field Inspectors who will inspect the properties and existing assets for fair valuing. Therefore, the below indicative rates and are used to estimate the overall operation of lands acquisition and lost assets compensation

budget. It is worth noting that Bank funded projects are expected to compensate all Project PAPs for all incurred losses at the value of replacement cost. The actual compensation rates will be determined by Expropriation Commission based on the actual market prices of affected assets at the time of expropriation.

Table 6.1: Indicative Compensation Rates

LAND	LBP/m²	
Accessible Natural Pine woodland	50,000	
Irrigated Agricultural field, Riparian to river	50,000	
Irrigated Agricultural field, <100m from river	40,000	
Irrigated Agricultural field, >100 m from river	40,000	
Abandoned agricultural land	40,000	
Other open land, good soil cover, flat	40,000	
Other natural woodland	40,000	
Natural bush vegetation, flat	40,000	
Other open land, poor soil cover, sloped	30,000	
Natural bush vegetation, sloped	30,000	
Other open rocky and steep slopes lands	20,000	
STRUCTURE	LBP/m²	
New house	500,000	
Basic house, concrete	100,000	
Old house renovated	100,000	
Storage room, concrete	50,000	
Old degrading house	50,000	
Old house	50,000	
Concrete shelter for Agricultural workers	50,000	
Shelter, wood, plastic	25,000	
Animal shed, concrete walls and floor	15,000	
Tent, cloth	10,000	
Land Attachments Assets	Unit	LBP
Water ground tank, concrete	cubic meter	100,000
Water tank, elevated, plastic on metal frame	cubic meter	600,000
Metal mounted shelter	square meter	1,500
Metal overhead Pergola	square meter	1,000
Metal pipes	linear meter	1,000
Water channel, open, concrete	linear meter	15,000
Animal enclosure, wire netting, earth floor	linear meter	5,000
Metal wired fence	linear meter	7,000
Razor wire	linear meter	500
Agricultural and Irrigation Equipments	square meter	20,000
Poly-tunnel, metal, plastic,	square meter	10,000
FIELD CROPS	LBP/m²	
Rose	50,000	
Other Flowers	50,000	
Strawberry	20,000	

Tomato	20,000	
Lettuce	20,000	
Cabbage	20,000	
Grape Vine	10,000	
Sweet Pepper	10,000	
Basil	10,000	
Grains	5,000	
TREES	LBP/Tree	
	Young	Mature
Pine	150,000	400,000
Oak	150,000	400,000
Poplar	40,000	75,000
Cypress	40,000	75,000
Cactus	40,000	75,000
Willow	40,000	75,000
TREE CROPS	LBP/Tree	
	Young	Mature
Olive	300,000	750,000
Mango	200,000	750,000
Chestnut	200,000	750,000
Date Palm	200,000	750,000
Pistachio	150,000	300,000
Almond	150,000	400,000
Kiwi	150,000	400,000
Loquat	150,000	400,000
Peach	150,000	400,000
Pomegranate	150,000	400,000
Avocado	150,000	400,000
Pear	150,000	400,000
Orange	150,000	400,000
Apple	150,000	400,000
Fig	150,000	400,000
Lemon	150,000	400,000
Apricot	150,000	400,000
Sumac	150,000	400,000
Pomelo	150,000	400,000

6.3 Entitlements

On an individual basis and under the Lebanese expropriation Law, compensation is paid in cash, provided it is adequate, and paid in time and in full. Compensation will be calculated based on replacement cost.

The Cut-off date has been set starting March 20, 2014. This will prevent further population influx to the reservoir area and cease construction licenses within the reservoir. The Cut-off date is the day when CDR and DGUP had published in the press the plots to be expropriated based on the Final Expropriation Files.

6.3.1 Land Ownership

All of the plots required for the construction of Bisri dam and its appurtenances, including the conveyor line, and those that will be inundated by the reservoir, will be compensated to the owner at full market value as described above.

In respect of partial expropriation, three special cases are considered:

- a) **Fragmentation of Landholding:** A PAP whose landholding is reduced to an uneconomic size as a result of expropriation will be entitled to have the residual fragment acquired also and compensated for;
- b) **Severance of Landholding:** A PAP losing part of a landholding, and where the productive operation of one or both the residual elements of the holding is adversely affected by severance, will be entitled to additional compensation sufficient to allow for continued post-project use of the land at existing levels of productivity. The specific nature of the impact will vary in each case, thus case-by-case studies will be conducted;
- c) **Lands Made Unusable:** A PAP losing part of a landholding, where the residual holding is deemed unsuited for its previous use, or too expensive to return to a state in which its previous use can be maintained, will be entitled to have the whole land acquired and compensated for.

6.3.2 Assets

- a) **Residential Structures:** the owner of a dwelling shall be compensated for that dwelling and will be compensated at a rate defined by a valuation committee.
- b) **Non-Residential Structures and Private Infrastructure:** such as poly-tunnels, wells, water tanks, irrigation equipment and farm buildings shall be acquired at full replacement cost.

6.3.3 Field Crops

The value of crops in the field will be assessed based on the average price for such produce over the past three years adjusted for inflation. The yield estimate for each crop will be derived from Ministry of Agriculture statistics for the agro-climatic zone and land classification. Wherever possible the construction programme will accommodate cropping seasons and productive lands acquired only after harvesting.

Vegetables, ground crops and shrubs will be compensated by area, taking into account the above valuing methodology.

6.3.4 Perennial Crops

For perennial crops such as citrus, olive and other productive trees, compensation will be equivalent to the rate of net annual income for the plot, capitalised over a 20-year period. As such, the resulting value will be given by type of tree or crop.

For non-productive trees, the valuation will be based on the market value of the wood, taking into account the species and the size of the tree.

6.3.5 Non-Residential PAPs

Of the 966 plots to be expropriated 621 (65%), are registered to a single owner. The other 35% are registered to multiple owners.

From discussions with Mukhtars in the affected municipalities, it may be safely assumed that where landowners, in total of 765, are permanently absent or otherwise unable to attend to expropriation matters, they have, through a formal Power of Attorney or less formally through family, delegated persons to act on their behalf. In the execution of the Expropriation Law the Expropriation Commission will be required to have sight of POAs or other letters of authority before accepting third party representation.

In Lebanon, a more significant problem will be that joint owners are unable to agree the proportion of land, and hence compensation, to which each is entitled. This needs not however delay expropriation as the compensation award, with or without Appeal, will, in accordance with normal practice, be lodged in an Escrow account where it will remain until such time as the dispute is resolved and each owner can sign to confirm they have received their rightful share.

For those absentee landowners who cannot be located, the procedure will be similar to that for those whose death had not been recorded with the Department of Land Registration. Notices will be placed in the national Press, in nearby villages and, if there is evidence to do so, in Lebanese diplomatic missions abroad. Again, the determined compensation will be retained in an Escrow account until a legally-authorized claimant comes forward. With no time limit on submitting an Appeal, the original award can still be challenged.

A landowner-survey has been undertaken and completed at the outset of the preparation of the present report. The latest Public Consultation Sessions has contributed great deal in reaching out many of these landowners by the Consultant. The findings of that survey has been presented in previous Sections of this report.

6.3.6 Non-Owner Use

In addition to compensation for obvious assets such as land, buildings, trees, crops payments will also be made to tenants, employees and others who may suffer loss, each considered on case-by-case. This type of compensation will be based on the following:

- a) **Loss of Tenancy Rights:** Any tenant with a legally valid tenancy will be entitled to compensation in accordance with Lebanese Laws and the World Bank Policy on Involuntary Resettlement OP 4.12 as well as the terms of the tenancy.

While the 2014 Households Survey has counted no Pre-1991 Law Tenant, the only one Post-1991-Law Tenant will be given three-month payment at current payment

and landlords will be instructed to return any deposit money and advances to these tenants.

- b) **Mutual agreement tenancy or work accommodation** : Estimated to total 42 households, as presented in Table 4.9, under World Bank OP 4.12, PAPs living under mutual agreement or work-related accommodation are entitled to compensation even where they have no formal tenancy agreement or land use rights, as is in most cases of Bisri residents. Any traditional rights or access rights through family and/or community linkages that are not formally documented will be assessed on the same basis.
- c) **Illegal Occupants** none of the surveyed 49 households declared itself as squatter. Therefore; such occupant category does not apply to the project.
- d) **Loss of Access to Common Property**: All PAPs losing access to common land, such as traditional grazing rights, will be entitled to a portion of the compensation available in proportion to their share. Such rights are absent within the project area.

6.3.7 Loss of Income and Loss of Livelihood

Those who lose employment will be entitled to compensation for their loss of earnings and potential loss of livelihood. The more legally settled and longer the employment history of any worker is, the higher will be the compensation the worker will get. There could be number of employment categories as it follows:

- a) **Full time Employee**: Based on the latest Households survey, none of the 70 full-time employees, works based on a formal employment contract. In all cases, the Project will compensate full-time workers under no contract, at a rate of 10USD daily for a total of 156 days.
- b) **Part time / Occasional and Seasonal workers**: The Survey revealed a total number of 33 part time seasonal workers in the area of the project. These workers will be compensated at their current wage for a period of 3 months.

Transitional costs will be included as part of the compensation to help all the above PAPs in moving their movable goods and assets.

6.3.8 Consideration of Foreign Nationals

A high proportion of Bisri resident PAPs is foreign nationals working as farm labourers, predominantly Syrian, with some Kurds and a few Egyptians, together with Palestinians from the refugee camps in Saida¹⁹. Some Syrian seasonal workers have chosen not only to remain on site and not to return to the present turmoil of the on-going Syrian uprising but also to bring some of their relatives into the Valley fleeing the continuing civil unrests back home.

Among other objectives, the 2014 Jan-Feb Households Survey aims at updating the statistics and a better understanding of the foreign population socio-economic status, in

¹⁹While the 2010 Labour Law permits Palestinian refugees in Lebanon to work outside their camps, the provisions for issuing work permits have never been implemented.

BisriValley. Table 6.2 below summarizes the findings of the 2014 Social Survey with regard to the foreign population and Refugees distribution.

Table 6.2: BisriValley Foreign Population and Refugees Distribution

Valley Foreign Population	individuals	households
Other Arabs Non-Refugees	72	14
Other-Arab Refugees Registered with UNCHR	79	17
Other-Arab Refugees not Registered	23	4
GRAND TOTAL	174	35

The 2014 Social Survey revealed that there were at the time of the survey, 174 declared non-Lebanese residents. While 72 individuals have considered themselves non-refugees, the remaining 102 individuals (79+23) have declared themselves war refugees; but not all these are registered with the UN High Commission for Refugees.

The remaining 72 residing non-refugees in the Valley, will either be compensated, as their Lebanese counterparts under the Lebanese Law or to the World Bank O.P 4.12 Policy on the Involuntary Resettlement. This depends on their residency, employment, tenancy, status etc as explained above.

6.3.9 Other Costs

Dismounting, displacing and rebuilding the cultural assets: The costs for dismounting, displacing, rebuilding and lands cost to relocate Mar Moussa Church and Ste- Sophia Monastery and the Roman columns must be covered by the project²⁰.

6.4 Entitlement Matrix

As said earlier and under the World Bank funded Projects, all PAPs shall be entitled to compensation at replacement cost for affected assets or loss of livelihood and income.

To prevent opportunistic migration into the Project Area, for the purpose of claiming compensation or other assistance, a Preliminary cut-off date of Eligibility to compensation has been set as of March 20, 2014. Establishing an official cut-off date for the project provides the primary basis for determining who is eligible and for what compensation and would protect the interests of both the GoL and the potential PAPs. Eligibility for compensation for the losses occurring and status of persons affected, with the compensation basis are presented in Matrix Table below. The compensation matrix has been developed based on the applicable Lebanese Laws and the requirements of the World Bank OP-4.12 Policy on Involuntary Resettlement.

²⁰ The details of cost are included in the ESIA.

Table 6.3: Entitlement Matrix

Eligible Persons		Nr of households/persons	Loss of:	Compensation Payable
Lebanese Nationals	Resident Landowners Living in the <u>area to be expropriated</u> and do rely on owned land for their livelihood	6/17	Land House Structure Trees Crops other assets livelihood	<i>PAPs shall be compensated at the replacement cost as estimated by the EC for:</i> <ul style="list-style-type: none"> - land loss and disturbance of livelihood; - Transitional allowance for moving of household and belongings; - income and loss of earnings; - costs incurred for improving the property assets and land productivity; - rehabilitation that is sufficient to enable PAP to re-establish in similar condition; - allowances for continued post project use of any lands at existing levels of productivity; - assistance of replacing and transition costs to new location for PAP's movable goods and assets.
	Non-absentee Landowners where at least one of these two criteria applies: <ul style="list-style-type: none"> - Living in the Project catchment area - do rely on owned land for their livelihood 	90/-	Land Structure Trees Crops other assets livelihood	<i>PAPs shall be compensated at the replacement cost as estimated by the EC for:</i> <ul style="list-style-type: none"> - land loss and disturbance of livelihood; - income and loss of earnings; - costs incurred for improving the property assets and land productivity; - rehabilitation that is sufficient to enable PAP to re-establish in similar condition; - allowances for continued post project use of any lands at existing levels of productivity; - assistance of replacing and transition costs to new location for PAP's movable goods and assets.
	Absentee Landowners	765/-	Land other assets	<i>PAPs shall be compensated at the replacement cost as estimated by the EC for:</i> <ul style="list-style-type: none"> - land loss ; - consequential loss of any land's asset.
	Total of Landowners	861/17		

Eligible Persons		Nr of households/persons	Loss of:	Compensation Payable	
	Non-Owner residents	8/47	House Structure Trees Crops other assets livelihood	<i>PAPs shall be compensated at the replacement cost as estimated by the EC for the housing tenancy:</i> - those with Tenancy post-1991 contract at a rate of 3 months payment and landlord is instructed to return all in-advance money received to tenant; - those with no Formal Tenancy Contract for the incurred costs for improvement brought to the land and property as valued by the EC as a case-by-case basis; <i>'PAPs shall be compensated at the replacement cost as estimated by the EC for other than housing:</i> - any consequential loss of trees and crops and other land attachments; - assistance to recover livelihood and rehabilitation. - assistance of replacing and transition costs to new location for PAP's movable goods and assets.	
Foreigners	Labor residents	Non refugees	Job Full timer / Part timer and Shelter	<i>PAPs shall be compensated for Jobs loss as it follows:</i> - loss of income of full timer at a rate of 10\$ daily for total of 156 days. - loss of income of part timer for 3-month-payment based on their currently received monthly wage. <i>PAPs shall be compensated for shelter loss as it follows:</i> - those with Tenancy post-1991 contract at a rate of 3 months payment and landlord is instructed to return all in-advance money received to tenant; - those with no Formal Tenancy Contract for the incurred costs for improvement brought to the land and property as valued by the EC as a case-by-case basis.	
		Refugees	4/28	Shelter	Project will Provide assistance to get PAPs connected to the UNHCR.
	Non Labor residents	Non refugees	7/36	Shelter	<i>PAPs shall be compensated for shelter loss as it follows:</i> - those with Tenancy post-1991 contract at a rate of 3 months payment and landlord is instructed to return all in-advance money received to tenant; - those with no Formal Tenancy Contract for the incurred costs for improvement brought to the land and property as valued by the EC as a case-by-case basis.
		Refugees	17/74		Project will Provide assistance to get PAPs connected to the UNHCR.
	Total of residents in the Valley*		49/238		

*the 49/238 Households/persons include the 6/17 Resident Landowners, as above. All Resident Lebanese Nationals are from 14 Owner and Non-owner households while all foreigners are from 35 householdstotaling the 49 households.

7 Institutional Arrangements

7.1 CDR Expropriation Department (ED)

Within the Legal Affairs Division of CDR, the Expropriation Department (ED) Manager reports directly to the Legal Affairs Divisional Director. The ED works closely with the Projects Division from the initiation of the Expropriation Decree until the settlement of payments.

The primary tasks of the ED are to:

- Ensure expropriation tasks are completed in accordance with this RAP which is prepared based on relevant Lebanese Laws and the World Bank Policy on Involuntary Resettlement OP 4.12 embedded into the Loan Agreement;
- Provide technical assistance to the Expropriating Agencies;
- Liaise with the project engineers drafting the Expropriation Decree and with the consultants commissioned to prepare the Expropriation Files;
- Advise property owners and tenants of the documentary proof of entitlement to be submitted;
- Verify the details of the Expropriation Files;
- Steer the Expropriation Decree through Legal Affairs Division and CDR Board approval and subsequently Council of Ministers approval and issue; and,
- Monitor and evaluate the expropriation process and its outcomes.

The ED will continue to verify the Expropriation Files after Decree approval and will forward them to the Expropriation Commission (EC). As soon as the EC determines the indemnity for different assets, ED is notified of the Commission's decision, CDR deposits the determined indemnity value and the ED informs the beneficiaries of the deposition.

CDRED is well staffed and has long experience in dealing with expropriation and compensation involved in various construction projects including some Bank financed projects.

7.2 Required Documentation

Once approved by CoM, the Expropriation Decree is published in the Official Gazette and the details of the land to be taken published in two national newspapers for a period of 15 days. Thereafter, the Decree should be executed, i.e. the land taken over, within a period not exceeding eight years from the date of publication.

Annexes to the Decree should include:

- A plan of the entire project area;
- A detailed plan of the properties to be expropriated;
- A list giving each property registration number, its location, the names of all owners and right holders as recorded in the Real Estate Registry; and,

-
- A detailed list of the immovable content of the properties and detailed plans of buildings constructed prior to the publication of the decree.

The complete set of documents is made available for public access at relevant government offices and posted at the municipal offices in which the properties to be acquired are located.

The Expropriation Decree may cover any portion of land or building. It is up to the owner to request that the full property be expropriated, on the grounds the un-expropriated remainder would have lost its value, either because it has become unusable or because the remainder is too small to qualify for a building permit.

7.3 Expropriation Commission

The amount of compensation to which an affected owner, tenant or other rights holder is entitled is determined by the Expropriation Commission established under the Expropriation Decree. Due to cadastral distribution, there will be two Commissions: one covering the ChoufCaza and another covering JezzineCaza. The awards made by the EC are based on prevailing local property market rates.

The composition of the EC comprises:

- The chairperson, who is a judge or magistrate of at least the 10th degree;
- A qualified engineer;
- An independent observer with non-executive status;
- A property valuation professional;
- A clerk/secretary; and,
- A messenger²¹.

The prime responsibilities of the EC are:

- To undertake plot inspections and meet with plot owners and tenants;
- To determine all compensation for different assets and any economic prejudice arising from expropriation;
- To determine when adequate prior notice and public disclosure has been made;
- To decide on requests by owners for total expropriation and full compensation;
- To determine the value of small portions of land that cannot be used for building; and
- To resolve disputes over the apportionment of compensation between shareholders.

²¹ The Messenger within the Expropriation Commission has the role of communicating the EC decisions in written to all parties concerned with the expropriation matters, the date of his communication is considered legally binding to all parties.

During the deliberations of the EC, ED will be legally represented while individual owners, tenants and other rights' holders may represent themselves or be represented. The Expropriating Department within CDR's legal Affairs Division has adequate experience of land expropriation to manage and implement the process for Bisri dam.

7.4 Appeals Committee

All parties have the right to appeal within 30 days from notification. While the ED or PAPs may appeal an EC decision, the process of expropriation cannot be halted unless the fundamental validity of public interest is challenged. A decision of the EC may be appealed to the Appeals Committee by either the ED or by the individual rights holder, but not by public bodies, NGOs or municipalities. The Appeals Committee comprises:

- The chairperson, who is a judge or magistrate of at least the 6th degree;
- A qualified engineer; and
- A recognized expert in land Law and property valuation.

The Appeals Committee will also include an alternative for each nominated member together with a clerk and a messenger.

The decisions of the Appeals Committee are final and binding on both parties. The fee for appeal fee is L.L. 185,000 including stamp duty and insurance. The Expropriation Law also provides for a charge on the Appellant of 0.3% of the additional compensation sought, although in practice this has not been levied for some years.

The appellant must be legally represented at appeals hearings and the Committee must reach a decision within three months of the date the appeal is lodged.

7.5 Compensation Payment

On completion of all deliberations, CDR will transfer 100% of the agreed compensatory sum to an escrow account in a Bank from which those entitled to retrieve payment can do so. The compensation payments will include allowances for workers without title. Compensations shall be paid directly to PAPs, without a legal right, for cases that involve no disputes and where the Landowner is present. Otherwise the compensation amount will be deposited into an escrow account to be cashed by the *Right Holder*, then the latter will have to pay the compensation to the untitled PAP who will sign confirming that his/her compensation had been received.

Once CDR has verified through certificate that the required compensation has been deposited, it proceeds to take possession of the property in question through formal notice served on the occupant. This notice requires that the occupant leave the place after a period not more than 15 days if the property has no building on it, or not more than 30 days if it contains a building. The decisions of the EC may be appealed to the Appeals Committee by either the CDR or an individual right holder within 30 days of notification of the EC valuation.

If the CDR appeals, 90% of the compensation is paid²². The 10% balance will be paid upon the Appeal Committee decision, while the land-take over decision is executed.

Where the PAP is appealing, 100% of the previously determined compensation is paid to the PAP and the land-take over decision is implemented. Where no appeal happens at all, 100% of compensation is paid and land take-over is executed. In case of lands containing buildings the 75% of the compensation is paid and the 25% balance will be paid upon the structure evacuation, under the time frames as mentioned above. The Expropriation Procedure for Lebanon is illustrated in Figure 7.1.

²² OP 4.12 requires that compensation reflects the full replacement cost which is determined based on the market value of affected assets plus the transaction costs. When CDR appeals, this means that CDR believes that compensation value determined by Expropriation Committee is higher than the replacement value. The Appeal Committee will need to do reevaluation. In any case, the people affected will receive compensation at full replacement cost.

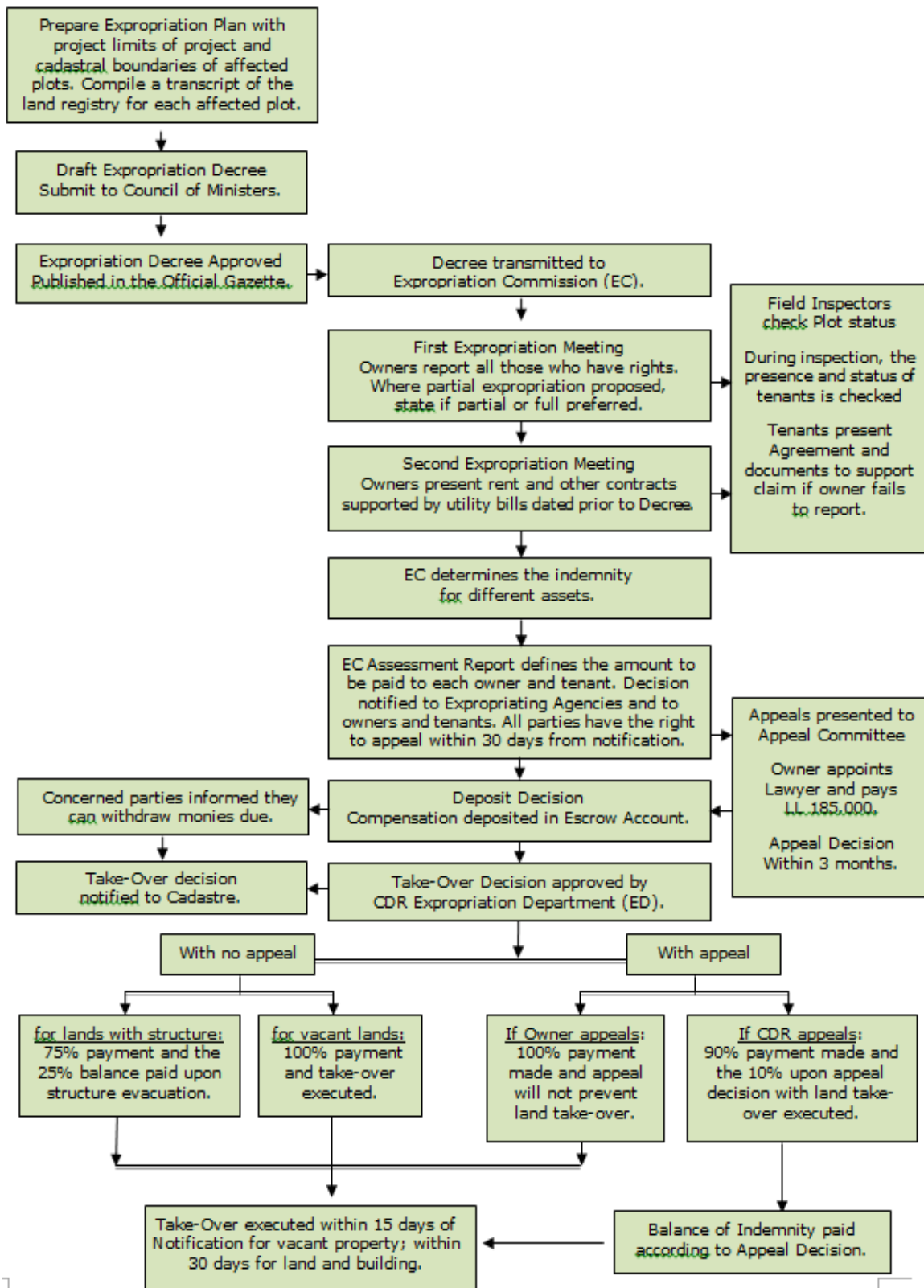


Figure 7.1: The Lebanese Expropriation Procedure

7.6 Directorate of Land Registration and Cadastre

The Directorate of Land Registration and Cadastre (DLRC), which is one of the Departments of the Ministry of Finance (MoF), manages the real estate properties, keeps updated and secured records of title deeds, registers and land maps, and administers the public properties of the government including its investment, lease or rehabilitation. The DLRC is also responsible for the supervision, monitoring and evaluation of expropriation and resettlement activities which will be undertaken in close cooperation with the CDR.

DLRC is well staffed and has long experience in cooperation of with CDR to handle the expropriation and compensation issue involved in construction projects executed by CDR.

7.7 Project Information Centre (Community Liaison Office)

In accordance with the GBWSAP Consultation and Communications Programme²³, the project proponent will establish a Project Information Centre (PIC) of PIU to provide community liaison and assist in:

- Day-to-day implementation of the RAP, including negotiation with PAPs;
- Dispensing contact details of real estate agents, Lawyers, NGOs, CBOs, and other relevant service providers;
- Facilitating, the submission of grievances and entitlement documentation;
- Acting as a repository of copies for all expropriation documents and disclosed reports;
- Advising PAPs by providing a range of required forms and documents, support and assistance to ensure RAP processes are as equitable as possible; and,
- Coordinating with municipalities and other government departments on matters pertaining to the RAP.

In order to allow for easy access to information concerning land acquisition and resettlement, the PIC will be upheld throughout the RAP process and will be located in Beirut. The centre will be equipped and staffed during regular office hours, capable of dealing with a wide range of concerns to PAPs and members of PAP communities relating to the Project, and/or be capable of identifying the relevant person to whom concerns should be addressed.

The PIC will therefore have direct contact with PAPs, individually or at group meetings. A female-officer will be assigned to deal specifically with women PAPs and another male-officer with groups and male PAPs. It will be important, though perhaps unlikely in the first few days, for these officers to be seen to perform at neutral agents between PAPs and those with a formal role in the expropriation process.

While it is more usual for a PIC to be located within the project area, the vast proportion of landowners are not resident within the Bisri Valley, but live, work or otherwise regularly visit Beirut. The capital is therefore the most convenient location for the present project. Even though the PIC will remain open for the duration of the expropriation and resettlement process, the needs of resident PAPs, those most directly affected and most

²³ GBWSAP Consultation and Communications Programme, Dar Al-Handasah, Doc. No. L12002-0100D-RPT-ENV-01 Rev 0, February 2012.

often lacking the resources to journey to Beirut, must be adequately addressed. It is therefore proposed that routine 'clinics', perhaps weekly or even more frequently at the beginning of the process, be held in some of the villages adjacent to the project area from which PAPs not predominantly land-owners, can obtain information and register their interests and problems.

7.8 NGOS and CBOS

Given there is limited vehicular access, no public transport, and a lack of public infrastructure throughout the project area, and the temporal presence of many of its residents, special needs of vulnerable groups such as the aged, the handicapped and infirm are minor. Notwithstanding this, the majority of those residing within the area directly affected by the project are among the poorest within the region, with little call upon land and/or assets. A total of five tenancies have recourse to the provisions of a pre-1991 Agreement but most only have recourse to the post-1991 Act. Many of the farm labourers are non-Lebanese and enjoy neither title to land nor assets. Subject to the outcome of the on-going Social Survey, for Lebanese and Non-Lebanese PAPs displaced and unable to find re-employment locally, access to services such as health and education will become prime issues with which they require charitable assistance.

That many of the Bisri PAPs may only have, at best, inadequate access to these services at present is no reason not to improve future access. As stated previously, a fundamental tenet of World Bank and other international funding agencies policy is that resettlement and compensation must be viewed as opportunities to develop and improve living standards, and stimulate economic activity.

Lebanon is fortunate in having a number of national and regional NGOs that may be willing to assist PAPs with rehabilitation, vocational retraining, health, and youth development. These include but are in no way limited to Arc En Ciel, Dar Al-Amal, Caritas, Catholic Relief Services, the Druze Foundation, and members of the Lebanese NGO Forum. Local NGOs and CBOs within the Bisri area that may be asked to support disadvantaged families and individuals are listed in Table below. Their capacities will be useful throughout all stages of the RAP implementation. Their scope of work can be summarized below²⁴:

- The RAP and relevant documents will be made available at their local centre.
- NGO/CBOs cannot appeal to the Appeals committee.
- Relevant NGO/CBOs will be asked to contribute to the monitoring and evaluation of PAPs after resettlement and compensation has taken place.
- NGO/CBOs will help PAPs relocate, move households or find re-employment.
- Given that compensation to PAPs will be made in Cash, there is a risk of spending this compensation not on land or building structures, but on other purposes. This is risky specifically for poorer PAPs who may lack financial management skills. At

²⁴ CDR will sign a MOU with NGOs which will be involved in the RAP implementation prior to the actual expropriation start.

this point, NGO/CBOs can screen all the PAPs and flag the ones considered at risk, and offer them counselling services or *pro bono* legal advice.

Table 7.1: NGOs and CBOs in the Bisri Area

Municipality	NGOs and CBOs
Aamatour	<ul style="list-style-type: none"> • Aamatour Women’s Association • Aamatour Club • Cultural Gathering Association
Bater	<ul style="list-style-type: none"> • Tasleef • Cultural and Social Club
Bsaba	<ul style="list-style-type: none"> • Youth Association of Bsaba
Ghbatiyeh	<ul style="list-style-type: none"> • Ghbatiyeh Charitable Society
Mazraat El Chouf	<ul style="list-style-type: none"> • Progressive Women’s Association • Association of Social Solidarity

7.9 Summary of Agency Roles and Responsibilities

A summary of agency roles and responsibilities for RAP execution is given in .

Table 7.2: Role and Responsibilities for RAP Implementation

Stage	Agency	Responsibility
Final Design/ Design Review	CDR	<ul style="list-style-type: none"> • Approve final design; • Define land to be acquired; • Prepare Resettlement Plan; • Budget for rescue archaeology and building relocation.
Negotiation	PIC	<ul style="list-style-type: none"> • Undertake Community liaison and support to PAPs.
	ED	<ul style="list-style-type: none"> • Initiate the Expropriation Decree; • Ensure expropriation tasks accord with the Lebanese Law; • Liaise with project engineers drafting the Decree and the consultant preparing the expropriation files; • Verify expropriation files.
Implementation	CoM	<ul style="list-style-type: none"> • Approve the Expropriation Decree.
	EC	<ul style="list-style-type: none"> • Determine all compensations;
	Municipal Councils	<ul style="list-style-type: none"> • Assist PAPs with grievance redress.
	CDR	<ul style="list-style-type: none"> • Deposit determined indemnity values in escrow accounts; • Takes possession of the property.
	ED	<ul style="list-style-type: none"> • Inform beneficiaries of deposition.
	CDR or PAP	<ul style="list-style-type: none"> • If required, appeal EC decision to Appeals committee.
	DLRC	<ul style="list-style-type: none"> • Implementation of RAP, Monitoring and Evaluation activities
	ED	
	CDR/SC	
Appeals Committee	<ul style="list-style-type: none"> • Ultimate determination of disputes. 	

8 IMPLEMENTATION PROGRAMME

8.1 ProgrammeStages

This section outlines the implementation programme for each of the six stages of Expropriation Procedure according to the Lebanese Law along with Consultant's suggestions to improve the local practices:

- Notification;
- Valuation;
- Negotiation;
- Appeal;
- Grievance Redress Mechanism
- Completion; and,
- Implementation and Monitoring.

All of these stages need not be carried out in all cases. For example, if agreements are reached during negotiation, no appeal will be necessary. Similarly, there will be variations in the approach adopted during the last two stages, depending on land use classification. The following description of the programme structure is relatively detailed, to the extent that the intent and commitment of the project proponent to ensure the RAP is implemented as effectively as possible, is clearly expressed.

8.2 Notification and Disclosure

Notification and disclosure of the land and asset expropriation for the project has already commenced and will be implemented as follows:

- DGUP and CDR publicised the placing of affected plots 'under study' in the National Press;
- Plans showing the extent of proposed expropriation were posted in Aamatour, Mazraat El Chouf, Mazraat El Dahr and Bisri village halls;
- CDR, through the ESIA/RAP Consultant, held several Public Consultation Sessions in several affected villages to explain the project and outline, the proposals for expropriation, the mechanism for the assessment of compensation, and to elicit comments and concerns. Details of these sessions are given in appendices to both the present RAP and the ESIA;
- The Executive Summary of the present RAP was translated into Arabic and publicly disclosed to concerned municipalities and Mukhtars (Mayors) for review and comments;
- Then, the final round of Public Consultation Sessions was held, to explain to the public full details about the expropriation procedures and the compensation entitlements.
- CDR will submit the present RAP to the Bank for review and clearance.

-
- Upon approval by the Bank, the RAP fully translated into Arabic, will be disclosed in the country, to relevant Ministries, other Government Institutions and concerned municipalities and Mukhtars (Mayors), the CDR website in addition to the World Bank's Infoshop website.
 - Moreover; hard copies will be made available for public consultation at the Project Information Office, and elsewhere as deemed necessary.
 - Formal notification of land plots to be expropriated and the owners affected will be published in the Official Gazette upon approval of the Expropriation Decree by CoM.

8.3 Land and Asset Valuation

The compensation rates of land and other assets were determined by the Expropriation Department of CDR based on indicative market prices. The actual compensation value payable will be re-assessed by the Expropriation Commission based on the market price at the time of actual land expropriation execution.

Following placement of initial public notification of acquisition in the Official Gazette, all PAPs will be given the opportunity to visit the Project Information Centre (PIC), where they will be informed of the valuation of their property and will be offered the opportunity to appeal the decision of the EC within 30 days of it being announced. PAPs can only appeal the valuation set for their land and assets; they cannot appeal the act of expropriation.

In determining the replacement cost of lost assets for which compensation should be paid the Expropriation Commission will make reference to the following:

- Plans of individual buildings, related structures and support services;
- Average replacement costs of different types of buildings and structures based on the quantity and type of materials used for construction;
- Prices of these items collected in different local markets;
- Costs for transportation and delivery of these items to acquire/replace land; and,
- Estimates of construction of new buildings, including labour.

The disclosed expropriation documents include information on the calculation of compensation for all types of affected assets, including the floor areas of expropriated residential accommodation and business premises. All compensations will be calculated and paid in Lebanese Pounds.

World Bank OP 4.12 requires resettlement procedures to provide prompt and effective compensation at full replacement cost for lost assets, with replacement cost defined as the amount sufficient to replace lost assets and cover transaction costs. The valuation process will therefore include:

- Measures to ensure PAPs are:
 - Informed about their options and rights;

-
- Consulted on, provided with choices from technically and economically feasible resettlement alternatives; and,
 - Provided with prompt and effective compensation at full replacement cost²⁵ for lost assets directly attributable to the project; and,
 - If the impacts include physical relocation, the project will ensure PAPs are:
 - Provided with assistance, such as moving allowances during relocation;
 - Provided with residential housing, or agricultural sites which are at least equivalent to the advantages of the old site;
 - Offered support after displacement, for a transition period, based on a reasonable estimate of the time needed to restore their livelihood and standards of living; and
 - Provided with land preparation, credit facilities, training, or job opportunities.

8.4 Appeal

After the Expropriation Commission has determined what it considers to be appropriate compensation, any PAP who still feels aggrieved with the award has recourse to the Appeals Committee. This is also open to CDR to appeal a high compensation award just as it is to a PAP to contend a low award. Appeals can only be lodged by those individuals directly affected by the Expropriation Decree (not public bodies, NGOs or municipalities).

As stated previously, the Appeal must be lodged within 30 calendar days of the EC issuing its valuation and the Appeals Committee has 3 months to make its decision, which is binding on all parties and not subject to higher appeal, such as the Court.

A significant deterrent to PAPs to enter into Appeal, particularly those with limited landholding, assets and/or financial means, is the LL185,000 (about US\$125) fee for Appeal Registration and the requirement to be legally represented²⁶.

In order to more closely align Lebanese Law with World Bank requirements and provide all PAPs with access to grievance redress, these fees and legal costs will be reimbursed for 'poor' PAPs, which for the present project have been defined as those whose total land holding does not exceed 1,000 m², or total asset base does not exceed LL10 million (about US\$6,700). Since reimbursement by CDR would not be legal under Lebanese Law, the only mechanism through which this could be achieved is for the project to provide financial assistance to NGOs, CBOs and local practitioners for the provision of *pro bono* legal services that would include payment of the appeal application fee.

²⁵Replacement cost is the method of valuation that helps determine the amount sufficient to replace lost assets and cover transaction costs. In applying this valuation, depreciation of structures and assets are not taken into account. Where domestic Law does not provide compensation at full replacement cost, it is supplemented by additional measures to meet the replacement cost standard. If the residual of the asset being taken is not economically viable, compensation and other resettlement assistance are provided as if the entire asset was taken. The cost of alternative residential housing, housing sites, business premises, and agricultural sites can be offset against compensation for the corresponding asset lost.

²⁶The Expropriation Law also provides for the Committee to take 0.3%(three per thousand) of any additional compensation, but the Consultant is advised this has not been applied for several years.

With this additional safeguard for poor PAPs appealing the Expropriations Commission's valuation of their land and assets, the Bank's requirement for a more equitable and fair treatment for poorer PAPs is met.

