

Energy and Environment Programme Outcome Evaluation 2008 – 2012

*United Nations Development Programme
Lebanon*

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ACRONYMS AND ABBREVIATIONS

CBD	Convention on Biological Diversity
CC	Climate change
CCF	Country Cooperation Framework
CDR	Council for Development and Reconstruction (of Lebanon)
CEDRO	Country Energy Efficiency and Renewable Energy Demonstration Programme
COP	Conference of Parties
CPAP	Country Programme Action Plan
CPD	Country Programme Document
DE	Direct execution
EE	Energy efficiency
EEM	Energy efficiency measures
EIA	Environmental Impact Assessment
EST	Environmentally sound technology
EU	European Union
GDP	Gross domestic product
GEF	Global Environment Fund
GHG	Greenhouse gas
GoL	Government of Lebanon
HCFC	Hydrochlorofluorocarbons
HHC	Higher Hunting Council (of Lebanon)
HPMP	HCFC phase-out management plan
LARI	Lebanese Agricultural Research Institute
LCCWCM	Lebanese Centre for Water Conservation and Management
LCEC	Lebanese Centre for Energy Conservation
M&E	Monitoring and evaluation
MAP	Medicinal and aromatic plants
MDG	Millennium development goals
MLF	Multi-lateral fund (of the Montreal Protocol)
MoA	Ministry of Agriculture
MoE	Ministry of Environment
MoEW	Ministry for Energy and Water
MoF	Ministry of Finance
MP	Montreal Protocol
MSB	Migratory soaring birds
NAP	National Action Plan
NCE	National Council for the Environment
NE	National execution
NEEREA	National Energy Efficiency and Renewable Energy Action Plan
NGO	Non-governmental organizations
NWSS	National Water Sector Strategy
ODS	Ozone-depleting substances
POP	Persistent organic pollutants
PV	Photovoltaic
RE	Renewable energy

ROAR	Results Oriented Annual Reporting
SEA	Strategic Environmental Assessment
SES	Sustainable energy strategy
SME	Small and medium enterprises
SOE	State of the Environment (reporting)
SOPs	Standard Operating Procedures
SWH	Solar water heaters
SWH	Solar water heaters
SWM	Solid waste management
TA	Technical assistance
TOR	Terms of Reference
UNCCD	United Nations Convention to Combat Dersertification
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNDP–EE	UNDP Energy and Environment programme
UNFCCC	United Nations Framework Convention on Climate Change

EXECUTIVE SUMMARY

The United Nations Development Programme evaluation policy requires UNDP decentralized UNDP country offices to conduct independent outcome evaluations on a regular basis to assess their contributions to development results as reflected in the United Nations Development Assistance Framework (UNDAF) for the country. This independent outcome evaluation assesses the extent to which the outcomes and outputs of the UNDP Energy and Environment Programme, as stated in the UNDAF, the Country Programme Action Plan (CPAP) and the Country Programme Document (CPD) for the period, have been achieved.

The evaluation touches on the following key themes: (1) programme relevance; (2) the influence of the programme approach (including operational procedures, structure, monitoring, control and evaluation procedures, financial and technical planning, project modality and structures) on its effectiveness; (3) lessons learned; (4) possible directions and recommendations for the formulation of new programme and project strategies; (5) general quality assurance; (6) UNDP accountability to national stakeholders and partners as a result of documented evidence of positive contributions / results in the programme.

The methodology applied in this evaluation follows UNDP guidelines regarding outcome evaluations, and the ‘outcome model’ used for the evaluation is based on the CPAP results framework, placed within the context of the UNDAF results matrix. Four key evaluation criteria were applied: relevance, effectiveness, efficiency and sustainability. Data and information used included existing project and programme information from the UNDP projects database and monitoring systems, existing project documents, country policy and strategy documents and publications. A structured questionnaire was used during interviews with key stakeholders.

The current UNDP energy and environment programme consists of 27 active projects, which contribute to achieving UNDAF outcome 5, “*By 2014, improved accessibility to management of natural resources and enhanced response to national and global environmental challenges*”. The programme supports the implementation of three key outcomes: (1) Environmental considerations mainstreamed into sector and local-level strategies and plans; (2) Capacity of government to meet its obligations under international conventions and protocols timely and adequately strengthened, and; (3) Climate change considerations mainstreamed into national priorities. The current total budget is approximately USD 36,200,000, with 31, 19, and 50% respectively allocated to outcomes 1, 2 and 3.

The main conclusions of this evaluation are presented below, followed by seven recommendations.

In general, there has been significant progress made towards each of the key outcomes, environmental mainstreaming, support to meeting the obligations of international environmental conventions, and climate mainstreaming. The support has been, in most cases, highly relevant, quite effective, and efficient, although there are some sustainability issues.

The UNDP–EE programme is perceived by most partners, both in government and outside, as being extremely successful in working in the environment and energy sectors. Some of the success factors include the strong trust relationship that has developed over the years between MoE and UNDP, the perception of UNDP as a “neutral” and impartial actor, able to work based on efficient and transparent process and recruit highly skilled staff through open recruitment processes (not political like GoL processes).

Partners also perceive that there is a “value-added” benefit to working with UNDP in the sector; this was mentioned by a number of people — that UNDP is able to work at different levels and on broader issues, but also that they play a crucial role in obtaining additional funds for the GoL (MoE specifically mentioned this as an important value-added element).

There are many examples of effective partnerships and collaborative efforts that have helped to generate good results that might not have otherwise occurred (working with the HHC and “active” mayors in the MSB project, selecting proactive “middlemen” in the MPAs project, working with a number of different NGOS, community work in the woodlands restoration project). Good evidence that the flexible and collaborative approach adopted by UNDP has may positive results (Example given by MoE that the Rio+20 was a collaborative document for the first time)

The overall quality of the support provided by UNDP is high, and the general UNDP approach to working in the sector is very successful. Project staff have been carefully selected, are extremely professional and appreciated by their government counterparts. It is more difficult to comment on the quality of final results, given the short timeframe for the evaluation and the large number of projects in the programme. The team approach to implementation (example is the Climate Change Unit in MoE which will include the low emissions capacity building project, the UNFCCC communications, and the TNA), the sharing of resources across projects to increase efficiency, the participatory manner adopted by the UNDP CO staff all contribute to this success and there are probably lessons to be learned for other programmes within UNDP

Programme management is excellent; there has been extremely positive feedback on this from everyone. However, there does appear to be some inefficiency in the existing systems, which lead to extra work. Not sure whether anything can be done about this but it is worth mentioning.

There are many very positive results, but there is a general weakness in systematically documenting these in an interesting and useful format (ie: clearly document improved livelihoods, of energy savings, etc). It is important to concretely plan for this from the beginning of the project activities. While there is a good M&E system, a lot of the reported results at project level focus on implemented activities rather than actual results. At the same time, the results-oriented annual reporting at outcome level is quite descriptive.

The current EE programme results framework was developed after most of the projects were already planned and were, in some cases, already under implementation. This has resulted in weaknesses that should be addressed in future versions. Some examples include:

- A weak logical framework: the stated outputs should contribute to achieving outcomes and there should be a clear hierarchy between the two. An outcome and an output are two different concepts and need to be clearly differentiated.

- It should be clear how projects are contributing to achieving the outcomes (this applies mainly to outcome 1)
- Indicators that are too general, not measurable, and not being reported on (they are not SMART indicators)

Strong GoL commitment to project activities is crucial to ensuring success and effective implementation, where this is absent there is a risk that UNDP becomes the “sole” responsible for ensuring results are generated. It is very important to identify when these situations occur and develop a strategy to deal with them.

General governance issues and partner institutional weaknesses plays an important role in determining how UNDP works; the key challenge is how to manage this situation in a positive way and continue to work towards eventual longer-term institutional sustainability.

There are many interesting and valuable results coming from the various projects, many could benefit from a more systematic “lessons learned” approach that brings everyone together to reflect on how success was achieved and how this could be replicated / applied elsewhere (either scaling up or even on completely different projects). This is being done in some cases but is it happening consistently?

Clearly articulated exit strategies should be an important element of project completion, especially under Lebanese conditions: projects ending could benefit from more clearly defined exit strategies, which would force government counterparts to consider some of the key issues that need to be addressed before and once the support terminated.

While the EE and RE activities are generating very positive results, there are definitely some sustainability issues with respect to the RE installations: this was referred to in the 2007 outcome evaluation, reiterated in CEDRO I evaluation and also noted during a visit to one of the pilot sites (a hospital). This issue highlights the need for more commitment especially from public sector building administrators (they should be contributing to increase ownership and commitment), and improved follow up on the part of the contractor. The general contractor quality in the sector is also a part of this problem.

The sustainability of results obtained in MoA/LARI projects (MAPs, dryland products) are not guaranteed. Future collaboration with MoA needs to be very carefully assessed.