8.5 Grievance Redress

If the PAP is not satisfied with his award and according to the standard appeal procedures, a representation to Appeals Committee may be made, but both the cost of representation and the time to receive a decision may be a significant deterrent, particularly to poorer PAPs.

As said earlier and at the aim of overcoming additional costs and delays in solving compensation disputes, often experienced in adopting the standard appeal procedures as explained above, a Grievance Redress Mechanism could be initiated once PAPs have been notified about his compensation value and before any Appeal recourse.

If the PAP is satisfied and there is no intent to submit a Grievance Redress complaint, the PAP will be required to visit the PIC and will be requested to sign a document agreeing to the compensation offer. Once a final agreement is signed, it will be forwarded for approval and subject to the completion process.

If the PAP is not satisfied and instead of engaging into the lengthy and costly Appeal Procedure, the Consultant here-in is proposing a *Grievance Redress Mechanism (GRM)*. The latter could be triggered by PAP, by registering his complaint, at the Local Authority that could be either the relevant municipality or Ka'em Makam (District).

The handling of complaints and grievances is an issue on which current Lebanese practice needs to be strengthened to satisfy OP 4.12 requirements. It is therefore incumbent upon CDR to institute an acceptable grievance redress mechanism.

For a special grievance procedure for Bisri to be adopted it must be:

- Readily accessible to all PAPs without discrimination of any type;
- Free from deterrents such as complexity of process and excessive cost;
- Easily incorporated within executive procedure without special legislation;
- Implemented without undue delay; and,
- Administered locally without creating another tier of bureaucracy.

In order to provide grievance redress in accordance with OP 4.12, the Bisri Project will adopt a procedure previously approved for CDR projects elsewhere in Lebanon²⁷.

Aggrieved PAPs will present their claim to the Local Authorities, i.e. relevant municipality or Ka'em Makam (District), which will then consult with CDR and the Independent Expropriation Monitor to establish if the claim is valid within 14 days from the date of claim. If it is, the PAP will be informed that he/she will be assisted and the local authority will negotiate with CDR an acceptable agreement to all parties. If no agreement is reached, the PAP still has recourse, without prejudice, to the standards Appeals procedure instituted by Law.

²⁷ Primarily the Cultural Heritage in Urban Development (CHUD) project.

Channelling complaints through Local Authorities addresses the problem of distance, cost and the need for legal representation PAPs otherwise face. The municipality, the Independent Monitor and CDR will maintain records of grievances and complaints, including minutes of discussions, recommendations and resolutions made. These records will be tabulated under the following column headings:

- Claim No;
- Name of Applicant;
- Claim Registration No;
- Subject of Claim
- Previous Claimant Situation;
- Decision taken;
- Recommendations presented;
- Comments

The suggested procedure for handling grievances will be as follows:

- The PAP will file his grievance to the Local Authorities in writing, signed and dated with the date of application. Where the PAP is unable to write, he/she should obtain assistance from the municipality or the Project Information Office and sign the letter with a thumbprint;
- The municipality will respond within fourteen days, during which any meetings and discussions with the PAP will be held. If the grievance relates to the valuation of assets, experts may be requested to provide a revaluation, and this may take longer than the fourteen days. In any case, the PAP will be informed his complaint is being considered;
- The Local Authority, on behalf of the PAP, negotiating with CDR and the Expropriation Commission, will then attempt to resolve the problem through dialogue within the same fourteen-day period.

8.6 Completion and Taking Over

For the Bisri project to be financed by the World Bank or an associated funding agency, the Lebanese Government via CDR has to oversight approval for expropriation from the Bank.

CDR will apply for oversight approval by submitting Site Expropriation sheets with complete information on the expropriation and awards for each lot and the Expropriation Monitoring Sheet, which has the status of an accountable document whose accuracy and completeness is certified by CDR to ensure that owners have received sufficient compensation for lost asset value, and that any illegal occupancy has been adequately handled so as to enhance, or at least not diminish, existing livelihoods in accordance with OP.4.12.

On completion of negotiations, each eligible PAP will sign a Compensation Statement together with the authorized CDR Representative. The Statement will record the precise loss of property (type, physical dimensions, and replacement value) or livelihood, state the compensation due for this loss to each property holder or household, and note eligibility for any other compensatory programmes. The Compensation Statement will clarify mutual commitments as follows:

-
- For CDR; the commitment to pay the agreed compensation, including any non-cash; and,
 - For PAPs; the commitment to vacate the land by the date entered on the Statement.

The format of payment statements will be easily understandable to PAPs. Compensation will be paid in full prior to the PAP vacating the land. Actual vacation will be monitored by CDR in cooperation with local authorities.

8.7 Addressing the Needs of Vulnerable Groups

Particular attention will be paid to the needs of vulnerable groups that may require assistance at any stage of the expropriation process, including negotiation, compensation payment and physically moving to new accommodation. Such groups may comprise persons living below the poverty line, the women and children, Lebanese and foreign farm workers and Property Tenants without Legal Rights.

Assistance measures, additional to compensation payments, will be determined case-by-case as the nature of their vulnerability is known. These measures are such as:

- Assistance with the compensation payment procedure (e.g., going to the bank with the person who feels threatened to cash the compensation cheque);
- Assistance during the post-payment period to securely deposit the compensation money and reduce the risk of misuse and/or robbery;
- Assistance during moving; providing a vehicle, a driver and physical assistance in relocating;
- Assistance during building; providing materials, labour, or building houses; and,
- Assistance with health care during moving and transition periods.

The treatment of vulnerable persons will be a major expropriation monitoring and evaluating indicator. Where appropriate, relevant NGOs/CBOs will contribute to the monitoring and evaluation of PAPS after resettlement and compensation has taken place.

From the earliest information on the composition of the PAP community it is clear there will be a number of women entitled to compensation in their own right as landowners, employees, or land users. Title to plots is often shared between several family members, and it is possible that women may be put under duress to sign their share over to male relatives to keep the value of the inheritance intact.

A specialist in women's issues will be included within the PIC staff, to ensure women PAPs are aware of their rights and entitlements, including being fully appraised of the assistance available to ensure their rights are exercised.

8.8 RAP Implementation Monitoring and Evaluation

Monitoring and Evaluation (M&E) of RAP implementation will be the key components by which the expropriation of land and assets for the construction of Bisri Dam, its impounded reservoir and associated structures will be assessed as having complied with both Lebanese Law and the requirements of World Bank OP 4.12.

The primary M&E objectives will be as follows:

-
- To monitor compliance with RAP objectives and procedures;
 - To identify specific situations or issues requiring remedial action, including the treatment of vulnerable groups;
 - To evaluate medium and long-term impacts of land expropriation and resettlement on affected households, their asset base, livelihoods and living standards;
 - To use the lessons learnt to inform legislative and institutional reform, environmental enhancement improvement and opportunities for economic development.

Monitoring and Evaluation will be undertaken by the Supervision Consultant working in close cooperation with the CDR Expropriation Department (ED) and the Directorate of Land Registration and Cadastre (DLRC) at the Ministry of Finance.

8.8.1 Implementation Monitoring

The monitoring element of the M&E programme will comprise:

Internal monitoring by CDR ED and DLRC

- Monthly checks on the progression of each of the 966 plots to be acquired from initial application and Expropriation Commission deliberation through grievance redress and Appeal to final payment and Taking-Over;
- Monitoring of RAP implementation against pre-determined performance goals,
- Separately monitoring the actual costs of land expropriation and resettlement.

Independent Monitoring by the External Monitoring Agency

- Verify the results of internal monitoring and confirm compensation payments have been settled prior to Taking-Over;
- Survey of a selected group of land owners from across all cadastral regions at three-month intervals, at the rate of 20 each month, to assess reaction to expropriation processes and procedures, rates of compensation, and ensure the adequacy of advice and support, the survey to continue until individuals report the amicable resolution of all outstanding issues;
- Survey of all non-land-owning PAPs and PAP families, covering tenants, farm labourers and share-croppers, some of which will be refugees and other vulnerable groups, to assess reaction to expropriation processes and procedures, rates of compensation, and ensure the adequacy of special advice and support to help find suitable housing and restore their livelihoods, to be undertaken at monthly intervals until they report all outstanding issues to have been amicably resolved;
- Survey of all non-land owning PAPs and PAP families that remain within the casas of Chouf and Jezzine to determine the extent to which their living standards and livelihoods have been re-established or improved, the survey to continue throughout the period of construction.

- inspections of land occupied by the construction contractor to check only plots for which expropriation is complete and all compensation has been paid are taken over;
- Review of complaints submitted to the Project Information Office (PIO); initiate a timely response from CDR ED in respect of those for late or delayed payments;
- Bring any problems identified or concerns expressed by PAPs to the attention of CDR and DLRC via *Monthly Expropriation Monitoring Reports*.

RAP implementation will also be monitored and supervised by the E&S Panel of Experts (POE).

- Review of monitoring reports and associated documents, including financial statements, site inspections and meetings with concerned authorities at four-month intervals or each time the POE assembles in Lebanon, whichever the more frequent;
- Preparation of an External Monitoring Report every six months summarising the findings and making any pertinent recommendations.

In the execution of the independent monitoring the Supervision Consultant will be expected to utilise the resources of local NGOs, CBOs and social-minded individuals from the affected villages to collect survey data and maintain contact with PAPs.

The general arrangement illustrating the interactions between organisations during expropriation process, the passage of information, and monitoring reporting in respect of independent monitoring by the Supervision Consultant is shown in Figure 8.1.

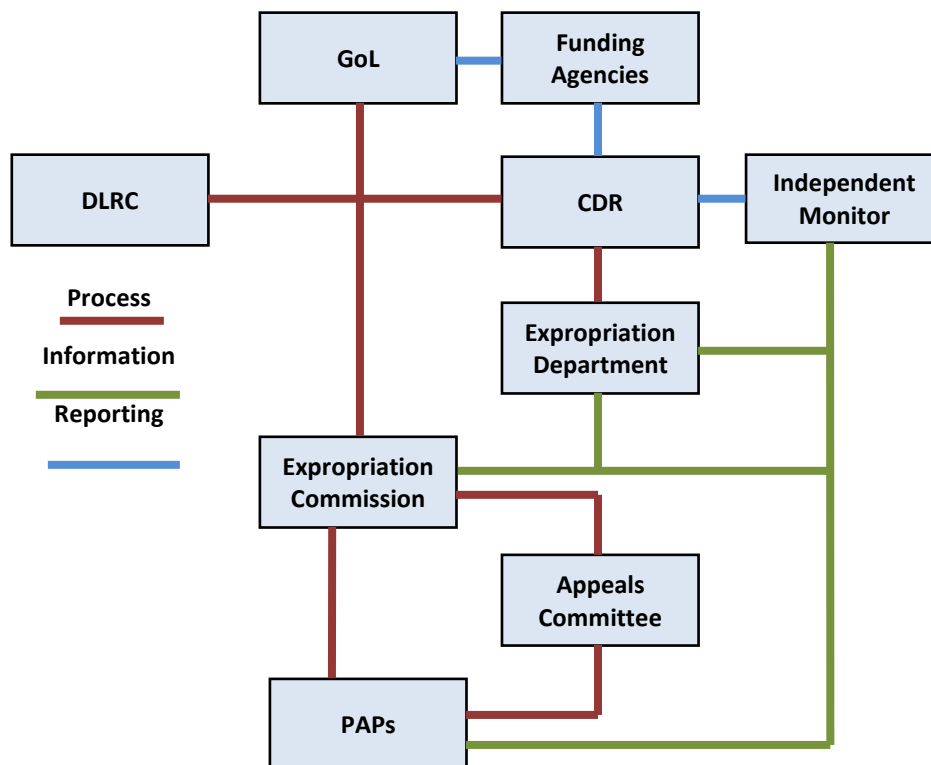


Figure 8.1: RAP Independent Monitoring Reporting Structure

8.8.2 Implementation Evaluation

The evaluation element of the M&E programme will include:

- Overall evaluation of compliance with the disclosed RAP;
- Evaluation of compliance with Lebanese Law and procedures, and with World Bank safeguard policies;
- Evaluation of expropriation and resettlement procedures as implemented;
- Evaluation of the impacts of resettlement standard of living and livelihood re-establishment and improvement; and,
- Identification of additional measures to enhance positive impacts and mitigate residual negative impacts.

The key evaluation indicators would include but not limited to the following:

- a) Compensation: has all compensation been paid in the correct amounts to the correct persons?
- b) Assistance: have all agreed forms of assistance been provided in full to all eligible persons?
- c) Livelihoods: have the livelihoods or incomes of all significantly affected persons been improved, or at least restored, in comparison to pre-displacement levels?
- d) Relocation and living conditions: Have the households that were forced to relocate obtained satisfactory alternative housing, with generally comparable living conditions?
- e) Access: has access to water and other natural resources, and access to infrastructure and services, been maintained or restored for all affected communities?
- f) Grievances: what are the overall patterns and number of grievances received and have they all been resolved?

Evaluation will be undertaken by the Supervising Consultant and be subject to detailed review of the E&S POE, who will relate their results at high level meetings with concerned authorities by World Bank missions. At a time approximately half-way through the period of dam construction, as determined from the contractor's approved schedule a *Mid-Term Review* shall be undertaken. The scope of this will be determined from an assessment of progress one month before it is carried out, but the overall goal will be to evaluate whether or not expropriation and resettlement are proceeding as planned, and to address any outstanding problems and remedy delays apparent at the time.

Not less than 6 months before the reservoir is expected to commence filling, or earlier if all expropriation and resettlement issues have been finalised, the Supervision Consultant and the E&S POE shall produce a *Full-Time Review*, a detailed report reviewing all the available data and confirming that all eligible PAPs have received their entitlement, that

agreed support was provided, that for those PAPs still reside within the area, the degree to which previous housing conditions and livelihoods have been restored, and that there are no outstanding grievances.

8.8.3 Implementation Monitoring and Evaluation Reporting

RAP implementation report will be undertaken at several levels as shown in Table 8.1. All reports will be submitted to CDR who will circulate them to the World Bank, IDB, Saudi Fund, MOE, DGUP, DGA, MOF, E&S POE, and others concerned as appropriate. The primary reviewing organisation will be the World Bank.

Table 8.1: RAP Implementation Monitoring and Evaluation Reporting

Report	Responsibility	Submission
Internal Monitoring Monthly Progress Report	CDR ED and DLRC	The first day of the next calendar month one month after the Date of Loan Effectiveness, and monthly thereafter.
External Monitoring Report	External Monitoring agency	Every six month
RAP implementation Mid-Term Evaluation Review	CDRED, DLRC, External Monitoring Agency	At the halfway point in the current approved construction programme
RAP implementation Full-Term Evaluation Review	CDRED, DLRC, External Monitoring Agency	Six months or more prior to the current approved construction completion date.

The timing of the Mid-Term and Full-Term Review will vary with changes to construction programme.

The prime reporting media, the *Monthly Expropriation Monitoring Reports* issued by the Supervision Consultant will be structured as appropriate to include all the issues that need to be discussed. As general guidance, the following is proposed.

Executive Summary and Primary Recommendations

Chapter 1: Expropriation of Land and Non-Residential Assets;

Chapter 2: Disbursement of Compensation and Take-Over;

Chapter 3: Expropriation of Residential Structures;

Chapter 4: Disbursement of Compensation and Take-Over;

Chapter 5: Vulnerable Groups and Requests for Special Assistance;

Chapter 6: Project Information Centre liaison Activities;

Chapter 7: The Management of Potential Risks;

Chapter 8: Conclusions and Recommendations.

8.9 Project Implementation Schedule

Table below predicts the time the Resettlement Action Plan needs to be implemented in its entirety starting from the preparation of the expropriation files to the Expropriation, Compensation, lands Take over and Monitoring of activities, showing who would be involved for what activity.

Table 8.2: Project Implementation Schedule

Activities	Responsible institutions	Actual or predicted time
Landholding and Asset Census	Dam Designer	January 2014
Social Surveys	ESIA/RAP Consultant	February-April 2014
Public Consultations	ESIA/RAP Consultant	April 2014
Disclosure of RAP	ESIA/RAP Consultant	May 31, 2014
Publication of Expropriation Decree	CoM	After CoM has confirmed financing is secured. (Predicted January 2015)
Publication of EC's Assessment Report	EC	After completion of EC valuation procedures (Predicted April-May 2016)
Assessment open for Appeal	ED, PAPs and AC	30 days from publication of EC's Assessment. Decision with 3 months.
Land Evacuation	CDR supported by the relevant authorities	Total time frame predicted for land take to be 22-24 months from publication of Expropriation Decree. (Completion predicted February-May 2018).
Resettlement	CDR supported by the relevant authorities	15 days after payment for vacant land, 30 days after payment for land with buildings.
Initiation of construction	CDR and Contractor	May 2016
Internal RAP monitoring	CDR, ED and DLRC	One month after the Date of Loan and bi-annually thereafter until land take and resettlement completed.
External RAP monitoring	External Monitoring agency	Six months after the Date of Loan and every six months thereafter until land take and resettlement completed.

9 PUBLIC CONSULTATION AND INFORMATION DISCLOSURE

9.1 Public Consultations Process

Extensive public consultations were carried out with various stakeholders at various locations. The purpose of public participation and consultation for this RAP study was to create awareness on the project and involve those persons in the study who are likely to be affected positively or negatively, and involve also other stakeholders by giving them opportunities to express their views and concerns about expected and perceived impacts and about the most suitable ways for mitigating negative effects and enhancing positive project effects.

Consultations were held at 3 stages: One in spring 2012, the second in winter 2013 and the third in April 2014 (see details in Appendix A). All these meetings were advertised in the national press and via flyers to concerned municipalities. The ESIA/RAP Consultant established a dedicated mobile phone line and email address via which information on the meetings and the project could be obtained.

At the February 2013 Public Consultation meetings issues related to the Lands acquisition and the procedures for land and asset expropriation were discussed with PAPs who attended those meetings. The floor was then opened to attendees to air their comments and concerns.

The sessions were held in different venues, for institutional stakeholders, local PAPs in the villages in the vicinity of the proposed Bisri dam, and Greater Beirut residents. The village sessions were scheduled at weekends and early evenings week-day for Beirut Water Consumers to allow the maximum number of concerned people to attend.

The locations, number of people that participated and the consultation methods are summarized in Table 9.1.

Table 9.1 Summary of Consultation Sessions

	Date / Time	Location	Number of Persons	Methods
Final Consultations	Saturday 26 April 2014, 3 pm	Mazra'ated-Dahr Municipality	10	<p>Each session commenced with the introduction by the Project Proponent in which the scope, objectives and an update about of GBWSAP advancement were shared with the audience. The Consultant (Dar Al-Handasah), then gave a power point presentation, covering in addition to the ESIA final findings, all matters that are related to the Expropriation of lands and assets, Expropriation Procedure, Compensation Entitlements Appeal and Grievance Procedures and finally the indicative compensation rates for various lost assets.</p> <p>The floor was then opened to attendees to air their comments and concerns. Attendees were encouraged also to note their questions and concerns on papers distributed to the audience to that purpose. A large visual stand showing the whole area to be expropriated with the number of plots that are affected was displayed. The proceedings of all sessions were in Arabic.</p>
	Saturday 26 April 2014, 10 am	Bisri Church Hall	43	
	Friday 25 April 2014, 3 pm	Mazra'atEchouf Municipality	28	
	Friday 25 April 2014, 10am	Aamatour Municipality	15	
ESIA/RAP Findings Dissemination	Saturday 9 February 2013, 2:30pm	Mazra'atEchouf Municipality	35	
	Saturday 9 February 2013, 10am	Aamatour Municipality	28	
	Wednesday 6 February 2013, 5pm	Hadat Municipality	10	
	Saturday 2 February 2013, 3.30pm	Mazra'ated-Dahr Municipality	15	
	Saturday 2 February 2013, 10am	Midane Municipality	36	
	Wednesday 30 January 2013, 10am.	CDR, Central Beirut	13	
Scoping Sessions	Saturday 5 May 2012, 10am	Beirut Municipality	43	
	Tuesday 24 April 2012, 10am	Hadath Municipality	25	
	Saturday 21 April 2012, 11am	Qartaba Municipality	28	
	Thursday 12 April 2012, 10am	Dmit Municipality	46	
	Tuesday 10 April 2012, 10am	Mazraat El Dahr Municipality	23	
	Tuesday 3 April 2012, 10am.	CDR, Central Beirut	16	

The consultations intended to create a sense of commitment towards implementing the RAP for the project. With due consideration of gender, consultations were carried out through various methods including individual interviews, consultation meetings, and informal and formal group discussions. The process of consultation was conducted as follows:

1. Meetings and consultations were held with people in the project area. The meetings and consultations were designed in line with local land use conditions. Specific efforts were made to identify and include women in consultation sessions. Representatives from the news media and NGOs and CSOs also attended these sessions. The groups identified during the survey and consultation process included:
 - People affected by land acquisition
 - People to be physically displaced
 - Residents in the project area and surrounding communities
 - Tenants and labours
 - Refugees
 - Government officials
 - Community leaders
 - Representatives of NGOs, CSOs, and media
 - At the start of the meetings and interviews an introduction to the project was conveyed to the subject. The introduction covered the following:
 - Background and rationale of the project
 - Expected works to be executed, including duration
 - Expected areas to be affected by the project and land acquisition
 - Procedures of land acquisition and compensation standards
 - WB procedures and requirements, highlighting safeguards
 - Rights of people adversely affected by the Project
 - Objective of the interview, namely to discuss the needs and concerns of the affected people and comply with WB guidelines in planning and project execution.
 - Discussion of Mitigation measures and of Compensation that may be given to affected people.

9.2 Issues raised and responses provided of third round consultation

- As mentioned above, the third round of public consultations was held in the four main villages within the project site catchment, to which were invited PAPs from the other concerned villages too. The importance of these sessions, with respect to the Resettlement Plan, is that they come immediately after the finalization of the lands expropriation files, where the expropriation limits and extent are well defined. As such the ESIA/RAP Consultant was in a position to share and discuss with PAPs the final Plan for Resettlement that is based on final project figures.
- To ensure a more involving participation of the public invited to these session, the Arabic Executive Summary of the RAP was distributed, ahead of time of these consultations, to the concerned Municipalities and Mukhtars of all concerned villages, for public disclosure. That helped the attendees to these meetings to be better aware and informed about matters related to the Resettlement Action Plan.
- During these sessions the Consultant has presented and explained to the audience all the matters that are related to the RAP such as: extent of lands acquisition and their impact over people, their settlement and livelihood, the eligibility for compensations, the expropriation procedures that will apply and finally the preliminary compensation standards rates for the lost assets.
- Just after the Consultant presentation the floor was opened to the audience comments, questions and to share all their concerns about the project
- The issues raised and the responses given are summarized in the attached Tables into Appendix A of this report.

9.3 Consultation arrangements during implementation

The project proponent will continue consultations throughout the period of land expropriation and beyond; from a Project Information Centre (PIC)²⁸ where PAPs and other concerned persons will be able to consult project documents, find contact details of real estate agents, Lawyers and other service providers, and lodge comments, queries and complaints. The PIC will continue to operate throughout the period of construction and until the reservoir is at least 80% filled. The location of the PIC should be in a village

²⁸PIC is part of the PIU.

adjacent to the project and in close proximity to the optimum number of PAPs. The project implementation process provides three primary means for PIU to interact with PAPs:

- A field-based external monitoring process will occur twice in each year of implementation. The external monitoring process includes solicitation of information and views from affected persons (on a sample basis) and from local leaders regarding the effectiveness of the implementation of the Environmental and Social Management Plan. Affected persons may also bring implementation issues to the attention of project management through interaction with the external monitors;
- Affected persons may bring implementation issues or problems to management attention through the grievance management system; and
- The PIU will also take steps to directly consult with affected persons and communities during the project implementation process. Prior to the initiation of the land acquisition process, the PIU will conduct meetings within each affected village or settlement. This meeting is to inform residents again about the project and its proposed timetable for implementation, expected local impacts, compensation arrangements and rates, eligibility of affected persons for other forms of assistance, and the grievance redress mechanism, and to respond to concerns or preferences expressed by local residents. Within the first two years of project implementation, the PIU will meet again with affected persons in each affected village or settlement. In this meeting, the PIU will solicit views regarding the status of project implementation (especially with regard to resettlement-related activities), and will respond to issues or concerns raised by residents. For each meeting, the PIU will maintain a written summary of proceedings and issues raised, and the necessary follow-up actions that may have become necessary as a result.

9.4 Information disclosure and local access to information

The project PIU will take steps to ensure that affected persons and communities can obtain relevant information relating to the project in general and the land acquisition and resettlement arrangements in particular. As a first step, the safeguards documents and RAP will be available to the public, in English and Arabic. Additionally, summary contents of the RAP, including compensation rates for all categories of land and assets, eligibility

criteria for all modes of assistance, and information regarding the project grievance procedures, will be posted in an accessible and prominent place in the project area. Where literacy is low, public reading of the RAP summary will be arranged. During implementation, external monitoring reports will be prepared. External reports are also disclosed to the public, with copies available to the public.

10 Resettlement Cost and Budget

This section includes itemized cost estimation for all land acquisition and resettlement activities. The costs, under the present report, do cover not only those resulting from the expropriation activities in the areas upstream the dam, but also those incurred by same activities in the area below the dam for the purpose of constructing the dam water conveyor line down to Awali Hydro-Power Plant.

10.1 Basis of Costs

The indicative rates listed under Section 6 of the present Report, are used here-after along with affected lands, structures and various assets, as quantified under Section 4, to estimate the preliminary cost of the whole Resettlement Operation.

10.2 Valuation of Lands Acquisition

The cost of land acquisition, to be covered by GoL, was estimated at \$120 million for around 570 ha of lands. Table below breaks down the total cost by type of existing land and use.

Table 10.1: Estimated Lands Valuation

Land use and cover	Total m ²	Ownership		Unit cost LBP/m ²	Total cost LBP
		Public (m ²)	Private (m ²)		
Irrigated Agricultural Fields at minimum distance of 100m from river	1,480,000	51,874	1,428,126	40,000	57,125,040,000
Other open rocky and steep slopes lands	990,000	31,515	958,485	20,000	19,169,700,000
Natural bush vegetation flat	1,050,000	322,610	727,390	40,000	29,095,600,000
Accessible Natural Pine Woodlands	820,000	42,015	777,985	50,000	38,899,250,000
Natural bush vegetation sloped	1,310,000	82,089	1,227,911	30,000	36,837,330,000
Total	5,650,000	530,102	5,119,898	Total (LBP)	181,126,920,000
				Total (USD)	120,751,312

10.3 Valuation of Structures

Table 9.3 below presents the valuation of compensating the structural assets that are expected to be lost due to the project. It is worth noting that the below estimates exclude the costs that will be incurred by relocating Mar Moussa Church and rescuing of other archaeology ruins as these will not be part of the Resettlement activities.

Table 10.2: Estimated Structural Assets Valuation

Structural Asset	Nr	m ²	LBP/m ²	TOTAL LBP
Basic housing, concrete	36	1,899	100,000	189,900,000
Old house	2	345	50,000	17,250,000
Concrete shelter for Agricultural workers	11	1,105	50,000	55,250,000
New house	14	2,159	500,000	1,079,500,000
Basic housing, concrete	9	372	100,000	37,200,000
Old house rennovated	3	371	100,000	37,100,000
Storage room concrete	18	1,101	50,000	55,050,000
Animal shed, concrete walls and floor	2	194	15,000	2,910,000
shelter wood, plastic	15	665	25,000	16,625,000
Old degrading house	24	1,822	50,000	91,100,000
Mar Moussa Church	1	95	-	-
TOTAL	135	10,128	TOTAL (LBP)	1,581,885,000
TOTAL (USD)				1,054,590

10.4 Loss of Field Crops

Table below estimates costs of compensation for the lost field crops as these were quantified based on the detailed expropriation file. Nevertheless, it is worth noting that, according to CDR, and under the Lebanese, Law Field Crops are not compensated for and as such the Consultant suggests as provision to be made that construction works not to be started until field crops season is completely over. Therefore; Field Crops below total cost will not be counted for in the total Resettlement Budget.

Table 10.3: Estimated Costs for Field Crops

Field Crops	m ²	LBP/m ²	TOTAL LBP
Strawberry under Poly-tunnels metal - plastics	40,000	20,000	800,000,000
Rose and other Flowers under Poly-tunnels metal - plastics	27,000	50,000	1,350,000,000
Open Field crops (Tomato, Lettuce , fava bean, cabbages and others)	200,000	20,000	4,000,000,000
Total	267,000	TOTAL (LBP)	6,150,000,000
TOTAL (USD)			4,100,000

10.5 Valuation of Trees

The total estimated cost for compensating the total number of trees to be cut nears the \$25 Million. Table below details the total cost broken down into trees type and species. The loss of natural trees such as oak, pine and poplar, some 32,000, will be subject to compensatory planting, as included for in the RAP budget.

Table 10.4: Estimated Costs for Compensating for Trees

FOREST TREES	No. of Trees		Unit Rate (LBP / Tree)		Total Amount (LBP)	
	Young	Mature	Young	Mature	Young	Mature
Pine	3413	6501	150,000	400,000	511,950,000	2,600,400,000
Oak	3635	15081	150,000	400,000	545,250,000	6,032,400,000
Poplar	169	3688	40,000	75,000	6,760,000	276,600,000
Cypress	22	361	40,000	75,000	880,000	27,075,000
Cactus	15	124	40,000	75,000	600,000	9,300,000
Willow	145	4993	40,000	75,000	5,800,000	374,475,000
TREE CROPS	Young	Mature	Young	Mature	Young	Mature
Pistachio	5	0	150,000	300,000	750,000	-
Almond	91	587	150,000	400,000	13,650,000	234,800,000
Kiwi	42	188	150,000	400,000	6,300,000	75,200,000
Loquat	124	211	150,000	400,000	18,600,000	84,400,000
Peach	658	1829	150,000	400,000	98,700,000	731,600,000
Pomegranate	4648	2655	300,000	400,000	1,394,400,000	1,062,000,000
Olive	1235	6090	150,000	750,000	185,250,000	4,567,500,000
Avocado	1175	1001	150,000	400,000	176,250,000	400,400,000
Pear	89	533	150,000	400,000	13,350,000	213,200,000
Orange	6167	12155	150,000	400,000	925,050,000	4,862,000,000
Apple	851	751	150,000	400,000	127,650,000	300,400,000
Fig	125	389	150,000	400,000	18,750,000	155,600,000
Lemon	287	278	150,000	400,000	43,050,000	111,200,000
Apricot	8	174	150,000	400,000	1,200,000	69,600,000
Mango	85	85	200,000	750,000	17,000,000	63,750,000
Chestnut	0	8	200,000	750,000	-	6,000,000
Date Palm	6	49	200,000	400,000	1,200,000	19,600,000
Sumac	54	0	150,000	400,000	8,100,000	-
Pomelo	9	0	150,000	400,000	1,350,000	-
OTHER TREES	5679	24346	150,000	400,000	851,850,000	9,738,400,000
SUB-TOTAL	28,737	82,077			4,973,690,000	32,015,900,000
GRAND TOTAL (Number)	110,814				GRAND TOTAL (LBP)	36,989,590,000
					GRAND TOTAL (USD)	24,659,727

10.6 Other land Attachment Assets

There are some other Land attachment assets to be lost with the LandsAcquisition. These assets shall be compensated for, incurring a total compensation cost that will be included into the Resettlement Budget as it follow.

Table 10.5: Estimated Costs for Other Land Attachment Assets

Other Land attachments	Unit	Quantity	Unit rate LBP	TOTAL LBP
Water ground tank, concrete	cubic meter	985	100,000	98,500,000
Water tank, elevated, plastic on metal frame	cubic meter	910	600,000	546,000,000
Poly-tunnels, metal and plastic	meter square	40,000	10,000	400,000,000
Agricultural and Irrigation Equipments	meter square	227,000	20,000	4,540,000,000
Animal shed, concrete walls and floor	meter square	2,220	15,000	33,300,000
Metal overhead Pergola	square meter	115	1,000	115,000
Metal pipes	linear meter	65	1,000	65,000
Metal wired fence	linear meter	1,680	7,000	11,756,500
Water channel, open, concrete	linear meter	990	15,000	14,850,000
GRAND TOTAL (LBP)				5,644,586,500
GRAND TOTAL (USD)				3,763,058

10.7 Summary of Resettlement Costs

Table below presents the summary of all incurred costs for implementing the RAP, as presented in the above sections. The total estimated cost comes to about \$171million USD, to be covered by GoL, and that is distributed into three costing categories, as it follows:

- i. Compensation costs that stand for all the incurred costs due to compensating all lands and assets losses. These are obtained from total costs as estimated under Tables from 9.1 to 9.5 above;
- ii. Other costs that result from compensating people in helping them to restore their livelihood and income conditions in addition to Resettlement Monitoring and Benefits Sharing programs. The basis of these other costs are as it follows;
 - Resettlement and livelihood re-establishment: the provisional estimates assume \$45K/Lebanese household, \$25K/Non-Lebanese household for total of 14 and 35 households respectively (Section 4);
 - Benefit Sharing through BVCF: Initial funding plus estimate of establishment costs;
 - Compensatory planting of natural tree cover: 1:1 replacement of oak, pine and poplar, including purchase, ground preparation, planting and watering for 2-years. (32,500 trees @\$45/tree);
 - RAP Monitoring and Evaluation: Estimated man-month inputs.

- iii. and finally miscellaneous cost that is obtained by adding 10% on the previous total costs to account for all other miscellaneous costs.

Table 10.6: Total Project Resettlement Budget²⁹

Compensation Costs	Total USD
Compensation for Lands to be taken	\$120,751,312
Compensation for Structures to be demolished	\$1,054,590
Compensation for Field crops losses*	\$0
Compensation for Trees losses	\$24,659,727
Compensation for other Lands attachment losses	\$3,763,058
Total for all Compensations	\$150,228,686

* *Construction works shall not be started until field crops season is over.*

Other Costs	Total USD
Assistance with resettlement and livelihood re-establishment	\$3,000,000
Benefit Sharing program	\$1,500,000
RAP Monitoring and Evaluation	\$500,000
Total for all Other costs	\$5,000,000

Miscellaneous (10%)	\$15,522,869
GRAND TOTAL (USD)	\$170,751,555

Finally; this is worth noting that the above items costs exclude the following:

- Archaeological Rescue: Bilateral aid contributions;
- Mar Moussa Church: Relocation and architectural salvage of building materials from the inundated area to expand church facilities;
- No compensatory planting of fruit and other tree crops. Olives trees are likely to be salvaged and replanted, but will still be compensated;
- RAP M&E: GOL/CDR costs;
- RAP M&E: WB/funding agency oversight costs;
- Any cost associated with construction and supervision.

All resettlement funding will be channelled from Ministry of Finance to CDR. CDR will pay the compensation directly to the people affected.

²⁹ The administration cost will be covered by PIU budget and not included in the RAP.

APPENDIX A

RECORDS OF PUBLIC CONSULTATIONS

Introduction

During the execution of the Greater Beirut Water Supply Augmentation Project, three separate public consultation exercises have been held, as follows:

- | | |
|-----------------------|---|
| April 2012 | Presentation of the results of the PDESIA, to disseminate the results of the study of the three dam options (Jannah, Damour and Bisri) and to outline the scope of the ESIA and RAP to be undertaken on the preferred option. Sessions held in the vicinity of each dam option, for Beirut water consumers, and for institutional stakeholders |
| January/February 2013 | Presentation of the results of the ESIA for the proposed dam in the Bisri Valley on the basis of the design promulgated in the 2011 Updated Feasibility Report and on the preliminary assessment of land expropriation requirements. Sessions were held in five concerned municipalities in the vicinity of the dam and for institutional stakeholders. |
| April 2014 | Presentation of the ESIA prepared on the basis of the revised design of 2013 and on fuller survey of land expropriation requirements. Concurrently with the ESIA presentation, the results of the RAP were also presented. Based on responses from previous sessions and the degree to which land within each municipality was being expropriated, four sessions were held in concerned municipalities. |

This appendix presents the results of these consultation sessions starting with the most recent. For the 2012 and 2013 consultations, the following are presented:

- A short introduction to the sessions;
- Attendance – copies of the original sheet completed by attendees together with a translation of their names and the organisations they represented;
- Comments – copies of the original comment sheets together with a translation of the comments and the responses prepared by the Consultant;
- Presentation - copy of the MS PowerPoint presentation (in Arabic); and,
- Handouts – a copy of the handout given to attendees at the commencement of each session (in Arabic).

For the April 2014 sessions, the following are given:

- Signed receipt sheets for the delivery of both ESIA and RAP Executive Summaries (in Arabic) to all concerned municipalities and villages prior to the public sessions;
- Details of the Press advertisement of the sessions prior to their presentation;
- Attendance – copies of the original sheet completed by attendees together with a translation of their names and the organisations they represented;
- Comments – A translation of the comments received at the sessions;
- Comments received from municipalities and villages in response to the circulation of ESIA and RAP Executive Summaries;

- Comments received by the Consultant subsequent to the sessions on the project-dedicated phone line and email address established specifically for the purpose;
- presentation and handout – copy of MS PowerPoint presentation (in Arabic)
- Log of Calls and mails from the Public to GBWSAP-Dedicated Phone and Email.

For the April 2014 sessions in the concerned villages, where the RAP was the prime topic of discussion, the ESIA/RAP Consultant prepared a special presentation display panel on which to show the land it was intended to expropriate together with a 'quick-reference' list of cadastral plot numbers by cadastral region.



Display panel being consulted by early arrivals at the Bisri village session.

APPENDIX A1
APRIL 2014 PUBLIC CONSULTATION SESSIONS

Introduction

Following revisions to the ESIA and RAP consequential upon changes to Dam design, land expropriations requirements, completion of the household survey and the establishment of indicative costs, further sessions of public consultation were held as follows:

Date	Location	Time	Venue	Attendees
Friday 25 April	Aamatour	10.00am	Municipality Hall	
	Mazraat El Chouf	3.00 pm	Municipality Hall	
Saturday 26 April	Bisri	10.00am	Church Hall	
	Mazraat El Dahr	3.00 pm	Municipality Hall	

In addition to the attendees noted above and given on the list of attendees, listed above, the following were also present to undertake the presentations and respond to comments from the floor:

Organisation	Persons
ESIA/RAP Consultant	4
CDR	2
World Bank	1
Dam Design Consultant	2

Attendees were predominantly male. Those females that did attend were as follows:

Location	Number	Details
Aamatour	None	-
Mazraat El Chouf	2	1 municipality office employee 1 young daughter with her father
Bisri	4	1 wife accompanying her husband 2 sisters
Mazraat El Dahr	None	-

One month prior to these sessions, on Wednesday 26 February, copies of plans showing the extent of proposed expropriation together with a list of plot numbers was posted in each of the four meeting venues for public reference. The scale of these diagrams was such that plot numbers could easily be distinguished. During each of the sessions, the ESIA/RAP consultant erected special display panels showing the previously. At two locations, Mazraat Al Chouf and Bisri, the original diagrams were still in place but considerably faded. At the other two sites the municipality had removed the diagrams

from the walls but kept them available for public reference. At all four sites on the day of the sessions new copies of the plans were given to each municipality for future public reference.

Each of the four sessions followed the same general format:

- Distribution of hand-outs and attendance sheet;
- Short introduction by CDR;
- Introduction by ESIA/RAP Consultant, explaining the purpose of the session, introducing those present from CDR and the consultants, and explaining the current status of the project;
- PowerPoint slide presentation of ESIA study and its outcome;
- PowerPoint slide presentation of the RAP, with specific details of land expropriation procedures, grievance redress and indicative rates of compensation;
- The majority of each session was then open to receive comments and concerns from the floor.

The comments received are given below. In addition, two of the municipalities (Mazraat El Chouf and Bisri) submitted pre-prepared comments, while one of the attendees at Bisri, a lawyer representing several landowners, drew up a petition at the end of the session to which several landowners appended their signature. A small number of people, refused to sign the attendance sheet, while some other refused to acknowledge their comments in writing.

The overall attitude of all four audiences was strongly opposed to the construction of Bisri Dam. At Aamatour, barely has the introduction to the session been completed when for several minutes the meeting descended into uproar as attendees stood and shouted their opposition. At the other three sessions the presentations were received more politely, but at each, mild uproar again resulted when the indicative rates of compensation, everywhere considered far too low by attendees, were displayed. As was always anticipated, the majority of comments raised from the floor concerned land expropriation and asset compensation.

While Figure here below shows how these meetings were notified to the public via the national press, the Tables that follow report the details of these venues.

COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION
CDR/PR4.1A2
Rev.00

مجلس الإنماء والإعمار
إدارة التخطيط والبرمجة
التاريخ: ٢٠١٤ آذار

PROJECT: مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب / وضع محيط الموقع المقترح لسد بسري تحت الدرس

I- NETCOM

MEDIA	NO. OF INSERTIONS	DAY (1) & DATE	DAY (2) & DATE	DAY (3) & DATE	SIZE
1. NAHAR	2	THU 20/03/14		SAT 22/03/14	4 COL. X 5.5
2. LIWA'A	1		FRI 21/03/14		4 COL. X 5.5
3. HERALD TRIBUNE					
4. LE MONDE					

II- MEDIA MARKET LEADERS (MML)

MEDIA	NO. OF INSERTIONS	DAY (1) & DATE	DAY (2) & DATE	DAY (3) & DATE	SIZE
1. MUSTAQBAL	1	THU 20/03/14			4 COL. X 5.5
2. DIYAR	1		FRI 21/03/14		4 COL. X 5.5
3. AL-BALAD	1			SAT 22/03/14	4 COL. X 5.5
4. L'ORIENT LE JOUR					
5. HAYAT					
6. ASHARQ AL AWSAT					
7. AL-RIYADH (RIYADH)					
8. AL-ANBA'A (KUWAIT)					
9. AL-KHALIG (U.A.E.)					
10. OKAZ (JEDDAH)					
11. AL SEYASSAH					
12. AL-RAY-AL-AM (KUWAIT)					
13. AL QABAS					

III- ALLIED

MEDIA	NO. OF INSERTIONS	DAY (1) & DATE	DAY (2) & DATE	DAY (3) & DATE	SIZE
1. SAFIR	1	THU 20/03/14			4 COL. X 5.5
2. ANWAR	1		FRI 21/03/14		4 COL. X 5.5
3. ASHARQ	1			SAT 22/03/14	4 COL. X 5.5
4. DAILY STAR					

III- AL-ADIB

MEDIA	NO. OF INSERTIONS	DAY (1)	DAY (2)	DAY (3)	SIZE
إعلانات استملاك عائلة لمنطقة الشمال					

رئيس إدارة التخطيط والبرمجة

إبراهيم شعور

نسخة للسيد

نسخة للسيد

نسخة للسيد

نسخة إلى : دائرة المناقصات نشر الإعلان على صفحة الإنترنت العائدة للمجلس
نسخة إلى : إدارة التخطيط والبرمجة - إدارة المشاريع - إدارة التمويل - المكتب الإعلامي - القلم



Session 1: Aamatour

25 April 2014

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"

إستشارات العامة - المكان: دار بلدية عمارة الزمان: ٢٠١٤/٤/٢٥

جدول الحضور

البريد الإلكتروني	الهاتف	المؤسسة	الإسم	
	٠١/٧٩٠٠٠٤	دار البلدية - أمارة عمارة	علي حسن مراد	21
	70 74 74 80	مالك	علي حسن مراد	22
	03/708524	ملاك	ذوقان عبد الصمد	23
	03/200654	وزارة الأشغال	سعيد فايز مرسل	24
salim.salem@usj.edu.lb	79/82911	ملاك	سليم سالم	25
	05/310670	ملاك	انور فؤاد أبو شقرا	26
	03/389525	ملاك	اكرم رافع أبو شقرا	27
	03/855297			28
	03/813303	مشارك مستمع	وليد حسن أبو شقرا	29
	70278954	ملاك مجاور	مكرم عبد الصمد	30
	03/925386	مشارك مستمع	وفيق أبو شقرا	31
	03/282811	وكيل املاك	حكمت فارس	32
	٧٠/٨٦١٩٩٤		عباس أبو شقرا	33
	٧٠٠٧٠٧٠	وكيل املاك	مأمون بديع أبو شقرا	34
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	03/899746	دار البلدية - نزهة	زينة كود	36
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mpadla@univ.edu.lb	٠٧١٥٧١٢٦	عالم بلديات	محمد رافع أبو شقرا	38
	٠٤/٤٤٨٤٤٨	الجامعة اللبنانية	مخيم المنزل	39
	03/970312	ملاك	نصار أبو شقرا	40

سليم سالم / فائق أبو شقرا / حكمت فارس

Name	Company / Position	المؤسسة	الاسم
Ali Hasan Mourad	Owner	مالك	علي حسن مراد
Zoukan Abdel Samad	Head of Municipality / Owner	رئيس البلدية / ملاك	ذوقان عبد الصمد
Saed Fayez Moursel	Ministry of Public Works	وزارة الأشغال	سعيد فايز مرسل
Salim Salem	Owner	ملاك	سليم سالم
Anwar Fouad Abou Chakra	Landowner	ملاك مجاور	انور فؤاد أبو شقرا
Akram Rafea Abou Chakra	Owner	ملاك	اكرم رافع أبو شقرا
Walid Hasan Abou Chakra	Participant	مشارك مستمع	وليد حسن أبو شقرا
Makram Abed Al-Samad	Landowner	ملاك مجاور	مكرم عبد الصمد
Wafic Abou Chakra	Participant	مشارك مستمع	وفيق أبو شقرا
Hikmat Abou Chakra	Landowner representative	وكيل املاك	حكمت فارس
Abbas Abou Chakra			عباس أبو شقرا
Maamoun BAdia Abou Chakra	Landowner representative	وكيل املاك	مأمون بديع أبو شقرا
Majid Hachem		وزارة الداخلية والبلديات	مجيد هاشم

Jihad Abou Chakra	Municipality Member	عضو بلدية	جهاد أبو شقرا
Nassar Abou Chakra	Owner	ملاك	نصار أبو شقرا

Summary of issues raised at Aamatour Session and Client Responses

Zoukan Abdel Samad Head of Municipality/Landowner	Response
The main affected people from Bisri dam are the farmers.	Farmers will be compensated for the loss of their lands, assets and livelihoods according to Lebanese Law and RAP. While loss of agricultural employment and income will be unavoidable, new economic opportunities will result. A Benefit Sharing programme ³⁰ will be established to support small scale development activities in the surrounding villages managed by local people.
People are worried about the side effects of the dam. (i.e: In France, the collapse of a dam killed lots of people)	Dam Safety Plans have been formulated based on Dam Breach modelling and inundation analysis undertaken by the dam designer. The dam breach report includes an Emergency Action Plan with details of implementation. The detailed designs of the dam have also been reviewed by an international panel of experts on dam safety.
The project is refused by several Aamatour citizens; therefore it is important to find alternatives.	An Analysis of Alternatives has been undertaken and based on a multi-criteria comparative assessment Bisri dam was recommended to be the priority scheme for Greater Beirut Water Supply Augmentation.
People of Aamatour and the region should not face the consequences of supplying Greater Beirut citizens with water. Aamatour citizens are themselves facing water shortage and need water as much as Beirut.	It is common practice to move water from rural areas with plentiful resources to urban areas that suffer shortages. Surrounding villages in Chouf and Jezzine will benefit from improved infrastructure such as sanitation and from the economic opportunities provided by future development. A Benefit Sharing program will be established to fund projects in the surrounding villages.
Maamoun Badia Abou Chakra Landowner representative	Response
From the very beginning, the project is being refused by most of the citizens in the area. The land to be expropriated constitutes a property of material and sentimental value.	Compensation to landowners will be undertaken according to Lebanese Law and the provisions of World Bank Operating policy OP 4.12, both of which are described in the RAP, which when approved will be disclosed publically.

³⁰ The details of the Benefit Sharing program will be further developed in consultation with local communities. An operation manual will be prepared to guide the implementation of the Benefit Sharing program, including the eligible activities, institutional arrangements of implementation, financial management, and procurement.

<p>The Project will be done without any compensation that gives material entitlement to the landowners and their heirs and without compensation to the community benefiting from the land, especially the Municipality of Aamatour which is entitled to collect taxes.</p>	<p>There are established project-specific eligibility criteria incorporating all persons deemed affected by the project and establishing eligibility for compensation or other assistance as a result of all project-related impacts. All these were included into the Compensation Matrix in the RAP. If the PAP remains unsatisfied with the compensation offered, there is a Grievance Redress Mechanism that provides for independent review.</p> <p>It is proposed to establish a Benefit Sharing Program to share Project benefits with local communities. It is also expected that contractors will favour local residents with employment opportunities that will be generated by the Project.</p>
<p>It deprives the area of a valley and a plain that are favorable for the environment, for agriculture and more.</p>	<p>This is understood, and the project has investigated environmental degradation, the results of which are accepted by the Ministry of Environment and will be mitigated appropriately as per the Environment and Social Management Plan (ESMP).</p>
<p>Will this project be able to compensate the profit of 90 million L.L/ year that my pine trees provide?</p>	<p>All lost assets will be compensated on the basis of Lebanese Law and World Bank OP 4.12 as described in the RAP. All land and assets will be compensated at current market prices.</p>
<p>Hikmat Abou ChaKra Landowner representative</p>	<p>Response</p>
<p>I refuse the project since it is the main source of income for farmers.</p>	<p>Farmers will be compensated for the loss of their livelihoods, lands and assets according to Lebanese Law and RAP. While loss of agricultural employment will be unavoidable, new economic opportunities will result.</p> <p>Where land acquisition is extensive, affects a person's means of livelihood, or requires the physical relocation of households, additional assistance will be made available.</p>
<p>I wonder if the dam has really been studied environmentally and whether it has been approved internationally especially that the Project is a massacre to the trees and crops animals, reptiles, birds, and fish, as well as the community and their livelihoods. Emphasize more on the environmental aspect especially that the dam side effects is considered to be a massacre.</p>	<p>The ESIA identifies a wide range of potential environmental and social impacts, and proposes measures to avoid mitigate or manage each during both construction and subsequent operational life. Extensive environmental quality monitoring and reporting is proposed to ensure the adequacy of these measures.</p> <p>. A Biodiversity Management Plan has also been proposed for the rescue of any species that might need this.</p> <p>Livelihoods will be compensated for according to the provisions of the RAP.</p>
<p>Study desalination as an alternative.</p>	<p>Desalination was one of the considered alternatives. While it may be feasible, it has many disadvantages, such as requiring a heavy industrial plant located on the coast, the generation of large quantities of highly saline brine that will impair seawater quality, and a significant increase the cost of water to consumers.</p>
<p>Ali Hasan Mrad Landowner</p>	<p>Response</p>
<p>Are there going to be access roads from</p>	<p>There will be a service road to the dam. The need for</p>

the villages to the dam area? Severance needs to be considered.	additional roads will be considered by the Master Plan for catchment development. But all land needed for the project and associated facilities have been covered by this RAP.
Why is the price of agricultural lands less than 100 m and more than 100 m from the river the same price?	The rates given are indicative of existing market price for the purpose of estimating RAP budgets. It will be the responsibility of the Expropriation Commission to set the fair and appropriate values of land based on site inspection.
The last two slides showing prices lack kidney beans.	Kidney beans are not listed separately but they are included under the Grains

Session 2: Mazraat El Chouf

25 April 2014

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"
إستشارات العامة - المكان: بلدية مزراعة الشوف الزمان: ٢٠١٤/٤/٢٥

جدول الحضور

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			مؤقتة	2
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			عصمت خبطة	4
	70-038976	بلدية مزراعة الشوف	عائلا خبطة	5
	05-849755	عضو بلدية	رشاد عزام	6
	70-320230	موظف	أيوب بولروب	7
	05-320296	متقاعد	عنان بولروب	8
	05-892746	دار الهندسة	ندى خبطة	9
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	70-390426	تجارة	محمد يوسف البطني	11
	03-60703	تجارة	فانيس بوسنة البطني	12
	٢/٤٧٧٧٥٥	متقاعد	ناروتة أحمد زبيدة	13
	٧/٢٩٤٤٤	كاتب البلدية	هاد خبطة	14
	٧٠٢٨٦٤٤	عضو بلدية	شيمس البطني	15
			دوروثي كرفيت	16
naisam.bk@gmail.com	٧/٨٥٠٤٧٤	عضو بلدية	نيسام بك	17
	١٥/٣٤١٧٤	ملازم	علي بوجمان	18
	١٤/٧١١٠٨٧	مشارطة	وليد بضم	19
	٧/١٩٠٤٤	متقاعد	بيل العوا	20

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"
إستشارات العامة - المكان: الزمان:

جدول الحضور

البريد الإلكتروني	الهاتف	المؤسسة	الإسم	
	x/v. 19 27	موظف	عزارة العج	21
	x/ 220 216	موظف	مروان العجب	22
	x/ 77 207	موظف	رها العجب	23
	03.623 491	مزارع	يوسف زيبان	24
	037-47981	موظف	عبد بركات	25
	95350339	موظف	عفاف بركات	26
	03 1720	موظف	ريمه زيبان	27
	03 20 20 20	موظف	عبد زيبان	28
	03/20/20-777	موظف	يوسف زيبان	29
marwan@wstlake.com	03-959590	موظف	مروان زيبان	30
	71-883113	موظف	طارق بركات	31
		حارس البلدية	أيمن البوعلم	32
				33
				34
				35
				36
				37
				38
				39
				40

Name	Company/Position	المؤسسة	الاسم
Youssef Zibyan			يوسف زيبان
Afif Zibyan			عفيف زيبان
Ayda Zibyan	Mazraat Al-Chouf Municipality	بلدية مزرعة الشوف	عايدا زيبان
Bechara Azam	Municipality member	عضو بلدية	بشارة عزام
Ayoub Bou Karoum	Employee	موظف	ايوب بو كروم
Ghassan Bou Karoum	Retired	متقاعد	غسان بو كروم
Mohamad Youssef Al-Beaini	Trading	تجارة	محمد يوسف البعيني
Ghandi Youssef Al-Beaini	Trading	تجارة	غاندي يوسف البعيني
Farouk Ahmad Zebyan	Retired	متقاعد	فاروق احمد زيبان
Jihad Ajab	Municipality Clerk	كاتب البلدية	جهاد عجب
Chafik Al-Beaini	Municipality member	عضو بلدية	شفيق البعيني
Youssef Bou Karoum			يوسف بو كروم
Haitham Abou Karoum	Municipality member/ Owner	عضو بلدية / ملاك	هيثم أبو كروم
Ali Zebyan	Farmer/ Owner	مزارع / ملاك	علي زيبان
Walid Bou Karoum	Mukhtar/ Owner	مختار البلدة / ملاك	وليد بو كروم
Nabil Al-Beaini	Retired	متقاعد	نبيل البعيني

Adnan Al-Beaini	Employee	موظف	عدنان البعيني
Marwan Al Beaini	Employee	موظف	مروان البعيني
Rajaa Al-Beaini	Employee	موظف	رجا البعيني
Shawki Al-Beaini	Owner	ملاك	شوقي البعيني
Saed Bou Karoum	Owner	ملاك	سعيد بو كروم
Afaf Bou Karoum	Owner	ملاك	عفاف بو كروم
Rajab Zibyan	Owner	ملاك	رجب ذبيان
Afif Zibyan	Inheritance	ميراث	عفيف ذبيان
Youssef Zibyan	Inheritance	ميراث	يوسف ذبيان
Marwan Zibyan	Owner	ملاك	مروان ذبيان
Tarek Bou Karoum	Owner	ملاك	طارق بو كروم
Elie Abou Rejaili	Dar Al-Handasah	دار الهندسة	إيلي أبو رجيلي



Consultation session underway in Mazraat El Chouf Municipality

25 April 2014.

Summary of issues raised at Mazraat El Shouf Session and Client Responses

Ali Zebyan	Response
The dam will not benefit the village since the project aims to improve Greater Beirut area only.	It is common practice to move water from rural areas with plentiful resources to urban areas that suffer shortages. Surrounding villages in Chouf and Jezzine will benefit from improved infrastructure such as sanitation and from the economic opportunities provided by future development. Also, a Benefit Sharing programme will be established to fund those projects in the surrounding villages.
The fertile land, which is the main source of income for farmers, will be destroyed by the construction of the dam.	Agricultural land will be compensated according to its value established under Lebanese Law and World Bank OP 4.12. For persons directly and significantly affected by the project, there will also be provision for the restoration of incomes or livelihoods. Where land acquisition is extensive, affects a person's means of livelihood, or requires the physical relocation of households, additional assistance will be made available.
Shawki Al Beani Landowner	Response
Lebanon is in need of dams and the people are willing to accept the project only if it benefits the area and its people (such as provide electricity to Jezzine)	Bisri Dam will include additional provision to generate hydropower to the national grid and a Benefit Sharing programme will be established to spread the benefits to the areas most affected.
Is still possible to change the project?	Yes. The objective of public consultation is to note the comments and concerns of the affected population and to take these views into account during project design, construction and execution.
Haitham Abou Karoun Municipality member/ Landowner	Response
The project opposes the government law which states that people should remain attached to their lands and properties.	The RAP stipulates that every reasonable effort is to be made to avoid or minimize the need for land acquisition and resettlement. Where they are unavoidable, the RAP lays out the policy and procedures to ensure persons subjected to adverse impacts are fairly compensated for all lost land and assets, and otherwise provided with other assistance to provide sufficient opportunity to at least restore their incomes and living standards.
The proposed dam project should stipulate benefits for the village of Mazraat Al-Chouf since the properties that are up for expropriation are mostly owned by the local community.	All surrounding villages in Chouf and Jezzine will benefit from improved infrastructure such as sanitation and from opportunities provided by future development. A Benefit Sharing programme will be established to fund those projects in the surrounding villages.
Walid Adib Bou Karoum Mukhtar/ Landowner	Response
There was no mention of a seawater desalination project given that we own a	Desalination was one of the considered alternatives. While it may be feasible, it has many disadvantages,

long stretch of coast on the Lebanese border.	such as requiring a heavy industrial plant located on the coast, the generation of large quantities of highly saline brine that will impair seawater quality, and a significant increase the cost of water to consumers.
The town of Mazraat Al-Chouf is supposed to benefit from water and electricity; and we insist on this.	Bisri Dam will include provision to generate hydropower and deliver it to the national grid.
The creation of the dam constitutes a great loss for agriculture since this is the best land we have in terms of agriculture + natural beauty + compensations are much lower than the value of the land.	Farmers will be compensated for the loss of their livelihoods, lands and assets according to Lebanese Law and RAP. While loss of agricultural employment will be unavoidable, new economic opportunities will result. Where land acquisition is extensive, affects a person's means of livelihood, or requires the physical relocation of households, additional assistance will be made available.
Shawki Al-Beaini Landowner	Response
The landowners' consent or lack thereof depends on the services supplied by the dam. If it will not supply electricity to the surrounding villages, what is the use of the dam? If it will not supply water to the people who need it, why should we build it?	Bisri Dam will provide both water and electricity. While this will not go directly to local consumers, it will free up resources currently dedicated to Greater Beirut for distribution to more rural communities.
Representatives of landowners from Mazraat Al-Chouf and Aamatour should be added to the Expropriation Commission to discuss fair remuneration for the land.	The Purpose of the Public Consultations is to convey PAPs concerns to the Project Proponent and to voice their ideas. Moreover, and as explained to public consultations audience the Expropriation Commission will include one independent observer to ensure that no-biased compensations will be decided.
Nabil Chahine Al-Beaini Landowner	Response
I object to constructing the dam at this particular site because the land that will be expropriated, especially the plain, has been our ancestral land for 400 years. Therefore, we ask that the dam be moved somewhere else.	All views will be considered by the project proponent and funding agencies.
Nabil Ali Qassem Zibyan	Response
Instead of serving Beirut, kindly supply services to Mazraat Al-Chouf and the neighboring villages to encourage people to stay and cultivate the land instead of migrating.	All surrounding villages in Chouf and Jezzine will benefit from improved infrastructure such as sanitation and from opportunities provided by future development. A Benefit Sharing programme will be established to fund those projects in the surrounding villages.
Saed Bou Karoum Landowner	Response
The dam should be moved from its current location to a site below Moukhtara – Ain Qeni which will provide the needed water supply to the neighboring villages and prevent	The proposed dam location has been studied from all standpoints including geology, seismology, water tightness, etc. The site below Moukhtara-Ain Qeni is very karstic, therefore water leakage at this site is expected to be very high.

expropriation of agricultural land.	
I own and operate a park during the summer and that it constitutes my livelihood.	For persons who are directly and significantly affected by the project, there is provision to at least restore, their incomes or livelihoods. Where land acquisition is extensive, affects a person's means of livelihood, or requires the physical relocation of households, additional assistance will be made available. Privately owned green areas without public access cannot be considered as a park.
Mohamad Al-Beaini Landowner	Response
While the city of Beirut is supplied with water for 3-4 hours per day, while our town, Mazraat Al-Chouf, is supplied with water for an approximate 3-4 hours, twice a week.	Water from Bisri Dam will help release currently oversubscribed resources for less fortunate areas. The benefit Sharing programme will also focus on community projects such as water and electricity supplies.
Create a special committee of landowners for Mazraat Al-Chouf and Aamatour given the proportion of landowners, in order to follow up on all details.	The Purpose of the Public Consultations is to convey PAPs concerns to the Project Proponent and to voice their ideas. Moreover, and as explained to public consultations audience the Expropriation Commission will include one independent observer to ensure that no-biased compensations will be decided.
Farouk Ahmad Zebyan Landowner	Response
I agree with everything that was mentioned in the explanation. I support the construction of the dam.	Your comments are noted with many thanks.
Marwan Zebyan Landowner	Response
What are the direct benefits for the town community?	All surrounding villages in Chouf and Jezzine will benefit from improved infrastructure such as sanitation and from opportunities provided by future development. A Benefit Sharing programme will be established to fund those projects in the surrounding villages.
Participation of the municipality in the valuing committee.	The composition of the various commissions and committees is laid down under Lebanese law. Local municipalities have a role in the special grievance Redress procedure formulated for this project at the behest of the World Bank. They will therefore play a major role in achieving the levels of compensation PAPs to which PAPs feel entitled.
Roads should be created to connect towns and reap economic benefit. We need water and electricity from the dam.	The need for new roads will be considered by the Master Plan for catchment development. Water from Bisri Dam will help release resources for less fortunate areas. The Benefit Sharing programme will focus on community projects such as water and electricity.
A percentage or amount should be supplied and added to the revenue of the municipality instead of using part of the town properties (e.g. telephone and electricity).	A Benefit Sharing Program will be created to spread the benefits of the project to local communities. Initially this will utilise the capital funds for the project, but later will continue through continued revenue from primary beneficiaries and other sources.

Where will the archeological monuments be transferred? Identify the location before proceeding with expropriation.	The directorate of Antiquities will be responsible for rescue archaeology and the project will fund all necessary activities to preserve heritage remains.
Establish the location to which fertile soil will be transferred and the beneficiaries.	The transfer of fertile soil to less-fertile areas is a proposal already included in the ESIA.
Propose a different location between the towns of Mazraat Al-Chouf, Aamatour and Moukhtara.	The proposed dam location has been studied from all standpoints including geology, seismology, water tightness, etc. The site below Moukhtara-Ain Qeni is very karstic; therefore water leakage at this site is expected to be very high.
Mazraat Al-Chouf Municipality	Response
The expropriated properties constitute the most productive land and the principal source of livelihood of many of the landowners. The compensation that we will receive for our land will not cover the deficiency that will occur after expropriation.	Farmers will be compensated for the loss of their livelihoods, lands and assets according to Lebanese Law and RAP. While loss of agricultural employment will be unavoidable, new economic opportunities will result. Where land acquisition is extensive, affects a person's means of livelihood, or requires the physical relocation of households, additional assistance will be made available.
The Bisri site is environmentally vital and is unique in the Chouf region.	The ESIA identifies a wide range of potential environmental and social impacts, and proposes measures to avoid, mitigate or manage each during design, construction and subsequent operation. Extensive environmental quality monitoring and reporting is proposed to ensure the adequacy of these measures.
The Bisri site is located on a seismic risk zone and the presence of a lake increases the threat in this concern.	Protection against seismic effects have been incorporated into dam design to the maximum it is possible. Dam Breach modelling and inundation analysis have been undertaken by the dam designer. This work includes an Emergency Action Plan.
The area is home to an archeological Roman city buried underground, some monuments of which are still visible above ground.	The DGA will execute an archaeological rescue plan in accordance with their responsibilities under Lebanese law.
The Mazraat Al-Chouf town will not benefit neither from the dam's water nor from the generation of electricity.	All surrounding villages in Chouf and Jezzine will benefit from improved infrastructure such as sanitation and from opportunities provided by future development. A Benefit Sharing programme will be established to fund those projects in the surrounding villages.
The water level elevation and expropriation of a 50 meter zone on the borders of the lake include hills that are significant for investment.	The ESIA Consultant has recommended the development of a Master Plan for the Development of the Bisri Lake Shoreline and Surrounding Areas.
Many towns people were born in this area; thus the area is of sentimental value to them.	The comment is noted.
It is worth mentioning that there are other sites that are not fit for agriculture where the project can be built, including, for example, the valley	The proposed dam location has been studied from all standpoints including geology, seismology, water tightness, etc. many other possible sites are very karstic; therefore water leakage at this site is

located between the towns of Aamatour and Al-Mazraat and the valley of Damour.	expected to be very high.
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Session 3: Bisri

26 April 2014

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"

إستشارات العامة - المكان: كنيّة ببيد بسري الزمان: ٢٠١٤/٤/٢٦

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مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"

إستشارات العامة - المكان: كيسة السيد بسري الزمان: ٢٠١٤ / ٤ / ٢٦

جدول الحضور

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	02/293450	مالك - بري الخلفين	ادب لويس صفيق	25
	03/369707	مستشفى عقارات برشيني	هنري الصافي	26
	03/800811	مالك - نبع عماد وركين	يوسف بطرس الصعل	27
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	07/800185	مالك - محاور - بجاني - حياطين	مارون سليمان كرم	34
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Name	Company / Position	المؤسسة	الاسم
Rafic Abou Atmeh	Mukhtar - Machmouchy	مختار بلدة مشموشي	رفيق أبو عتمة
Engineer Micheal Abou Atmeh	Engineering Consultant	مكتب استشارات هندسية	المهندس ميشال أبو عتمة
Jamil Jebran	Owner	مالك	جميل جبران
Emil Mourad	Binwati Municipality	بلدية بنواتي	أميل مراد
Toni Youssef Habib	Engineer	مهندس	طوني يوسف حبيب
Remond Gergy Bou Sleiman	Government Security Agent	امن الدولة	ريمون جرجي بو سليمان
Fady Gergy Bou Sleiman			فادي جرجي بو سليمان
Joseph Gergy Bou Sleiman	Ministry of Telecommunication	وزارة الاتصالات	جوزيف جرجي بو سليمان
Ghassan Gergy Bou Sleiman	Ogero	هيئة أوجيرو	غسان جرجي بو سليمان
Toni Gergy Bou Sleiman	Ministry of Telecommunication	وزارة الاتصالات	طوني جرجي بو سليمان
Maroun Houbaika	Mukhtar - Al-Midan	مختار الميدان	مارون حبيقة
Maroun Abou Samra Al-Khoury	Vice head of Municipality - Al-Midan	نائب رئيس البلدية - الميدان	مارون ابو سمرا الخوري
Shafic Boulos	Mukhtar Bisri	مختار بسري	شفيق بولس
Priest Peter Al-Khawand	Bisri Priest	خادم رعيا	الخوري بيتر الخوند
Chafic Eid	Mukhtar - Bisri	مختار خربة بسري	شفيق عيد
Engineer Marwan Amine	Ministry of Public Works	وزارة الاشغال العامة	المهندس مروان امين
Student Eid Khatar	Sagesse School	مدرسة الحكمة	التلميذ عيد خطار

Name	Company / Position	المؤسسة	الاسم
Jihad Khatar	Employee / Owner Kherbet Bisri	موظف - ملاك خربة بسري	جهاد خطار
Chaker Sinan	Owner - Al-Midan	ملاك بلدة الميدان	شاكور سنان
Marie Dominic Awad Farhat	Owner - Marj Bisri - Al-Midan	ملاك في مرج بسري - الميدان	ماري دومينيك عواد فرحات
Krazella Awad Chebat	Owner - Marj Bisri	ملاك في مرج بسري	كرازيليا عواد شباط
Nazira Awad Sabagha	Owner - Marj Bisri - Al-Midan	ملاك في مرج بسري - الميدان	نظيرة عواد صباغة
Jean Houbaika	Owner - Aamatour - Al-Midan	مالك - عماطور - الميدان	جان حبيقة
Youssef Chaker Sinan	Owner - Al Midan	مالك - الميدان	يوسف شاكور سنان
Louis Afif	Owned by Deir Al-Mukhales	ملك دير المخلص - بحنين	الاب لويس عفيف
Henry Al Sayegh	Investor - Deir Dhanin	مستثمر عقارات دير بحنين	هنري الصايغ
Youssef Boutros Al Ajeil	Owner - Aamatour and Bhanin	مالك في عماطور و بحنين	يوسف بطرس العجيل
Tanous Boutros Al Ajeil	Owner Aray	مالك في عاراي	طانوس بطرس العجيل
Wafaa Maarouf Saad	Owner - Marj Bisri	ملاك في مرج بسري	وفاء معروف سعد
Adel Salim Al Kadi	Owner - Marj Bisri	مالك في مرج بسري	عادل سليم القاضي
Antoine Wehbeh	Owner / Mukhtar	مالك ومختار	انطوان وهبة
Ghada Gerges Harb	Owner - Aamatour	ملاك - عماطور	غادة جرجس حرب
Elie Charbel Awad	Owner - Al-Midan	مالك - الميدان	إيلي شربل عواد
Maroun Sleiman Karam	Owner - Aamatou, Bkasin, AL-Ghabatiyeh	مالك عماطور - بكاسين - الغباطية	مارون سليمان كرم
Elias George Assaf	Owner - Bchary	مالك بشري	إلياس جورج عساف
Asaad Btaich			اسعد بطيش
George Nadim Abou Samra	Owner - Mazraat Al-Daher	مالك في مزرعة الضهر	جورج نديم ابو سمرا
Chadi Akel	Owner	مالك	شادي عقل
Lawyer Charbel Gerges Harfouch	Owner	مالك	المحامي شربل جرجس حرفوش
Remon Habib Abou Samra	Owner - Al-Harf	مالك - الحرف	ريمون حبيب ابو سمرا
Wissam Akel	Owner - Al Harf, Al-Midan	مالك (الحرف - الميدان)	وسام عقل
Najib Akel	Owner - Al Harf, Al-Midan	مالك (الحرف - الميدان)	نجيب عقل
Maroun Akel	Owner - Al Harf, Al-Midan	مالك (الحرف - الميدان)	مارون عقل



**Consultation session underway in Bisri Church Hall
26 April 2014.**

Summary of issues raised at Bisri Session and Client Responses

Sleiman Bou Seiman	Response
I am against the project especially that people live from this land and educated their children from it. I am vehemently opposed to the project.	The Purpose of the Public Consultations is to convey PAPs concerns to the Project Proponent and to voice their ideas. Your comment is noted.
George Nadim Abou Samra Landowner	Response
What were the feedbacks of other public consultations and is still the possibility to stop the project?	Opinion is variable. The Purpose of the Public Consultations is to convey PAPs concerns to the Project Proponent and to voice their ideas.
Charbel Harfouche Lawyer	Response
Building the dam is not considered to be fair for people living from this land (especially that many of the people living in the area are poor and overcame many wars thus need this land for survival).	For persons who are directly and significantly affected by the project, there is provision to at least restore, their incomes or livelihoods. Where land acquisition is extensive, affects a person's means of livelihood, or requires the physical relocation of households, additional assistance will be made available.
Create a company of shares as the best solution for fairness in compensation-creation of a joint-stock company, like Solidere, whereby landowners are given shares in the company capital and funding parties given shares based on their financial contributions. Fairness predicates the participation of landowners by holding company stock, collecting dividends and trading on the stock exchange.	This idea for a joint-stock company may have merit but encompasses a range of legal issues beyond the scope of the present ESIA and RAP. Your comment is noted and has been passed to the project proponent for further consideration.
Adel Salim Al Kadi	Response
Provide yearly compensation for all farmers in the affected area. Create an agenda for improving and enhancing the Jezzine/Chouf area instead of supplying Greater Beirut.	All surrounding villages in Chouf and Jezzine will benefit from improved infrastructure such as sanitation and from opportunities provided by future development. A Benefit Sharing programme will be established to fund those projects in the surrounding villages.
Create an organization to protect the dam and water quality.	The dam will be designed with a degree of earthquake projection and an Emergency Action Plan will be put in place. Water quality monitoring will be routine throughout dam operation will improve the quality of inflowing streams.
The study did not stipulate payment of annual compensation for developing the area around the dam The study did not stipulate the creation of a body to monitor the protection of the dam from pollution and preservation of fishery resources.	An Environmental and Social advisory panel will be appointed to provide independent review of, and guidance on, the treatment of environmental and social issues associated with planning, design, construction and operation of Bisri dam and reservoir from the date of their appointment to a period expected to be not less than 3 years into dam operation.