There is little or no financial contribution by the end users. Financial contributions key recipients could add significantly to sustainability in a number of cases (reforestation, SWH, others?), and this should be considered in the design of future activities.

Based on the assessment and conclusions the following actions to improve programme implementation are recommended:

Recommendation 1: The results framework structure should be significantly strengthened during the next UNDAF formulation. Clearly articulated project outputs/outcomes linked to the three outcomes in the results matrix (in theory, each which would then become outputs in the matrix) would significantly strengthen the

logical hierarchy. Revision of the current output 3.1, which refers to the National Energy Strategy, is needed. All of the water management projects are currently included under UNDAF outcome 5.1 or 5.2, and it might make more sense to include them under UNDAF outcome 5.3, which deals with integrated water resources management.

Recommendation 2: Be much more rigorous in the implementation of results based programme monitoring, include improving indicators if they are not useful. One suggestion is to define one or two crucial indicators for each project at outcome level, which would then be reported on annually (these indicators could be defined jointly between UNDP CO and project partners).

Recommendation 3: All projects should be required to systematically document and share lessons learned as part of standard practice.

Recommendation 4: All projects, should, at least 12 months prior to their end date, develop a clear exit strategy (where relevant, of course) to be shared with key partners. In cases of specific concerns about the sustainability of generated results, this exit strategy should address these in a proactive fashion.

Recommendation 5: Further efforts should be undertaken to ensure sustainability of the renewable energy investments. This could include more rigorous initial assessments of the public sector partners, a requirement for end users to provide financial contributions, and a more careful follow-up on contractor performance.

Recommendation 6: Given the apparent lack of sustainability of projects implemented in collaboration with the Ministry of Agriculture, carefully assess existing and new collaboration with this ministry. In the case of existing projects, ensure that appropriate actions are taken to ensure sustainability (exits strategies, lesson learned studies, etc) prior to project termination. Reconsider future collaboration.

1 INTRODUCTION

1.1 Outcome evaluation objective

In line with United Nations Development Programme (UNDP) evaluation policy, decentralized UNDP country offices conduct independent outcome evaluations¹ on a regular basis to assess their contributions to development results as reflected in the United Nations Development Assistance Framework (UNDAF) for the country.

The main objective of this outcome evaluation is to assess the extent to which the outcomes and outputs of the UNDP Energy and Environment (UNDP-EE) Programme, as stated in the UNDAF, the Country Programme Action Plan (CPAP) and the Country Programme Document (CPD) for the period, have been achieved. The terms of reference (ToR) stipulate a particular focus on two key outcomes²:

1. Environmental considerations mainstreamed at the national and local levels;
2. Support the Government of Lebanon (GoL) to meet its obligations under the international environmental conventions.

An individual consultant, Ms. Caroline vander Sluys, implemented this outcome evaluation during the period October 10th to November 23rd 2012. The consultant would like to acknowledge the valuable contributions made by government officials, UNDP programme and project staff, and all key stakeholders interviewed during the evaluation, however, the opinions expressed in this report are her sole responsibility.

1.2 Key issues to be addressed

As outlined in the TOR (Annex 1), this evaluation includes an assessment of the following key themes:

- The relevance of the UNDP EE programme to GoL development priorities in the field of environment and its effectiveness in helping to meet those priorities;
- The influence of the programme approach (operational procedures, structure, monitoring, control and evaluation procedures, financial and technical planning, project modality and structures) on its effectiveness;
- Key lessons learned and how these can contribute to corporate, regional and country-level learning;

¹ Outcome evaluations address the short-term, medium-term and long-term results of a programme or cluster of related UNDP projects. They include an assessment of the effectiveness, efficiency, sustainability and relevance of the programme against their own objectives, their combined contribution, and the contribution of external factors and actors.

² These two outcomes are called “country programme outcomes” under the CPAP 2010-2014 results framework and fall under the “agency outcome 5.1” of the current UNDAF environmental sustainability results framework, while the second outcome is actually an output (5.1.2) under outcome 5.1. The TOR do not mention the other two UNDAF outcomes, 5.2 (increased effective national response to climate change reflected in national programmes and external assistance programmes) and 5.3 (improved integrated water resources management, including sanitation, reflected in national decision-making).

- Possible directions and recommendations for the formulation of new programme and project strategies as a result of the lessons learned from this evaluation exercise;
- General Quality Assurance (QA) of UNDP EE programme country-level interventions;
- Increased UNDP accountability to national stakeholders and partners as a result of documented evidence of positive contributions / results in the EE programme.

1.3 Evaluability of the programme

An important first step in undertaking an outcome evaluation is assessing programme “evaluability”³ to confirm that the basic elements necessary for an evaluation exist. Evaluability depends on programme structure (does it have a reasonably robust results framework?), means of measuring progress (does it have measurable key performance indicators (KPIs) and are these being reported on?) and general clarity of the desired outcomes, outputs and activities contributing to these.

The evaluability of the UNDP EE programme is somewhat challenging, in part because the structured approach to achieving development results (ie: the UNDAF framework) is relatively recent — there was, for example, no results framework when the last outcome evaluation took place in 2007 — and to a certain extent, the EE projects were “retrofitted” into the frameworks. This means that although the general structure is sufficiently clear, to some extent the projects under each outcome are not there by design, making it difficult to clearly see the contribution of each project to the outcome. This is particularly noticeable under Outcome 1. In addition, existing indicators (see the outcome model diagram) are not always specific, measurable, achievable, realistic and timely (SMART), making it difficult to assess progress quantitatively.

1.4 Methodology

1.4.1 Conceptual framework — the “outcome model”

The methodology applied follows UNDP guidelines and documents⁴ regarding outcome evaluations. The results framework or “outcome model” (see the diagram in the following section) applied is based on the CPAP results and resources framework for Lebanon, 2010-2014, placed within the context of the UNDAF results matrix (outcome 5, environmental sustainability). The three thematic areas of the current EE programme⁵; (1) sustainable development and environment, (2) climate change mitigation and sustainable energy, and (3) adaptation to climate change (CC) and water management, are aligned with the three UNDAF environment outcomes. There are, however, some differences / discrepancies between the UNDAF, the CPAP / CPD, and the results-oriented annual reporting with respect to indicators, baselines and targets.

³ According to the UNDP Outcome-Level Evaluation Guidelines, evaluability can be defined by clarity in the intent of the subject to be evaluated, sufficient measurable indicators, accessible reliable information sources, and no major factor hindering an impartial evaluation process.

⁴ Such as the “Handbook on Planning, Monitoring and Evaluating for Development Results” (UNDP, 2009) and the “Outcome Level Evaluation: A Companion Guide on Planning, Monitoring and Evaluating for Development Results for Programme Units and Evaluators (UNDP, 2011).

⁵ As presented to the evaluator in a powerpoint presentation on the EE programme.

1.4.2 Evaluation criteria and questions

The evaluation criteria applied in this evaluation are described in section 7.4 of the “Handbook on Planning, Monitoring and Evaluating for Development Results” (UNDP, 2009). These include relevance⁶, effectiveness⁷, efficiency⁸ and sustainability⁹, and, to the extent possible, impact¹⁰. Annex 2 provides a list of questions used to guide evaluation interviews. These questions were relevant at the project level but also more broadly at the institutional and policy level.

1.4.3 Data collection methods

A number of different data and information sources have been employed. These include, among others:

- Review of general programme and project information available on the UNDP projects database (which was updated during the evaluation), existing project documents, country policy and strategy document, previous evaluation reports, etc;
- Collection of data and more detailed information from existing progress monitoring and evaluation systems, primarily the UNDP–EE results oriented annual reports, the EE annual work planning and budgeting information, and some of the individual project information systems (documents consulted are presented in Annex 6);
- Interviews with key stakeholders, using a structured questionnaire as a guide during interviews (as discussed above and presented in Annex 2, the list of persons interviewed is presented in Annex 7);
- Key informant meetings (not necessarily using a structured questionnaire) to obtain more detailed, in-depth understanding about specific issues.

1.4.4 The evaluation matrix

The evaluation matrix in Annex 3 illustrates the link between the evaluation criteria, evaluation questions, and expected data sources and collection methods.

Given the large number of projects included in the programme (31 were originally included, but three of these are completed¹¹ and one was dropped including some concluded projects) and the relatively limited time available, not all projects were assessed in detail. A selection of key projects was made based on financial significance and close

⁶ **Relevance** examines the extent to which a development intervention and its intended outputs and outcomes are relevant to and consistent with the target group needs and priorities and the country’s development plans and policies.

⁷ **Effectiveness** is the measure of the extent to which an initiative’s intended results (outputs or outcomes) have been achieved or the extent to which progress towards outputs or outcomes has been achieved.

⁸ **Efficiency** seeks to identify the extent to which resources are used in a cost-effective way (how economically they are converted to results). It examines the extent to which the results have been achieved at an acceptable cost compared to alternative approaches to obtain similar results. Important in ensuring the resources are used appropriately and in highlighting effective use of resources.