Jamil Jebran Landowner	Response
<p>I: Seismic Risk</p> <p>The planned dam is to be constructed over the Room fault line and an "earthquake of high magnitude" is expected. Certain historical literature and ancestral accounts passed down through generations tell of a strong earthquake that occurred in the mid-6th century (probably the year 556) which resulted in a massive collapse that blocked the riverbed and prevented the flow of water for fourteen months, thus creating the fertile, sedimentary Bisri plain irrigated by the river and the springs issuing from its banks.</p> <p>The villages of Mazraat Al-Mathaneh and Kherbet Bisri were built on the debris left by the aforementioned earthquake. Any flash flood that leads to the dam collapsing will have as a consequence the destruction of the greatest part of the two villages and may carry them away entirely.</p> <p>A flood occurred in the early seventies due to abundant, late rainfall. It caused considerable destruction on the outskirts of Mazraat Al-Mathaneh and mudslides that buried Al-Awali power plant (Boulos Arqash plant).</p> <p>The dangers created by the collapse of the dam due to an earthquake are not limited to the volume of water rushing down suddenly. One must consider the soil, rocks and trees that will be carried by the sudden onslaught, which will raise the water level even further. The riverbed would be too narrow to hold it all in and the banks would collapse. This increases the risk that the villages of Kherbet Bisri and Mazraat Al-Mathaneh will be carried away, given that, as we mentioned earlier, they stand on the debris left by the earthquake in ancient times, and will surely destroy the two power plants located along the riverbed, downstream from the dam.</p> <p>The explanations offered by the engineer responsible for designing the dam and its earthquake resistance were somewhat reassuring. Early warning and population evacuation plans in the event of a collapse, however, were vague. Indeed, the Lebanese State lacks an adequately equipped service or facility to handle natural disaster management. Moreover, the measures established in the study for the maintenance of the dam were merely theoretical.</p>	<p>Protection against seismic effects have been incorporated into dam design to the maximum it is possible. Dam Breach modelling and inundation analysis have been undertaken by the dam designer. This work includes an Emergency Action Plan. The detailed design of the dam has been reviewed by an international panel of experts on dam safety that has examined the issue of seismic risk in detail.</p>
<p>II: Archeological Monuments</p> <p>There are visible archeological monuments along the banks of the river, from its source to Moltaka Al-Nahrayn, including: the Eshmun Temple; Abu Al-Hisn Fort (probably a remnant from the Crusades) located on a hill in the riverbed, and a stone bridge standing nearby, opposite Deir Al-Mukhales; a historical mill in the village of Kherbet Bisri, which was recently classified by virtue of a decree; the Church of Our Lady of Bisri; the Mar Moussa Church; the convent of St. Sofia; an old Roman temple and historical bridge at Moltaka Al-Nahrayn.</p> <p>The area, from the village of Kherbet Bisri to Moltaka Al-Nahrayn, is certainly the site of buried archeological monuments because the Bisri plain was densely populated before and after the earthquake of old. This is evidenced by the visible vestiges of religious monuments (the temple at Moltaka Al-Nahrayn) and is further</p>	<p>The DGA will execute and archaeological rescue plan in accordance with their responsibilities under Lebanese law.</p> <p>Heritage preservation, as distinct from archaeological rescue, will be implemented to relocate Mar Moussa Church, St. Sophia's Monastery and similar structures throughout the valley.</p>

<p>corroborated by the tales of senior members of the community who say that people from the coast would come to the temple in horse-drawn carriages by way of a path adjacent to the riverbed.</p>	
<p>III: Expropriation</p> <p>Expropriation is, of course, subject to the law. Nevertheless, some comments are necessary on the conducted study that will constitute the actual basis for the expropriation decree.</p> <ul style="list-style-type: none"> • Valuation of the land based on its distance from or proximity to the river is not sufficient to establish its value. The type of land (flat or steep), type of soil (fertile sedimentary, sandy or rocky), whether the land is irrigated or not, and the type of crops actually cultivated on it are all factors that should be taken into account to determine its value. Therefore, the stipulated prices are far below the real value of a flat, sedimentary, fertile, irrigated, cultivated citrus orchard. Furthermore, the prices stipulated for equipment are lower than their actual cost. • Compensation is due to resident and non-resident landowners and covers the land, tenancy, built structures, trees, crops, etc. However, if there is proof of sharecropping, investment or similar contracts, the content of such contracts should be examined to apportion compensation accordingly. • Compensation should be made in cash exclusive of any other previous payment mode (payment in treasury bonds). The study does not state whether the money for compensating expropriation is available or not. This is a cause for concern among rightful beneficiaries, especially given that it has been years since a budget was ratified in Lebanon. • No matter how fair the compensation, forcibly taking a property by expropriation, in particular lands which are mostly inherited, involves not only considerations of material gain but sentimental value that should be taken into account. <p>Allowing landowners to uproot or cut down trees, uninstall equipment and perhaps transferring soil, all within a certain period (e.g. 6 months) from the date on which the Expropriation Commission's decision is issued, may alleviate the sentimental damage.</p>	<p>The compensation rates provided are indicative based on existing market prices and the actual levels of compensation will be determined by the Expropriation Commission on the basis of land and asset inspections and evaluations.</p> <p>One of the key tasks of the Commission is to examine all claims relating to contracts, agreements, bills and other documents. Share cropping agreements will certainly be accepted for consideration.</p> <p>The ESIA has identified the presence of archaeological remains and cultural heritage and there will be a programme of rescue archaeology and heritage relocation prior to filling the reservoir in order to preserve their cultural heritage and any other meaningful asset to the local people memory.</p> <p>Landowners will be allowed to remove whatever assets they wish to retain, including plants and soil without affecting compensation payments.</p>

<p>IV: Post-Construction</p> <p>In addition to seismic risk, climate and overall environmental changes will have a considerable impact, least of all the rise in humidity, insects and diseases resulting from stagnant water and the discharge of wastewater, especially given that the towns and villages along the riverbanks lack sewage networks and treatment plants.</p>	<p>The ESIA identifies a wide range of potential environmental and social impacts, and proposes measures to avoid mitigate or manage each during both the period of construction and</p>
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<p>Growing tourism due to the dam and lake will create tremendous human, health, pollution, noise and other pressures on an environment that used to be rural, quiet and wholesome. The environment will lose its characteristics and will change forever.</p> <p>We are not entirely confident that the various State services (Directorate-General of Urban Planning and other such) will take measures to ensure proper management of the land surrounding the dam and lake. We would prefer for the Council for Development and Reconstruction to contact the competent administrations to develop as of the present a comprehensive management plan that would enter into effect upon the issuance of the expropriation decree or, at least, before the land take decision. The same applies for studies on the flow of water downstream from the dam, allocation of water for land irrigation, forestation and other plans on distributing the benefits of the project. These should be ready and disseminated to the community by land take. A sole management should be created for the dam, lake and basin as a whole. Local committees should take part in this management. Dividing responsibilities among State administrations, especially under the current situation, will result in no accountability, failure to implement the set plans, neglect of maintenance and undermining the natural, environmental and community resources, and perhaps the collapse of the dam, even without the contribution of an earthquake.</p>	<p>subsequent operations. Extensive environmental quality monitoring and reporting is proposed to ensure the adequacy of these measures.</p> <p>The ESIA Consultant has recommended the development of a Master Plan for the Development of the Bisri Lake Shoreline and Surrounding Areas.</p>
<p>Maroun Hobeika Mukhtar</p>	<p>Response</p>
<p>Will there be compensation for the sand quarries?</p>	<p>Yes. Compensation for those plots to be expropriated will include consideration of any and all commercial activities undertaken.</p>
<p>The town of Al-Midan (Jezzine Caza) lacks a sewer network. A study was previously conducted by the Ministry of Energy and Water, but has not been implemented yet.</p> <p>There are sewer projects in several towns and area, but no treatment plants; mostly, sewage is discharged into the Bisri River.</p>	<p>In order to protect water quality in Bisri reservoir it is intended to fast-track the installation of sewerage and sewage treatment across all villages within the catchment.</p>
<p>A public road project connecting Al-Midan to the town of Bisri has been studied and planned, and a Presidential decree issued in its regard. The road is 6 kilometers long and its established width is 12 meters. The road is highly vital; it connects Jezzine and the upper South to Marj Bisri. The project should be carried out to connect and facilitate access from and to Marj Bisri through Deir Al-Mukhales, Joun and the coastal highway to the capital city of Beirut. The road will not be blocked by snow during the winter. It facilitates summer and winter travel to the coastal highway and is shorter than</p>	<p>The needs for new roads will be a major element of the proposed Master Plan for the development of the upper catchment area.</p>

the Room – Saida road and the Beirut main road by 30 kilometers.	
George Nadim Abou Samra Landowner – Mazraat Al-Daher	Response
The project is inequitable; a different location should be sought for the project.	The objective of public consultation is to note the comments and concerns of the affected population and to take these views into account.
Marie Dominique Awad Farhat Landowner – Marj Bisri – Al-Midan	Response
We request that compensation per square meter be reconsidered because it is very low.	The compensation rates provided are indicative based on existing market prices and the actual levels of compensation will be determined by the Expropriation Commission on the basis of land and asset inspections and evaluations.
We request that the dam be kept clean, i.e. that dedicated infrastructure be created in neighboring towns. We also request that the surrounding area be well maintained in terms of planting fruit and natural tree cover.	BMLWE shall maintain the dam the reservoir shoreline and operational monitoring.
Is it possible to build ponds instead of a dam since it will be constructed on an earthquake prone site?	A series of ponds would not offer the storage potential of a dam and hence fail to satisfy the demand for water that has to be served.
Shafic Boulos Mushtar, Bisri	Response
Deteriorating water quality and sewerage	Sewerage schemes will be executed in all villages discharging into the Bisri valley. Monitoring of water quality will be undertaken throughout dam operation.
Lack of oxygen	Dam design provides for multi-level releases to allow for deeper water to be circulated and oxygen levels maintained.
Discharge of mineral water; manganese, iron, sulphur, arsenic, phosphorus, ammonia, etc.	It is assumed the questioner refers to the potential for water pollution. Water pollution studies have previously been undertaken and water quality monitoring will extend throughout the period of dam operation. Current water quality is such that it can be rendered suitable for public consumption with conventional treatment, i.e. without special treatment.
Testing showed traces of organophosphate pesticides – Lindane and Dieldrin – the use of which is internationally prohibited	The project will fund a programme administered by MOE to monitor water quality and find and curtail any remaining sources of any potentially polluting substances.
Rise in diseases and multiplication of mosquitoes	The proliferation of mosquitoes is a potential threat to any standing water body. Mitigation is primarily achieved through efficient design that does not allow high water levels to overtop reservoir sides, and yet permits efficient shoreline drainage, both aimed at reducing mosquitos breeding sites. Bankside vegetation will be managed.
Odors and impact on the environment	Odour currently arises in the vicinity of sewage discharge into the river from surrounding villages.

	CDR's proposals for fast-tracking the execution of sewerage schemes in all catchment villages will prevent this type of odour in the future.
Salinity downstream from the dam will rise and negatively impact agriculture and the population – insects will increase	Compensatory discharges from the dam will be sufficient to maintain existing irrigation efficiency and prevailing ecological conditions.
Rise in seismic risk; what will happen to the community living downstream from 125 million cubic meters of water? What measures will be taken to reduce these risks?	Dam Safety Plans have been formulated based on Dam Breach modelling and inundation analysis undertaken by the dam designer. The dam breach report includes an Emergency Action Plan with details of implementation.
Document prepared by Lawyer at the end of the Session and signed on behalf of 25 landowners	Response
We propose that a law on the construction of the Bisri dam be issued via a joint-stock company whereby landowners obtain their compensations and entitlements based on shares in the proposed company, allowing them to collect dividends and trade the stock exchange to protect their rights and as fair distribution of entitlements resulting from the project.	This idea for a joint-stock company may have merit but encompasses a range of legal issues beyond the scope of the present ESIA and RAP. Your comment is noted and has been passed to the project proponent for further consideration.
Prevent traditional expropriation methods based on the applicable law for a vast area of 520 hectares in which the State does not own any public or state-owned land.	Land expropriation will be undertaken in accordance with Lebanese law modified as appropriate by the provisions of World Bank OP 4.12, as defined and discussed in the RAP. Some 50 ha of the land to be taken by the project is already <i>domaine publique</i> .
The community welcomes the project on this fair basis and based on sharing project profits with landowners, the community and future generations, given that the area has been underserved since before independence. One should take into account the chronic state of deprivation and the need to revive the area but not at the expense of the local community by giving them the lowest compensations possible through the traditional approach; rather, the community should be allowed to share in the considerable profits that the State and the administration stand to make off of their land which is proposed for expropriation in exchange for minimal return.	<p>Compensation to landowners will be undertaken according to Lebanese Law and the provisions of World Bank Operating policy OP 4.12, both of which are described in the RAP, which when approved will be disclosed publically.</p> <p>The compensation rates provided are indicative based on existing market prices and the actual levels of compensation will be determined by the Expropriation Commission on the basis of land and asset inspections and evaluations.</p> <p>All surrounding villages in Chouf and Jezzine will benefit from improved infrastructure such as sanitation and from opportunities provided by future development. A Benefit Sharing programme will be established to fund those projects in the surrounding villages.</p>
The Jezzine community, particularly the landowners here present, wishes success to the endeavor to create the Bisri dam construction company by virtue of a law that stipulates the establishment of such a company, without full objection to the currently proposed mechanism.	This idea for a company may have merit but encompasses a range of legal issues beyond the scope of the present ESIA and RAP. Your comment is noted and has been passed to the project proponent for further consideration.
Shafiq Eid	Response

Mukhtar, Kherbet Bisri	
<p>The appended map does not allow us to identify in detail the expropriations and projects downstream from the dam where our village is located. We ask to be provided with a detailed map showing the number of each property affected by expropriation.</p>	<p>Larger scale maps on which it is possible to identify individual plots and their numbers were displayed at the public consultation sessions. Copies of these maps for public reference have been given to the municipalities where consultation sessions were held. The expropriation map is also available at CDR website: www.cdr.gov.lb</p>
<p>On the outskirts of our village, or perhaps within the scope or in the vicinity of expropriations, is located a historical mill that was recently classified as an archeological site (please find attached a copy of the classification decree). No reference was made in this regard in the executive summary. Please clarify.</p>	<p>The ESIA/RAP Consultant has reported the presence of the mill to the consultant preparing the Expropriation File. So far as we are aware the transmission pipeline corridor is some 50 m from the mill. In any case, all lands and assets will be inspected prior to the deliberations of the Expropriation Commission.</p>
<p>Valuation of land based on its proximity to the river is not a reasonable or scientific method for establishing land price. The type of soil, the type of land, whether irrigated or not, etc. should constitute the criteria adopted in determining the sum paid for expropriation. In any case, the price of irrigated land cannot be equivalent to the price of non-irrigated land.</p>	<p>The rates given are indicative based market prices for the purpose of estimating RAP budgets. It will be the responsibility of the Expropriation Commission to set the fair and appropriate values of land based on site inspection.</p>

<p>It is well known that the site where the Bisri dam will be built is a high-seismic-risk zone. The construction of the dam will increase the risk multifold. The executive summary merely confirmed the rise in seismic risk – which is expected – and its great potential magnitude, and simply mentioned general guidelines on protection against the consequences of earthquakes which will inevitably worsen if the dam were to collapse as a result. This threatens the very existence of our village and may lead to the village being destroyed and carried away, for the precise reason that it is built on the debris left by past earthquakes which are said to have occurred in the mid-6th century.</p> <p>Therefore, we should be informed of the practical measures that you will take to prevent the collapse of the dam in the event of an earthquake and the population safety, prevention and rescue procedures in case the dam collapses. At present and for the foreseeable future, the State does not have any qualified service or staff for rapid intervention in the event of natural disasters.</p> <p>Whatever the adopted methods and established plans, we will have, after the dam is constructed, to live in our village in constant fear and concern about the occurrence of a disaster that is prone to wipe out our village and, perhaps, its residents, too.</p>	<p>Dam Safety Plans have been formulated based on Dam Breach modelling and inundation analysis undertaken by the dam designer. The dam breach report includes an Emergency Action Plan with details of implementation.</p>
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Session 4: Mazraat El Dahr

26 April 2014

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"

إستشارات العامة - المكان: بلدية مزروع الدار الزمان: ٢٠١٤ / ٤ / ٢٦

جدول الحضور

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	70/270140		ص. ص. ص.	3
	03/301634		ش. ص. ص.	4
	03/297858		ش. ص. ص.	5
	03/140699		ش. ص. ص.	6
	03/998836		ش. ص. ص.	7
	03/500949		ش. ص. ص.	8
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				11
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Name	Company / Position	المؤسسة	الاسم
Elias Al-Haddad	Dar Al-Handasah Taleb	دار الهندسة طالب	الياس الحداد
Chahine Naim Eid	Vice Head of Municipality	نائب رئيس البلدية	شاهين نعيم عيد
Safi Eid			صافي عيد
Asaad Wadia Eid			اسعد وديع عيد
Fadi Eid			فادي عيد
Charbel Eid			شربل عيد
Chadi Eid			شادي عيد
Chadi Isam Eid			شادي عصام عيد
Hasib Eid	Head of Municipality – Mazraat Al-Daher	رئيس البلدية – مزرعة الضهر	حسيب عيد



**Consultation session underway in Mazraat El Dahr Municipality
26 April 2014.**

Summary of issues raised at Mazra'at El Dahr Session and Client Responses

Chahine Naim Eid Vice Head of Municipality	Response
Wonders whether there is enough time to invest in snail farming before the Expropriation Decree.	The Project Proponent formally adopts a project cut-off date after which persons settling in the project area or initiating improvements to property may not be considered eligible for compensation or other assistance. For Bisri, the cut-off date is 20 March 2014.
The Bisri dam project should not only supply Greater Beirut with water but also Bisri.	All surrounding villages in Chouf and Jezzine will benefit from improved infrastructure such as sanitation and from the economic opportunities provided by future development. Also, a Benefit Sharing programme will be established to fund those projects in the surrounding villages.
A modern economic feasibility study undertaken for the construction of a farm on the land located within the scope of the project reveals an annual income of USD 4,500-5,000 for 1000 sqm of land, i.e. a minimum USD 45,000-50,000 in income per year for 10,000 sqm. We will begin construction within a month of the present date. Therefore, we find that the compensation schedule is unfair and should be reconsidered to set the prices based on the productive value of the land, which has always constituted the livelihood of the community of Mazraat Al-Dahr. I hereby propose that the project be reexamined to take into account the value of the agricultural land which, no matter how high the compensation and no matter its value, will remain, as the heritage of our ancestors, priceless, because it was the reason why they resisted in the face of adversity and was the source of their livelihood throughout their lives. We will today be economically and morally affected and no amount of money can compensate for the land that we love and which we have farmed and cultivated.	The rates given are indicative based on the existing market prices for the purpose of estimating RAP budgets. It will be the responsibility of the Expropriation Commission to set the fair and appropriate values of land based on site inspection.
We support the irrigation project, but hope that it does not end up depriving our children of an indispensable and irreplaceable natural resource.	Compensation will be undertaken according to Lebanese Law and the provisions of World Bank Operating policy OP 4.12, both of which are described in the RAP, which when approved will be disclosed publically.

Asaad Nadia Eid	Response
Some people are wondering whether compensation will apply for Bisri citizens.	Those losing land or other assets, or whose livelihood is affected by the project will be eligible for compensation as identified in the RAP. Compensation will be undertaken according to Lebanese Law and the provisions of World Bank Operating policy OP 4.12, both of which are described in the RAP, which when approved will be disclosed publically.
Suggest employing locals in operating the future dam.	Construction contractors are encouraged to prioritise the employment of those residing within the project area.
Hasib Eid Head, Municipality–Mazraat Al-Daheer	Response
It is important to make sure the relocation of the church will involve Mazraat el Dahr citizens. People along with the municipality should have their say in moving the church.	The relocation of Mar Moussa Church has been discussed with the Diocese of Saida which in turn has discussed the issue with the municipality. The relocation was also discussed during public consultation in the Municipality, whereby the 4 proposed locations have been discussed and the best option recommended based on a multi-criteria analysis.
Asaad Wadia Eid	Response
I am currently conducting a study for an agricultural and farming project on the property that I own in Sabil Bisri, which will be implemented in June 2014. Is the date set in the study, 20 March 2014, a dividing point between the currently expected compensation and the amount I will incur in the future – which will amount to a considerable difference?	20 March 2014 is the cut-off date currently established by CDR after which persons settling in the project area or initiating improvements to property may not be considered eligible for compensation or other assistance. It is possible this date will change, but at the present time this cannot be confirmed.
What is the benefit to the town of Mazraat Al-Daheer in terms of irrigation, electricity or other such...?	While surrounding towns and villages will not receive water or electricity directly from the dam, they will benefit from improved infrastructure such as sanitation and from the economic opportunities provided by future development. Also, a Benefit Sharing programme will be established to fund projects such as renewable energy and community facilities throughout surrounding villages.

PowerPoint Presentation

dar al-handasa
مشروع زيادة تغذية منطقة بيروت الكبرى بالمياه
دراسة تقييم الأثر البيئي والاجتماعي
وحطة إعادة الإسكان

مشروع زيادة تغذية منطقة بيروت الكبرى بالمياه
دراسة تقييم الأثر البيئي والاجتماعي
وحطة إعادة الإسكان

Greater Beirut Water Supply Augmentation Project
Environmental and Social Impact Assessment (ESIA)
and Resettlement Action Plan (RAP)

dar al-handasa
مشروع زيادة تغذية منطقة بيروت الكبرى بالمياه
دراسة تقييم الأثر البيئي والاجتماعي

المقدمون

سيقوم كلٌ من السيدة روى درباس والسيد إيلي أبو رجيلي بدور المقدمين الرئيسيين لهذه الندوة.

كما حضر للاجاية عن أسنلتكم:
الدكتور سهيل سرور - الذي سيقوم بدور رئيس الجلسة
الدكتور جون دايفي - قائد فريق تقييم الأثر البيئي والاجتماعي

السيد عاصم فيداوي - مدير مشروع زيادة تغذية منطقة بيروت الكبرى بالمياه لدى مجلس الإنماء والإعمار.

dar al-handasa
مشروع زيادة تغذية منطقة بيروت الكبرى بالمياه
دراسة تقييم الأثر البيئي والاجتماعي

أهداف الندوة

أهداف الندوة اليوم هي:

- عرض ملخص عن المستجدات الأخيرة للمشروع.
- عرض ملخص عن نتائج تقييم الأثر البيئي والاجتماعي للمشروع وفقاً للمرسوم رقم ٨٦٣٣ الصادر من وزارة البيئة (أب ٢٠١٢)، وقانون البيئة رقم ٤٤٤.
- عرض ملخص عن العقارات الخاضعة للإستملاك وشرح عملية دفع التعويضات للأشخاص المعنيين.
- الحصول على تعليقاتكم وآرائكم بشأن المشروع، وتسجيل اقتراحاتكم لأخذها بعين الاعتبار في المراحل النهائية للدراسة.

dar al-handasa
مشروع زيادة تغذية منطقة بيروت الكبرى بالمياه
دراسة تقييم الأثر البيئي والاجتماعي

المعاين

Outline

نتائج تقييم الأثر البيئي والاجتماعي

- الرجوع المبلي لادانات الدوا
- معالجة مشكلة تجمد الدوا على المدى القصير والفرط
- معالجة مشكلة تجمد الدوا على المدى البعيد
- مراحل المشروع
- موقع المشروع
- مبنى
- الإستخدام الحالي للأراضي
- إجراءات حضانة
- التدابير والتراسات التخسيسية
- الآثار السلبية والإجراءات للتخفيف منها
- تسديد فوات المشروع
- ممتلكات مراهقة القوة البيئية
- استشارات المانة
- خطة إعادة الإسكان
- المدح الإجتماعي الاقتصادي
- منح العقارات والهدايا المكننة
- قوة التعويضات ومستحقها
- قوة الإستشفاء وإعادة الإسكان
- المراميل الدوية
- موتور التعويضات الدوية
- إعداد المراسم الأخرية

dar al-handasa
مشروع زيادة تغذية منطقة بيروت الكبرى بالمياه
دراسة تقييم الأثر البيئي والاجتماعي

الوضع الحالي لامدادات المياه

Present Water Supply Situation

يعاني لبنان من نقص في كمية المياه المتوفرة سنوياً لتلبية احتياجات المواطنين.

- قدر عدد سكان بيروت الكبرى وجبل لبنان في العام ٢٠١٠ بـ ١,٩ مليون ومن المتوقع ان يصل العدد الى ٢,٣ مليون بحلول العام ٢٠٣٥.
- حالياً يتلقى سكان بيروت الكبرى المياه من جعبتين عبر محطات المعالجة في ضبية، وآبار الدامور، وعدة مصادر ثانوية.
- ولكن الإمدادات غير كافية بحيث تتلقى بعض الاسر المياه لأقل من ٣ ساعات يومياً خلال فصل الصيف في منطقة بيروت الكبرى.
- لذلك يلجأ العديد من الأسر الى مصادر بديلة:

(أ) الأبار الإرتوازية والتي أصبحت تستخدم بشكل مفرط وغالباً ما تكون غير قانونية وذات جودة مترتبة
(ب) شراء المياه المنقولة بالههاريج العائدة للقطاع الخاص، منها ما هو غير صالح للشرب
(ج) مياه الشرب المعينة ذات الكلفة العالية ومنها ما لا تحظى بتراخيص من وزارة الصحة

٢٠١١	٢٠٢٥	٢٠٣٥
205	155	195

العجز المالي الواجب تغطيته (مليون م^٣)

المصدر: بموازنة مياه الشفة التي أحصتها وزارة الطاقة والمياه لمنطقة بيروت الكبرى لفترة المدة بين ٢٠١١ و٢٠٣٥

dar al-handasa
مشروع زيادة تغذية منطقة بيروت الكبرى بالمياه
دراسة تقييم الأثر البيئي والاجتماعي

معالجة مشكلة شح المياه على المدى البعيد

Addressing Water Stress (long-term)

لمعالجة مشكلة شح المياه على المدى البعيد، أوكل الى مجلس الإنماء والإعمار وبالتعاون مع وزارة الطاقة والمياه ومؤسسة مياه بيروت وجبل لبنان، مشروع: "زيادة تغذية منطقة بيروت الكبرى بالمياه" GBWSAP.

أهداف المشروع هي:

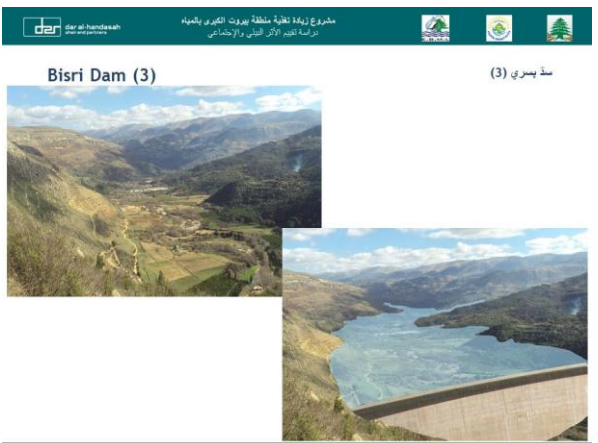
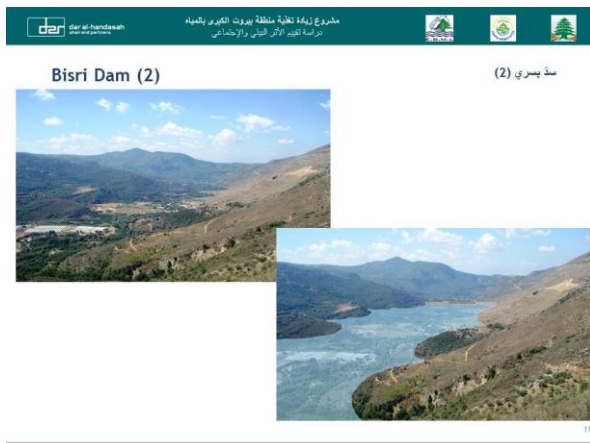
- توفير المياه على المدى البعيد لمنطقة بيروت الكبرى.
- أن يكون الحل مقبولاً بيئياً واجتماعياً، وممكناً تقنياً وذات جدوى اقتصادياً.

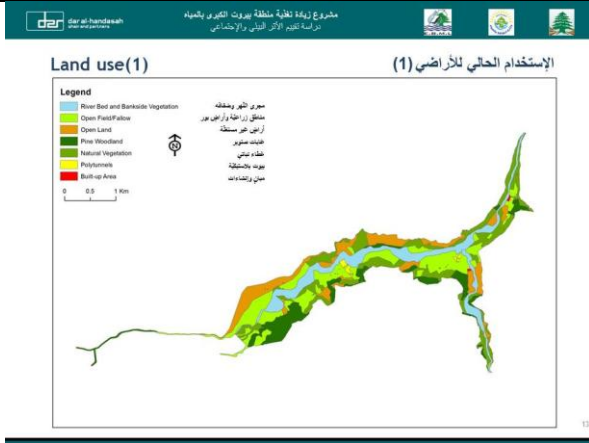


Bisri Dam (1)

سد بسري (1)

- ارتفاع السد: ٧٣ متراً
- الحد الأقصى لحجم التشغيل الطبيعي: ١٢٥ مليون م³
- مساحة البحيرة والسد: ٤٣٤ هكتاراً
- المساحة الخاضعة للإستصلاح بما تتضمن خطوط الجز: ٥٧٠ هكتاراً
- أقرب قرية هي على بعد ٥٠٠ متراً من البحيرة
- المقيمون الدائمون هم بالإجمال عمال موسميون
- وجود عدد قليل من المنازل
- لا توجد طرق معبدة تربط القرى مباشرة بمنطقة البحيرة ولا وجود لبني تحتية رئيسية أخرى
- لا توجد أنشطة صناعية أو غير زراعية





dar al-handasah
dar al-handasah
dar al-handasah

مشروع زيادة تغذية منطقة بيروت الكبرى بالمياه
دراسة تقييم الأثر البيئي والاجتماعي

Special Considerations اعتبارات خاصة

ان أي دراسة هندسية للسدود، عليها الأخذ بعين الإعتبار المعطيات الأساسية لأرض الموقع والتي تتلخص بالتالي:

- ☐ الهزّات والزلازل: وقد أخذت بعين الإعتبار في التصاميم الهندسية
- ☐ جودة المياه السطحية
- ☐ تدفّقات المياه في مجرى النهر أسفل السدّ
- ☐ الإرث التاريخي والتّقافي
- ☐ التّنوع النباتي والحيواني
- ☐ تحضير الأراضي
- ☐ التّمور المستحثّ جرّاء بناء السدّ

16

dar al-handasah
dar al-handasah
dar al-handasah

مشروع زيادة تغذية منطقة بيروت الكبرى بالمياه
دراسة تقييم الأثر البيئي والاجتماعي

Special Considerations Water Quality اعتبارات خاصة جودة المياه السطحية

تمّ أخذ عينات على طول نهر بسري وبحيرة جون وأماكن مختلفة على مدار أكثر من ١٨ شهراً.

وقد تمّت دراسة نتائج هذه العينات المكثفة من قبل جهة مستقلة من قبل خبراء دوليين، أكد الخبراء من إمكانية معالجة المياه وفقاً للمعايير اللبنانية والتولية لمياه الشرب في محطة الوردانية لمعالجة المياه.

وتشمل هذه المحطة التّعديلات التقليدية اللازمة لمعالجة المياه.

وتشمل خطة الإدارة البيئية والاجتماعية رصد دوري لنوعية المياه في البحيرة.

على أن يقوم مجلس الإنماء والإعمار بإعداد مخطط توجيهي يعنى بإدارة المياه المبتدئة للقرى الواقعة في الحوض الأعلى.

17

dar al-handasah
dar al-handasah
dar al-handasah

مشروع زيادة تغذية منطقة بيروت الكبرى بالمياه
دراسة تقييم الأثر البيئي والاجتماعي

Special Considerations Downstream Abstractions اعتبارات خاصة تدفّقات المياه أسفل السدّ

سوف تؤمّن تدفّقات المياه من البحيرة الى منطقة أسفل السدّ التالي:

- ☐ توفير المياه اللازمة للاستخدامات المطلوبة أسفل السدّ (كالتري بالدرجة الأولى، بالإضافة الى إستعمالات اخرى).
- ☐ الحفاظ على التّنوع البيولوجي والموائل الطبيعية. وقد تمّ تصميم السدّ للسماح لمتطلبات التّدقّ البيئي وفقاً للممارسات الفضلى للمعايير الدولية.
- ☐ وقد تمّ إدراج هذه التدفّقات البيئية في إجراءات تشغيل السدّ.

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Special Considerations
Historical & Cultural Heritage(1)

اعتبارات خاصة
الإرث التاريخي والثقافي (1)

Legend
Expropriation limit
Dem. line
Site of Archaeological Interest

Special Considerations
Historical & Cultural Heritage(2)

اعتبارات خاصة
الإرث التاريخي والثقافي (2)

جسر حجري أري
أعمدة رومانية
دير القديسة صوفيا
كنيسة مار موسى

Special Considerations
Ecological Diversity

اعتبارات خاصة
التنوع النباتي والحيواني

أشجار حمضيات
زهرة الشحيطية
تجان المياه
شعوط الشرق الأوسط الأخضر (Carp)

أشجار حرجية
سالاريا المياه العذبة (Blenny)
فصير الحجاب

ESIA and RAP Specialist
Surveys

دراسات الأخصائيين

تم القيام بعدد من المشاورات والدراسات مع الأخصائيين خلال تحضير تقييم الأثر البيئي والاجتماعي وخطة إعادة الإسكان:

- مسح ميداني عام
- مسح ميداني يعنى بالموارد المادية والثقافية ← لقد تمت عمليات تفتيش في الموقع وعُقدت إستشارات مع المديرية العامة للأثار.
- مسح إيكولوجي تمهيدي ومفصل
- مسح اجتماعي أول ونهائي
- إستشارات مع أبرشية صيدا فيما يختص بكنيسة مار موسى

Potential Impacts & Mitigation Measures (1)

الأثار المحتملة وإجراءات التخفيف منها (١)

أهم الأثار المحتملة الناتجة عن المشروع والإجراءات المقترحة للتخفيف منها هي التالية:

المسألة	الأثار المحتمل	الإجراءات المقترحة للتخفيف من الأثار
إستصلاح العقارات	الأرض لبناء السد والبحيرة وطرق الوصول	التعويض عن إستصلاح الأراضي تبعاً للقوانين اللبنانية وخطة إعادة الإسكان
	الأراضي المنتجة	نقل الأثار وحفظها في مواقع أخرى
الترسيمات	خسارة في السعة التخزينية	مراقبة ارتفاع الترسبات والحفاظ على صيانة سليمة للبحيرة
	خطر الزلازل	تم تصميم السد وفقاً للمعايير المطلوبة لمواجهة خطر الزلازل. كما تم التدقيق بالتصاميم الهندسية من قبل خبراء عالميين واللجنة التي تعنى بسلامة السد.
تجميع المياه	تردي جودة المياه	تأمين محطة لمعالجة المياه الوافدة إلى منخلة بيروت الكبرى

Potential Impacts & Mitigation Measures (2)

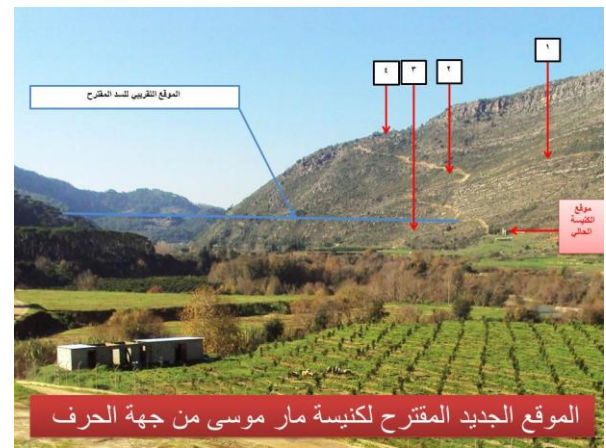
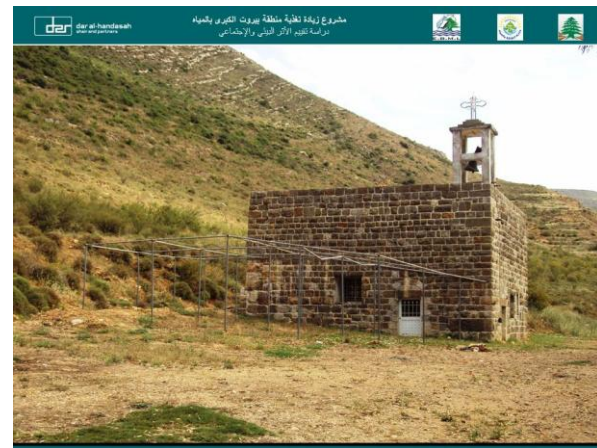
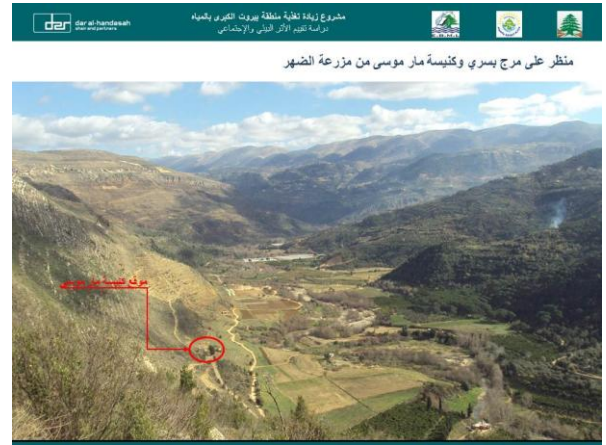
الأثار وإجراءات التخفيف منها (٢)

المسألة	الأثار المحتمل	إجراءات تخفيف الأثار
الزراعة	خسارة التربة الخصبة	نقل التربة الخصبة من موقع المشروع إلى أراضٍ مجاورة أقل خصوبة
	أصعاب الري في أسفل السد	لقد تم تصميم السد لتأمين احتياجات المزارعين من مياه الري بالإضافة إلى كافة الإستخدامات أسفل السد
التنوع الحيوي والموائل الطبيعية	تضاؤل الموائل المائية	تأمين المدرجات للأسماك وغيرها من السمات وحماية أماكن وضع البيض.

مشروع زيادة كفاءة منطقة بيروت الكبرى بالمياه
دراسة تقييم الأثر البيئي والاجتماعي

الآثار وإجراءات التخفيف منها (٣)

المسألة	الآثار المحتملة	إجراءات تخفيف الآثار
إدارة الحوض المائي العلوي	تلوث البحيرة والبناء العشوائي جزء النمو المستحث	التنسيق مع وزارة البيئة والأطراف المعنية لوضع مخطط توجيهي لضفاف البحيرة والمناطق المحاذية لها لتشمل إرشادات تتعلق بعملية البناء والنشاطات المسموحة حول البحيرة
	نشاطات ترفيهية وسياحية	وضع شبكات ومحطات لمعالجة الصرف الصحي في القرى المجاورة
	تردي جودة المياه بسبب تكدسات الصرف الصحي المنزلي، الصناعي، والزراعي في البحيرة	خطة مراقبة نوعية المياه إرشاد للمزارعين



مشروع زيادة كفاءة منطقة بيروت الكبرى بالمياه
دراسة تقييم الأثر البيئي والاجتماعي

الموقع الجديد المقترح لكنيسة مار موسى

عناصر المقارنة	موقع رقم ١	موقع رقم ٢	موقع رقم ٣	موقع رقم ٤
قوة الإحار	١	٢	٣	٤
إتاحة خاتبة	٣	٢	١	٤
سهولة الوصول	١	٢	٣	٤
سهولة اعداد موقع البناء	١	٢	٤	٣
حاجة موقع البناء لحيطان دعم	١	٣	٢	٤
قرب الموقع من بلدة مزرعة الضهور	٢	٣	١	٤
الحاجة إلى إسملاكات إضافية	٤	٤	٤	١
توافر المساحة الكافية لإنشاء منطقة خدمات محيطة	١	٣	٢	٤
سلامة الموقع ضد أي انهيار بلوي للسد	٤	٣	١	٣
سهولة وتكاليف عملية إعادة البناء	١	٢	٤	٣
المجموع	١٩	٢٦	٢٥	٣٣

ملاحظة: ١ (أفضل) إلى ٤ (الأسوأ)

مشروع زيادة كفاءة منطقة بيروت الكبرى بالمياه
دراسة تقييم الأثر البيئي والاجتماعي

Benefit Sharing

تقاسم فوائد المشروع

- من أجل تحقيق تنمية منصفة لجميع الأشخاص المعنيين بالمشروع، يدرس المشروع إمكانية إنشاء صندوق للمجتمع المحلي في محيط الندة والبحيرة لنشر فوائد المشروع خارج حدود مجموعة مستهلكي إمدادات المياه في بيروت الكبرى.
- وقد تشمل المشاريع المتوقعة تمويلها ما يلي:
 - وضع خطط لإعادة التشجير
 - وضع مخططات كير مائية محلية
 - قاعات إجتماعات
 - تشجيع الفنون والحرف التقليدية
 - تفعيل السياحة البيئية والمرافق التعليمية
 - تخصيص أماكن لمحبي هواية صيد الأسماك في محيط البحيرة
 - وضع مخططات لطاقي الرياح والشمس
 - تشجيع مخططات الري في الأماكن العامة
- إن الآلية التي سيتم اقتراحها تعتمد إلى حد كبير على ما **انتم** - كاستفيدين - تريدون أن تحققوا من هذا الصندوق.
- إذا كان لديكم أية أفكار تعنى بالإطار المؤسسي أو نوع المشاريع المقترحة تمويلها، يرجى رفعها في وقت لاحق أو الاتصال بنا لمناقشتها بشكل مفصل

مشروع زيادة نظافة منطقة بيروت الكبرى بكمية
دراسة تقييم الأثر البيئي والاجتماعي

Environmental Quality Monitoring Requirements

متطلبات مراقبة الجودة البيئية

قبل البناء
تطبيق استراتيجيات التنفيذ والتأكد من:
- جودة المياه السطحية
- تسمية الترسبات
- إنقاذ الأجناس البيولوجية والحيوية ونقلها
- الحفاظ على الآثار ونقلها من مكانها
- استهلاك المعربات وفقاً للقوانين اللبنانية وخطة إعادة الإسكان

أثناء البناء
مراقبة بيئية أثناء مرحلة البناء للحرص على تخفيف التلوث والضجيج، والتفتيد بتوجيهات البناء التسليمية، وخطة الإدارة البيئية.

بعد البناء
مراقبة بيئية بعد مرحلة البناء للتأكد من الالتزام بخطة الإدارة البيئية والتشغيلية، والتركيز على سلامة السد، جودة المياه، والتأكد البيئي أسفل السد.

مشروع زيادة نظافة منطقة بيروت الكبرى بكمية
دراسة تقييم الأثر البيئي والاجتماعي

Public Consultation

استشارات العامة

١- تم عقد استشارات للعلماء من قبل استشاري دراسة تقييم الأثر البيئي والاجتماعي وخطة إعادة الإسكان على النحو التالي:
- ست ندوات لعرض نطاق الدراسة في آذار ٢٠١٢
- ست ندوات لعرض نتائج الدراسة في شباط ٢٠١٣

٢- يأتي برنامج الاستشارات العامة الحالي من قبل استشاري دراسة تقييم الأثر البيئي والاجتماعي وخطة إعادة الإسكان على النحو التالي:

الزمن	المكان	الحضور المقترح
الجمعة ٢٥ نيسان العاشرة صباحاً	دار عساطور	الأشخاص المتأثرين بالمشروع
الجمعة ٢٥ نيسان الثانية من بعد الظهر	بلدية مزرعة الشوف	الأشخاص المتأثرين بالمشروع
الجمعة ٢٦ نيسان العاشرة صباحاً	قاعة الكنيسة في بسري	الأشخاص المتأثرين بالمشروع
الجمعة ٢٦ نيسان الثالثة من بعد الظهر	بلدية مزرعة الشوف	الأشخاص المتأثرين بالمشروع

٣- بعد تسليم التقرير النهائي وخطة إعادة الإسكان، سيتم إنشاء مركز معلومات للمشروع حيث سيتمكن الأشخاص المتأثرين بالمشروع من:
- الإستفسار عن إجراءات الاستملاك
- الإطلاع على المستندات والخرائط

مشروع زيادة نظافة منطقة بيروت الكبرى بكمية
دراسة تقييم الأثر البيئي والاجتماعي

خطة إعادة الإسكان

مشروع زيادة نظافة منطقة بيروت الكبرى بكمية
دراسة تقييم الأثر البيئي والاجتماعي

المسح الاجتماعي الاقتصادي ٢٠١٣ - ٢٠١٤

مع مشاركة التصميم الهندسي لسد بسري مع مشكته الملحقه على الإنتهاء من الإستشاري الهندسي للمشروع قد تم إيداع ملف الإستملاكات الذي سوف يشكل القاعده الأساس لمرسوم الإستملاك الجديد.

بدأت عليه من إستشاري دراسة التقييم البيئي وخطة إعادة الإسكان قد تم القم الأول من المسح الاجتماعي الاقتصادي لمنطقة المشروع وهو في طور إكمال القم الثاني منه وذلك بقرعة:

- تحديث البيانات والمعطيات الاجتماعية للدراسة التي تشمل على خطة إعادة الإسكان والية للتعويضات
- التأكد من أن المسح الجديد سوف يغطي كل المعطيات التي سوف يشمل عليها مرسوم الإستملاك



مشروع زيادة نظافة منطقة بيروت الكبرى بكمية
دراسة تقييم الأثر البيئي والاجتماعي

عدد المعطيات والمساحات المتأثرة بحسب القضاء

القضاء	المنطقة التعاريف	مجموع الخاضعة للإستملاك	عدد المعطيات الخاضعة للإستملاك الجزئي	عدد المعطيات الخاضعة للإستملاك الكامل	المساحة المطلوب استملاكها بالمعيار	نسبة الأراضي الخاضعة للإستملاك
الشوف	عساطور / حارفة جندل	310	279	31	160	31%
	مزرعة الشوف	277	223	52	120	23%
	مزرعة قشور	55	36	19	42	8%
	خرية بسري	13	9	4	18	3%
	بساتين	14	6	8	6	2%
مجموع لفرعي لشوف	3	0	3	2	0.4%	69%
جزين	المدبان	80	70	10	48	9%
	الخراف	69	64	5	46	9%
	بسري	74	62	12	44	9%
	بعلين	28	13	15	10	2%
	القنيطرة	4	3	1	6	1.2%
	بواقي	27	19	8	4	0.8%
	عشراي	1	0	1	0.95	0.2%
	بكتسوت	2	0	2	0.3	0.1%
	مجموع لفرعي لشوف جزين	285	231	54	159	31%
	مجموع الإستملاكات ضمن منطقة المشروع	966	786	180	517	100%
أتملاك العامة من طرق وأحرم النهر			33			
المجموع العام			570			

دراسة تقييم الأثر البيئي والإجتماعي لمشروع زيادة نظافة منطقة بيروت الكبرى بكمية دراسة تقييم الأثر البيئي والإجتماعي

الإسماكتات وإعادة الإسكان

إن إسماكت الأراضي والحيازات سوف يتم بحسب:

✓ قانون الإسماكت اللبناني الصادر عام ١٩٩١؛

✓ سياسة العمليات وإجراءات البنك الدولي (رقم OP4.12) بخصوص إعادة الإسكان القسري.

بالرغم من أوجه التشابه العديدة ما بين المرجعيتين، إلا أن السياستين لتحطان تبايناً في خمسة جوانب والتي سوف يقوم مشروع سد بسري بصد الفجوات فيما بينها كالتالي:

دراسة تقييم الأثر البيئي والإجتماعي لمشروع زيادة نظافة منطقة بيروت الكبرى بكمية دراسة تقييم الأثر البيئي والإجتماعي

الإسماكتات وإعادة الإسكان

نقاط التباين	إجراءات التخفيف المقترحة لسد فجوات التباين
إستشارات الهيئات الفاعلة للمشروع	• إستشارات عامة قد عُقدت في البدات المشارة حول منطقة المشروع وفي العاصمة بيروت وسوف يلتقى القيمين على المشروع مركز معلومات خاص بالمشروع.
التواصل مع الأشخاص المتأثرين بالمشروع	• إستشارات عامة قد عُقدت لإستطلاع رأي الأشخاص المتأثرين بالمشروع. • أعلن المشروع عن خط هاتفي للتواصل مع العامة فيما يخص جلسات الإستشارات عامة التي تُعقد (03-867799) بالإضافة إلى رقم فاكس (01 - 869026) و بريد إلكتروني: www.cdr.gov.lb - BSWA.12002@dar.gov.lb
نطاق التعويضات	• كل الفجوات سوف تعوض بحسب كلفة الإستبدال كاملة. • إن التعويضات سوف تدفع كاملة لمستحقيها وذلك قبل تنفيذ قرار وضع اليد على أي عقار أو أصول.
إستئناف قضايا الإجحاف	• بعية تسكين الأشخاص المتأثرين بالمشروع، أو أصحاب النحل المحدود، من إستئناف أي قرار إستبداله برونه مجدداً، سوف يقوم المشروع بتغطية التكاليف القانونية لطالبت إستئنافه.
تعويضات للمتضررين غير المستنفذين بالحقوق القانونية	• سوف يتم تعويض هذه الفئة من الأشخاص بحسب التكاليف التي تكبدها لتحسين ظروف الإسكان (الحيازة/ إنتاجية الأرض الزراعية والتخ.



دراسة تقييم الأثر البيئي والإجتماعي لمشروع زيادة نظافة منطقة بيروت الكبرى بكمية دراسة تقييم الأثر البيئي والإجتماعي

التعويض عن الإجحاف ١/٢

✓ إن آلية التعويض عن الإجحاف هي من متطلبات سياسة العمليات وإجراءات البنك الدولي بخصوص إعادة الإسكان القسري وتعتبر إجراء إضافي لما يتضمنه القانون اللبناني.

✓ شكوى الإجحاف ترفع إلى السلطات المحلية التي تقيم أهليتها.

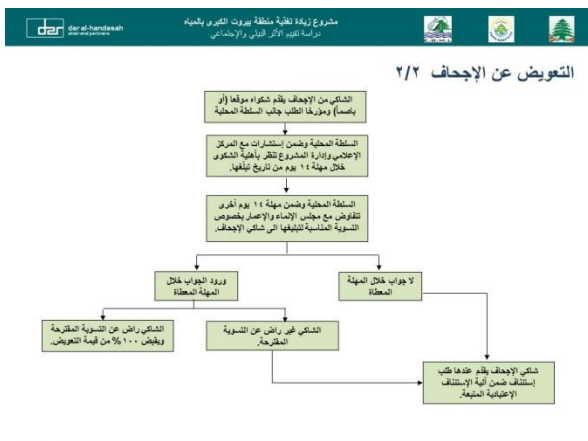
✓ يمكن للشكائي أن يُسأَل قيمة التعويض ولكن ليس عملية الإسماكت ووضع اليد.

✓ إن هذه الآلية تجنب المتضرر أعباء وتكاليف التنقل لمسافات بعيدة وتعقيدات تقديم طلبات الاستئناف لدى المراجع المختصة.

آلية الشكوى: شكوى التعويض عن الإجحاف تسلم باليد إلى السلطات المحلية كالتالي:

- 1) أشخاص ذوو حق شرعي: يمكن تقديم شكواهم بعد إبلاغهم بقرار لجنة الإسماكتات بقيمة التعويض وقبل تقديم طلب إستئنافهم أمام المراجع المختصة إذا ما شازا لذلك.
- 2) أشخاص من غير حق شرعي: يمكنهم رفع شكواهم في أي وقت بعد صدور مرسوم الإسماكتات.

وفي كلتا الحالتين يستطيع الأشخاص الغير دائرين رفع شكواهم خطياً للإستئناف بالبلدية أو بفرق العمل ضمن مركز معلومات المشروع.



دراسة تقييم الأثر البيئي والإجتماعي لمشروع زيادة نظافة منطقة بيروت الكبرى بكمية دراسة تقييم الأثر البيئي والإجتماعي

المراحل الزمنية

المرحلة	الفترة المخصصة لها
الإبلاغ والإعلان	جاري التنفيذ
التصميمات	بحسب نتائج نطاق الإسماكت
تسجيل طلبات الإستئناف	٣٠ يوماً اعتباراً من تاريخ تنبيل لجنة الإسماكت
دفع التعويضات	قبل تنفيذ قرار وضع اليد والإحلال.
وضع اليد والإحلال	بعد ١٥ يوماً من تاريخ تنبيل قرار الإحلال إذا كان العقار خالياً. بعد ٣٠ يوماً من تاريخ تنبيل قرار الإحلال إذا كان العقار يعوي على مشاهات، وفي الحالتين، وبعد الأمر على تنفيذ كامل مبلغ التعويض
الرسد والتقييم	من نشر مرسوم قرار الإسماكت لغاية تنفيذ قرار وضع اليد.

إن كافة التقارير المرتبطة بدراسة تقييم الأثر البيئي والإجتماعي وخطة إعادة الإسكان سوف تتوافر عبر التالي:

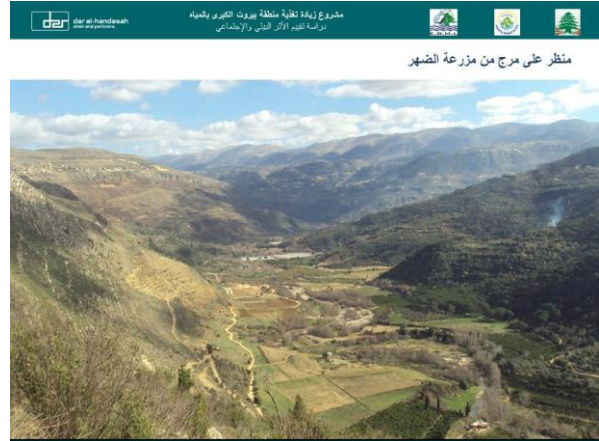
- الموقع الإلكتروني لمجلس الإنماء و مركز المعلومات التابع للمشروع سيعمل حة لاحقاً،
- في الفورتات المختصة وكذلك في بلديات القرى المحيطة بموقع المشروع.

سوف يتم الإعلان عن أماكن نشر التقارير أعداء في وسائل الإعلام في الأوقات المحددة لها.

dar al-handasah
مشاريع زيادة تغذية منطقة بيروت الكبرى بعمق
دراسة تقييم الأثر البيئي والاجتماعي

مؤشر التعويضات للأراضي والحيوانات الغرضة للإستئلاك ٢/٣

نوع / الشجرة	مبلغ	الحيوان
شجر	400,000	خساريين
400,000	150,000	بشباتين
75,000	40,000	حور
75,000	40,000	عزير
75,000	40,000	مجان
75,000	40,000	مردصاف
نوع / الشجرة	مبلغ	الحيوان
شجر	750,000	ناردين
750,000	200,000	بنه
750,000	200,000	كسنة
750,000	200,000	نخل
400,000	150,000	نور
400,000	150,000	كروبي
400,000	150,000	الكروميا
400,000	150,000	دراق
400,000	150,000	رماد
400,000	150,000	فوكا
400,000	150,000	إحاصي
400,000	150,000	ثوبوت
400,000	150,000	عالم
400,000	150,000	عالم
400,000	150,000	جصين
400,000	150,000	مشمش
400,000	150,000	سعال
400,000	150,000	سوملي
300,000	150,000	فستق



dar al-handasah
مشاريع زيادة تغذية منطقة بيروت الكبرى بعمق
دراسة تقييم الأثر البيئي والاجتماعي

شكراً

مشروع زيادة تغذية منطقة بيروت الكبرى بعمق المياه الشرب
دراسة تقييم الأثر البيئي والاجتماعي
(المرحلة الثانية)

Greater Beirut Water Supply Augmentation Project
Environmental and Social Impact Assessment
(Phase 2)

dar al-handasah
مشاريع زيادة تغذية منطقة بيروت الكبرى بعمق
دراسة تقييم الأثر البيئي والاجتماعي

شكراً لمشاركتكم
نرحب بتعليقاتكم
تبقى فرصكم للتطبيق مفتوحة لمدة ستة أيام عمل

1. الرجاء ترك إستمارة التعليقات بحوزتنا بعد تدوين أسئلتكم وتعليقاتكم عليها
2. بإمكانكم إرسال تعليقاتكم لـ BWSA 12002، وإرسالها بالفاكس على الرقم ٠١/٨٦٩٠٢٦
3. بإمكانكم إرسال تعليقاتكم على البريد الإلكتروني التالي: BWSA.12002@daragroup.com
4. هاتف او رسالة قصيرة على 03-867799

نتطلع لسماع آرائكم

Log of Calls and Emails from the Public to GBWSAP-Dedicated Phone and Email

Date	Time	Caller	Contact Details	Village	Essence of Comments	Essence of Answer	Further Action
22/04/20	8:27	Mr. Hasib Abboud	03-127762	Ghbattiyeh	Caller claims to be the owner of lands in Ghbatiyeh and objects to their not being any public session in his village or the posting of maps and other information.	Dar explained that consultation sessions had been held in those villages with most affected plots. However, all municipalities, including Ghbatiyeh had been send a copy of the Executive Summary of both the ESIA and the RAP prior to consultation, and these should be made available to interested parties, including land owners. Notwithstanding this, the expropriation map is available on the CDR website at www.cdr.gov.lb .	Dar subsequently forwarded the caller the CDR website address.
26/04/20	06:48	Mr Amine Beainy	03-509666	Not stated	Caller claimed to be one of the landowners in the valley but had not been invited to any meeting. <i>'with God's will we shall not allow the inundation of that Paradise inherited from our ancestors to supply strangers with water.'</i>	Answer essentially as above. The caller was thanked for his comment and ensured it would be noted.	No further action.
29/04/14	9:20	Maroun Sleiman Karam	07-800788	Benwati	Caller claimed to be a landowner and asked how he could check the numbers of plots to be expropriated.	Caller advised to check the maps displayed in Bisri village hall or he could go to the CDR website.	No further action.
29/04/14	9:40	Ghassan Abou Sleiman	01-871258	Harf	Caller claimed to be a land owner wanting to check the number of his plots and if they will be expropriated or severed.	Caller advised to check CDR website.	No further action.

Date	Time	Caller	Contact Details	Village	Essence of Comments	Essence of Answer	Further Action
28/04/14	13:09	Yusef Sanan	yusef.sanan@gmail.com	Midane	Claimant suggested that the borders of some plots as shown on the expropriation plans are incorrect.	The caller was referred to the CDR website and that notwithstanding the boundaries shown, all land boundaries and asset take would be formally re-confirmed during expropriation.	Dar subsequently forwarded the caller the CDR website address.

APPENDIX A2
JANUARY/FEBRUARY 2013
PUBLIC CONSULTATION SESSIONS

Introduction

As part of the GBWSAP Consultation and Communications programme, another set of Public consultations sessions were undertaken to disseminate the results of the ESIA study. They presented the results and recommendations of the ESIA study in different venues for institutional stakeholders, for local PAPs in the villages in the vicinity of the proposed Bisri dam, and for Greater Beirut residents. While the Figure here below shows how these meetings were notified to the public via the national press, the Table that follows presents details of these meetings.

COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION
CDR/PR4.1A2
Rev.00

PROJECT: مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب / اجتماعات

مجلس الإنماء والإعمار
إدارة التخطيط والبرمجة
التاريخ: ٢٠١٣/٠١/٢٥

I- NETCOM

MEDIA	NO. OF INSERTIONS	DAY (1) & DATE	DAY (2) & DATE	DAY (3) & DATE	SIZE
1. NAHAR	2	SAT 26/01/13		TUE 29/01/13	4 COL. X 8.5
2. LIWA'A	1		MON 28/01/13		4 COL. X 8.5
3. HERALD TRIBUNE					
4. LE MONDE					

II- APS

MEDIA	NO. OF INSERTIONS	DAY (1) & DATE	DAY (2) & DATE	DAY (3) & DATE	SIZE
1. MUSTAQBAL	1	SAT 26/01/13			4 COL. X 8.5
2. DIYAR	1		MON 28/01/13		4 COL. X 8.5
3. AL-BALAD	1			TUE 29/01/13	4 COL. X 8.5
4. L'ORIENT LE JOUR					
5. HAYAT					
6. ASHARQ AL AWSAT					
7. AL-RIYADH (RIYADH)					
8. AL-ANBA'A (KUWAIT)					
9. AL-KHALIG (U.A.E.)					
10. OKAZ (JEDDAH)					
11. AL SEYASSAH					
12. AL-RAY-AL-AM (KUWAIT)					
13. AL QABAS					

III- ALLIED

MEDIA	NO. OF INSERTIONS	DAY (1) & DATE	DAY (2) & DATE	DAY (3) & DATE	SIZE
1. SAFIR	1	SAT 26/01/13			4 COL. X 8.5
2. ANWAR	1		MON 28/01/13		4 COL. X 8.5
3. ASHARQ	1			TUE 29/01/13	4 COL. X 8.5
4. DAILY STAR					

III- AL-ADIB

اعلانات استملاك عائدة لمنطقة الشمال	NO. OF INSERTIONS	DAY (1)	DAY (2)	DAY (3)	SIZE

نسخة إلى : دائرة المناقصات لنشر الإعلان على صفحة الإنترنت للعائدة للمجلس
نسخة إلى : إدارة التخطيط والبرمجة - المكتب الإعلامي - القلم

رئيس إدارة التخطيط والبرمجة
شحرور



CDR/PR4.1A2/Rev.00/مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب - اجتماعات

18.04.2013

٢٠١٣/٠١/٢٥

Public Consultation Session	Venue, Date and Time	Attendees
Institutional Stakeholders	CDR, Central Beirut Wednesday 30 January 2013, 10am.	13
Local authorities and residents in the vicinity of the dam site	Midane Municipality Saturday 2 February 2013, 10am	36
Local authorities and residents in the vicinity of the dam site	Mazra'at ed-Dahr Municipality Saturday 2 February 2013, 3.30pm	15
Water consumers of Greater Beirut Area	Hadat Municipality Wednesday 6 February 2013, 5pm	10
Local authorities and residents in the vicinity of the dam site	Aamatour Municipality Saturday 9 February 2013, 10am	28
Local authorities and residents in the vicinity of the dam site	Mazra'at Echouf Municipality Saturday 9 February 2013, 2:30pm	35

The date and timing of all meetings were agreed with individual municipalities. The village sessions were scheduled at weekends and early evenings week-day for Beirut Water Consumers to allow the maximum number of concerned people to attend.

Each session commenced with the introduction by the Project Proponent in which the scope, objectives and an update about of GBWSAP advancement were shared with the audience. The Consultant (Dar Al-Handasah), then gave a power point presentation covering the project base line conditions, the potentially expected impacts and mitigation measures and the study recommendations. The floor was then opened to attendees to air their comments and concerns. In order to focus on the expected concerns of the different audiences, the presentations varied slightly between sessions. The proceedings of all sessions were in Arabic.

As attendees arrived they were given a handout that related the content and the intent of the meeting. Shortly after the meeting commenced, to allow for late-comers. Attendance Sheets were circulated on which names, contact details and signatures were collected. As at previous sessions, attendees were given the option to make comments or ask questions verbally or in writing. Those doing so verbally were also asked to record what they said in writing so that in addition to the immediate verbal response, a formal written response, could be provided. In the event, few attendees chose to record their comment in writing and as a back-up, one of the Consultant's team transcribed much of what was said.

Attendees generally conducted themselves in an orderly fashion. Many of those in the vicinity of the dam recognised the potential for water supply, hydropower, and waterside developments, and were generally in favour. The most opposing concerns were heard and recorded during the two public sessions held in Amatour and Mazra'at el-Chouf municipalities. This was not a surprise to the ESIA study team considering that two thirds of the reservoir area will be taken from these two villages.

In the following pages the comments and concerns raised at each of the public consultation sessions are documented and a considered written response given. While audience response was good, they were less enthusiastic about committing their comments to paper. There are therefore unattributed comments recorded by the consultant in addition to those for whom a speaker was identified.

The primary issues of public concern were:

- The commencement date of construction works;
- The extent to which local populations will be served with water and/or hydropower;
- The returns for such project on local residents in economical and employment terms;
- The need to preserve archaeological, historic and cultural heritage;
- The impact on downstream and upstream irrigation water allowances;
- The future master planning of the lake surrounding area and plots classification;
- The impact of increased humidity on local microclimate due to a large water body;
- The fairness of compensations for expropriated lands;
- The connection roads from one to the other shoreline of the lake;
- The opportunities for tourism and other job creating initiatives the lake will afford;
- The impact on water quality due to lack of wastewater treatment across the villages surrounding reservoir.

Session 1: Institutional Stakeholders Attendees

Location/Date: CDR/January 30, 2013

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"
إستشارات العامة - المكان: الأمانة العامة - الزمان: 30/1/2013 الساعة العاشرة صباحاً
جدول الحضور

الإمضاء	البريد الإلكتروني	الهاتف	المؤسسة	الإسم	
	fay.mushantaf@cdrgroup.com	01-790002 ext 2651	دار الهندسة	فای مشتفت	1
	elie.abou.rejailli@dar.gov.lb	01-790002 ext 2648	دار الهندسة	إيلي ادرجياي	2
	John.Davey@dar.gov.lb	01-790002	Dar-Al-Handasah	John Davey	3
		01/648753	مديرية الشؤون القانونية	منى سريدين	4
	assem.fidawi@cdrgroup.com	01/981430	مجلس التطوير والاعمار	اسم فداوي	5
	majid.hashem@hata.gov.lb	01/610125	المديرية العامة للإدارة العامة - منطقة النفطة	مجد هاشم	6
	bahij.aarbid@hata.gov.lb	03/330747	وزارة الصحة العامة	البحر اعربد	7
	v.sassine@moe.gov.lb	01/976555 ext 499	وزارة البيئة	ففيان سسين	8
	h.hoteit@moe.gov.lb	01/476555 ext 488	وزارة البيئة	حسن هوتيت	9
	mohambana@agr.gov.lb	01/849623	مناحة الزراعة	مها مينا	10
	raffigergian@daqa.culture.gov.lb	05/243105	المديرية العامة للآثار	رافى جرجيان	11
	namacha@kafmail.com	03/280226	الهيئة الوطنية لترتيب النهر الليطاني	نابل اعاشه	12
	suhail.srour@dar.gov.lb	-	دار الهندسة	سويل سوير	13
					14
					15

Institutional Stakeholders, CDR – 30 January 2013

No	Name	Affiliation
1	Fay Mushantaf	Dar Al Handasah
2	Elie Abou Rejailli	Dar Al Handasah
3	John Davey	Dar Al Handasah
4	Mona Saredine	Directorate of Cadastral Affairs
5	Assem Fidawi	Council for Development & Reconstruction
6	Majid Hashem	General Directorate for Administration and Councils / Ministry of Interior and Municipalities
7	Bahij Aarbid	Ministry of Health
8	Vivianne Sassine	Ministry of Environment
9	Hasan Hoteit	Ministry of Environment
10	Maya Mhanna	Ministry of Agriculture
11	Rafy Gergian	General Directorate of Antiquities
12	Nabil Aamasheh	Litani River Authority
13	Suhail Srour	Dar Al Handasah

Summary of issues raised at the Institutional Stakeholders session

Bahij Aarbid Ministry of Health	Response
It will be important to construct simultaneously the dam and the complete sewage networks of the surrounding villages currently discharging to the river.	The government recognises the problem. Most villages already have sewage collection, and the construction of sewage treatment for all those villages within the dam catchment will now be prioritised.
I would like to stress the importance of studying the future of the region around the reservoir, the possibility of development of tourism and thus develop a master plan for the next stages with the construction of roads, various infrastructures, sewerage system and other.	The ESIA included recommendations for a <i>Master Plan for Bisri Lake Shoreline and Surrounding Area Development</i> , and for sewerage schemes for all villages within the dam catchment area.
Treatment of the potential pollution emission sources: monitoring and treatment <ul style="list-style-type: none"> • Water source • Reservoir • Tanks • Distribution Pipes 	The draft ESIA report has tackled this issue in identifying the potential sources and recommending the needed mitigation measures to counter the adversities.
Vivianne Sassine Ministry of Environment	Response
Has raised the concern about the way of cleaning such a reservoir capacity of 128 Mm3 of sediments and other unwanted materials.	This is essentially a design issue. Sluice gates will be provided at the bottom of the dam so that during periods of high inflow, water released flushes the accumulated sediment.
Will the dam construction materials such as concrete, stones, gabions, etc be excavated in-situ ?	All natural materials; rock, sand, gravel, aggregate, clay, are expected to be resourced in the vicinity of the construction site, within the reservoir area.
Majid Hashem Ministry of Interior and Municipalities	Response
The presentation was sufficiently clear enough, and questions has been discussed and answered.	The Consultant is pleased to record your satisfaction.



Public Scoping Session for the Institutional Stakeholders Held at CDR Beirut.

Session 2: Local authorities and residents in the vicinity of Bisri Dam and Nahr Awali

Location/Date: Midane Municipality/ February 02, 2013

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"
إستشارات العامة المكان: التاريخ: الزمان: 02/02/2013

جدول الحضور

الإسم	المؤسسة	الهاتف	البريد الإلكتروني	الإمضاء
1	بلدية البترون	02/828871		
2	بلدية الطرابلس	03/373490		
3	بلدية الطرابلس	03/608027		
4	بلدية الطرابلس	03/248810		
5	بلدية الطرابلس	02/851158		
6	بلدية الطرابلس	02/807566		
7	بلدية الطرابلس	03/162253		
8	بلدية الطرابلس	03-210780		
9	بلدية الطرابلس	03-944377		
10	بلدية الطرابلس	03/162086		
11	بلدية الطرابلس	03/922920		
12	بلدية الطرابلس	01-79002	Joh. Davary @ davary.com	Joh. C. Davary
13	بلدية الطرابلس	02/1705010	J. C. Hachem @ hachem.com	J. C. Hachem
14	بلدية الطرابلس			
15	بلدية الطرابلس	01-981431	assam@cedy.gov.lb	
16	بلدية الطرابلس			
17				
18				
19				
20				

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"
إستشارات العامة المكان: التاريخ: الزمان: 02/02/2013 at 10:00am

جدول الحضور

الإسم	المؤسسة	الهاتف	البريد الإلكتروني	الإمضاء
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30	بلدية الطرابلس	04/444920	charles.abu.alam@nahr.com	
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32	بلدية الطرابلس	70/300442	lw@nahr.com	
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34	بلدية الطرابلس	01/527190		
35	بلدية الطرابلس	03 5 830 97		
36	بلدية الطرابلس	07/800 201		
37	بلدية الطرابلس	03/042522		
38	بلدية الطرابلس	03/823411		
39	بلدية الطرابلس	70/201602		
40	بلدية الطرابلس	03/787072		

Midane Municipality – 02 February 2013		
No	Name	Affiliation
1	Charbel Youssef Aoun	Lawyer – Midane Municipality
2	Chaker Youssef Seyyen	Midane Municipality
3	Charbel Abou Samra Ou'wad	Resident
4	Antoine Ou'wad	Doctor
5	Maroun el-Khoury	Resident
6	Youssef el-Ojeil	Mokhtar of Bhannine
7	Jean Hobeika	Council of Municipality
8	Albert Youssef Ou'wad	Financial and Economy counseling
9	Maroun Nassib Hobeika	Mokhtar of Midane
10	Raymond Habib Youssef	Resident
11	Georges Farhat	unaffiliated
12	John Davey	Dar Al Handasah
13	Charbel Harfoush	Lawyer
14	Charbel Badr	unaffiliated
15	Assem Fidawi	Council for Development & Reconstruction
16	Elie Abou Rejaili	Dar Al Handasah
17	Fay Mushantaf	Dar Al Handasah
18	Mia Nasr	Dar Al Handasah
19	Mohamad Kassem	Ministry of Interior
20	Hasan Aalawiyieh	Ministry of Health
21	Norma Tannous Feghali	Chief of Midane Municipality
22	Antoine Ou'wad	Grass Valley Company & lands owner
23	Marie-Dominique Ou'wad Farhat	Resident
24	Nazira Ou'wad Sabbagha	Resident
25	Graziella Youssef Ou'wad Shbat	Resident
26	Charles Abou Sleiman	Petit Confort s.a.r.l
27	Fadi Hobeika	Free lancer
28	Georges Abi Akl	Free lancer
29	Fadi Hobeika	Resident
30	Elie Harfoush	Resident
31	Antoine Wehbeh	Resident
32	Wadih Harfoush	Resident
33	Abou Samra Tanios Ou'wad	Resident
34	Naji Tanios Ou'wad	Resident
35	Jean-Claude Charbel Ou'wad	Resident
36	Elie Charbel Ou'wad	Resident

Summary of issues raised at Midane Session

Youssef Botros el-Ojeil Mokhtar Bhannine	Response
On the list of lands to be expropriated, there are some missing plots.	The list posted today is 'work-in-progress', intended to give landowners, tenants and other users early warning of expropriation requirements. the Consultant will be pleased to take note of errors if contacted through as indicated at the presentation.
There are buried archeological ruins to be dug up before the commencement of works.	CDR and the Consultant are working with DGA to prepare a programme for the investigation, excavation, documentation and if feasible, removal, of archaeological and other cultural heritage remains.
To allocate water from the lake to the surrounding villages.	While the majority of water will be used to supply GBA, downstream abstractors will benefit from environmental releases to maintain existing abstractions and downstream ecology. Villages upstream will receive water by gravity from the future Barouk-Beiteddine scheme. Both are included in the National Water Supply Strategy.
Masarra Jerjes Harfouche Lawyer	Response
Duration of project implementation and date of commencement of works.	The design consultant has suggested that the 3-year-period will be needed, while the ESIA consultant has suggested that these to be extended to a more realistic time frame of 5 years. The commencement of works will start once the designer will submit his tendered design and CDR will start then the call-for-offers procedure
What are the planned projects and works, not only in the dam-site, but in the reservoir area and its shorelines ?	The ESIA study has recommended the development of a Master Plan for Bisri Lake Shoreline and Surrounding Area, but this is currently outside the scope of the present contract.
Will there be any new land use classification for the surrounding lands?	The proposed Master Plan will include land reclassification and Parcellation for development.
What will be the mitigation measures to counter the environment pollution of surroundings areas?	As cited above, the ESIA study has proposed a Master Plan to be prepared to ensure the orderly and environmentally-responsible development of the surrounding areas. This would, need to include for effective measures to deal with sewerage, storm drainage and solid waste disposal such that it did not pose a threat to water quality. Various operational management procedures are also recommended. Further details are available from the Consultant via the contacts given in the presentation or from the ESIA report that will eventually be made public via the CDR website and World Bank <i>InfoShop</i> .

Charbel Youssef Aoun Lawyer	Response
Address the issue of discharging sewage into the valley.	The ESIA calls for prioritising the establishment of complete sewerage and drainage networks for all villages within the dam catchment. Most villages already have collection networks, so what is most often missing is the treatment flows prior to discharge or reuse.
To give special care for the touristic projects that will have a major contribution into the region local economy.	The ESIA discusses the various opportunities and treats from induced development. A Master Plan as cited above is recommended to ensure the orderly and environmentally-friendly implementation of a wide variety of commercial and recreational options.
WE should be in favor of supplying GBA with water from the dam area since half of Lebanese population will be living in the targeted area.	Thank you.
Provide new roads in the surrounding villages and preserve the existing from damage due to heavy lorries.	The reservoir area itself contains no metalled roads. The Contractor will improve access to the dam site from the existing road. Other roads in the area will need to be upgraded and the Contractor will have to produce a Traffic Management Plan that avoids unnecessary congestion and delay to local traffic. With most construction materials coming from within the reservoir, construction traffic on public roads will be reduced.
Norma Tanios Feghali Head, Midane Municipality	Response
The sewerage network is a priority before constructing the dam.	The ESIA calls for prioritising the establishment of complete sewerage and drainage networks for all villages within the dam catchment. Most villages already have collection networks, so what is most often missing is the treatment flows prior to discharge or reuse.
Who will operate and maintain the project after its completion to prevent the pollution of lake?	The dam and reservoir will be operated by BMLWE, perhaps via a service agreement with a private facilities management company. Bisri water is already of a much higher quality than Qaraoun water, and the same severity of pollution will not occur. As mentioned above, sewerage of the catchment villages and shoreline development only in compliance with a master Plan and strict development guidelines will also arrest any potential for pollution.
Who will follow up the issue of village infrastructure so as to prevent abusive construction around the lake?	MEW via BMLWE and EDL will operate and maintaining the future project facilities. The ESIA study has outlined the likely operational requirements for Bisri dam. CDR will oversee the installation of sewerage schemes. Adherence to the master Plan will prevent abusive development.

Antoine Ou'wad Grass Valley Company and landowner.	Response
How will land values be estimated, considering the past discouraging experiences in Lebanon?	A Resettlement Action Plan is being prepared for the project. Expropriation will essentially follow Lebanese Law, with additional safeguards where necessary to meet funding agency requirements.
What about the protection of the nature and environment from pollution?	The ESIA identifies a wide range of potential environmental and social impacts, and proposes measures to avoid, mitigate or manage each during both the period of construction and subsequent operational life. Extensive environmental quality monitoring and reporting is proposed to ensure the adequacy of these measures.
Implementation of sustainable touristic projects in the whole region in general and in Midane in particular.	The ESIA study has identified a number of development opportunities. It will be the role of the proposed Master Plan to take these further.



Public Scoping Session for residents of the Bisri Area held at Mazraat El Dahr Municipality

Maroun Nassib Hobeika Mokhtar al-Midane.	Response
The access roads to the dam and surrounding villages must be taken into account. More particularly the planned road connecting Midane, Harf, Ta'aid and Bisri villages	The Contractor will have to prepare a Traffic Management Plan to ensure his activities do not cause undue delay and congestion. The proposed road will be further considered by the Master Plan, which will revisit the scheme in the light of the added attraction afforded by the dam.
Priority must be given to sewerage networks to prevent waste water discharging into the river.	As explained above, a condition of the Bisri scheme being a success is the installation of effective sewerage collection and treatment systems for all the villages within the dam catchment
All archeological remains from Marj Bisri and Amatour should be collected and exposed in a facility near the the lake as a touristic attraction.	Among other initiatives to be undertaken, the ESIA study has proposed the establishment of Visitor Center for the dam and the lake, that would have both a recreational and educational function. it would be convenient to attach to it an Archaeological or Cultural Park in which the recurred remains could be displayed. Mar Moussa Church might also be resurrected here, but that would be the decision of the community and church.

Marie-Dominique Ou'wad Farhat - Midane Resident.	Response
Will the financial compensations to the lands owners be fair, considering that working the lands is the main income source of too many in the area?	Land expropriation will be undertaken in accordance with Lebanese Law, amended where necessary to also meet the requirements of the project funding agency. A Resettlement Action Plan, including land expropriation, detailing the extent of land take and the procedures for expropriation, is being prepared as part of the ESIA study.
Will the soil and geological formations beneath the dam sustain such a huge load? What will be its impact in inducing earthquakes?	Clearly the loading of the dam and the reservoir on the underlying geology is a significant issue and is being addressed by the dam design consultant. It is understood a seismo-tectonic study will be undertaken during the design process. Dam Safety Inspections will be a routine feature of operational procedure.
There are concerns about the negative impacts of the lac on the local environment with respect to increasing humidity, climate change, pollution, etc, especially that we are used to the poor maintenance of projects.	The ESIA has researched the likely impact on micro-climate, including rainfall, and humidity. it is currently expected the impact in the villages will be indiscernible, but perhaps more noticeable along the reservoir shoreline, particularly during the summer months when evaporation will locally increase humidity.
Jean Hobeika Midane Municipality	Response
Will the agricultural lands, adjacent to the project site, still get their irrigation water from the dam?	The agricultural lands downstream the dam will receive their irrigation waters by gravity from the dam from the regulated discharge. Productive lands upstream of the dam will receive water from the Barouk-Beieddine irrigation scheme that will be diverted off Nahr Barouk. No water is expected to be directly pumped from the lake.
If productive land, with a water spring included, is in the expropriated area and the other part is out of it, will that other part receive its irrigation water directly from the lac?	Such cases will be reviewed individually. If part of a plot is expropriated and the remaining part is rendered unviable, perhaps because of the loss of buildings, loss of access, or loss of water source, Lebanese law requires GoL to purchase the whole plot if the owner so insists.