⁹ **Sustainability** measures the extent to which benefits of development interventions continue after the termination of external support.

¹⁰ **Impact** measures changes in human development and people’s well being as a result of the development initiative. Impacts can be immediate, longer-term, direct, indirect, intended and unintended, positive and negative.

¹¹ The three completed projects include: 71158, Institutional strengthening project for the implementation of the Montreal Protocol Phase VI; 71486, RE and energy saving appliances with the affected regions of Lebanon (solar collectors, low energy lamps); 40691, Enabling activities for the preparation of Lebanon’s Second National Communication (SNC) to the UNFCCC. The dropped project is 57517, Sustainable Energy Strategy for Lebanon.

consultation with the UNDP programme analyst. The following table includes all active projects (some recently completed) with the assessed projects highlighted.

Table 1: UNDP EE programme projects and assessed projects

Environment and energy projects		Status	Budget (\$US)	Exp. to 09.2012	Start	End	Months
ID	Title						
UNDAF outcome 5.1, CPAP outcome 1, Env. considerations mainstreamed into sector and local-level strategies and plans (output 1.1: EAPs and strategies developed for relevant line ministries and decentralized structures)							
40894	IS MoE	Ongoing	2,345,155	1,755,060	01/01/10	31/12/13	48
47447	Financing Strategy for NAP	Compl.	125,000	97,957	01/01/06	30/06/11	66
49964	Trade Initiatives for Dryland Products	Ongoing	335,000	298,716	01/09/06	30/04/12	68
58344	Sust. Land Mgmt Prog.	Ongoing	347,536	345,913	01/10/07	31/03/12	54
71490	Hydro Ag. Development Marjeyoun	Ongoing	2,000,000	819,663	01/09/09	31/12/12	40
72975	Groundwater Assessment and Database	Ongoing	2,496,960	894,994	01/01/10	31/12/13	48
74096	LCWCM	Ongoing	150,000	44,877	01/01/10	31/12/13	48
76489	Integrated SWM of Baalbek Caza	Ongoing	2,476,190	81,821	01/01/11	30/09/13	33
77384	Environmental Resources Monitoring	Ongoing	706,200	55,747	01/02/11	30/06/13	29
79364	Ecotourism Strat. in Fisheries Sector	Ongoing	150,000	144,411	01/07/11	31/12/12	18
	Subtotal:		11,132,041	4,539,159			
UNDAF outcome 5.1, CPAP outcome 2, Capacity of gov. to meet its obligations under international env. conventions and protocols timely and adequately strengthened (output 2.1: Gov. technical and operational capacity strengthened)							
58542	Techniques Reducing Health-Care Waste	Ongoing	600,000	345,549	01/06/09	31/12/12	43
60018	Mainstreaming MSB conservation	Ongoing	1,324,000	741,771	01/06/08	31/12/13	67
61783	Safeguarding Lb Woodland Resources	Ongoing	980,000	472,398	01/01/09	31/12/13	60
61785	Mainstreaming Biodiv. Mgmt. into MAPs	Ongoing	1,130,000	893,756	15/06/08	30/04/13	58
71157	HCFC Phase-out Mgmt. Plan	Ongoing	237,250	236,607	01/01/10	30/04/12	28
77655	Montreal Protocol Impl. (Phase VII)	Ongoing	155,090	67,313	01/04/11	31/03/13	24
81853	HCFC HPMP Stage-1/Compl.	Ongoing	2,495,109	450,219	01/03/12	31/12/17	70
	Subtotal		6,921,449	3,207,613			
UNDAF outcome 5.2, CPAP outcome 3, Climate change considerations mainstreamed (output 3.1: National sustainable energy strategy developed)							
62901	SWH Market Transformation	Ongoing	1,140,660	699,257	01/06/09	01/06/14	60
56604	CEDRO I EE/RE demo projects	Ongoing	2,732,240	2,729,464	10/10/07	31/03/11	42
60150	CEDRO II EE/RE demo project	Ongoing	3,500,000	3,345,718	31/01/09	31/12/12	47
71261	CEDRO III EE and RE Demo Project	Ongoing	3,500,000	1,238,409	01/10/09	31/12/13	51
82149	PIMS 4695: Small Decntr RE	Ongoing	50,000	11,500	01/04/12	31/03/13	12
	Subtotal		10,922,900	8,024,348			
UNDAF outcome 5.2, CPAP outcome 3, Climate change considerations mainstreamed (output 3.2: Effects of climate change identified and measures to adapt (and mitigate))							
59666	Flood Risk Mgmt. Phase I	Ongoing	2,843,881	2,838,451	01/01/08	31/05/11	41
69789	Flood Risk Management Phase II	Ongoing	3,800,000	2,236,832	01/01/09	31/12/12	48
77227	Lebanon's 3 rd NC to the UNFCCC	Ongoing	480,000	550	01/04/11	31/12/14	46
78921	Technology Needs Assessment	Ongoing	120,000	96,163	01/06/11	30/09/12	16
82292	Low Emission Capacity Bldg proj. prop.	Ongoing	32,100	8,400	11/04/12	30/09/12	18
	Subtotal		7,275,981	5,180,396			
	Total financing		36,252,371	20,951,516			

2 THE DEVELOPMENT CONTEXT

Lebanon's progress towards a more sustainable development path since 1992 has been, and continues to be, strongly affected by internal and regional events. The war in 2006 clearly had a significant impact, altering national priorities and resulting in significant “emergency” environmental needs that undermined the important institutional, policy and legislative developments necessary for sustainable growth¹². More recently, and despite downturns in the economy globally, Lebanon has experienced a significant boom in construction, as investments move from other troubled regions to Lebanon, with the concomitant environmental impacts associated with such developments.

Lebanon's ecological footprint exceeds by up to six times its ability to support itself¹³. A steadily increasing population — estimated at up to 2.5% annually — signifies increasing pressure on an already limited and strained resource base¹⁴. A recent (2012) World Bank Country Environment Assessment (CEA) suggests that Lebanon will most likely not achieve Millennium Development Goal (MDG) 7 (ensuring environmental sustainability) citing a significant loss in forest cover and associated biodiversity as important contributing factors¹⁵.

In recent years GoL has made some progress towards establishing the necessary institutional structures and legislative instruments needed to address crucial sustainability issues. A recent decree establishing the National Council for the Environment¹⁶ (NCE) is an important step, although it remains to be seen how effective this Council will be. A number of other important decrees have been enacted¹⁷. Although key strategic documents are still pending — the 2005 National Environmental Action Plan (NEAP) was never endorsed and a strategy framework for the sector does not yet exist — there is now a draft environmental strategy framework paper that will, once developed, provide important guidance to the sector.

Effective water resource management is an important step towards environmental sustainability. In Lebanon, there is an ever-increasing demand for water, particularly as a result of urbanisation. However, water pollution and poor water management practices means this demand will be increasingly difficult to meet in the future, while the long term effects of climate change add an additional element of urgency¹⁸. In 2010 the government approved a National Water Sector Strategy (NWSS), this strategy include seven key objectives focusing based an a number of themes: (1) improving water quality; (2) managing and protecting groundwater resources; (3) improved wastewater management (4) water conservation. Clearly, increased conservation efforts and a “greening” of the sector is crucial to ensuring availability of clean safe drinking water in the future.

¹² For example, Lebanon suffered the worst oil spill in its history with an estimated cost of over 200 million USD in oil-related damages.

¹³ The GoL Rio+20 reports quotes a recent study commissioned by the Arab Forum for Environmental and Sustainable Development indicating that Lebanon's ecological footprint of 3 global hectares per capita exceeds its biocapacity of 0.5 global ha/capita.

¹⁴ GoL Rio+20 report, Chapter 2.

¹⁵ The latest Lebanese MDG report is from 2008 so no official updated information is available.

¹⁶ Decree 8157, 18/05/2012.

¹⁷ Environmental Impact Assessment, Strategic Environmental Assessment, Environmental Compliance for Establishments, all enacted in 2012.

¹⁸ According to the Lebanon Rio+20 report, available water is just over the minimum 1,000m³/capita/year that is considered to be sustainable; supply below this level would indicate “water resources stress”.

Lebanon has also taken important steps to increase its contribution to addressing global environmental concerns by ratifying all major multilateral environmental agreements, including the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD), the United Nations Convention to Combat Desertification (UNCCD), the Stockholm Convention and the Montreal Protocol (MP). The effective implementation of these important commitment lies, to a large extent, with Ministry of Environment (MoE). Unfortunately, MoE, like most government institutions, continues to be significantly understaffed and under-resourced, receiving only about 0.5% of the national budget.

Lebanon's contribution to global greenhouse gas (GHG) emissions is negligible, but the potential impacts of global climate change are extremely significant. According to the Second National Communication to the UNFCCC (2011) rainfalls are expected to decrease by 10-20% by 2040 and temperature to increase by 1 and 2 degrees respectively for the coast and inland, with an associated nine additional days of drought by 2040. Temperature and precipitation extremes will also increase. The climate change debate is relatively new to Lebanon, although the government recognizes and emphasizes the need for disaster preparedness, which is of course closely related to climate change issues¹⁹.