Session 3: Local authorities and residents in the vicinity of Bisri Dam and Nahr Awali

Location/Date: Mazra'at el-Dahr Municipality/February 02, 2013

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"
استشارات العامة - المكان: الزمان: 02/02/2013 من 3:30 م
جدول الحضور

الإسم	المؤسسة	الهاتف	البريد الإلكتروني	الإمضاء
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2	NOT	03/620615	Mich FOUR 402	Michel Kfoury
3	مزرعة الفجر	07/1980090		Hayat Eid
4	جمعية الشو'لة الثقافية	03/445645		Yolande Kozhaya Eid
5	جمعية الشو'لة الثقافية	07/980320		Reine Eid
6	مزرعة الفجر	07/845289		Chadi Eid
7	مزرعة الفجر	03/463477		Jacques Eid
8	بلدية مزرعة الفجر	03/305-57	hassib@bmg.org.com	Hassib Eid
9	مياه بيروت - مكتب جون	01-790002		Jaafar Ghosn
10	مزرعة الفجر	07/1980090		Dori Habib Eid
11	مزرعة الفجر	07/1980090	elie@bmg.org.com	Hani Elias Eid
12	Dar Al-Handasah	01-790002	John.Davey@darbmg.com	John Davey
13	دار الهندسة	01-790002	elie.abou.rejaili@darbmg.org.com	Elie Abou Rejaili
14	"	01-790002		Suhail Srouf
15	مجلس الشو'لة والوادي	01-981430	assem@bmg.org.com	Assem Fidawi
16				
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Mazra'at el-Dahr Municipality - 02 February 2013		
No	Name	Affiliation
1	Fay Mushantaf	Dar Al Handasah
2	Michel Kfoury	Ministry of Health
3	Hayat Eid	Local resident
4	Yolande Kozhaya Eid	Al-Sho'la Cultural Association
5	Reine Eid	Al-Sho'la Cultural Association
6	Chadi Eid	Local resident
7	Jacques Eid	Local resident
8	Hassib Eid	Chief of Mazra'at el-Dahr Municipality
9	Jaafar Ghosn	BMLWE - Joun office
10	Dori Habib Eid	Local resident
11	Hani Elias Eid	Local resident
12	John Davey	Dar Al Handasah
13	Elie Abou Rejaili	Dar Al Handasah
14	Suhail Srouf	Dar Al Handasah
15	Assem Fidawi	Council for Development and Reconstruction

Summary of issues raised at Mazra'at el-Daheh Session

Hassib Eid Chief of Mazra'at el-Daheh Municipality	Response
The costs for dismantling, displacement, rebuilding and lands cost to relocate Mar Moussa Church and Ste-Sophia Monastery must be covered by the project.	The cost of deconstructing the Church and any of the associated remains if will be decided to relocate will be covered by the project. A budget sum for this work will be included in the Resettlement Action Plan.
The possibility of using the dam axis as a connection road between Chouf and Jezzine Cazas.	Due to security concerns, access across the top of the dam will be solely for operation and maintenance. The existing khirbit-Bisri Bisri road will remain open to the public to connect between the two Cazas. In addition, the Master Plan for surrounding development will consider if new road connections are required.
Michel Kfoury Ministry of Health	Response
Why has the possibility of using ground water resources not been considered?	The analysis of Non-Dam alternatives for GBWSAP included consideration of ground water. While the difficulties of ground water in the coastal plain are well documented, the potential for substantial abstraction in upland areas is clear from the performance of individual boreholes. Whether such potential is sufficient for supplying the quantities needed for GBA is uncertain. The comparison of alternatives concluded that ground water probably has the potential to contribute to some form of conjunctive use with surface water, but will not significantly reduce the need for dam storage to be the major source of supply. Notwithstanding this, the operational costs of pumping water from deep wells may prove prohibitive, even where saving, such as in the level of treatment prior to distribution, can be made.
Unattributed	Response
Concerns about the increasing air humidity that will favor the proliferation of Mosquitos during the hot summer months?	The proliferation of mosquitoes is a potential threat to any standing water body. Mitigation is primarily achieved through (i) efficient design that does not allow high water levels to overtop reservoir sides, and yet permits efficient shoreline drainage, both aimed at reducing ponding where mosquitos can breed, (ii) limiting seasonal growth of bankside and shallow water vegetation, and (iii) limiting public access to the extremities of the reservoir where wetland areas will develop, where access limitations will also promote biodiversity.
The possibility of using the dam axis as a connection road between Chouf and Jezzine Cazas?	Due to security concerns, access across the top of the dam will be solely for operation and maintenance. The existing khirbit-Bisri Bisri road will remain open to the public to connect between the two Cazas. In addition, the Master Plan for surrounding development will consider if new road connections are required.

Session 4: Water consumers of Greater Beirut

Location/Date: Hadat Municipality/February 06, 2013

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"
إستشارات العامة - المكان: بلدية الحرت الزمان: ٠٦/٠٢/٢٠١٣ الساعة الخامسة
جدول الحضور

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8	Ministry of Health	03/620615	pmichfour@ri.gov.lb	
9	بلدية الحرت	٠٣ ٦٥٥٨٨٧	INFO@HADAT.GOV.LB	
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11	بلدية الحرت	03-678933		
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Hadat Municipality – 06 February 2013		
No	Name	Affiliation
1	Elie Abou Rejaili	Dar Al Handasah
2	Fay Mushantaf	Dar Al Handasah
3	John Davey	Dar Al Handasah
4	Ali Al-Harakeh	Hareil Hreik Municipality
5	Abboud Zahr	Design Engineering Partner
6	Michel Kfoury	Ministry of Health
7	Georges Edward Aoun	Chief of Hadat Municipality
8	Georges Haddad	Hadat Municipal Council
9	Abdo Gerges Churfane	Hadat Municipal Council
10	Nayla Raad	Dar Al Handasah

Summary of Issues Raised at Hadat Session

Unattributed	Response
<p>What measures will be taken to deal with the sewage water discharging from surrounding villages into the river.</p>	<p>The government recognises the problem. Most villages already have sewage collection, and the construction of sewage treatment for all those villages within the dam catchment will now be prioritised.</p>
<p>It is nonsense to augment the water supplies to GBA without addressing the critical issue of water leakages throughout the existing networks.</p>	<p>Indeed it is. The GBWSP currently enhancing short-term supplies make provision of extensive leak detection and network upgrading.</p>
<p>Can you please better explain the interface between the GBWSP and the GBWSAP!</p>	<p>GBWSP is an on-going project to improve the short-term availability of water throughout GBA. Some additional water will be provided, but most improvements will come from the reduction of leakage and other losses and improved metering. GBWSAP focuses on the augmentation of the post-GBWSP situation to identify sources for additional water to meet medium and longer term demand.</p> <p>One of the key advantages of the GBWSAP is that will use some of the GBWSP facilities and infrastructures, in delivering the additional amount of water to GBA, resulting hence in a-cost-effective project.</p>

Session 5: Local authorities and residents in the vicinity of Bisri Dam and Nahr Awali

Location/Date: Aamatour Municipality/February 09, 2013

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"
إستشارات العامة المكان: عماطور - دار البلدية الزمان: السبت 9/2/13 الساعة 10:00 صباحاً
جدول الحضور

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	ashiro@terra.net.lb	05/211244	رئيس اتحاد بلديات القن	راميه العتي
		4,867776	رئيس بلدية عمارة طول	حاني باركات
		05288965		حاني باركات
		70589288		حاني باركات
		1488167	ضفي	حاني باركات
		14242411		حاني باركات
		02-76376		حاني باركات
		02,862990	وكيل مبيع نادر	حاني باركات
		14,882010		حاني باركات
		7-929827	دار البلدية عمارة طول	حاني باركات
		03/930420	رئيس لجنة القن	حاني باركات
		01,92260		حاني باركات
		14/100018	النزلي بلدية عمارة طول	حاني باركات
		03 688101		حاني باركات
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		03/601308	استاذ	اسم كل ابي شترا
		03/704946	نائب رئيس بلدية عمارة طول	امير ابوشترا
		03/921701	عضو بلدية عمارة طول	محمد ابوشترا
		70/814648	مختار سابق عمارة طول	صبيح عبد الله

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"
إستشارات العامة المكان: بلدية عمارة طول الزمان: 9 شباط 2013
جدول الحضور

الإمضاء	البريد الإلكتروني	الهاتف	المؤسسة	الإسم
		05 311 418		أبو صبيح عبد الحميد
		05 311 994	مختار عمارة طول	عزبان فرحان عبد الحميد
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		01-28003	دار البلدية	ابا ابو صبيح
		=	دار البلدية	بلدية عمارة طول

Aamatour Municipality – 09 February 2013		
No	Name	Affiliation
1	Khaled Ghannam	Dar Al Handasah
2	Roger el-A'chi	Preseident of Chouf Municipalities Assembly
3	Hikmat Bilal	Chief of Haret Jandal Municipality
4	Ramez Amine Abou Chakra	Unaffiliated
5	Najib Wadi' Abou Chakra	Unaffiliated
6	Rodwan Abou Chakra	Technician
7	Hikmat Fares	Unaffiliated
8	Ma'moun Badi' Abou Chakra	Unaffiliated
9	Rif'at Fares	Rabi' Fares Representative
10	Issam Bou Mehdi	Unaffiliated
11	Samir Abdel-Samad	Aamatour Municipality
12	Riyadh Abou Chakra	Health Inspector – Ministry of Health
13	Jamil Abou Chakra	Unaffiliated
14	Anwar Abdel-Samad	Aamatour Municipality
15	Fadi Adel Abdel-Samad	Unaffiliated
16	Fouad Adel Abdel-Samad	Civil engineer and University professor
17	Bassem Camille Abou Chakra	Lecturer
18	Amine Abou Chakra	Vice-chief of Aamatour Municipality
19	Said Abou Chakra	Municipality Council Aamatour
20	Hassib Abdel-Samad	Aamatour Ex-Moukhtar
21	Anwar Badi' Abdel-Samad	Unaffiliated
22	Adnan Farhan Abdel-Samad	Aamatour Moukhtar
23	Ziad Hani Abdel Samad	Unaffiliated
24	Fay Mushantaf	Dar Al Handasah
25	John Davey	Dar Al Handasah
26	Suhail Ssour	Dar Al Handasah
27	Elie Abou Rejaili	Dar Al Handasah
28	Nayla Raad	Dar Al Handasah

Summary of issues raised at Aamatour Session

Unattributed	Response
It has been now very long time the promised project has not come yet to the light will all consequences of hindering the residents locals activities in the area. Hope that will not take longer anymore to see it.	Comment noted. CDR and the ESIA consultant also hope the project will now proceed to conclusion.
The issue of balanced development is crucial. It is a big mistake to only be concerned with supplying GBA at the expenses of the area where that water will come from. If things proceed as they are, GoL will favor over populating already highly populated Beirut leaving behind the remote areas. What will the project bring to the local Chouf and Jezzine villages ?	It is common practice to move water from rural areas with plentiful resources to urban areas that suffer shortages. surrounding villages in Chouf and jezzine will benefit from improved infrastructure such as sanitation and from the economic oppoertunities provided by future development.
will the project be a copy of Qaroun Lake with all its negative impacts especially in polluting and degrading the environment ?	Both CDR and the design consultant are aware of the problems of Qarouan and are determined to avoid them at Bisri. The water quality at Bisri is in any case much improved over that from Qaroun.
The owners of the inundated lands will lose while those on the shorelines will see their lands values skyrocket. Compensation for the former should be taken from the latter.	In accordance with both Lebanese law and international funding agency procedures, all land expropriation will be undertaken at full prevailing market value.
There is No coordination between governmental institutions as lately DGUP declared 15 plots to be "archeological reserves" without noticing CDR	The ESIA consultant is aware of the various land use designations across the project area, the presence of sites of cultural heritage, and has developed proposals for their rescue.
Did the project consider desalination alternative to avoid disrupting the lives of local residents?	The desalination option was one of the considered alternatives. While it might be feasible and reliable, it has many disadvantages, such as requiring a heavy industrial plant on the coast, generating large quantities of highly saline brine that will impair seawater quality, and will unacceptably increase the cost of water to consumers.
Relocating the archeological remains and buildings that are highly valued by locals is not a simple stones transfer from one to another place, as the consultant suggests.	The Consultant apologises if he gave that impression. Although the process is complex, it is one that is well practiced in many countries providing adequate budgetary allowances are set aside.
Is there any Master Plan for the whole project area?	The ESIA Consultant has recommended the development of a Master Plan for the Development of the Bisri Lake Shoreline and Surrounding Areas, but this is outside the scope of the present study.
How deep will the roman columns will submerged by water ?	At the present time the roman columns are expected to be under 50-60 metres of water.
When is the commencement of construction works expected ?	The date of commencement of construction remains to be determined.
Because agriculture is the main source of income in the area, this is a project to displace Chouf residents.	Relatively few permanent residents of the project area and its surroundings will be involuntarily resettled. while loss of agricultural employment and income will be

Unattributed	Response
	unavoidable, new economic opportunities will result.
What about the hydro-power generation?	Bisri Dam will include provision to generate hydropower and the maximum possible capacity for the available resources will be installed.
Why were local NGOs not invited to the consultations?	Local NGOs have been identified in the Draft ESIA. It is assumed that those responsible for inviting them to the public consultation sessions did so. NGOs that could not attend are welcome to contact the ESIA Consultant as advertised at the sessions.

Session 6: Local authorities and residents in the vicinity of Bisri Dam and Nahr Awali

Location/Date: Mazra'at el-Chouf Municipality/ February 09, 2013

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"
إستشارات العامة - المكان: مزرعة الشوف - الزمان: 09/02/2013
جدول الحضور

الإسم	المؤسسة	الهاتف	البريد الإلكتروني	الإمضاء
1	دار البحوث	٠١-٧٩٠٠٠٢		
2	مجلس بلدية الشوف	03/649544	chaouki.zibian@hotmail.com	
3				
4	مزرعة الشوف	70907011082118		
5	مزرعة الشوف	03/7019327		
6	التقني المركزي	03/630092	shahadin.2006@hotmail.com	
7	مجلس الشوف	71/190324		
8	مزرعة الشوف	03/674732		
9	مزرعة الشوف	03/675826		
10		٠١٥٣٠٠٧٦		
11		٠٧٤٧٩١٠٣		
12	جمعية الشوف	٠٧١٧٤٦٨٩		
13		٠٧٤٦٦٤٨		
14		٠٧٨٨٠٠٦		
15	مجلس الشوف	٠١/٢٨١٤٧٠	as.souf@cedr.gov.lb	
16		٠٥٣٤٠٠٩٢		
17	مزرعة الشوف			
18	مزرعة الشوف	03/704446		
19	مزرعة الشوف	03/693428		
20	مزرعة الشوف	٠٣/٩٤٠٩٤٧		

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"
إستشارات العامة - المكان: مزرعة الشوف - الزمان: 09/02/2013 - البلدية
جدول الحضور

الإسم	المؤسسة	الهاتف	البريد الإلكتروني	الإمضاء
21	مزرعة الشوف	٠٥٣٤٠١٨٩		
22	الجمعية الوطنية للشوف	٠٧/٩١١٤٢١	arch.ych.ya6@hotmail.com	
23	مزرعة الشوف	٠٧١٧٧٤١٧		
24	مزرعة الشوف	٠٧/٩١٩٦٩٩		
25	مزرعة الشوف	٠٧١١١٨٧		
26		٣٩٥٩٥٤	marwan.zibian@gmail.com	
27			Gmail.com	
28	مزرعة الشوف	03-011047		
29	مزرعة الشوف	03-759166	zibianaminif@yahoo.com	
30	مزرعة الشوف	70-794040		
31	مزرعة الشوف	70/475593		
32	مزرعة الشوف			
33	دار البلدية			
34	Dev. At. Kowassat	01-790002	John.Davey@damproj.com	John Davey
35			Sahel.Saw@derproj.com	
36	طيار الهندسة			
37				
38				
39				
40				

Mazra'at el-Chouf Municipality – 09 February 2013		
No	Name	Affiliation
1	Elie Abou Rejaili	Dar Al Handasah
2	Shawki Zebian	Retired General Army
3	Ziad Saab	Kahlouniyeh Municipality
4	Adnan Shahine al-Be'ainy	Financial Inspector at Social Security Bureau
5	Salah Bou Hadir	Central Inspection
6	Nabil el-Be'ainy	Employee at Lebanese Parliament
7	Selim Houry	Representative of Social affairs Minister
8	Youssef Maksoud	Chief of Wadi-el-Set Municipality
9	Mohamad Hassan el-Be'ainy	Unaffiliated
10	Hussein el-Be'ainy	Unaffiliated
11	Hatem Mohamad A'jab	Al-Ta'adod Association
12	Shakib Hussein A'jab	Unaffiliated
13	Chafik Amine Zebian	Unaffiliated
14	Assem Fidawi	Council of Development & Reconstruction
15	Ghassan Bou Karoum	Citizen
16	Ghandi Youssek el-Be'ainy	Mazra'at el-chouf
17	Mohamad Youssef el-Be'ainy	Mazra'at el-chouf
18	Ghassan Mahmoud A'jab	Private business
19	Wajih Mohamad el-Be'ainy	Mazra'at el-chouf
20	Rafik Zebian	Mazra'at el-chouf
21	Yehya Bou Karoum	Social Progressist Party
22	Afif Soulaïman el-Be'ainy	Mokhtar of Mazra'at el-chouf
23	Osmat Salim el-Be'ainy	Free lancer
24	Walid Adib Bou Karoum	Mokhtar of Mazra'at el-chouf
25	Marwan Afif Zebian	Unaffiliated
26	Al-sheikh Mas'oud Bou Karoum	Unaffiliated
27	Hamdi Zebian	Land owner
28	Amine Zebian	Mazra'at el-chouf
29	Jihad A'jab	Mazra'at el-chouf Municipality
30	Fadi el-Be'ainy	Mazra'at el-chouf Municipality
31	Youssef el-Be'ainy	Mazra'at el-chouf Municipality
32	Fay Mushantaf	Dar Al Handasah
33	John Davey	Dar Al Handasah
34	Suhail Srour	Dar Al Handasah
35	Nayla Raad	Dar Al Handasah

Summary of issues raised during Mazra'at el-Chouf

Unattributed	Response
The project must generate direct benefits to the local residents, either in employment or new business development. Dam operational staffing should favour local residents and local equipment.	The project is expected to afford new economic opportunities. Dam operational staffing and equipment will be a matter for the BMLWE.
Will Mazra'at el-Chouf Municipality have a role in operating the dam and what would be the direct financial return of the latter?	The affected municipalities may expect to be involved in the management of the reservoir shoreline and surrounding areas. The taxes paid by new developments will enhance municipality income.
Will the compensations be fair to all involved farmers considering that farming is the main income generating activity of many of them ? and if compensation is 'not fair' will the owner have the right to appeal?	The expropriation of all lands, property and assets will be executed in accordance with Lebanese law amended where necessary to meet international funding agency requirements. the Right to Appeal is already incorporated into Lebanese Law.
Will the negative previous experiences on Karaoun dam be avoided on this project?	Both CDR and the design consultant are aware of the problems of Karaoun and are determined to avoid them at Bisri. The water quality at Bisri is in any case much improved over that from Karoun.
What will happen to Mar Moussa church?	The community has expressed a strong desire to see the church moved to a new location and the ESIA Consultant is recommending that this is provided for within the project.
Nabil el-Beainy Employee in the Lebanese Parliament	Response
The company that will owe the project in the future must include the owners of lands under expropriation as shareholders.	The development of Bisri Dam and reservoir is a public sector project and as such will be 'owned' by MEW on behalf of GoL, and operated by BMLWE.
Marwan Afif Zebian Lands owner	Response
Will there be any power generation plant to meet at least the needs of local villages ?	A hydroelectric power plant will be provided at the dam. its capacity and service area has yet to be determined.
Shawki Zebian Retired General of Lebanese Army	Response
Re-run a new Public Consultation session showing better the economic feasibility of the project supported by all types of tables, maps, graphs, etc ?	The present PC session included a summary of the economic feasibility. For additional information, attendees are welcome to contact the Consultant as advertised in the session or await the public availability of the ESIA reports on the CDR website and World Bank <i>Infoshop</i> .
Directly involve municipalities in the construction works, equipments, etc.	This is primarily an issue for the dam construction contractor.
In addition to the fair compensations for the expropriated lands, support directly the induced development initiatives in the local villages especially in terms of touristic projects.	Expropriation will be undertaken in accordance with Lebanese Law and funding agency provisions. While the Consultant has recommended the development of a master Plan for shoreline and surrounding area development, these are most likely to be implemented by the private sector.
Favor the lake surrounding villages in terms of Hydro-power supplies from the dam.	The final capacity of the hydropower plant remains to be confirmed, but is likely to be limited by the restricted dry season river flows.

PowerPoint Presentation


مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب
 دراسة تقييم الأثر البيئي والاجتماعي
 المرحلة الأولى
 Greater Beirut Water Supply Augmentation Project
 Environmental and Social Impact Assessment
 Phase I

المقدمون
 ستقوم السيدة روى الترياس بدور المقدم الرئيسي لهذه الندوة
 كما حضر للاجتماع عن استئتمكم:
 د. سهيل سرور- الذي ستقوم بدور رئيس الجلسة
 د. جون دايفي- قائد فريق تقييم الأثر البيئي والاجتماعي لمشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب
 الأمانة فاني مشتتف- مخصصة في مجال البيئة
 كما يضم فريق تحضير تقييم الأثر البيئي والاجتماعي اخصائين في مجال الجيوفيزياء والهيدرولوجيا وبناء السدود واخصائين اجتماعيين
 كما حضر للاجتماع على الاسئلة التي تتجاوز النطاق المباشر للمشروع للسيد حاتم قداوي - مدير مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب لدى مجلس الانماء والاعمار

أهداف الندوة
 إن أهداف الندوة اليوم هي:
 1. شرح أولي عن نطاق مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب.
 2. عرض ملخص للتقييم الأولي للاستشاري فيما يخص الأثار البيئية والاجتماعية المحتملة، منها الإيجابي والسليبي.
 3. الحصول على تعليقاتكم بشأن المشروع الإيجابية منها والسلبية، وتسجيل ملاحظتكم وإقتراحاتكم لأخذها بعين الاعتبار خلال عملية تقييم الأثر البيئي والاجتماعي.

العناوين
 • الوضع الحالي لإمدادات المياه
 • شح المياه في لبنان
 • الوضع المستقبلي المتوقع
 • معالجة مشكلة شح المياه
 • مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب GBWASP
 • الخيارات التي سيتم البحث فيها
 • بناء السدود كحل محتمل
 • مقارنة بين المواقع المقترحة
 • الأثار المحتملة للسدود
 • خطة لإدارة البيئية والاجتماعية
 • الحد من استهلاك الاراضي
 • استشارات العمة

الوضع الحالي لإمدادات المياه
 • يقدر عدد سكان لبنان بـ 4.4 مليون (2010)، 64% منهم يعيشون في بيروت الكبرى وجبل لبنان
 • يتلقى 1.9 مليون شخصاً المياه من جيوتا عبر محطات المعالجة في الضبية وأبار الدامور وعدة مصادر ثانوية، إلا ان امدادات المياه غير كافية وغير متوازنة موسمياً
 • تتلقى بعض الاسر المياه من الشبكة العمة لأقل من 3 ساعات يومياً في منطقة بيروت الكبرى
 • تمخض الكثير من الاسر على:
 (أ) المياه الجوفية من الأبار ذات البنية الضعيفة وغالباً غير فلتونية
 (ب) شراء المياه من الخزانات العائدة لتقطاع الخاص، منها ما هو غير صالح للشرب
 (ج) مياه الشرب المعبأة ذات الكلفة العالية ومنها ما هو غير صالح للشرب

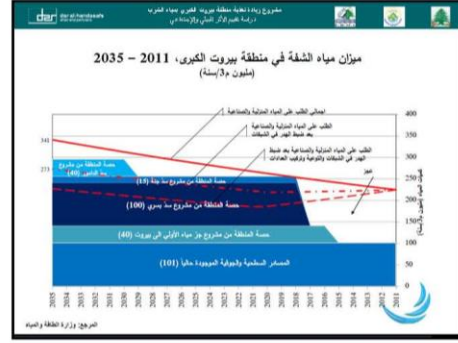
شح المياه في لبنان
 • يقدر مجموع ثقل المياه السطحية بـ 735 مليون متر مكعب/سنوياً، تذهب كمية كبيرة مفقودة الى البحر
 • تعود أسباب مشاكل قطاع المياه في لبنان إلى العوامل التالية:
 ✓ شبكات نقل وتوزيع غير فعالة ومحدودة وقديمة
 ✓ غياب العدادات وبيئية التوعية المنخفضة بالاستهلاك
 ✓ الإفراط في استخراج المياه الجوفية، مما يؤدي إلى تآكل المياه المالحة
 ✓ ندبة عالية من المياه غير المحتوية والمضغ في استرداد التكاليف
 ✓ نقص في الاستثمار في البنية التحتية الحديثة للمياه
 ✓ ضعف في القدرة المؤسسية
 ✓ غياب الوعي والمشاركة العامة

مشروع زيادة كمية المياه المتاحة في بيروت الكبرى
دراسة الجدوى الاقتصادية والبيئية

الوضع المستقبلي المتوقع

Predicted Future Situation

- يقدر عدد سكان بيروت الكبرى بـ 1.9 مليون (2010)
- من المتوقع أن يصل عدد سكان بيروت الكبرى إلى 2.3 مليون بحلول العام 2035
- من المتوقع أن يصل الطلب على المياه المنزلية والصناعية إلى 341 مليون م³/السنة بحلول العام 2035
- تقدر مصادر المياه الحالية بـ 101 مليون م³/السنة
- تقدر حصة منطقة بيروت الكبرى من جر مياه الأولى إلى بيروت بـ 40 مليون م³/السنة
- يقدر حجم المياه التي ستتوفر من مند بسري، جثمة، والداور بـ 155 مليون م³/السنة
- الحد من المطلب من خلال ضخ المياه بالهدر في الشبكات، وتركيب العدادات وتوعية العامة



مشروع زيادة كمية المياه المتاحة في بيروت الكبرى
دراسة الجدوى الاقتصادية والبيئية

معالجة مشكلة شح المياه على المدى القصير (1)

Addressing Water Stress (short-term)

- أطلقت الحكومة اللبنانية من خلال وزارة الطاقة والمياه، مجلس الإنماء والإعمار ومؤسسة مياه بيروت وجبل لبنان مشروع جر مياه الأولى إلى بيروت لسد العجز الحالي وضمان الإمدادات المستدامة لتلبية الطلب على المدى القصير والمتوسط
- سيتم من خلال المشروع نقل 50 مليون متر مكعب (40 مليون ليماء الشفة و 10 مليون للإستعمالات الصناعية) من مند القزوع، وعين الزرقا، ولنع فق جزين والنهر الأولى إلى جون عبر قناة قلانة، ثم نقلها في قناة جديدة إلى خلد ومعالجتها في محطة جديدة في الوردانية بغية توزيعها على المستهلكين في بيروت الكبرى .

مشروع زيادة كمية المياه المتاحة في بيروت الكبرى
دراسة الجدوى الاقتصادية والبيئية

معالجة مشكلة شح المياه على المدى القصير (2)

Addressing Water Stress (short-term)

- يتضمن مشروع جر مياه الأولى إلى بيروت:
 - ✓ نفق بطول 27 كم
 - ✓ محطة المعالجة في الوردانية
 - ✓ خزانات في الحد والحازمية
 - ✓ شبكات توزيع
 - ✓ عدادات

مشروع زيادة كمية المياه المتاحة في بيروت الكبرى
دراسة الجدوى الاقتصادية والبيئية

معالجة مشكلة شح المياه على المدى الطويل

Addressing Water Stress (long-term)

- بدأ مجلس الإنماء والإعمار، بالتعاون مع وزارة الطاقة والمياه ومؤسسة مياه بيروت وجبل لبنان، مشروع زيادة كمية منطقة بيروت الكبرى بمياه الشرب GBWSAP بغية تحديد وسائل تعزيز المياه في بيروت الكبرى الأكثر استدامة بيئياً والمقبولة اجتماعياً كي تلبية الطلب على المدى الطويل.

مشروع زيادة كمية المياه المتاحة في بيروت الكبرى
دراسة الجدوى الاقتصادية والبيئية

مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب GBWSAP (1)

ينقسم مهام المشروع إلى مرحلتين:

المرحلة الأولى

- إجراء مراجعة تقنية، اقتصادية، بيئية، واجتماعية واسعة، من ضمنها تقييم أولي لتأثير البيئي والاجتماعي لكافة المصادر البديلة واقتراح الخيار المفضل

المرحلة الثانية

- إجراء تقييم لتأثير البيئي والاجتماعي من الفئة أ، من ضمنها خطة إدارة بيئية، وإذا لزم الأمر، ممتدات إعادة الإسكان، للخيار المفضل الموافق عليه

مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب GBWSAP (2)

- سوف يتبع تقييم الأثر البيئي والإجتماعي للمشروع للمعايير الدولية مثل ضسقات البنك الدولي، وذلك وفقاً لميمنة الحكومة اللبنانية.
- تم تكليف دار الهندسة (شاعر ومشاركوه) لتحضير الدراسة، نظراً لخبرتها الطويلة في مشاريع البنى التحتية، ولكونها لم تقم بإعداد أي من الدراسات التي منتم مراجحتها.

مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب GBWSAP (3)

إستثمار إن الماء الأزرق

تحديد نطاق الدراسة

تقييم الأثر البيئي والإجتماعي الأولي (دراسة مشاركة)

مسودة تقييم الأثر البيئي والإجتماعي - منتج الإستراتيجي والإجتماعي (نطاق المسكن)

مناقشة نتائج تقييم الأثر البيئي والإجتماعي مع العامة

تقييم الأثر البيئي والإجتماعي النهائي - خطة إعادة الإستقرار

يتضمن تقييم الأثر البيئي والإجتماعي خطة لإدارة البيئية والإجتماعية

الخيارات التي سيتم البحث فيها

Alternative Source of Water

1. خيار الـ «لا مشروع» <<
2. التحسين بالتوزيع
3. الحد من التسرب
4. تخفيض المياه غير المحتمبة
5. بناء السدود
6. المياه الجوفية
7. تحلية مياه البحر
8. حصاد مياه الأمطار
9. معالجة مياه الصرف الصحي

بناء السدود كحل محتمل

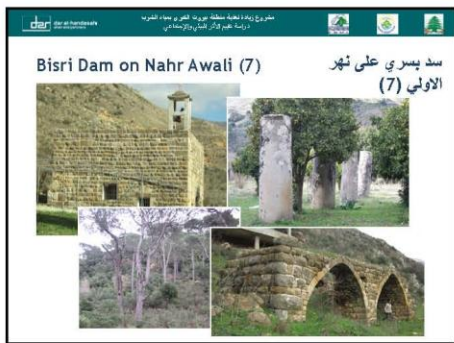
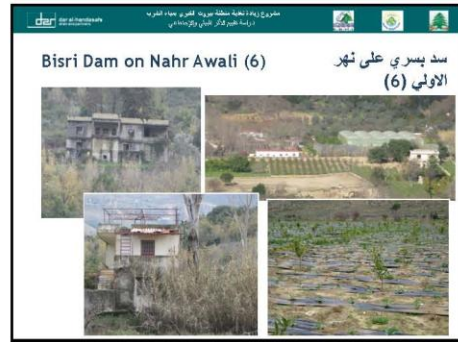
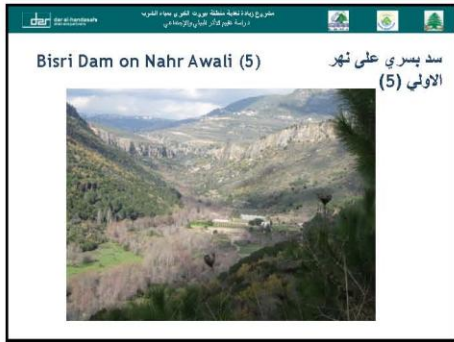
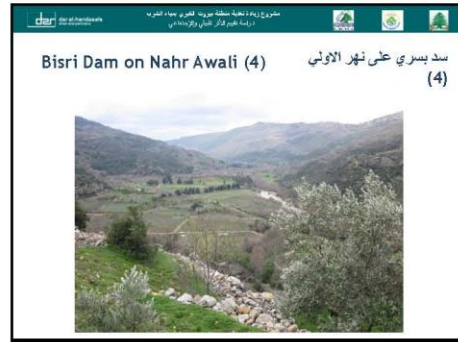
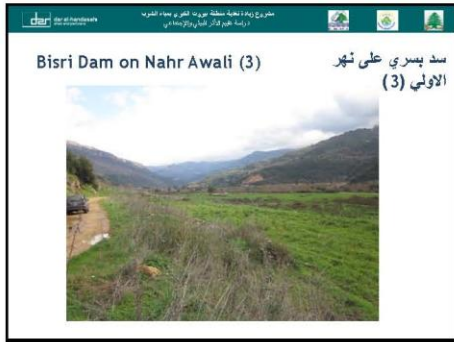
- سد بسري على نهر الأولي
- سد الدامور على نهر الدامور (موقعين)
- سد جنة على نهر ابراهيم

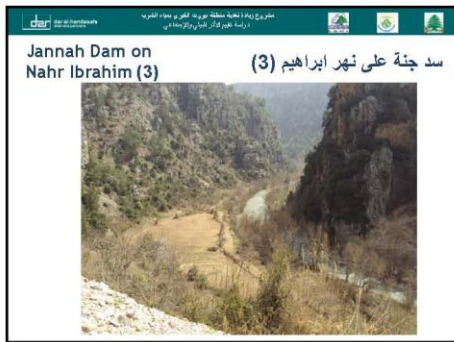
سد بسري على نهر الأولي (1)

Bisri Dam on Nahr Awali (1)

سد بسري على نهر الأولي (2)

Bisri Dam on Nahr Awali (2)







Jannah Dam on Nahr Ibrahim (7) سد جنة على نهر ابراهيم (7)

مقارنة بين المواقع الثلاثة

Comparison of the Three Sites

السد	النهر	الارتفاع المقترح	مساحة البحيرة	حجم التجميع
بصري	نهر الاولي	74 م	5.9 كلم ²	128 مليون م ³
الدامور (موقعين)	نهر الدامور	90 م	1.2 كلم ²	32 مليون م ³
جنة	نهر ابراهيم	105 م	1.0 كلم ²	37 مليون م ³

الآثار المحتملة للسدود (1)

Potential Impacts of Dams (1)

1. الآثار الدائمة		سلبية	ايجابية	المسكدة
• تسبب • خسارة المناظر الطبيعية والاراضي الزراعية • خسارة المجتمعات المتنازل، وبياتي الاصل	• تحسين الوصول من وإلى الاراضي المجاورة لتسد البحيرة	• صعوبة الوصول إلى بعض الأنسكة • الترسبات • تآكل التربة • سلامة السد	• توفير مصدر إضافي للطاقة • القيام بأنشطة ترفيهية في محيط السد والبحيرة	• استغلال • الاراضي
• جرت المشلك السببية	• تدمير السيلحة والاشطة الترفيهية • فرص عمل جديدة	• جرت المشلك السببية	• تدمير السيلحة والاشطة الترفيهية • فرص عمل جديدة	• ادارة الحوض الاعلى

الآثار المحتملة للسدود (2)

Potential Impacts of Dams (2)

1. الآثار الدائمة		سلبية	ايجابية	المسكدة
• نقص في موارد المياه السطحية • تقييد موارد الري وزيادة في التلوث	• فقدان التنوع البيولوجي الطبيعي • تقييد التنوع البيولوجي البري والمهري	• تقييد التنوع البيولوجي الطبيعي • تقييد التنوع البيولوجي البري والمهري	• توفير فرص اقتصادية جديدة • توفير فرص الوصول إلى الخدمات الصحية والاجتماعية	• ادارة الحوض الاعلى
• تقييد التنوع البيولوجي الطبيعي • تقييد التنوع البيولوجي البري والمهري	• تقييد التنوع البيولوجي الطبيعي • تقييد التنوع البيولوجي البري والمهري	• تقييد التنوع البيولوجي الطبيعي • تقييد التنوع البيولوجي البري والمهري	• توفير فرص اقتصادية جديدة • توفير فرص الوصول إلى الخدمات الصحية والاجتماعية	• ادارة الحوض الاعلى

الآثار المحتملة للسدود (3)

Potential Impacts of Dams (3)

2. الآثار المؤقتة		سلبية	ايجابية	المسكدة
• الآثار الاعيانية الناتجة خلال البناء: • ضجيج، اهتزاز، اعاقة في حركة المرور	• التوظيف المؤقت • الطلب المتزايد على الخدمات المحلية	• الآثار الاعيانية الناتجة خلال البناء: • ضجيج، اهتزاز، اعاقة في حركة المرور	• التوظيف المؤقت • الطلب المتزايد على الخدمات المحلية	• الآثار خلال فترة البناء
• الآثار الاعيانية الناتجة خلال البناء: • ضجيج، اهتزاز، اعاقة في حركة المرور	• التوظيف المؤقت • الطلب المتزايد على الخدمات المحلية	• الآثار الاعيانية الناتجة خلال البناء: • ضجيج، اهتزاز، اعاقة في حركة المرور	• التوظيف المؤقت • الطلب المتزايد على الخدمات المحلية	• الآثار خلال فترة البناء

الإدارة البيئية

Environmental Management

- سيتم اقتراح مبدل تنفيذي، الحد، وإدارة كل من الآثار السلبية الناتجة عن المشروع، خلال فترة التصميم، والبناء، والتشغيل.
- سيتم إعداد خطة للإدارة البيئية والاجتماعية.
- سيتم المقلول بحضور خطة للإدارة البيئية خلال فترة البناء.

مشروع زيادة تغطية منطقة بيروت الكبرى بمياه الشرب
دراسة تقييم الأثر البيئي والاجتماعي

الحد من إستيلاك الأراضي

Land Take Mitigation

- تطبيق عدل لإستيلاك الأراضي وإعادة الإسكان.
- القيام بمسح اجتماعي واقتصادي من شأنه توفير المعلومات اللازمة عن الأسر والشركات.
- بغية ضمان تحقيق عملية الإستيلاكات بأقل حد ممكن من الاضطراب والمشقة.
- تحضير الوثائق المتعلقة بإعادة الإسكان.

مشروع زيادة تغطية منطقة بيروت الكبرى بمياه الشرب
دراسة تقييم الأثر البيئي والاجتماعي

رأيكم يهمنا

Your Opinion Matters

نود الآن معرفة وجهات نظركم بعد أن اطلعتم على المشروع.
لا تترددوا بطرح أي سؤال والاشارة الى أية ملاحظت، أو إبداء أي ملاحظات.
ما هي نظركم الآثار الأولية البيئية أو الاجتماعية؟
كيف يُحتمل ان يتأثر الأشخاص الذين تتلونهم؟
كيف سيتأثر مجتمعكم؟
كيف ستتأرون انتم وعائلاتكم؟

مشروع زيادة تغطية منطقة بيروت الكبرى بمياه الشرب
دراسة تقييم الأثر البيئي والاجتماعي

استشارات العامة

Addressing Public Consultation

التاريخ	المكان	جلسة تحديد النطاق
3 نيسان	مجلس الاعضاء والاعمار	لنودة مع المعنيين في القطاع
10 نيسان	بلدية مزرعة الضهر	مدد يمصري
12 نيسان	بلدية دحوت	مدد النامور
21 نيسان	بلدية قرطبا	مدد جنة
24 نيسان	بلدية الحدث	ممنهلكو المياه في ضواحي بيروت الجنوبية
5 أيار	بلدية بيروت	ممنهلكو المياه في مدينة بيروت

• سيتم عقد جلسات أخرى عند اقتضاها
• سيتم عقد مسيرات إعلامية من الضواحي للتعريف بالأثر البيئية والاجتماعية

مشروع زيادة تغطية منطقة بيروت الكبرى بمياه الشرب
دراسة تقييم الأثر البيئي والاجتماعي

شكراً لمشاركتكم

نودى بتعليقتكم
تبقى فرصكم لتتبع متفحة لمدة ستة ايام صل

1. استخدموا ورقة التعليقات المرفقة والاذكروها معنا فوراً
2. يمكنكم توجيه تعليقاتكم لـ BWSA 12002، وارسلها بالفاكس على الرقم 01/869026
3. يمكنكم ارسال تعليقاتكم على البريد الإلكتروني للفان: BWSA.12002@dergroup.com
4. هاتفا او رسالة مسجولة على 71-137532

تتطلع للسماح بكم

مشروع زيادة تغطية منطقة بيروت الكبرى بمياه الشرب
دراسة تقييم الأثر البيئي والاجتماعي
(المرحلة الأولى)

شكراً

Greater Beirut Water Supply Augmentation Project
Environmental and Social Impact Assessment
(Phase 1)

APPENDIX A3
APRIL 2012 PUBLIC CONSULTATION SESSIONS

Introduction

At the outset of the EIA process, the preparation of the PD ESIA, a series of Scoping sessions was held during April and May 2012, commencing with an Institutional Stakeholders session at CDR offices in Central Beirut to which ministries, other governmental agencies and NGOs were invited. This was followed by separate meetings in the vicinity of the three potential dam sites, that for Bisri being held at Mazraat El Dahr Municipality on Tuesday 10 April. Finally, two separate sessions were held for Beirut residents, the prime GBWSAP beneficiaries, at Hadath Municipality on Tuesday 24 April for southern suburb residents and in Downtown Beirut at Beirut Municipality on Saturday 5 May for Beirut municipality residents. All presentations and the subsequent proceedings were conducted in Arabic, but the Consultant's team was also prepared to present and respond in English and French had the need arose. The schedule for the Scoping Consultations is presented here after.

Public Consultation Session	Venue, Date and Time	Attendees
Institutional Stakeholders	CDR, Central Beirut Tuesday 3 April 2012, 10am.	16
Local authorities and residents in the vicinity of Bisri Dam and Nahr Awali	Mazraat El Dahr Municipality Tuesday 10 April 2012, 10am	23
Local authorities and residents in the vicinity of Damour Dam and Nahr Damour	Dmit Municipality Thursday 12 April 2012, 10am	46
Local authorities and residents in the vicinity of Jannah Dam and Nahr Ibrahim	Qartaba Municipality Saturday 21 April 2012, 11am	28
Water consumers of Beirut southern suburbs	Hadath Municipality Tuesday 24 April 2012, 10am	25
Water Consumers of Central Beirut	Beirut Municipality Saturday 5 May 2012, 10am	43

The date and timing of all meetings was agreed with individual municipalities. For instance, the session at Qartaba was delayed because the village is largely unpopulated during winter months and was scheduled for a Saturday when those working in Beirut during the week could attend. Similarly, the Beirut session was scheduled for a Saturday to enable those at work during the week to attend.

Each session commenced with the introduction by the Project Proponent in which the scope and objectives of GBWSAP were outlined and the Consultant (Dar Al-Handasah) introduced. The Consultant then gave a presentation about the project before the floor was opened to attendees to air their comments and concerns. In order to focus on the expected concerns of the different audiences, the presentations varied slightly between sessions. The proceedings of all sessions were in Arabic.

As attendees arrived they were given a handout that related the nature of the project and the intent of the meeting. Shortly after the meeting commenced, to allow for late-comers, Attendance Sheets were circulated on which names, contact details and signatures were collected. Attendees were given the option to make comments or ask questions verbally or in writing. Those doing so verbally were also asked to record what they said in writing so that in addition to the immediate verbal response, a formal written response, could be provided. In the event, few attendees chose to record their comment in writing and as a back-up, one of the Consultant's team transcribed much of what was said.

The consultant's presentation in Central Beirut, which encompassed all the changes for the individual site meetings, copies of the Beirut handout, and copies of the original attendance sheets, are given in Appendix F to the present report. A photograph taken at each session is presented in this appendix as hereafter.

Attendees generally conducted themselves in an orderly fashion. Many of those in the vicinity of the dams recognised the potential for water supply, hydropower, and waterside developments, and were generally in favour. The session in Beirut was briefly disrupted after Mr. Fathi Chatila had expounded his well- documented views and a number of his supporters tried to shout down opposing views.

In the following pages the comments and concerns raised at each of the public Scoping sessions are documented and a considered written response given. While audience response was good, they were less enthusiastic about committing their comments to paper on the forms provided. There are therefore unattributed comments recorded by the consultant in addition to those for whom a speaker was identified.

The primary issues on which comments were made were:

- The extent to which local populations will be served with water and/or hydropower;
- The need to preserve archaeological, historic and cultural heritage;
- The impact on downstream agricultural activities;
- The opportunities for tourism and other job creating developments the reservoirs will afford;
- The impact on water quality of the general lack of effective wastewater treatment across the villages surrounding each of the reservoirs;

Session 1: Institutional Stakeholders

Location/Date: CDR/April 3, 2012

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"
 جلسة الإعداد والإعمار الزمان: ١٥/٤/٢٠١٢
 المكان: مجلس الإعداد والإعمار الزمان: ١٥/٤/٢٠١٢
 جدول الحضور

الإمضاء	البريد الإلكتروني	الهاتف	المؤسسة	الإسم	
	suhail.srouf@dar-handasah.com		دار الهندسة		1
	fay.mushantaf@dar-handasah.com		دار الهندسة	فاي مشتاف	2
	chamseddine@info-international.com		الدولية للمعلومات	محمد ابراهيم شمس الدين	3
	mouna-es@yahoo.com	011648753	وزارة مالية الميراث والخدمة الاجتماعية	منى عيسى	4
	z.zakhour@gmail.com	03/678001	مستشار وزير الطاقة والمياه	زياد زخورة	5
	r.nemr@cybernet.net.lb	03/240553	مستشارة وزير الطاقة والمياه	رنديا نمير	6
	JEBRAN63@hotmail.com	03/257099	مستشار وزير الطاقة والمياه	م. جان جبران	7
	emousalli@cdr.gov.lb	03/774461	مجلس الإعداد والإعمار	ع. ابي حوصلي	8
	raffigergian@dge.culture.gov.lb	03/247105	المديرية العامة للآثار والمتاحف	م. رافيا جرجيان	9
	antoinette.sleiman@lra.gov.lb	03/696963	السلطة الوطنية لدراسة النهر الليطاني	م. انتوانيت سليمان	10
	ismailm@cdr.gov.lb	03/665650	مجلس الإعداد والإعمار	إسماعيل مكك	11
	rolandg@cdr.gov.lb	03/308174	مجلس الإعداد والإعمار	رولاند غاوي	12
	assemf@cdr.gov.lb	03/600337	مجلس الإعداد والإعمار	عاصم فداوي	13
	b.sabbagh@mec.gov.lb	03/646171	وزارة البيئة	باسم الصباغ	14
	John.Davey@dar-handasah.com	01-790002	Dar Al-Handasah	John Davey	15
	Riwa.ElDerbas@dar-handasah.com	01-790002	دار الهندسة	ريوا د. ربا	16
					17
					18
					19
					20

Institutional Stakeholders, CDR - 3 April 2012	
Names	Affiliation
Mona Seridinne	Ministry of Finance, Dir. of Real Estate
Ziad Zakhour	Ministry of Energy and Water
Randa Nemr	Ministry of Energy and Water
Jean Jebran	Ministry of Energy and Water
Raffi Gergian	General Directorate of Antiquities
Antoinette Sleiman	Litani River Authority
Elie Mousalli	Council for Dev. & Reconstruction
Ismail Makke	Council for Dev. & Reconstruction
Roland Ghawi	Council for Dev. & Reconstruction
Assem Fidawi	Council for Dev. & Reconstruction
Bassam el Sabbagh	Ministry of Environment
John Davey	Dar Al Handasah
Riwa El Derbas	Dar Al Handasah
Suhail Srouf	Dar Al Handasah
Fay Mushantaf	Dar Al Handasah
Mohammed Chamseddine	Information International



Institutional Stakeholders Scoping Session at CDR

Summary of issues raised during Session 1

Ziad Zakhour Advisor to the MEW on Water and Dams	Response
Based on the strategy of MEW, there is no preferred alternative.	Noted
A technical comparison cannot be done for the three sites due to the discrepancies in data and the different stages of study of each site. There is a final executive study for Jannah whereas the study is just preliminary for Damour. The study can only be compared environmentally and socially.	No Consultant's response required
We suggest amending the expression "alternatives" to one that better fits the National Water Strategy for the eventual implementation of all three dams.	The ESIA will attempt to 'prioritise' the three dam projects
Is it possible not to abide by the Lebanese legislation in terms of land expropriation and adopt other policies?	Generally no. Lebanese law generally applies but may be amended by any special funding agency requirements, although these are almost always more onerous. If MEW wish to adopt other measures they would need to take it up with the Government lawyers.
Antoinette Sleiman - Litani River Authority	Response
I have included a copy of the annual report of the Litani River Authority (2010), which contains 2 reports that summarize the opinion of the LRA concerning the GBWSP. Report 1 (p68 to 79) and report 2 (p.79 to 81). We hereby insist that the GBWSP affects the LRA socially since the quantities of water taken will not be used to produce HEP in Joun.	We thank the LRA for the information provided and will take it into consideration in our report.
Dragging water from Bisri and Jannah to Beirut will be very expensive. The LRA suggests from expertise the 3 rd option (1 st option: No Option, 2 nd option: Dam), to dig horizontal tunnels from the west mountains like the tunnel of Awali with length 17 km and provides 55 M m3/year. Ras Baalbeck tunnel 4 km and provides drinking water for villages of Ras Baalbeck. The quality of water from the tunnel is naturally filtered and won't need treatment against pollutants (heavy metals, pesticides, coliforms, and organic pollutants...); unlike the water from the Qaraoun Lake.	Again thank you for the information, which we will follow up in preparing the ESIA.
Unattributed Comment	Response
GBWSP doesn't only come from Qaraoun lake	Noted
Is an ESIA being done for the 3 dams?	The GBWSAP is divided into two phases. Phase 1 is a comparative technical economic, environmental and social assessment of the three dams and the identification of the priority in which they should be constructed. Thereafter, a full ESIA together with a RAP will be undertaken for the priority site
It is advisable to contact the Antiquities Authority if need be	This is standard practice in any ESIA study
People living in the vicinity of the dam need to benefit as well from the water	Noted

Session 2: Local authorities and residents in the vicinity of Bisri Dam and Nahr Awali

Location/Date: Mazraat El Dahr Municipality/ April 10, 2012

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"
 استشارات العامة المكان: التاريخ: الزمان:
 جدول الحضور

الإمضاء	البريد الإلكتروني	الهاتف	المؤسسة	الإسم	
	riwa.acerba@ds.gov.lb	03-613 802	دار النهضة	روى دريس	21
			دار الهندسة	إيلي أبو صبيح	22
	analysis@information-international.com	01-983028/9	المعملية للمعلومات	ألسيا مقال	23
		01-981431	مجلس الوفاق والاعمال	عامم فؤاد	24
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	rmaldy@cd.r.gov.lb	01-991431	مجلس الوفاق والاعمال	رندة خالد	26
		03/944384	مجلس الوفاق والاعمال	ماريون جيف	27
		03/836859	مجلس الوفاق والاعمال	ماريون الوفاق	28
	hjeidlawfina@fadel.gov.lb	03/30557	مجلس الوفاق والاعمال	حبيب جليل	29
	fouad_2bse@khalid.gov.lb	03/31158	مجلس الوفاق والاعمال	فؤاد عبد الصمد	30
		03/208524	رئيس بلدية نهر العذراء	د. مروان عبد الحميد	31
		71/222268	رئيس بلدية حواليا	صبيح الكرم	32
	antonysaid@gmail.com	03/299669		انطوان صبيح	33
	joaid@ic.edu.lb	70/988081	عضو مجلس بلدية نهر العذراء	جونى يوسف عيد	34
		03/63477	مجلس بلدية نهر العذراء	جانة الياس عيد	35
		07-980627	مجلس بلدية نهر العذراء	لؤلؤ الياس عيد	36
		07-982198	مجلس بلدية نهر العذراء	كوكب قاسم عيد	37
	rianda.daher@awali-pmu.com	01-339997	PMU AWALI PROJECT	م. ريان داهر	38
	basam.hassallat@awali-pmu.com	01-337165	PMU " "	م. بسام حلاله	39
		03/30566		وليم طرس	40

مشروع "زيادة تغطية منطقة بيروت الكبرى بمياه الشرب"
 إستشارات العامة - المكان: مقر بلدية بيروت - الزمن: 2013/6/10
 جدول الحضور

الإمضاء	البريد الإلكتروني	الهاتف	المؤسسة	الاسم	
شادي عبيد		70/845288	بلدية بيروت الكبرى	شادي عبيد	21
ابراهيم جويلى	e.moussallip@drp.gov.lb	03/774461	مجلس الأبحاث والدراسات	ابراهيم جويلى	22
نايك مونتف	naik.montef@drp.gov.lb	03/90146	دار الأبحاث	نايك مونتف	23
John Davy	John.Davy@drp.gov.lb	03/83225	Dav At-Hamdanah	John Davy	24
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Mazraat El Dahr Municipality - 10 April 2012	
Names	Affiliation
Riwa Al Derbas	Dar Al-Handasah
Elie Abou Rjeili	Dar Al-Handasah
Alicia Jammal	Information International
Issam Fidawi	Council for Dev. & Reconstruction
Roland Ghawi	Council for Dev. & Reconstruction
Maroun Houbaika	Midan Village
Maroun El Khoury	Midan Village
Hasib Jamil Eid	Mazraat El-Daher Municipality
Fouad Abdel Samad	Aamatour Municipality
Thoukan Abdel Samad	Aamatour Municipality
Monsif Al-Akkoum	Baba Municipality
Antoine Hasib Eid	Mazraat El-Daher Municipality
Johnny Yousef Eid	Mazraat El-Daher Municipality
Jack Elias Eid	Mazraat El-Daher Municipality
Nawal Elias Eid	Mazraat El-Daher Municipality
Hikmat Kaysar Eid	Mazraat El-Daher Municipality



Scoping Session at Mazraat El Dahr Municipality

Summary of issues raised during Session 2

Hassib Jamil Eid Head of Mazraat El Dahr Municipality	Response
The priority and main concern of Municipality of Mazraat El Dahr is not to inundate the church of Mar Moussa and other historical ruins. In case it is impossible to preserve this church, we ask the Lebanese government to fund the protection or relocation of the church in coordination with the Municipality	Noted. The ESIA will address this issue
Johnny Youssef Eid Mazraat El Dahr Municipality	Response
What will happen to the present Awali-Joun HEP?	This will depend on the proposed compensatory flows discharged from the dam
Will there be a new HEP on the new dam?	A new HEP will be proposed
What are the GHG resulting from the reservoir?	GHG from reservoirs has been the subject of studies in several parts of the world. Much depends on efficient project management, and this will be fully discussed in the ESIA
Fouad Abd El Samad Ammatour Municipality	Response
Has there been an ESIA done in the previous studies and has an inspection been made to check the roman columns? The historical value is of great importance to the local people	An ESIA was undertaken previously. The Consultant is aware of the Roman columns and other historic and cultural remains, and will discuss them in the ESIA.
Maroun Hobeika Midane Village	Response
The Bisri Project is vital project for the region and we ask to speed up implementation because it will provide new job opportunities and improve tourism. This also requires the construction of the Midane/Bisri road which is ready for implementation and is of length 60 km and width 10 m.	Noted. New road construction is outside the scope of the present ESIA.
Please note the disposal of wastewater from Jezzine-Meshrif into the location of the dam will affect the quality of the reservoir	Noted. Sewerage for the villages discharging above the dam site will be a clear recommendation of the ESIA.
Unattributed Comment	Response
The overall attitude was positive towards the Project and they were expecting since long time	No Consultant's response required.
What will be 2 planned roads upstream of the projected dam and that connect the villages of Jezzine caza (southern bank of river) to Iklim villages (northern bank)?	Road construction other than to access the dam is outside the present scope of the ESIA.
This project is solely for Beirut Water supply, how can we be beneficiaries	In most dam projects, some allowance is made for local water use.
Should Permits for construction inside the reservoir continue to be given to people?	Since MEW has stated clearly that it intends to construct all three dams, planning policy should perhaps be reconsidered.

Session 3: Local authorities and residents in the vicinity of Damour Dam and Nahr Damour

Location/Date: Dmt Municipality/April 12, 2012

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"

.....إستشارات العامة- المكان:.....الزمان:

جدول الحضور

الإمضاء	البريد الإلكتروني	الهاتف	المؤسسة	الإسم	
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	amin.ch24@hotmail.com	03/256522	بلدية كفرموش	امين عثمان فنتا	4
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		03.000000	بلدية كفرموش	عبد الله انور	6
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	imaco.ec@hotmail.com	03.346586	بلدية كفرموش	م. ميثاق مهنا	10
		051720414	بلدية كفرموش	صنان فؤاد طربيه	11
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مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"

.....إستشارات العامة- المكان:.....الزمان:

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		03/445775	مجلس كفرموش	عبد الله ابو عوف	25
		03/191632	بلدية كفرموش	عبد الله ابو عوف	26
		03/821856	بلدية كفرموش	عبد الله ابو عوف	27
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مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"

.....الزمان:.....المكان:.....إستشارات العامة

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		٢/٩٦٧٤٤٤	كفر صبي	سعيد نظام/مشار	32
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مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"

.....الزمان:.....المكان:.....إستشارات العامة

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	shahid@deg.gov.lb	٠٣ 8853٠٣	Dr At-Hamdeh	شاهيد	27
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Dmit Municipality - 12 April 2012	
Alicia Jammal	Information International
Afif Abou Kheir	Dmit Municipality
Said Shahine Abou Dargham	Dmit Municipality
Riwa Al-Derbas	Dar Al-Handasah
John Davey	Dar Al-Handasah
Fay Mushantaf	Dar Al-Handasah
Suheil Srouf	Dar Al-Handasah
Afif Zein El-Dine	Kfar Fakoud Municipality
Fauzy Naser	Kfar Fakoud Municipality
Marwan Mrad	Kfar Fakoud Municipality
Samih Azzam	<i>(not given)</i>
Adel Khadah	Kfar Matta Municipality
Ismail Makki	Council for Dev. & Reconstruction
Randa Nimr	Ministry of Energy and Water
Randa Daher	PMU Awali Project
Roland Ghawi	Council for Dev. & Reconstruction
Akram Torbey	Deir Baba Municipality
Anis Bou Dargham	Kfarhim Village
Said Ghannam	Kfarhim Village
Naji Wadia Zeidan	Dmit Municipality
Zouheir Al-Kadi	Dmit Municipality
Samer Al-Khawand	MoA
Ghazi Abou Khouzam	Progressive Socialist Party
Salim Ghanem Abou Dargham	Progressive Socialist Party
Basir Al Saadi	Dmit Municipality
Nabil Abou Chakra	Dmit Municipality
Karim Al-Khatib	Eco Village
Assem Fiddawi	Council for Dev. & Reconstruction
Nader Azzam	<i>(not given)</i>
Afif Abou Kheir	Dmit Municipality
Amin Torbey	<i>(not given)</i>
Said Shahine About Dargham	Dmit Municipality
Asaad Ghannam	Lawyer
Majed Said Zahreddine	Kfar Fakoud Municipality
Hamid Hilmy Torbey	Deir Baba Municipality
Bassam Nasrallah	PMU Awali Project
Antoinette Sleiman	Litani River Authority
Fandy Torbey	Bank of Beirut and the Arab Countries
Amin Ghneim	Kfarhim Municipality
Samir Khouzam	Kfarhim Municipality
Kamal Kaed Bey	Dmit Municipality
Hani Khaddaj	Dmit Municipality
Khaled Aoun	Mushref Municipality
Michel Mhanna	Mushref Municipality
Hassan Fouad Torbey	Deir Baba Municipality

**Summary of issues raised during Session 3
with corresponding responses**

Hassan Fouad Torbey - Deir Baba Municipality	Response
There is an antique water mill and a natural cave in the reservoir area which were not mentioned in the presentation.	Thank you for informing us. The ESIA Consultant will investigate.
There is a productive land we depend on.	Loss of productive land will be minimized as much as is possible.
Ghazi Abou Khouzam - Progressive Socialist Party	Response
We understand the project is going to serve the water need of Greater Beirut, whereas the villages around the project will benefit from the drinking water and water for irrigation to develop the agricultural sector	Allowances for local water supplies will be provided.
Assaad Ghneim - Lawyer	Response
Will they implement the Expropriation law and pay the mandatory compensation or leave it to the World Bank based on the Municipalities' solutions?	Compensation for land and asset take will be in accordance with the laws of Lebanon, primarily the Expropriation Law of 1991 and its later amendments, and, if financed externally, with any particular requirements of the Funding Agency
Nabil Abou Chakra - Dmit Municipality	Response
Are we benefiting from the water and energy supply from this project or is this dam solely going to serve Beirut?	Allowances for local services will be provided.
Unattributed Comment	Response
How would productive land above the reservoir benefit from the water? Will the project account for any pumps?	Local water supplies are likely to be provided. The issue of pumps is one for detailed design.
Will there be HEP for the 3 sites?	It is expected that each of the dam sites will also supply hydropower.



Public Scoping Session for Residents of Damour Site Held in Dmit Municipality.

Session 4: Local authorities and residents in the vicinity of Jannah Dam and Nahr Ibrahim

Location/Date: Qartaba Municipality/April 21, 2012

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"
 استشارات العامة - المكان: الزمان: الساعة 11

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	-	13/025	عبد القادر شركة تومر	عبد القادر	8
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	ismail@...@...@...@...	03/685650	عبد القادر	عبد القادر	12
	...@...@...@...@...	03/603337	صاحب عمارة	عبد القادر	13
	...@...@...@...@...	03/696963	الهيئة الوطنية للطاقة	عبد القادر	14
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مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"
 استشارات العامة - المكان: الزمان: الساعة 11

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Qartaba Municipality - 21 April 2012	
Mohammad Chamseddine	Information International
Abdo Francis	Electricite du Liban
Kamal Youssef el Khoury	Kartaba Municipality
Riwa Al-Derbas	Dar Al-Handasah
John Davey	Dar Al-Handasah
Fay Mushantaf	Dar Al-Handasah
Suheil Srour	Dar Al-Handasah
Abdo Elias Saker	Kartaba Municipality
Joseph Tanious El Sokhn	Kartaba Municipality
Abdo Daniel Challita	Kartaba - Mkattaf Company
Walid Salem	Butcher
Melkan El Beainy	Yanouh & Hdaine Municipality
Chehade Karam	Electricite du Liban
Monsieur Youssef el Sokhn	Maronite Parish of Jbeil
Akram Karam	Engineer
Ismail Makka	Council for Dev. & Reconstruction
Assem Fidawi	Council for Dev. & Reconstruction
Antoinette Sleiman	Litani River Authority
Joseph Dakkash	Lebanese Maronite Monastery
Roland Ghawi	Council for Dev. & Reconstruction
Elie Abou Rjeili	Dar Al Handasah
Nemr Beirut	<i>(not given)</i>
Youssef Tanious Chahine	Kartaba- Truck Owner
George Antoine Najem	Kartaba- Engineer
Hanna Youssef Frem	Saraaita- Contractor
Randa Nemr	Ministry of Energy and Water
Karam Karam	Kartaba
Kalim Karam Karam	Karam Trade

**Summary of issues raised during Session 4
with corresponding responses**

George Najem - Engineer	Response
The environmental impact on Qartaba is the humidity that will arise from the dam, knowing that its climate now is dry	<i>The reservoir will have a relatively small surface area for the volume of water stored. Direct evaporation will therefore be limited and while there will be an increase in humidity in the immediate vicinity of the shoreline; this is not expected to significantly extend to the surrounding villages on the higher slopes where regional air movements will generally reduce any local impact.</i>
Qartaba stands on top of underground reservoir of water. Is there any problem with its slope being linked permanently to water?	Slope stability will be considered within the ESIA.
Joseph Dakkash - Head of Mar Sarkis and Bacchus Monastery	Response
The project needs the scientific study of the geology	<i>MEW has already undertaken extensive geological investigations for Janneh and no doubt more will be undertaken as construction proceeds.</i>
The negative impacts affecting the villages surrounding the dam site and the damage to agriculture, plants, fisheries and the ecosystem	These will also be addressed by the ESIA.
Rights of land owners to irrigate the lands in the upstream and downstream of dam	The rights of Riparian owners under Lebanese law will be protected.
Conserving the categorization of Nahr Ibrahim as a World Heritage site, preserving the heritage and archaeological remains, and preserving the church and monasteries.	Nahr Ibrahim is not formally classified as a World Heritage site. It is also not a Protected Area under Lebanese law, although it has long been recommended it should be. Its heritage is nonetheless significant and the ESIA will take account of this. Within the area of the proposed reservoir there are no churches or monasteries.
Means of compensation for land take	<i>Compensation for land and asset take will be in accordance with the laws of Lebanon, primarily the Expropriation Law of 1991 and its later amendments, and, if financed externally, with any particular requirements of the Funding Agency.</i>
Invest the tourism, agriculture and residential development. Guarantee establishing tourist projects	While it is likely investment will be attracted to the reservoir this is likely to be largely in the hands of the private sector. The steep slopes and cliffs within which the reservoir will be located may constrain shoreline development.
Abdo Daniel Challita	Response
The dam is for the benefit of our region in its tourism, agriculture, and development. Good luck in building the dam as soon as possible.	No Consultant's response required.
Abdo Samir Francis - Electricite Du Liban	Response
I support building the dam because it benefits Qartaba and its surroundings but keeping in mind the negative impacts on the environment.	Noted

Melkan El Beainy - Head of Municipality of Yanouh and Hdaine	Response
Treat the wastewater from the villages surrounding the reservoir by suggesting upgrading the system.	A major recommendation of the ESIA is likely to be that sewerage schemes for the villages currently discharging into the valley upstream of the dam be prioritized.
Improve the roads from Nahr Ibrahim to dam site to help tourism in the villages around the dam	Some improvements can be expected in order to improve the flow of construction traffic. The ESIA will address this and any need for subsequent improvements

Joseph El Sokhn - Instructor	Response
The course of Nahr Ibrahim is a path of historical value starting from the fortress of Jbeil to the Afqa cave, where religious rituals used to take place. It is certain that there are cultural monuments there, thus we ask to disclose of any archeological remains in order to take the proper decisions before losing them for good	A full archaeological, historical and cultural heritage survey will be undertaken on the priority site in accordance with the requirements of the General Directorate of Antiquities
Please categorize the Concerns in 2 phases: (before construction and after construction) and answer all the questions to have a positive outcome of this project	The ESIA will, as is usual, address the pre-construction, construction and post-construction impacts and their management separately
Unattributed Comment	Response
People are concerned with land slide in Saraaita	The potential for slope instability will be addressed by the ESIA.
What is the water level in the reservoir?	The currently proposed operating water level in the Jannah Reservoir is 834 m above national datum level
Is the dam site location final?	MEW have already completed substantial site investigations and subject to detailed design, is considered final.
Geology is not favorable for storing water in the reservoir	The water-tightness of the reservoir is an important consideration that will be addressed in the ESIA and subsequently
Will we get drinking water from the dam? Will the villagers benefit from the dam?	The design reports make an allowance for water supply to adjacent villages.
We want pumps to get water to Qartaba and Lassa	Noted.
Apple orchards will be inundated, compensation will not be enough.	Compensation for land and asset take will be in accordance with the laws of Lebanon, primarily the Expropriation Law of 1991 and its later amendments, and, if financed externally, with any particular requirements of the Funding Agency
There are archeological remains in: Wadi Betrayish, Wadi Adonis, Roman inscriptions on the rocks	A full archaeological, historical and cultural heritage survey will be undertaken on the priority site in accordance with the requirements of the General Directorate of Antiquities



Public Scoping Session for residents of the Jannah Area held at Qartaba Municipality

Session 5: Water consumers of Beirut southern suburbs

Location/Date: Hadath Municipality/April 24, 2012

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"
 استشارات العامة - المكان:الزمن: 5/5/12
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	sno.chiyah@live.com	03/955002	بلدية رستاق	ماي-نويل شرفان معلوف	17
		05/430603	بلدية كفرشما	داني فرحات	18
	ingharb@yahoo.com	03/208804	الحدث	المهيرة ابو مريه	19
	ced@cdg.gov.lb	01-981471	مجلس البعث والعمار	عالم فزاري	20

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"
 استشارات العامة - المكان:الزمن:
 جدول الحضور

الإمضاء	البريد الإلكتروني	الهاتف	المؤسسة	الإسم	
		03/956510	بلدية الكويك	مبارك حيا	21
		03/246553	بلدية الجبل	فانوس عيسى	22
	Selim.sakr@Holmita.com	03/828928	بلدية الجبل	سليم صقر	23
	eliephatou@taker.com	03/317721	بلدية الجبل	اساتيفات فاهم	24
	John.Davey@darjimp.com	01-790002	Dav At-Handarah	John Davey	25
					26
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Hadath Municipality - 24 April 2012	
Mohammad Chamseddine	Information International
Nassim Abi Fadel	Dar Al Handasah
Phillipe Nassar	Dar Al Handasah
Riwa Al-Derbas	Dar Al-Handasah
John Davey	Dar Al-Handasah
Elie Abou Rjeili	Dar Al Handasah
Suheil Srour	Dar Al-Handasah
Randa Daher	Awali Project
Elie Moussali	Council for Dev. & Reconstruction
Roland Ghawi	Council for Dev. & Reconstruction
Assem Fidawi	Council for Dev. & Reconstruction
Edward Aoun	Municipality of Hadath
Mohsen Sabra	Slomia Co.
Fathi Chatila	Arab World Water Magazine
Khalil Sasi	Furn El Chebbak Municipality
Marie-Noelle Cherfan Maalouk	Chiah Municipality
Elie Farhat	Kfarshima Municipality
Antoinette Sleiman	Litani River Authority
Elie Harb	Hadath Municipality
Mounir el Rishani	Choueifat Municipality
Farouk Arbid	Choueifat Municipality
Salim Sakr	Hazmieh Municipality
Elias Habib Hatem	Hazmieh Municipality

**Summary of issues raised during Session 5
with corresponding responses**

Fathi Chatila - Arab World Water	Response
There will not be enough water in Qaraoun Lake to supply Greater Beirut	This is not disputed
There is a need to consult people from the South and Saida before taking water	The Ministry and CDR are committed to public consultation of internationally-funded projects
I am concerned about the poor water quality coming from Qaraoun	While Qaraoun water will not be used to supply Greater Beirut, recent and ongoing studies have shown it can be satisfactorily treated by conventional techniques
I believe Nahr Damour can store 90 Mm ³ in and not just 32 Mm ³ as suggested by Libanconsult	The Consultant will be checking the capacity for reservoir storage and supply during the study
90% of the water in Joun comes from Qaraoun	The proportion of Qaraoun water in Joun is subject to seasonal variation, which is unlikely to exceed 30% and may at times be significantly less
A dam in Damour will be more cost-effective than conveying water from Qaraoun	If taking Beirut water from Qaraoun Lake were possible, the two schemes would not be comparable
We are depriving the people of the south from getting their water, whereas if we get the water from Damour dam this will not be a problem.	The people of South Lebanon will not be asked to forfeit their rights to water for Beirut residents
Mohsen Sabra - Litani Water Authority	Response
Qaraoun is highly polluted and although treatment is very costly, though it's not impossible	Recent studies have shown Qaraoun water may be treated by conventional means.
What's the time frame for the preparation of the ESIA and when are you going to start implementation?	The current ESIA project will be completed by the end of September 2012. Implementation will commence with detailed design as soon as funding is made available
Damour dam is closer to Beirut and water quality is much better and more cost effective than the other options.	If so, the present study will confirm it
Municipality of Hazmieh	Response
Why don't we study constructing a dam at Beirut River?	The Beirut River is outside the present scope of study. The Consultant assumes Nahr Beirut has previously been studied and disregarded on technical and economic considerations

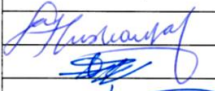
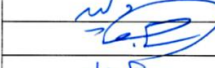

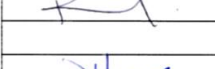
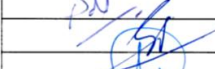




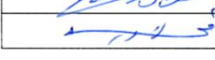






Session 6: Water Consumers of Central Beirut

Location/Date: Beirut Municipality/May 5, 2012

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"

.....:الزمان:.....:المكان:.....:إستشارات العامة

جدول الحضور

الإمضاء	البريد الإلكتروني	الهاتف	المؤسسة	الإسم	
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		03 644374	الإسكان الفنى	محمد الزعبي	2
		01819650/	الكلية الجامعية (م) ١٩٩٠	وليد دعناق	3
		03 492806		سعيد كنعان	4
				وليد عتيق	5
			ozor	محمد أبو بكر	6
		03/240553	وزارة الطاقة	أحمد خير	7
		03-0194000	رايوت انما	نبال زهران	8
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		6/1983=08-9	الدرية للدراسة	محمد حسن الدين	20

مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"

.....المكان:.....الزمان:

جدول الحضور

الإمضاء	البريد الإلكتروني	الهاتف	المؤسسة	الإسم	
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	z.salibi@futurepipe.com	01-800400	FUTURE PIPE	زياد السليبي	22
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		01-352398	Mahmoud Chehab	شاهد شهاب	24
	Zeinab.Chehab@hotmail.com	70-745306	Riad.Chehab@tea.com	زينب شهاب	25
			مجلس القضاء	انطوان حبيب	26
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مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب"

.....المكان:.....الزمان:

جدول الحضور

الإمضاء	البريد الإلكتروني	الهاتف	المؤسسة	الإسم	
		01-791114	دار الهندسة (شركة)	ايلى اوف	21
	uni@vip6.hadad.com	01/07083	دونتيرال الكوكب	محمد حاتم	22
		03/77070	جهد الأكواد	محمد حاتم	23
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	asamf@car.youlib.com	01-426703	مركز الدراسات والبحوث	عاصم مزاري	25
	Fax 01/662646	01-8504946	مجموعة مركز الأبحاث	تامر زاملات	26
	01366910	03734215	إي سي سي	احمد مزور	27
		03/284700	إي سي سي	عبدالله مزور	28
		03/937217	الاتحاد البرقي	محمد علي	29
	03/371275		بنية عالم البناء العربي	محمد المصطفى	30
	f.chatila@cephal.media	03-558944	بنية عالم البناء العربي	إبراهيم الصالح	31
	KDAOUK1@104.Mt	03652547	بنية عالم البناء العربي	يحيى كاسلا	32
	akkami@mt.com	01-911117	بنية عالم البناء العربي	جمال الداعوق	33
	John.Davey@darqmp.com	01-790802	Der Al-Haudarak	جمال عتاي	34
	Rina.Chen@darqmp.com	01-790802	Der Al-Haudarak	John Davey	35
	penamar@darqmp.com	01-790802	Der AP Haudarak	بروي الدركس	36
				مطلب: نهار	37
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Beirut Municipality - 5 May 2012	
Mohammad Chamseddine	Information International
Fay Mushantaf	Dar Al Handasah
Mohammad Chatila	Universal Equipmentt
Riwa Al-Derbas	Dar Al-Handasah
John Davey	Dar Al-Handasah
Elie Abou Rjeili	Dar Al Handasah
Suheil Srouf	Dar Al-Handasah
Basma Traboulsi	National Women's Union
Ismail makke	Council for Dev. & Reconstruction
Tania Zakhan	Directorate General of Antiquities
Assem Fidawi	Council for Dev. & Reconstruction
Ahmad Mgharbel	Association of the Charity Center
Aref Dia	Lebanese University
Mohammad Ali Sinno	Beirut Union
Mohammas el	Beirut Union
Idriss Saleh	Union of Lebanese & Arab Associations
Fathi Chatila	Arab World Water magazine
Khaled el Daouk	Group of Reform and Progress
Imad Akkawi	Organization of Isa'af Sha'abi
Phillipe Nassar	Dar Al Handasah
Antoine Habib	Future Pipe
Ziad el Salini	Future Pipe
Abboud Zahr	DEP
Nawal Chatila	<i>(not given)</i>
Zeinab Chehab	<i>(not given)</i>
Antoinette Sleiman	Litani River Authority
Mohammad el Z'anni	<i>(not given)</i>
Walid Deghman	Social Committee
Samir Knio	<i>(not given)</i>
Walid Itani	<i>(not given)</i>
Mahmoud Oz'or	Organization of Isa'af Sha'abi
Randa Nemr	Ministry of Energy and Water
Khaled Zahran	Beirut Inhabitants Association
Salim Kreidie	Dar El Nahda Engineering
Dahej el Mokdad	Ministry of Agriculture
Mona Itani	Beirut Inhabitants Association
Elham Bekdash	National Labor Campaign
Souhaila Edriss	Operation Big Blue
Samir Zaatiti	Lebanese University
Hassan Jaafar	Hydrogeologist
Bassam Jaber	Ministry of Energy and Water
Motassem Fadel	American University of Beirut
Mohammad Khaled Soubra	Office of MP Bahaa El Dine Itani

Fathi Chatila - Arab World Water	Response
The fact that the Damour reservoir can supply 32 Mm ³ is wrong. There is the capacity for 90 Mm ³	The Consultant will be checking the capacity for reservoir storage and supply during the study.
The Awali Project is 90% from Litani, it should not be called Awali	The current proposal is for no further water for Beirut to be taken from Nahr Litani
In the 1970's the people of South Lebanon were against water being conveyed from Nahr Litani to Beirut.	Noted
Nahr Litani is the most polluted river in Lebanon but MEW claims it can be treated conventionally. They disregard the fact that sixty villages around Qaraoun are susceptible to diseases such as cancer due to the bad water quality.	Whilst the Litani continues to suffer pollution, ongoing projects such as Litani Wastewater will substantially improve water quality. The enforcement of existing environmental laws could be used to address specific problematic discharges.
Salim Kriedieh - Dar El Nahda Engineering	Response
Provide drinking water from Bisri dam	As shown in the presentation, this is one of the options being studied.
Idriss Saleh - President of Union of the Lebanese and Arab Associations	Response
I recommend to group all the specialists to come up with a solution	To the same end, the Consultant has been appointed to consider everyone's point-of-view and make a considered judgement
Randa Nemer - Advisor to MEW	Response
With the construction of Canal 800 and Canal 900 there is insufficient water to supply Greater Beirut from Qaraoun to supply Greater Beirut area. If the money is provided, all three dams will be implemented, because over the years the costs will only rise.	No response required
Basma Traboulsi - National Women's Union	Response
We don't want water if it will be polluted	It will be the intention of both the Ministry and the Water Establishment to ensure water delivered to consumers' taps meets current environmental health standards and is fit-for-purpose
Hassan Jaafar - Hydrogeologist	Response
Qaraoun water does not go to Beirut consumers	The Consultant confirms that at the present time no Qaraoun water is supplied to Greater Beirut, and as MEW has commented above, it is not proposed to do so in the future

Abboud Zahr - DEP	Response
I am a citizen who buys water due to water shortage in Beirut. We need a solution, I don't care what decision you take, and I just need to have water in my tap	I am sure your concerns are shared by the vast majority of Beirut's population and this is what the National Water Strategy aims to provide
My greatest concern is that after the water is conveyed, the water quantities will actually decrease rather than increase because of the excess of leakage that will occur when the water pressure suddenly increases in the pipes. Poor conditions of the household connections lead to leakage. Thus they need to be rehabilitated at the same time of the project.	You are correct to highlight the present significance of leakage. For this reason the GBWSP includes major elements of leakage identification and repair, and the installation of both bulk meters on the distribution network and household meters to monitor water use and assist with the identification of future leaks
Aref Dia - Lebanese University	Response
Qaraoun Lake contains cyanobacteria, which is a dangerous toxin. Does the Ministry know by what means and where it will be treated?	<p>For those not familiar with the term, cyanobacteria are more commonly known as blue-green algae, a variety of planktonic cells found in most terrestrial and aquatic habitats; in the sea and fresh water, in the soil and on bare rock. Some cyanobacteria produce cytotoxins that may be harmful to animal and marine life, including humans but 30-50% of cyanobacteria are harmless.</p> <p>A number of standard elements of conventional water treatment process streams, such as flocculation, chlorination, microfiltration and ozonation have been shown to be effective in destroying cyanobacteria and in removing microcystins, a major cytotoxin common in fresh water for which the WHO has established a guideline value. Any future MEW/BMLWE treatment plant will be expected to meet or exceed WHO standards for water quality delivered to consumers.</p> <p>The reduction in discharges into the environment of nutrient-high wastewaters will also reduce the potential for cyanobacteria and algal bloom formation</p>
Imad Akkawi - Organization of Isa'af Sha'abi	Response
For 42 years, studies have discussed Litani's pollution. People from the south need this water for their development	Litani water is indeed vital for South Lebanon.