During the Conference of Parties (COP) 15 in Copenhagen the Lebanese government made an important commitment to increase the share of renewables in the energy mix to 12% by 2020. At the time of the commitment there was a dearth of renewable energy (RE) or energy efficiency (EE) strategy or policy guidance — clearly there is a strong need for effective guidance if this target is to be met. The Lebanese electricity sector is experiencing a severe crisis; there has been an electricity shortfall for many years, a significant (up to 33%) of demand is now met through expensive self-generation (largely diesel powered generators) and the government spends up to 4% of gross domestic product (GDP) on the sector²⁰. Although the potential for hydropower generation is good — it is estimated that 360 megawatts can be added at 32 new sites — the time lag before this comes on stream is long and the critical shortages that already exist will persist for many years and may even increase unless steps are taken to reduce consumption and develop alternate electricity sources.

Lebanon has a very active civil society as well as a vibrant private sector. Both are potentially important development partners, the former due to its ability to reach out to people in more remote and difficult areas — non-governmental organizations (NGOs) do not really operate at the advocacy level yet in Lebanon²¹ — and the latter due to its important role in helping to promote innovative and affordable new technologies.

There are a number of important development partners in the environment and energy sectors in Lebanon. The European Union (EU) – Lebanon Action Plan aims at supporting the development of a long-term energy strategy converging towards EU energy policy objectives, as well as the implementation of the ambitious 12% RE target

¹⁹ The recent RIO+20 report did not specifically include climate change as an issue, but referred to it under the discussion on disaster mitigation and preparedness.

²⁰ According to the Second National Communication to the UNFCCC, 2011.

²¹ This was pointed out by at least two interviewees.

through increased EE and use of RE sources. Under the 2011 – 2013 indicative programme, the EU is allocating 40 million € to sector reforms and projects addressing climate change; this includes 33 million € (planned for 2014 – 2018) to small scale infrastructure and capacity building projects directly related to climate change mitigation and adaptation, including RE and EE, water and solid waste projects. This could include support to improved information availability in the water sector. The EU will also provide 15 million € to complement the National Energy Efficiency and Renewable Energy Action (NEEREA) programme by subsidizing loans to Small and Medium Enterprises (SMEs) to finance EE investments. The regional Mediterranean Solar Plan (4.6 million €) will develop 20 gigawatts of new RE production capacity and increased energy savings in the Mediterranean region by 2020. Support from Italy has also been pivotal — Italy provides significant support to MoE (financing up to 20 local positions within the Ministry) as well as to the solid waste sector, among others.

3 DESCRIPTION OF THE UNDP ENERGY AND ENVIRONMENT PROGRAMME

3.1 Background

The UNDP support to Lebanese environmental management commenced in 1994, shortly after the establishment of MoE. The earlier support focussed on institutional strengthening of this new ministry as well as supporting capacity development in what was still a very new theme in Lebanon — UNDP was an important pioneer then and continues to be the key actor within MoE today. Following the July 2006 war, support was provided to environmental aspects of the early recovery efforts, and a significant portion of the UNDP–EE programme funding (just over 50%) continues to come from the recovery funds today.

The last EE programme outcome evaluation was implemented in 2007, at a time when environmental and energy outcomes were not yet reflected in the UNDAF or the then Country Cooperation Framework²². As a result, expected outcomes (the basis of the evaluation) were interpreted based on the UNDP Strategic Planning Framework Services Lines and the actual composition of the project portfolio at the time. Projects were clustered into three main thematic areas; energy, rural livelihood and environment, with most projects (45%) focused on the first. The evaluation was undertaken when UNDP was diversifying its circle of beneficiaries; moving away from an institutional focus, including a relatively narrow focus on the MoE, with its somewhat limited capacity for inter-ministerial coordination and effective environmental mainstreaming, into other ministries, seeking a more thematic approach. That evaluation was also undertaken following the 2006 war, when, as mentioned above, the programme had supported the early recovery programmes in the energy and environment sector.

The 2007 evaluation made a number of important recommendations to improve programme impact and performance; these focussed, among others, on:

²² UNDP, 2007, *Lebanon: Evaluation of the Energy and Environment Programme, An Outcome Evaluation*.

- Formalizing the environmental support within the UNDAF and CCF through the development of appropriate, clearly-defined outcomes;
- To increase impact by concentrating efforts on a smaller number of projects with longer intervention periods and higher budgets;
- To strengthen results-based management and evaluation and reporting;

Recommendations related to operational issues included:

- Strengthening the participation of target groups to improve ownership and better ensure sustainability;
- Increasing target group contributions (avoid free services);
- Increasing the role of projects as enablers, catalysts and facilitators for development (enable project partners more);
- Improving the project intervention logic, including problem analysis (ensure that outputs contribute clearly to outcomes, for example);
- Increasing the focus on renewable energy with a stronger focus on removal of market barriers rather than continuing to focus on pilot measures;
- Better selection of beneficiaries in the energy sector to ensure dissemination of new solar water heater (SWH) technologies.

The management response to these recommendations is documented in the Evaluation Resource Centre website²³. During the present evaluation, interview questions addressed some of the issues raised in this earlier evaluation to determine status and continued relevance.

Since 2007 energy and environment has been integrated into the UNDAF results framework 2010–2014, which includes three agency outcomes related to environment and 15 outputs, with indicators for both the output and outcome level.

3.2 Programme Description

The current UNDP–EE programme consists of 27 active projects, which contribute to achieving UNDAF Outcome 5, “*By 2014, improved accessibility to management of natural resources and enhanced response to national and global environmental challenges*”, which contributes to MDG 7, “*Ensuring environmental sustainability*”.

The logical programme structure is illustrated in the diagram on the following page. The focus of the programme is on mainstreaming environment (at the strategy, policy and planning levels), improving government capacity to meet obligations related to international environmental conventions and protocols, and mainstreaming of climate change considerations into national priorities. To achieve this, the programme supports the implementation of three outcomes and four outputs.

²³ <http://erc.undp.org/evaluationadmin/manageevaluation/viewevaluationdetail.html?evalid=2743>

3.2.1 Outcome 1: Environmental mainstreaming

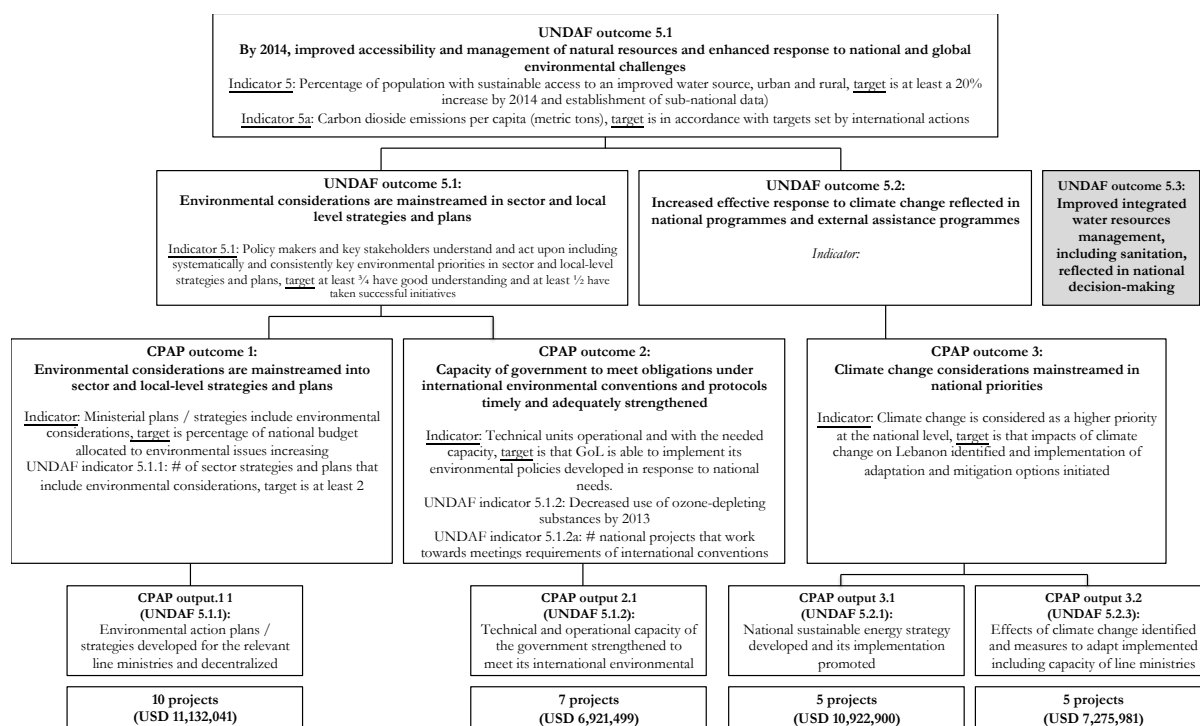
This outcome (the exact wording is “Environmental considerations mainstreamed into sector and local-level strategies and plans) will be achieved through the implementation of a single output with almost identical wording as the outcome (CPAP output 1.1: Environmental action plans developed for the relevant line ministries and decentralized structures). Ten projects are currently contributing to achieving this output / outcome.

The most significant of these is the *policy / planning support to MoE* through the Institutional Strengthening project, which focuses on strengthening the ministry in planning and programming, developing capacity within the ministry to implement its mandate, as well as supporting the establishment of an enabling environment for sustainable environmental management.

The Environment Ministry is also implementing *Integrated Solid waste management* (SWM) activities with the municipality of Baalbek–Caza, supporting the establishment of a sanitary landfill as well as providing for the clean up of the Baalbek archaeological site. Finally MoE receives support for the improvement of *air quality monitoring* to effectively implement the proposed Lebanese Clean Air Act; this includes equipment, awareness campaigns and capacity development.

Mainstreaming of environmental considerations into the water sector (ie: developing a more sustainable approach to water management) is reflected in two projects within the Ministry of Energy and Water (MoEW); the first of these is the updating of the groundwater database for the country (the last was undertaken in 1970) as well as seeking to fill in gaps with respect to other crucial information that is integral to effective water management, for example, surveys of public and private wells — there are at least 40,000 unlicensed wells in Lebanon. The second project supports to the Lebanese Centre for Water Conservation and Management (LCWCM), which is modelled on the successful Lebanese Centre for Energy Conservation (LCEC) in the same ministry. The LCWCM receives only minor funding; this support is closely linked to the implementation of the groundwater assessment and it is anticipated that the GoL will take over the financing of this institution, which should also become institutionalized within the ministry.

EE Programme “outcome model”



Mainstreaming of environment into agricultural activities is supported through three projects. The first, which also has a strong water focus, is the hydro agricultural development project for the Marjeyoun area (the Litani project); this project aims at demonstrating the advantages and efficiency of modern irrigation techniques and new cropping patterns and expects to improve the livelihood of 1,250 households within communities affected by the 2006 conflict. The “Promotion of innovative trade initiatives to increase market opportunities for dryland products” supports the expansion of organic markets, and targets women empowerment and poverty alleviation. Another agriculture-related activity is support to develop a financing strategy for the National Action Plan (NAP) on desertification, an activity, which also aims to mainstream UNCCD considerations into existing strategies and policies.

Finally, a small project directly executed by UNDP aims at developing an ecotourism strategy as well as rehabilitating the premises of a fishermen cooperative in Dbayeh to encourage ecotourism activities.

3.2.2 Outcome 2: International environmental conventions and protocols

This second outcome is also implemented through a single output (CPAP output 2.1: Technical and operational capacity of the government strengthened to meet its international environmental obligations). Seven projects are currently contributing to achieving this outcome, and they all relate to supporting the effective implementation of international conventions that Lebanon is signatory to.

The government receives support to implement the *Stockholm convention on Persistent Organic Pollutants (POPs)* through a project aimed at demonstrating and promoting best techniques and practices

for reducing health care waste to avoid environmental releases of dioxins and mercury. This project is working with model hospitals to demonstrate best practices, and in addition to capacity development and the practical implementation of best practice demonstrations, the project aims to encourage the development of national policies aimed at replication and sustaining such activities.

Three projects support the effective implementation of the *Convention on Biological Diversity*. The “Mainstreaming conservation of migratory soaring birds (MSBs) into key productive sectors along the Rift Valley / Red Sea Flyway” project aims at raising general awareness on MSBs, altering social and cultural behaviour, and implementation of the flyway concept. The “Safeguarding and restoring Lebanon’s woodland resources” project focuses on developing and implementing an appropriate management framework for safeguarding and restoring degraded woodlands, and the “Mainstreaming biodiversity management into medicinal and aromatic plants (MAPs) production” encourages the protection of wild MAP stocks through increased financial returns to harvesters of these stocks — the original assumption was that people would be willing to pay more for sustainably harvested products. The project focus has more recently shifted to ensuring the establishment of a successful regulatory framework to protect these wild stocks.

Effective implementation of the *Montreal Protocol on Ozone-depleting substances* is supported through a 6th phase of the “Institutional strengthening project for the implementation of the Montreal protocol” with a focus on ozone-depleting substances (ODS) legislation and regulation, data collection and monitoring, and preparation of Hydrochlorofluorocarbons (HCFC) phase out management plan (HPMP). There was a specific project, which supported the development of this plan, as well as support for the plan itself. The implementation focuses on stage-1 compliance with the 2013 / 2015 control targets for Annex-C group 1 substances.

3.2.3 Outcome 3: Climate change mainstreaming

Two outputs contribute to the achievement of the third UNDP–EE programme outcome:

Output 3.1: National sustainable energy strategy developed and its implementation promoted: This output is supported by five key projects, targeting effective mainstreaming EE and RE into government policy and developing, implementing and demonstrating practical and affordable EE and RE measures in Lebanon. The “global solar water heating market transformation and strengthening initiative” is based in the LCEC of MoEW and supports the solar water heater (SWH) market development, among others. The three Country Energy Efficiency and Renewable Energy Demonstration Projects (CEDRO Phases 1, 2 and 3) also support EE and RE implementation. CEDRO Phase 1 has provided support to the installation of EE and RE equipment in selected public buildings in three target areas; CEDRO II broadened this initial focus by supporting the creation of an enabling environment for sustainable energy, including the establishment of relevant institutional policies and procedures for the effective implementation of EE and RE measures in public buildings, and CEDRO III continues these efforts on yet a broader scale. The final project under this group is the “Small decentralized RE power generation” project which is the preparation of a project document for Globa

Environment Fund (GEF) financing, conducting a detailed assessment of market, cost efficiency and GHG reduction potential of small decentralized RE applications in Lebanon.

Output 3.2: Effects of climate change identified and measures to adapt implemented including capacity of line ministries: This output focuses on support to flood risk management (in Baalbek, in two phases, with very significant investments), support for the preparation of Lebanon's 3rd National Communication to the UNFCCC, and a technology needs assessment for climate friendly technologies, to establish a portfolio for environmentally sound technology projects / programmes to facilitate access to further funding.

3.3 Programme management and implementation approach

A team of three at the UNDP Country Office (UNDP-CO), a programme analyst and two programme assistants, are responsible for overall programme management. Fourteen programme managers based in government ministries and other institutions are responsible for programme implementation, working closely with national focal points who are government staff. The programme adopts a “team approach” to implementation, meaning that there is frequent coordination between the programme managers (even of different projects) and national focal points, as well as other key actors. Programme management is participatory as well; there is frequent communication with programme managers, and regular inputs are sought on planning. Annual work plans (AWPs) and targets are developed jointly with all key partners including focal points, who ensure links to government planning systems (the UNDP system is distinct from GoL systems — see below).

The EE programme is not aligned to GoL financial management systems; the UNDP uses its own procurement and financial management systems and all procurement is channelled through the operations manager. A new global UNDP financial management system (IPSAS) is in early stages of implementation (2012) but not yet fully functional. This unaligned approach was apparently a temporary measure adopted pending the successful implementation of government reforms aimed at modernizing and improving government financial management and procurements systems, but significant delays in the implementation of these reforms means that this unaligned modality continues, and it is unlikely that donors, including UNDP, will move towards further alignment to GoL financial management and procurement systems for some time yet. The UNDP-EE programme is therefore implemented in line with UNDP operational procedures and guidelines, either through Direct Execution (DE) or through National Execution (NE). Under the NE modality, the recipient government is offered a range of options for implementation, and in Lebanon the government generally opts to devolve all responsibilities to the UNDP.

Given the limited resources on some of the projects, the UNDP-EE programme team has adopted a modality of “staff sharing”, in which professionals with specialized skills (such as graphic artists, for example) are shared among one more projects, reducing costs and increasing implementation efficiency.

3.4 Programme monitoring and evaluation

At the highest level, the UNDP–EE programme outcomes should be reported on through the UNDAF monitoring and evaluation (M&E) framework, which is supposed to be aligned to national systems. Unfortunately, there has been no systematic and regular UNDAF indicator reporting so far, at least not for the EE programme. The CPAP framework also has a set of indicators for the EE programme. These are reported on via the Results Oriented Annual report (ROAR), which provides summary information on the outputs (projects) under each outcome as well as providing a narrative summary of the overall outcome achievement.

At the operational level, projects under the programme are monitored using the UNDP on-line resource management system (ATLAS), which is currently being decentralized to project level. This system includes routine quarterly reporting as well as results-oriented annual reporting on project outputs. The EE programme management team has also developed a parallel system²⁴ to complement ATLAS information — this system is able to generate output-based information, which is not available from ATLAS.