Ahmad Mgharbel - Association of the Charity Center	Response
<p>Leakage is external (visual) and hidden. I will focus on the visual leakage and leave the other leakage to be discussed by specialists. Leakage occurs as a result of float valve malfunction, water tank and pipe deterioration. I therefore suggest giving notice to fix all leakages within a specific time frame and thereafter penalize offenders, and increase public awareness of the negative impact of leakages.</p>	<p>Leakage is indeed an important issue and current estimates are that 50% or more of water put into distribution may be lost. The GBWSP includes elements for leakage identification and repair, for bulk metering to help identify future leaks, and for household metering to assist families better manage their own losses. Whether regulation of public activities within the water sector will work in Lebanon any better than it does in other sectors will doubtless be subject to debate.</p> <p>Almost certainly, one recommendation of the GBWSAP ESIA will be the establishment of a 'hot line' via which citizens can report leakages and water use abuse.</p>
Unattributed Comment	Response
<p>The stakeholders are not concerned with people's opinion; they do projects without asking people</p>	<p>While accepting this may be the view of many, the Consultant views everyone, those that supply and consume water, as stakeholders. Hence the Consultant has embarked on the present series of public consultation meetings and will hold another round of meetings to report the results of his study</p>
<p>The people of Beirut want Damour Dam because of its easy access and better water quality than other rivers</p>	<p>If this is the case the present study will confirm it.</p>
<p>The numbers in the presentation are not correct.</p>	<p>The numbers in the presentation are drawn from recognised sources such as MEW's National Water Strategy, the World Bank's GBWSP Project Appraisal Document, and the various Feasibility Reports for the dam options. For Scoping purposes they will suffice and the Consultant will endeavor to elicit the correct figures for presentation in the ESIA</p>
<p>Despite considering mainly surface water, 75% of Lebanon's geology comprises karst formations. Thus we need to take into consideration ground water</p>	<p>Ground water is already an important source of water supply and will continue to be so. Over-abstraction of the coastal aquifers has increasingly led to saline intrusion. While valuable ground water resources remain these have to be fully investigated and shown to be sustainable before they can be relied upon for vital supplies such as for the capital. There is currently a moratorium on the drilling of new water wells</p>

PowerPoint Presentation and Handout


مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب
 دراسة تقييم الأثر البيئي والاجتماعي
 المرحلة الأولى
Greater Beirut Water Supply Augmentation Project
 Environmental and Social Impact Assessment
 Phase I

المقدمون
 ستقوم السيدة روى العريس بدور المقدم الرئيسي لهذه الندوة
 كما حضر للاجتماع عن استئتمكم:
 د. سهيل سرور- الذي ستقوم بدور رئيس الجلسة
 د. جون دايفي- قائد فريق تقييم الأثر البيئي والاجتماعي لمشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب
 الأمانة فاني مشتتف- مخصصة في مجال البيئة
 كما يضم فريق تحضير تقييم الأثر البيئي والاجتماعي اخصائين في مجال الجيوفيزياء والهيدرولوجيا وبناء السدود واخصائين اجتماعيين
 كما حضر للاجتماع على الاسئلة التي تتجاوز النطاق المباشر للمشروع السيد حاتم قداوي - مدير مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب لدى مجلس الامماء والاصهار

أهداف الندوة
 إن أهداف الندوة اليوم هي:
 1. شرح أولي عن نطاق مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب.
 2. عرض ملخص للتقييم الأولي للاستشاري فيما يخص الأثار البيئية والاجتماعية المحتملة، منها الإيجابي والسليبي.
 3. الحصول على تعليقاتكم بشأن المشروع الإيجابية منها والسلبية، وتسجيل ملاحظتكم وإقتراحاتكم لأخذها بعين الاعتبار خلال عملية تقييم الأثر البيئي والاجتماعي.

العناوين
 • الوضع الحالي لإمدادات المياه
 • شح المياه في لبنان
 • الوضع المستقبلي المتوقع
 • معالجة مشكلة شح المياه
 • مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب GBWASP
 • الخيارات التي سيتم البحث فيها
 • بناء السدود كحل محتمل
 • مقارنة بين المواقع المقترحة
 • الأثار المحتملة للسدود
 • خطة لإدارة البيئية والاجتماعية
 • الحد من استهلاك الاراضي
 • استشارات العملة

الوضع الحالي لإمدادات المياه
 • يقدر عدد سكان لبنان بـ 4.4 مليون (2010)، 64% منهم يعيشون في بيروت الكبرى وجبل لبنان
 • يتلقى 1.9 مليون شخصاً المياه من جيوتا عبر محطات المعالجة في الضبية وأبار الدامور وعدة مصادر ثانوية، إلا ان امدادات المياه غير كافية وغير متوازنة موسمياً
 • تتلقى بعض الاسر المياه من الشبكة العملة لأقل من 3 ساعات يومياً في منطقة بيروت الكبرى
 • تمخض الكثير من الاسر على:
 (أ) المياه الجوفية من الأبار ذات البنية الضعيفة وغالباً غير فلتونية
 (ب) شراء المياه من الخزانات العائدة لتقطاع الخاص، منها ما هو غير صالح للشرب
 (ج) مياه الشرب المعبأة ذات الكلفة العالية ومنها ما هو غير صالح للشرب

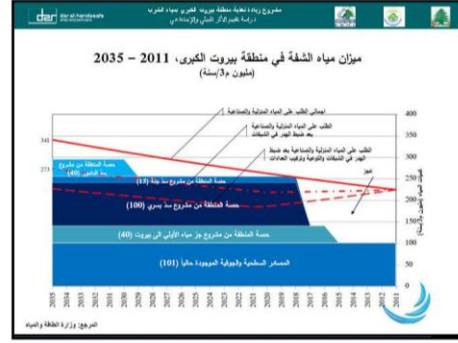
شح المياه في لبنان
 • يقدر مجموع ثقل المياه السطحية بـ 735 مليون متر مكعب/سنوياً، تذهب كمية كبيرة مفقودة الى البحر
 • تعود أسباب مشاكل قطاع المياه في لبنان إلى العوامل التالية:
 ✓ شبكات نقل وتوزيع غير فعالة ومحدودة وقديمة
 ✓ غياب العدادات وبيئية التوعية المنخفضة بالاستهلاك
 ✓ الإفراط في استخراج المياه الجوفية، مما يؤدي إلى تآكل المياه المالحة
 ✓ ندبة عالية من المياه غير المحتوية والضعف في استرداد التكاليف
 ✓ نقص في الاستثمار في البنية التحتية الحديثة للمياه
 ✓ ضعف في القدرة المؤسسية
 ✓ غياب الوعي والمشورة والمشاركة العامة

مشروع زيادة كفاءة منطقة بيروت الكبرى مع مياه العرب
إدارة المياه والكهرباء والصرف الصحي

الوضع المستقبلي المتوقع

Predicted Future Situation

- يقدر عدد سكان بيروت الكبرى بـ 1.9 مليون (2010)
- من المتوقع أن يصل عدد سكان بيروت الكبرى إلى 2.3 مليون بحلول العام 2035
- من المتوقع أن يصل الطلب على المياه المنزلية والصناعية إلى 341 مليون م³/السنة بحلول العام 2035
- تقدر مصادر المياه الحالية بـ 101 مليون م³/السنة
- تقدر حصة منطقة بيروت الكبرى من جر مياه الأولى إلى بيروت بـ 40 مليون م³/السنة
- يقدر حجم المياه التي ستوفر من مند بسري، جثمة، والدامور بـ 155 مليون م³/السنة
- الحد من الملبأ من خلال ضبط الهدر في الشبكات، وتركيب العدادات وتوعية العامة



مشروع زيادة كفاءة منطقة بيروت الكبرى مع مياه العرب
إدارة المياه والكهرباء والصرف الصحي

معالجة مشكلة شح المياه على المدى القصير (1)

Addressing Water Stress (short-term)

- أطلقت الحكومة اللبنانية من خلال وزارة الطاقة والمياه، مجلس الإنماء والإعمار ومؤسسة مياه بيروت وجبل لبنان مشروع جر مياه الأولى إلى بيروت لسد العجز الحالي وضمان الإمدادات المستدامة لتلبية الطلب على المدى القصير والمتوسط
- سيتم من خلال المشروع نقل 50 مليون متر مكعب (40 مليون ليماء الشفة و 10 مليون للإستعمالات الصناعية) من مند القرون، وعين الزرقا، ولنع فق جزين والنهر الأولي إلى جون عبر قناة قلنة، ثم نقلها في قناة جديدة إلى خلد ومعالجتها في محطة جديدة في الوردانية بغية توزيعها على المستهلكين في بيروت الكبرى .

مشروع زيادة كفاءة منطقة بيروت الكبرى مع مياه العرب
إدارة المياه والكهرباء والصرف الصحي

معالجة مشكلة شح المياه على المدى القصير (2)

Addressing Water Stress (short-term)

- يتضمن مشروع جر مياه الأولى إلى بيروت:
 - ✓ نفق بطول 27 كم
 - ✓ محطة المعالجة في الوردانية
 - ✓ خزانات في الحد والحازمية
 - ✓ شبكات توزيع
 - ✓ عدادات

مشروع زيادة كفاءة منطقة بيروت الكبرى مع مياه العرب
إدارة المياه والكهرباء والصرف الصحي

معالجة مشكلة شح المياه على المدى الطويل

Addressing Water Stress (long-term)

- بدأ مجلس الإنماء والإعمار، بالتعاون مع وزارة الطاقة والمياه ومؤسسة مياه بيروت وجبل لبنان، مشروع زيادة كفاءة منطقة بيروت الكبرى بمياه الشرب GBWSAP بغية تحديد وسائل تعزيز المياه في بيروت الكبرى الأكثر استدامة بيئياً والمقبولة اجتماعياً كي تلبية الطلب على المدى الطويل.

مشروع زيادة كفاءة منطقة بيروت الكبرى مع مياه العرب
إدارة المياه والكهرباء والصرف الصحي

مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب GBWSAP (1)

ينقسم مهام المشروع إلى مرحلتين:

المرحلة الأولى

- إجراء مراجعة تقنية، اقتصادية، بيئية، واجتماعية واسعة، من ضمنها تقييم أولي لتأثير البيئي والاجتماعي لكافة المصادر البديلة واقتراح الخيار المفضل

المرحلة الثانية

- إجراء تقييم لتأثير البيئي والاجتماعي من الفئة أ، من ضمنها خطة إدارة بيئية، وإذا لزم الأمر، ممتدات إعادة الإسكان، للخيار المفضل الموافق عليه

مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب GBWSAP (2)

- سوف يتبع تقييم الأثر البيئي والإجتماعي للمشروع للمعايير الدولية مثل ضسقات البنك الدولي، وذلك وفقاً لميمنة الحكومة اللبنانية.
- تم تكليف دار الهندسة (شاعر ومشاركوه) لتحضير الدراسة، نظراً لخبرتها الطويلة في مشاريع البنى التحتية، ولكونها لم تقم بإعداد أي من الدراسات التي منتم مراجعتها.

مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب GBWSAP (3)

إستثمار إن الماء الأزرق

تحديد نطاق الدراسة

تقييم الأثر البيئي والإجتماعي الأولي (دراسة مشاركة)

مسودة تقييم الأثر البيئي والإجتماعي - منتج الإجتماعي والإجتماعي (مجلس المسائل)

مناقشة نتائج تقييم الأثر البيئي والإجتماعي مع اللجنة

تقرير الأثر البيئي والإجتماعي النهائي - خطة إعادة الإستقرار

يتضمن تقييم الأثر البيئي والإجتماعي خطة لإدارة البيئية والإجتماعية

الخيارات التي سيتم البحث فيها

Alternative Source of Water

1. خيار الـ «لا مشروع» <<
2. التحسين بالتوزيع
3. الحد من التسرب
4. تخفيض المياه غير المحتمبة
5. بناء السدود
6. المياه الجوفية
7. تحلية مياه البحر
8. حصاد مياه الأمطار
9. معالجة مياه الصرف الصحي

بناء السدود كحل محتمل

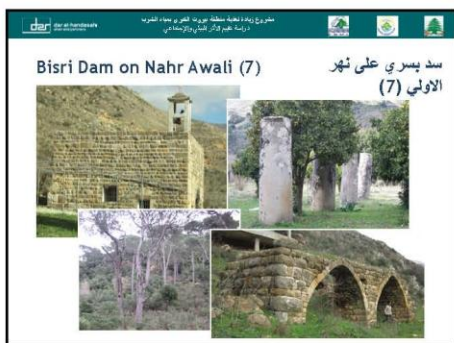
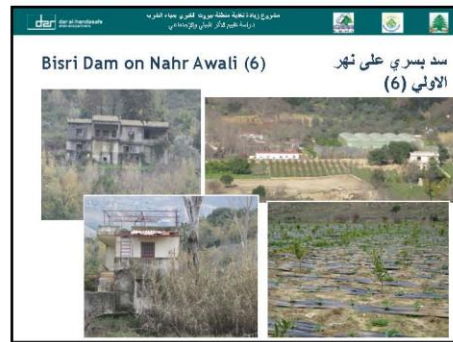
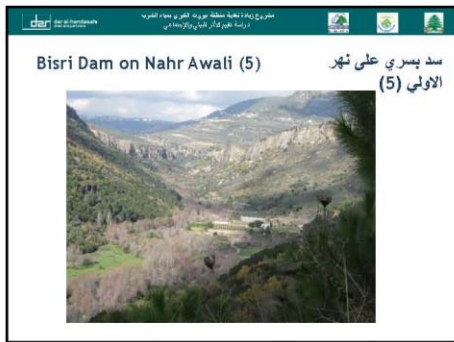
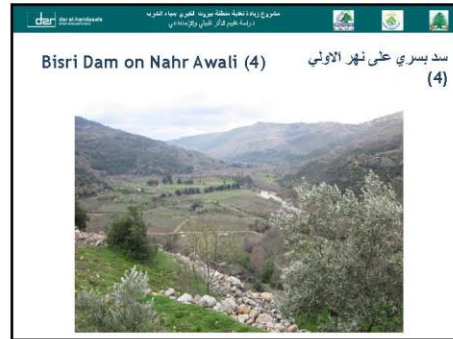
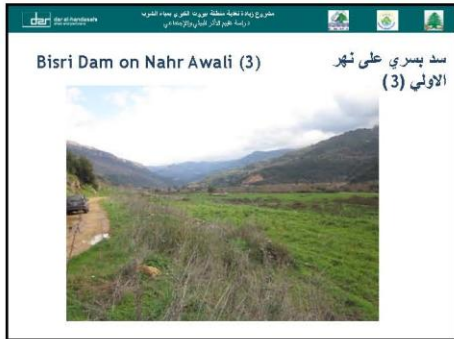
- سد بسري على نهر الأولي
- سد الدامور على نهر الدامور (موقعين)
- سد جنة على نهر ابراهيم

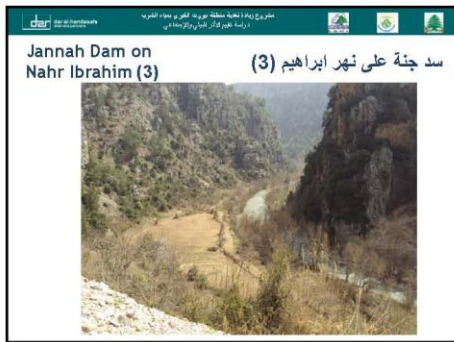
سد بسري على نهر الأولي (1)

Bisri Dam on Nahr Awali (1)

سد بسري على نهر الأولي (2)

Bisri Dam on Nahr Awali (2)







مشروع زيادة كمية المياه في نهر ابراهيم عبر سد جنة
دراسة تقييم آثار السد الاجتماعي

مقارنة بين المواقع الثلاثة Comparison of the Three Sites

السد	النهر	الارتفاع المقترح	مساحة البحيرة	حجم التجميع
بصري	نهر الاولي	74 م	5.9 كلم ²	128 مليون م ³
الدامور (موقعين)	نهر الدامور	90 م	1.2 كلم ²	32 مليون م ³
جنة	نهر ابراهيم	105 م	1.0 كلم ²	37 مليون م ³

مشروع زيادة كمية المياه في نهر ابراهيم عبر سد جنة
دراسة تقييم آثار السد الاجتماعي

Potential Impacts of Dams (1) الآثار المحتملة للسدود (1)

1. الآثار الدائمة		سلبية	ايجابية	المسكدة
• خسارة المناظر الطبيعية والاراضي الزراعية	• خسارة المجتمعات المتنازل، ومباني الاصل	• صعوبة الوصول إلى بعض الأسكنة	• توفير مصدر إضافي للمياه والطاقة	• تحسين الوصول من وإلى الأراضي المجاورة لتسد البحيرة
• تثاقل التربة	• سلامة السد	• تدمير السيلحة والإنتشطة الترفيهية	• القيام بأنشطة ترفيهية في محيط السد والبحيرة	• تحسين الوصول إلى الأراضي المجاورة لتسد البحيرة
• جرف المنشآت السكنية		• فرص عمل جديدة		• توفير فرص اقتصادية جديدة

مشروع زيادة كمية المياه في نهر ابراهيم عبر سد جنة
دراسة تقييم آثار السد الاجتماعي

Potential Impacts of Dams (2) الآثار المحتملة للسدود (2)

1. الآثار الدائمة		سلبية	ايجابية	المسكدة
• نقص في موارد المياه السطحية	• تفتيش موارد الري وزيادة في التلوث	• فقدان التنوع البيولوجي البري والمهري	• إقامة بحيرات وموائل طبيعية جديدة	• إدارة الحوض
• فقدان التنوع البيولوجي البري والمهري	• تفتيش موارد الأسماك	• تدهور التنوع البيولوجي البري والمهري	• تكاثر أنواع جديدة: البساتن، الطيور المائية، الزواحف	• إعادة الإسكان
• تدهور التنوع البيولوجي البري والمهري	• تفتيش موارد الأسماك	• تدهور التنوع البيولوجي البري والمهري	• توفير فرص اقتصادية جديدة	• الصحة العامة
• تدهور التنوع البيولوجي البري والمهري	• تفتيش موارد الأسماك	• تدهور التنوع البيولوجي البري والمهري	• توفير فرص اقتصادية جديدة	• تحسين الوصول إلى الخدمات الصحية والاجتماعية
• تدهور التنوع البيولوجي البري والمهري	• تفتيش موارد الأسماك	• تدهور التنوع البيولوجي البري والمهري	• توفير فرص اقتصادية جديدة	• تحسين الوصول إلى الخدمات الصحية والاجتماعية

مشروع زيادة كمية المياه في نهر ابراهيم عبر سد جنة
دراسة تقييم آثار السد الاجتماعي

Potential Impacts of Dams (3) الآثار المحتملة للسدود (3)

2. الآثار المؤقتة		سلبية	ايجابية	المسكدة
• الآثار الاعيانية الناتجة خلال البناء: ضجيج، حفر، إعاقة في حركة المرور		• الآثار الاعيانية الناتجة خلال البناء: ضجيج، حفر، إعاقة في حركة المرور	• التوظيف المؤقت	• الآثار خلال فترة البناء
			• الطلب المتزايد على الخدمات المحلية	

3. آثار ما بعد البناء		سلبية	ايجابية	المسكدة
• زيادة في التباين الحراري	• زيادة في التباين الحراري	• زيادة في التباين الحراري	• توفير مصدر إضافي للمياه والطاقة	• توفير مصدر إضافي للمياه والطاقة
• انخفاض في الغطاء النباتي	• انخفاض في الغطاء النباتي	• انخفاض في الغطاء النباتي	• توفير مصدر إضافي للمياه والطاقة	• توفير مصدر إضافي للمياه والطاقة
• انخفاض في تآكل التربة في الحوض الأسفل	• انخفاض في تآكل التربة في الحوض الأسفل	• انخفاض في تآكل التربة في الحوض الأسفل	• توفير مصدر إضافي للمياه والطاقة	• توفير مصدر إضافي للمياه والطاقة

مشروع زيادة كمية المياه في نهر ابراهيم عبر سد جنة
دراسة تقييم آثار السد الاجتماعي

الإدارة البيئية Environmental Management

- سيتم اقتراح مبدل لتفادي، الحد، وإدارة كل من الآثار السلبية الناتجة عن المشروع، خلال فترة التصميم، والبناء، والتشغيل.
- سيتم إعداد خطة للإدارة البيئية والاجتماعية.
- سيتم المقلوب بحضور خطة للإدارة البيئية خلال فترة البناء.

مشروع زيادة تغطية منطقة بيروت الكبرى بمياه الشرب
دراسة تقييم الأثر البيئي والاجتماعي

الحد من إستيلاك الأراضي Land Take Mitigation

- تطبيق عدل لإستيلاك الأراضي وإعادة الإسكان.
- القيام بسمح اجتماعي واقتصادي من شأنه توفير المعلومات اللازمة عن الأمر والشركت.
- بغية ضمان تحقيق عملية الإستيلاكات بأقل حد ممكن من الاضطراب والمشقة .
- تحضير الوثائق المتعلقة بإعادة الإسكان.

مشروع زيادة تغطية منطقة بيروت الكبرى بمياه الشرب
دراسة تقييم الأثر البيئي والاجتماعي

Your Opinion Matters رأيكم يهمنا

نود الآن معرفة وجهات نظركم بعد أن اطلعتم على المشروع.
لا تترددوا بطرح أي سؤال والاشارة الى أية مواجس، أو إبداء أي ملاحظات.
ما هي نظركم الآثار الأولية البيئية أو الاجتماعية؟
كيف يُحتمل ان يتأثر الأشخاص الذين تتلونهم؟
كيف سيتأثر مجتمعكم؟
كيف ستتأرون انتم وعائلاتكم؟

مشروع زيادة تغطية منطقة بيروت الكبرى بمياه الشرب
دراسة تقييم الأثر البيئي والاجتماعي

استشارات العامة Addressing Public Consultation

التاريخ	المكان	جلسة تحديد النطاق
3 نيسان	مجلس الاعضاء والاعمار	لنوة مع المعنيين في القطاع
10 نيسان	بلدية مزرعة الضهر	مدد يمري
12 نيسان	بلدية دمت	مدد النامور
21 نيسان	بلدية قرطبا	مدد جنة
24 نيسان	بلدية الحدث	ممنهلكو المياه في ضواحي بيروت الجنوبية
5 أيار	بلدية بيروت	ممنهلكو المياه في مدينة بيروت

• سيتم عقد جلسات أخرى عند اقتضاها
• سيتم عقد مسيرته اشعاعية من المشاورات الغير فلاح لتغير الأثر البيئية والاجتماعية

مشروع زيادة تغطية منطقة بيروت الكبرى بمياه الشرب
دراسة تقييم الأثر البيئي والاجتماعي

شكراً لشاركتكم

نودى بتعليقتكم
تبقى فرصكم لتتبع متفرجة لمدة ستة ايام صل

1. استعملوا ورقة التعليقات المضممة والاذكروها مددا قديم
2. يمكنكم توجيه تعليقاتكم لـ BWSA 12002، وارسلها بالتفص على الرقم 01/869026
3. يمكنكم ارسال تعليقاتكم على البريد الإلكتروني التالي: BWSA.12002@dergroup.com
4. هاتفا او رسالة مسجودة على 71-137532

تتطلع للسماح بكم

مشروع زيادة تغطية منطقة بيروت الكبرى بمياه الشرب
دراسة تقييم الأثر البيئي والاجتماعي
(المرحلة الأولى)

شكراً

مشروع زيادة تغطية منطقة بيروت الكبرى بمياه الشرب
دراسة تقييم الأثر البيئي والاجتماعي
(المرحلة الأولى)

Greater Beirut Water Supply Augmentation Project
Environmental and Social Impact Assessment
(Phase 1)

مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب

دراسة تقييم الأثر البيئي والاجتماعي

1. مقدمة

قدر عدد سكان لبنان بـ 4.4 مليون في العام 2010، 46% منهم يعيشون في بيروت الكبرى وجبل لبنان. يتلقى حوالي 1.8 مليون شخصاً المياه من جعبتنا عبر محطات المعالجة في ضبية، إلا ان إمدادات المياه غير كافية وغير متوازنة موسمياً. والجدير بالذكر أن بعض الأسر المعيشية تتلقى المياه من الإمدادات العامة لأقل من 3 ساعات يومياً.

من المتوقع ان يصل عدد سكان لبنان الى 6.8 مليون بحلول العام 2035. تبلغ الموارد المائية المتجددة في لبنان حوالي 600 متر مكعب/للشخص/سنوياً، بينما يبلغ خط الفقر المائي الذي وضعتة الامم المتحدة 1000 متر مكعب/للشخص/سنوياً. بالتالي، هناك مخاطر عالية للنقص المزمن في المياه بحلول العام 2020.

أطلق مجلس الانماء والاعمار بالتعاون مع وزارة الطاقة والمياه ومؤسسة مياه بيروت وجبل لبنان مشروع تغذية منطقة بيروت الكبرى بمياه الشرب للتغلب على العجز الحالي وضمان الإمدادات المستدامة لتلبية الطلب على المدى القصير والمتوسط. سيتم من خلال المشروع تحسين توزيع الإمدادات، بما في ذلك الحدّ من التسرب ونقل 50 مليون متر مكعب من المياه سنوياً من بحيرة القرعون بغية توزيعها على مستهلكي بيروت الكبرى.

تبحث وزارة الطاقة والمياه منذ عدّة سنوات عن إمكانية تخزين المياه الناتجة عن جريان المياه السطحية المفقودة سنوياً الى البحر عبر إنشاء بحيرات وبناء السدود والخزانات الكبيرة لتعزيز الإمدادات الزراعية وتلبية متطلبات بيروت الكبرى والمراكز السكانية الاخرى على المدى الطويل.

مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب GBWSAP

أطلق مجلس الانماء والاعمار، بالتعاون مع وزارة الطاقة والمياه ومؤسسة مياه بيروت وجبل لبنان، هذا المشروع الجديد لزيادة تغذية منطقة بيروت الكبرى بمياه الشرب GBWSAP بغية تحديد الوسائل الأكثر مستدامة بيئياً والمقبولة اجتماعياً كي تلبي الطلب على المدى الطويل. تنقسم مهام المشروع الى مرحلتين:

المرحلة الاولى

إجراء مراجعة بيئية وإجتماعية واسعة، من ضمنها تقييم أولي للاثر البيئي والاجتماعي لكافة المصادر البديلة واقتراح البديل المفضل.

المرحلة الثانية

اجراء تقييم للاثر البيئي والاجتماعي من الفئة أ، من ضمنها خطة ادارة بيئية، واذا لزم الامر، مستندات اعادة الإسكان، للبديل المفضل الموافق عليه.

سوف يتبع مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب GBWSAP سياسات ضمانات البنك الدولي ومتطلبات الإستشارات العامة، وذلك وفقاً لسياسة مجلس الانماء والاعمار والاجراءات الدولية الثابتة للمستشارين.

تتضمن المصادر البديلة للمياه التالي:

1. تحسين توزيع المياه
 2. الحد من التسرب
 3. تخفيض غيرها من المياه غير المحتسبة
 4. بناء السدود
- يمكن تحسين الامدادات الحالية للمياه بشكل كبير والتقليل من الخسائر نتيجة التسرب والوصلات غير القانونية. سوف يساهم تحصيل الفواتير في تحسين استرداد التكاليف والمساعدة في تمويل عمليات خدمات المياه. في حين ان هذه التدابير ستمكّن الامدادات الحالية الإستجابة لمطالب المدى القصير والمتوسط، لا بدّ من توفير موارد اضافية للمياه لتلبية الطلبات على المدى الطويل.

ان الوسائل الأقل تكلفة لضمان امدادات جديدة ومستدامة للمياه هي الحفاظ على ما يزيد عن 160 مليون متر مكعب سنوياً من المياه السطحية العذبة التي تفيض الى البحر، من خلال بناء سدود مثل:

1. سد بسري على نهر الاولي
2. سد الدامور على نهر الدامور (موقعين)
3. سد جنة على نهر ابراهيم

يبين الجدول التالي مقارنة بين المواقع الثلاثة.

السد	النهر	الارتفاع المقترح	مساحة الخزان	حجم التجميع	امدادات المياه المتوقعة
بسري	نهر الاولي	74 م	5.9 كلم ²	128 مليون م ³	0.56 مليون م ³ /يوم
الدامور	نهر الدامور	90 م	1.2 كلم ²	32 مليون م ³	0.2 مليون م ³ /يوم
جنة	نهر ابراهيم	105 م	1.0 كلم ²	37 مليون م ³	0.2 مليون م ³ /يوم

الآثار البيئية والاجتماعية

أيا كان البديل المفضل ، سوف تنتج آثار بيئية واجتماعية عن المشروع. وقد تكون الآثار سلبية او ايجابية، مؤقتة او دائمة، مباشرة او غير مباشرة.

تتمركز الآثار الايجابية حول تزويد امدادات المياه المستدامة للعامة والتحسينات التي ستعكس على الحياة الاجتماعية، هذا بالإضافة إلى فرص النمو والتطور الاقتصادي.

وتركز الآثار السلبية الدائمة على استملاك الاراضي، والحاجة الى اعادة إسكان الاسر ونقل الاعمال التجارية. هذا الى جانب المسائل الصحية العامة التي ترافق بناء السدود إجمالاً مثل تكاثر الحشرات والمخاطر المتزايدة للغرق. وتتم مناقشة الآثار الدائمة خلال تصميم المشروع.

تنتج الآثار السلبية المؤقتة بشكل اكثر شيوعا خلال فترة البناء نتيجة نشاطات المقاول ومستخدميه. وعلى الاغلب سوف تزيد من الضجة والغبار ومشاكل ادارة السير والاضطراب الاجتماعي بين المقيمين ونزوح العمال. تتم مناقشة هذه المسائل في خطة سلامة الصحة البيئية العائدة للمقاول، اضافة الى خطة الادارة البيئية والاجتماعية للمشروع.

اخيراً، ان الآثار التشغيلية هي تلك التي سوف تنتج عن تشغيل المرافق. وقد تتضمن الضجة واهتزاز المضخات والتخلص من النفايات. وتتم مناقشة الآثار التشغيلية خلال تصميم المشروع.

سيتم إقتراح تدابير لتخفيف، تجنّب، وإدارة جميع الآثار المنتجة وسيتم التحقق من آلية الإمتثال لخطط الادارة البيئية.

الحد من إستملاك الاراضي

إن الأثر الأكبر للمشروع هو إستملاك الأراضي. سيتم تطبيق عملية استملاك الأراضي وإعادة الإسكان وفقاً للقانون اللبناني حول نزاع الملكية والاجراءات العملية للبنك الدولي OP 4.12 ، وسيتم الاعتماد على التطبيق الأكثر صرامة في حال وجود ثغرات بين الإجراءات.

سوف يقوم الاستشاري ، قبل تحديد البديل المفضل بشكل نهائي، بإعداد وثيقة الإطار السياسي لإعادة الإسكان RPF التي سوف تتضمن مقارنة مفصلة بين التشريع اللبناني ومتطلبات سياسة البنك الدولي، وتحديد إجراءات إعادة الإسكان التي سوف تتبعها عملية إستملاك الاراضي المتعلقة بالمشروع.

ما ان يتم الاتفاق على البديل المفضل وتحديد مدى إستملاك الاراضي وإعادة الإسكان، سيقوم الاستشاري بمسح اجتماعي واقتصادي من شأنه توفير المعلومات اللازمة عن الأسر والشركات بغية ضمان تحقيق عملية الإستملاكات بأقل حد ممكن من الاضطراب والمشقة.

Appendix B: Advertisement of Cut-Off Date

Beirut Water Supply Augmentation Project **Designating the Project Area around the Proposed Bisri Dam under Study**

At the aim of securing sustainable and long term potable water supply to the Greater Beirut Area, the Council for Development and Reconstruction (CDR) in collaboration with the Ministry of Energy and Water (MEW) and the Beirut and Mount Lebanon Water Establishment (BMLWE), has launched the Greater Beirut Water Supply Augmentation Project (GBWSAP) to overcome the shortages in public water supply on the long run.

The Project fundamentally consists of constructing a dam that intercepts Awali river to form a water impoundment in the valley between Chouf and Jezzine Districts.

The Directorate General of Urban Planning has designated the area of the Project as being under study starting the **20 march 2014** and this is further to the finalization of the Detailed Design of the dam and the associated structures and the identification of the land plots to be taken by the Project.

The whole area of the Project is distributed over the following cadastral regions:

District	Cadastral Region
Chouf	Mazraat Echouf, Mazraat Edahr, Deir El-Mkhaless, Bater, Aamatour, Bsaba, Khirbit Bisri
Jezzine	Bisri, Harf, Midane, Aarye, Bkasine, Bhannine, Benwati, Ghbbatiyeh

For more information and for those willingly to consult the maps showing the limit of the area being designated under study, please visit the CDR website at www.cdr.gov.lb or to visit the following centers:

- Directorate General of Urban Planning (central Office or the regional Chouf and Jezzine Offices)
- Council for Development and Reconstruction

Starting the date of this announcement all the plots Assets Survey in the area of the Project shall be considered completed (Project Cut-off date).

مشروع زيادة تغذية منطقة بيروت الكبرى بمياه الشرب
وضع محيط الموقع المقترح لسد بسري تحت الدرس

يهدف تأمين مصدر مستدام للمياه الصالحة للشرب لمنطقة بيروت الكبرى، أطلق مجلس الإنماء والإعمار، بالتعاون مع وزارة الطاقة والمياه ومؤسسة مياه بيروت جبل لبنان، مشروع "زيادة تغذية منطقة بيروت الكبرى بمياه الشرب" بهدف تعويض العجز المالي الحالي وتلبية حاجات سكان بيروت الكبرى على المدى الطويل. من مكونات المشروع الأساسية، إنشاء سد وبحيرة مائية على نهر الأوني في منطقة بسري في قضاء جزين والشوف. ويعد وضع التكاليف النهائية للمنشآت وتحديد العقرات المطلوبة للاستملاك، وافق المجلس الأعلى للتنظيم المدني في ٢٠١٤/٢/٥ على وضع منطقة المشروع تحت الدرس.

وتتبع منطقة المشروع إلى المناطق المقاربة التالية:

المناطق المقاربة	التضام
الشوف	مزرعة الضهور - مزرعة الشوف - دير المخلص - باتر - صباطور - بسايا - خربة بسري.
جزين	بسري - الحرف - الميدان - عاراي - بكاسين - بعلين - بواقي - الضابطية.

لمزيد من المعلومات وللمن يرغب بالاطلاع على الخرائط التي تظهر حدود المنطقة الموضوعه تحت الدرس، يمكن زيارة موقع مجلس الإنماء والإعمار الالكتروني (www.cdr.gov.lb)، أو الاتصال أو زيارة مراكز كل من:
التنظيم المدني (المركز الرئيسي أو مكاتب الشوف وجزين)
مجلس الإنماء والإعمار.

واعتباراً من تاريخ هذا الإعلان، تكون قد أنجزت أعمال مسح محتويات النشرات في المشروع (Project cut - off date).