3.5 Budget and sources of financing

The total UNDP–EE programme budget is approximately USD 36,200,000, divided between the three outcomes as follows: outcome 1 (environmental mainstreaming) accounts for 31% of the total budget; outcome 2 (capacity for international environmental conventions) and outcome 3 (mainstreaming of climate change) account for 19% and 50% respectively. Outcome 3 is further subdivided into sustainable energy (30%) and climate change adaptation (20%); the largest proportion of funding is allocated to climate change issues.

A significant proportion of the projects are large — ten of the projects have values exceeding 2 million USD, while three projects (the two most recent CEDRO phases and the flood risk management in Baalbek second phase) have values exceeding 3 million USD. Just under one half of the total amount (16 million USD) is directly executed by UNDP, while the balance is implemented through NE modality.

The most significant source of funds comes from the Lebanon Recovery Fund (LRF, with most funds coming from the Government of Spain), which accounts for over half of the total funding source (USD 18,376,121), the GEF (USD 5,414,000), the Italian government (USD 4,973,150), and the Montreal Protocol Fund (USD 2,887,449). The GoL has also transferred treasury funds for implementation by UNDP (in MoE, USD 2,005,155). The balance of funding comes from UN bodies (UNDP, UNDP HQ, UNFCCC, UNEP (USD 1,931,200) and other smaller funding sources.

Annex 4 presents a detailed list of all projects, including total budgets, source of financing, beneficiaries, and main beneficiaries.

²⁴ This system is simpler than ATLAS and is better able to generate needed information, such as

4. KEY ACHIEVEMENTS: UNDP CONTRIBUTION TO DEVELOPMENT RESULTS

The following sections provide an assessment of the main UNDP contributions to development results for each of the three expected outcomes. First, the current status and general progress is described for the outcome, including a summary of some of the key results achieved. The outcomes are then assessed based on the evaluation criteria. This includes a brief assessment of the relevance of both the projects under the outcome as well as the outcome itself, the overall effectiveness of the activities and results obtained, and a discussion of sustainability issues. Reference is made to indicator reporting, if it exists. Unanticipated effects and possible longer-term impacts are also presented, if relevant. A discussion on programme efficiency presented at the end of the chapter.

Annex 5 presents details of the key activities and results, based on the documentation reviewed, the interviews and meetings, as well as the evaluator's own observations on status.

4.1 Outcome 1: Environmental mainstreaming

Under the theme of environmental mainstreaming, substantial progress is noted under all of the key programme-supported thematic areas.

Within MoE, a number of important policy and planning tools have been produced, including, among others, the updated State of the Environment (SOE) report, a detailed plan for combatting pollution in Qaroun Lake (including the proposal of a law that would allow cross sector funding, a masterplan for the closure of illegal dumps (of which there are 670), and the RIO+20 report — it is the first time that Lebanon presents a single report jointly with the NGO sector. There is also a proposal to update the Lebanese Environmental Strategy (a strategy framework paper has been prepared).

There have been significant developments in the regulatory framework for effective environmental management, and while the UNDP support may not always have been directly responsible for these developments, it has certainly contributed significantly. The legal framework has been strengthened with addition of four new environmental decrees; (1) Environmental Impact Assessment (EIA) and (2) Strategic Environmental Assessment (SEA), (3) a decree establishing the National Environmental Council, and finally, (4) a decree for environmental compliance for establishing industries. The Council of Ministers recently approved four draft laws, relating to the establishment of an environmental prosecutor, integrated solid waste management, a framework law on protected areas, and on air quality protection.

During interviews MoE management clearly indicated that UNDP support plays an important role in generating ideas and helping to push these ideas towards fruition. There is also substantial value-added benefit of having UNDP in the Ministry, according to the interviewees; a recent study estimates that UNDP has played a very important role in attracting additional funds to the ministry, and given the very small budget MoE

receives (.05% of the national budget) such an “unanticipated effect” cannot be underestimated.

There is also evidence that environment is increasingly being mainstreamed into other sectors. Two recent examples of SEAs are a case in point; the first for the new NWSS (where climate change concerns were also included) and the second for the oil and gas sector.

Unfortunately, MoE continues to be seriously understaffed (only 70 of the 182 available positions in the ministry are filled by government staff; UNDP provides 15 and the Italians support an additional 20 positions). This large number of external (non-government) staff, all working closely with an overworked national focal point, is not a sustainable situation. This is particularly relevant given that a significant objective in “mainstreaming” is also to ensure that capacity is left behind to continue the work once external financing ends. Currently, there is no solution to this problem — it is only once serious government reform is finally implemented that things will change — but in the interim, the UNDP approach of working as broadly as possible with a wide range of actors (also outside the ministries) is a reasonable and effective approach to achieving results.

The support to the water sector has also been progressing, albeit at a more modest pace. The important groundwater assessment is underway (it was tendered internationally following UNDP procedures) and surveys of public and private wells (there are up to 40,000 unlicensed wells in Lebanon) have also commenced. These activities will provide invaluable information for better decision-making in the water sector, if the information is used effectively. The LCWCM also supports the government with water conservation activities, such as awareness raising, installation of water saving devices, and pilot water metering.

The future of the LCWCM is heavily dependent on continued commitment by the government, especially for core funding, and there is a risk that the Centre will disappear once the groundwater assessment study terminates at the end of 2013. Given that the LCWCM is relatively new, and closely associated with the groundwater assessment study, it has had limited involvement with policy level activities to date, and further involvement in such activities might be a good way to begin to institutionalize the centre. In the case of the LCEC, it took almost a full decade of support to build the centre’s credibility and strengthen its role.

Within the organic market development project (the drylands project) significant efforts are underway to promote products and develop markets locally, regionally, and internationally. A grant agreement was established with Atayeb Al Rif Cooperative to implement different marketing strategies at both the national and international level. Samples have been sent to potential international buyers, a local labelling system (the “Lebanese Village”) has been developed — initially the Fair Trade label was considered but proved to be too expensive — and extensive work has been undertaken with 10 local cooperatives, but the project is ending soon and there is little evidence that the initiative will continue. There does not seem to be sufficient commitment from the Ministry of

Agriculture (MoA), neither is there an exit strategy outlining the needed steps to ensure sustainability. Not much income has been generated either.

The financing strategy for the NAP has been duly completed and the remaining funds are being used to assess a debt swap mechanism. The Litani project and the SWM in Baalbek were not assessed in detail as part of this evaluation therefore no detailed comments are provided.

4.2 Outcome 2: International environmental conventions and protocols

There has been significant progress towards achieving this outcome. The MSB project has made important inroads towards protecting migratory birds in Lebanon under the CBD obligations. A strategic partnership with the Higher Hunting Council (HHC) as the project implementing body — illegal hunting is the most significant threat to the birds, the others are power lines, agriculture and waste — means that the project is able to work with the most important actor. Collaboration with mayors has been another successful strategy adopted to increase likelihood of positive results. Concrete results, among others, include a study on the economic and ecological significance of MSBs, guidelines for Lebanese hunters, collaboration with MoEW to include a chapter on birds in the recently published Wind Atlas, development of a national monitoring strategy, and the inclusion of MSB considerations in the updated Lebanese Land Use Plan (prepared by the Council for Development and Reconstruction (CDR). Another very important result has been the HHC decrees to implement the hunting law.

While this progress is positive, challenges remain. The implementation of the decrees will be very difficult in a country where there is a huge quantity of licensed arms for security (and probably an equally large number of unlicensed arms). Since it is MoA and not MoE or the HHC who have the enforcement authority, it is difficult to provide effective follow-up when complaints are received. And of course the greatest challenge will be to successfully alter the social and cultural behaviour amongst the key groups that pose the greatest threat.

The protection of MAPs project is almost complete and has also generated significant results. There are about 365 MPA species, which are utilized, and 47 of these are endemic; the species are an important income source in rural areas, especially for women. Assessments and fact sheets have been completed for seven species²⁵, and support on the use and protection of target species is progressing. Quality and sustainable harvesting standards (by Ministerial Decision) have been developed, as well as a permitting system for harvesters. The project also works with the Lebanese National Standards Organization (called LIBNOR). While there is evidence of increased product value (documented in \$\$/kg) this is most likely due to the improved quality standards from better processing rather than a higher market price for a sustainable harvested product, and the recent GEF mid-term evaluation suggested that the focus should be on the establishment of a successful regulatory framework rather than income generation from sustainable harvesting. No lessons learned report or exit strategy has been developed but

²⁵ Including *origanum syriacum* L., *origanum ehrenbergii* Boiss., *salvia fruticosa* Mill., *cyclotrichium origanifolium* (Labill.) *micromeria libanotica* Boiss., *alcea damascea* Mout., *viola libanotica* Boiss.

since these are GEF requirements, they should be completed before the project terminates.

The third CBD project, woodland resource protection, has adopted a partnership approach with communities to reforest — 250 out of 500 municipalities showed a strong interest in participating and 48 were selected. The project also works with an NGO called “Roots of Lebanon”. Pilot trials are being undertaken to minimize seedling costs, and the longer-term goal is to develop guidelines for better reforestation practices in Lebanon. The recent GEF mid-term evaluation was quite critical of this project, giving an “unsatisfactory” rating for effectiveness, and since the evaluator did not visit field sites or have further in depth discussions with outside actors, it is not possible to comment on this²⁶

Support to the implementation of the Montreal Protocol is also generating significant and positive results. Lebanon is now in full compliance with the protocol. Over 100 industries have been converted, and 70% of these now need to be reconverted as part of the HCFC phase out management plan. Support for the implementation of HCFC phase out will continue to 2017, and Lebanon has set a target of 2025 for full HCFC phase-out. The project on the POPs was not assessed in detail.

4.3 Outcome 3: Climate change mainstreaming

The climate change mainstreaming outcome is supported by two outputs, the first of which refers specifically to “*the development and promotion of a sustainable energy strategy*” and the second which is focused on identifying the effects of climate change and adaptation measures. The specific project related to the sustainable energy strategy has been dropped — it should have been implemented in partnership with the the Ministry of Finance (MoF) — and the key activities under the first output focus on promoting sustainable energy. The output wording needs to be adjusted accordingly. “Sustainable energy” in the EE programme is focused primarily on the integration of EE and RE into government strategy and planning, as well as the implementation of concrete activities EE and RE on the ground, and both have been very successfully implemented so far. The support to the energy sector commenced with the establishment of the LCEC (from 2005–2009) within MoEW, and since 2009, focuses on developing the market for global SWHs.

The LCEC has been very successful. With strong backing from the MoEW its mandate has expanded significantly in recent years; it has become the focal point for EE and RE activities in Lebanon and has created a strong momentum for energy conservation in the country. In addition to the UNDP staff, the Centre has three full-time MoEW staff members as well as 11 others working on a national energy efficient light bulb programme. Important results generated with LCEC involvement include the National Energy Efficiency Action Plan (NEEAP), and the NEEREA, which is a financing mechanism aimed at encouraging the adoption of SWHs through zero interest bank loans and grants. LCEC — in conjunction with CEDRO and other projects energy sector

²⁶ The UNDP–EE programme management team indicates that there was disagreement over the recommendations of the mid-term evaluation, and that the project is on-track.

projects — has contributed to a significant expansion in the number of qualified SWH contractors (the evaluator met with two during this evaluation mission). EE and RE concerns have also been integrated into the Policy Paper for the Electricity Sector.

The key to the LCEC success has been its targeted and simple approach, according to a recent evaluation report; Centre management chose to focus on a few things and do them very well. In addition, the Centre staff have adopted a “learning by doing” approach, which has led to effective policy and strategy work²⁷.

Despite this success, there are some outstanding issues that will need to be addressed. In 2009 LCEC was established as an independent organization (like an NGO) linked to the MoEW; this is considered to be an interim status until it can be officially established as a government institute. There is currently a draft law with the Council of Ministers for LCEC to become a semi-autonomous body, but the CRD recently (during a meeting) indicated that this most likely be rejected. It is fairly critical for the LCEC to obtain a clear institutional status if it is to continue to operate effectively in the longer term. The UNDP support to LCEC will end in about 18 months. Although further support is anticipated, this is not yet assured. As part of the overall LCEC development strategy, it will be very important to have a clear plan for its future, and a business plan has already developed. Documentation of lessons learned could also be beneficial to others (such as the LCWCM).

The second major area of support to the energy sector has been the three phases of the project. CEDRO is contributing to the 15 key initiatives in the NEEAP covering most of the main themes in the sector. The CEDRO team has implemented 35 PV sites where key impacts include increased autonomy for the users and freedom from expensive diesel fuel. With net metering, these systems will eventually generate electricity for the grid; CEDRO also work on developing a better understanding and more effective implementation of the “net metering” concept. The project has installed 10 wind measurement sites, a ground source heat pump in one pilot municipality (Bejji), SWH systems in public hospitals and a prison, as well as street lighting fixtures. Other results include the National Wind Atlas for Lebanon, and EIA guidelines for wind farms, and development of the National Bioenergy Strategy. The CEDRO team works through networking with national partners.

During interviews it was evident that CEDRO is very successful at what it does. It has played a very important role in promoting RE through concrete actions, and it has been the “incubator” for new and innovative ideas, in particular with respect to PV and wind power. The CEDRO project has also played an important role in the expansion of LCEC’s role in RE at the Ministerial level. Despite these successes, there are issues that need to be addressed, and these relate first and foremost to sustainability. The evaluator had the opportunity to visit a public hospital where a 6000 liter SWH system had been installed. The system was unfortunately not functioning and had apparently been dysfunctional for three months; the hospital director did not seem to be aware that of this, and neither was the CEDRO team member accompanying the evaluator during the visit. Although the problem was minor and eventually solved, it highlights a very

²⁷ Interview with Pierre Khoury, project manager.

important issue of maintenance and appropriate follow up. Most of the installed systems include a two-year warranty period, after which the end user is responsible for all maintenance and repairs. This can be problematic in the case of public buildings with limited maintenance budgets. Unless there is strong commitment on the part of the building director, there is a real risk that systems will become dysfunctional after the first breakdown following the end of the warranty period. This problem is exacerbated by the fact the end users are currently not contributing to the cost of the system. Although they do sign Memorandums of Understanding it is difficult to ensure compliance with these. The CEDRO project is considering the establishment of a USD 200,000 maintenance grant to avoid such problems, but this is still not a sustainable solution.

Under the second output (identifying climate change effects and adapting to these) technology needs assessment for climate-friendly technologies has been successfully completed — Lebanon was apparently the only one of 15 countries to opt for UNDP implementation modality and they were the only ones to finish on time. The preparation for the 3rd National Communication to UNFCCC is underway and is building on lessons learned from the earlier experiences; these include the preparation of the document “in house” rather than relying on an external consultant, and trying to avoid breaks to maintain momentum between the Communications development processes.

4.4 Outcome evaluation based on evaluation criteria

The following section discusses the relevance, effectiveness, sustainability and efficiency of the EE programme, based on the progress documented in the previous section as well the comments and inputs received during interviews.

4.4.1 Relevance

The three key outcomes of the EE programme: (1) environmental mainstreaming; (2) strengthened capacity to implement international environmental conventions, and; (3) climate change mainstreaming, are generally in line with government development goals and emerging strategies and policies as presented in Chapter 2. The critical environmental situation in Lebanon, as evidenced by the issues presented in Chapter 2, highlights the need for and importance of effective environmental mainstreaming in key sectors.

The MoE projects and activities to achieve *Outcome 1* are all highly relevant to Ministry; this was reiterated on numerous occasions during interviews and confirmed by the strong commitment to and integration of UNDP-supported initiatives into MoE activities and the generation of tangible results. Activities are contributing to the development of important strategies and key documents — the updated SOE report, and the environmental strategy framework paper are two examples, as well as important legislation that will contribute significantly to better environmental mainstreaming in other sectors, such as the SEA decree.

Readily available and accurate data and information is an essential underlying requirement for effective implementation of all seven NWSS objectives, highlighting the relevance of the LCWCM support to the water sector. The MoEW focal person, however, indicated

that MoEW places a higher priority on demand-side management (ie: conservation) than on data assessment at the current time. In this particular case, although the activities supported are highly relevant to the effective implementation of the strategy, it seems that this relevance is not yet evident to the stakeholders; this remains a challenge for the project team.

It is important to note that while the concept of environmental mainstreaming *as an outcome* is very relevant in the current Lebanese context, as noted above, the actual contribution of some of the projects included under this outcome to improved environmental mainstreaming in the sectors is less apparent. This is true for at least three or four of the projects; examples include the hydro-agricultural development (the Litani project), or the Sustainable Land Management programme for Livelihood Development (industrial hemp).

In the case of the MoA support, it is unclear to what extent the support is aligned to existing government strategies and policies²⁸, and this is also manifested in the lower level of MoA commitment to programme activities — when interviewed they responded very positively to project activities and to the presence of and value of the project teams, but they also made it clear that the Ministry has other priorities and continuity would be difficult once support ended.

In the case of *Outcome 2*, since Lebanon is a signatory to a number of international environmental conventions and is committed to effectively implementing them, all of the projects under this outcome are considered to be *extremely relevant*, in line with GoL strategies; they also receive strong support from MoE. Supported activities are contributing to the development of important management tools with respect to the themes included in the conventions (the guidelines for Lebanese hunters under MSB activities and the fact sheets for the seven targeted plant species under the MAPs project are just two concrete examples).

Given the very visible government commitment to increasing the share of renewables in the national energy mix, *Outcome 3*, the energy-related (*output 3.1*) projects and activities are also of significant relevance, particularly given the critical issues facing the energy sector and the lack of existing RE and EE strategy or policy guidance when UNDP support commenced. Indeed, the support has played a pivotal role in shaping government priorities on EE and RE, such as the NEEAP and the NEEREA, as well as influencing the electricity sector policy paper. Support under this outcome is aligned to the key NEEAP initiatives and cover most of the important themes in the sector. The climate change activities under *output 3.2* (mitigation and adaptation to climate change) also respond to government priorities in this sector and provide much-needed and apparently highly appreciated support.

In general, support under all three outcomes appears to have been well designed at the outset, and in cases where it was not (such as the MAPs) easily able to adapt to changing conditions. Many interviewees noted the programme “flexibility” and responsiveness as

²⁸ The evaluator tried to obtain a copy of the MoA five-year strategy, and was told it did exist but only in Arabic, and that was also impossible to obtain.

a positive attribute, highlighting this as an important key to success. And particularly in the case of Outcome 3, the support also addresses a real need on the ground, especially in public buildings with extended black-out periods.

4.4.2 Effectiveness

The project teams and managers under all three outcomes have been effective at implementing timely activities, and to a large extent, producing the expected outputs — with a few exceptions. Unfortunately, reporting on the key performance indicators at outcome level has been less than ideal — the indicators are not measurable or SMART in some cases and could be significantly improved upon. Reporting tends to be activity focussed, and the programme in general would benefit from adopting a more results-based reporting focus.

Under the first outcome (environmental considerations mainstreamed into sector and local-level strategies and plans) the indicator states the “*ministerial plans and strategies include environmental considerations*”, and the target is the “*percentage of national budget allocated to environmental issues, include a greater amount to MoE by 2014*”. As reported under section 4.1, there are a number of examples where environmental considerations have been mainstreamed into ministerial plans and strategies (ie: the NWSS, the electricity policy paper, the SEA undertaken), although the percentage of the national budget allocated to environmental issues (assumed to be increasing) is not available²⁹.

The second outcome (capacity of government to meet its obligations under international environmental conventions and protocols timely and adequately strengthened) indicator states that “*technical units operational and with the needed capacity*”, and the target is that GoL is “*able to implement its environmental policies developed in response to national needs*”. While significant progress is noted with respect to the implementation of the international protocols, it is difficult to comment on the extent to which “government capacity” to do this has actually improved, since to a large extent activities are implemented by highly skilled external persons (non-government staff), who work closely with a single government focal point. The capacity of these focal points has definitely improved³⁰, and the tools and instruments being developed under the various projects will undoubtedly support the government in “doing its job better”.

The UNDAF indicator 5.1.2 for this outcome is “*decreased use of ozone-depleting substances to meet the Montreal protocol targets by 2013*”, and the target is that “*GoL should meet obligations by 2012*” (which it apparently had not achieved in 2008). The project manager indicates that Lebanon is now in full compliance with the Montreal protocol.

The outcome 3 indicator is “*climate change considered as a higher priority at national level*” and the target is the “*impacts of climate change on Lebanon identified and implementation of adaptation and mitigation options initiated by 2014*”. Although both the indicator and its target are quite general, suffice to say that significant progress has been made towards achieving the outcome, particularly in the energy sector, where the successful introduction of EE and

²⁹ The World Bank Country Environmental Analysis concludes (page 14) “environmental-related spending is difficult to track down”.

³⁰ This was discussed at length during the interviews with the concerned focal point persons.

RE concepts and actions play an important role in mitigation, as does the on-going work on identifying climate friendly technologies.

Outcome 3 has two outputs contributing to its achievement with their own indicators. Output 3.1 states that “the national sustainable energy strategy developed and its implementation promoted” — the indicator also refers to the national energy strategy. While the projects under this output (LCEC, CEDRO, etc) are producing good results, the project entitled “Sustainable Energy Strategy” has been closed. Nevertheless, both LCEC and CEDRO will continue to work towards developing a national renewable energy strategy. It would be timely to reconsider the working of this output to ensure that it better reflects activities being implemented under the output.

Output 3.2 under the outcome is “effects of climate change identified and measures to adapt implemented including the capacity of line ministries”, and the indicator refers to “the number of national programmes and projects that include adaptation to climate change”. While the activities supported under the output (the second and third national communications, technology needs assessment, flood risk management, etc) are definitely contributing to an improved understanding of how to deal with climate change in Lebanon, the indicator is not really and adequate reflection of the work being undertaken.

The longer term effects of some of the EE programme activities will be substantial and significant; changes in the way government views RE and EE, for example, will most likely continue well beyond the life of the UNDP support, as will the ability of the private sector to meet the demand generated for solar water heaters. In most cases, however, it is too early to determine whether there will be long term and sustainable impacts; this will depend on the extent to which the government is able to internalize and provide continuity to the results produced once the support ends — this is of course a real risk and is closely linked to sustainability and exit strategy issues.

There are a few examples, such as the drylands project, where final results will be less than anticipated, particularly in terms of poverty reduction — no data was available to determine if there had been any impact on livelihood but it is unlikely at this point. The same is true for the MAPs project, where the original premise that consumers would be willing to pay extra for sustainably harvested products has not been substantiated, although there has been some added value as a result of improved product quality. In both of these cases, the original project objectives were probably overly ambitious, given the scope and scale of the interventions, and may be more a reflection of what the donor organization wanted to achieve rather than what was realistically possible ‘on the ground’.

Interview results indicate that project activities are generally very well coordinated with on-going government activities as well as with other donor support, despite the significant challenge this may entail at times. There are also numerous examples where partnerships have been established to better achieve project outputs; examples include coordination under the MSB project with the Higher Hunting Council, and the 48 partnerships with municipalities under the woodland resources project. There are also examples of “unintended” results; the most significant of these is the additional financing

coming to MoE as a result of UNDP presence in the Ministry; this was noted by a number of interviewees as an “added value” of the EE programme.

Many of the EE projects have important capacity development (CD) components. It is difficult to comment on the CD success, given the large number of projects and the somewhat limited time available for the outcome evaluation — such an assessment would require interviews with the recipients of CD activities as well as some post-training follow up to determine whether and how acquired skills are being applied.

Although the current evaluation did not undertake an exhaustive assessment of the breakdown of beneficiaries, a number of the projects have targeted women’s groups (MAPs, the drylands projects) and rural poor (the Litani, the industrial hemp, and the ecotourism strategy for fishermen projects).

4.4.3 Sustainability

Sustainability of achieved results is of concern for a number of the projects assessed. In MoE there are many useful and relevant outputs being generated, which are contributing to achieving the expected outcomes, but in the longer term, the existing institutional weakness of the ministry (lack of funding, low staffing levels, etc) will need to be addressed if the results are to be sustained. The strategy adopted by some of the programme managers of focusing on the development of tools and procedures / systems, is a good alternative to ensure sustainability within the Lebanese context.

There is some concern over the longer-term sustainability of LCWCM; unless a mutually agreed strategy is defined which MoEW can commit to, it may disappear upon termination of support.

Sustainability could be enhanced, particularly in the case of the support to MoA (MAPs and the drylands project) with the preparation of detailed exit strategies. While the MAPs project is currently well supported by the Lebanese Agricultural Research Institute (LARI), this interest is not likely to continue once funding ends, as the Institute has limited funds and lots of other priorities. The same applies to the drylands project.

In all cases, but particularly when projects are ending, documenting lessons learned to ensure that valuable experiences are recorded is very important, and should be standard practice. This process of identifying, assessing and systematizing of lessons learned should involve all key stakeholders.

In the case of the RE activities, sustainability could be significantly improved through the adoption of actions such as increased end user contribution to investments (to increase ownership) and more careful initial institutional assessments (to ensure commitment). Quality of follow-up service and maintenance could also be improved, and may related to contractor capacity / quality.

When projects include pilot activities meant to be up-scaled, awareness and training is an important element, but more importantly, clear strategies on exactly how the scaling up will take place is essential.

4.4.4 Efficiency

The EE programme operates very efficiently. Procedures for monitoring and reporting appear to be clear and well understood by everyone (detailed Standard Operating Procedures (SOPs) exist for most routine procedures) and monitoring and reporting information was readily and quickly available to the evaluator on demand. Since the UNDP programme staff prepares the ATLAS on-line information (the system is currently being decentralized to project level) the already overworked MoE focal points are not burdened with additional reporting requirements.

While ATLAS is the required system in the UNDP office, the EE programme team operates a parallel planning and monitoring system, indicating that ATLAS does not fully fulfil their needs. It is unfortunate that this additional work is required, given that a system exists which should, in principle, address the programme needs. The annual planning and monitoring information provided to the evaluation consultant (the information from the “parallel” system) very useful in providing a descriptive illustration of progress towards achieving the three outcomes, however, as indicated previously, no quantifiable indicator information was available.

The EE programme team in the UNDP national office have established an excellent collaboration with the operations unit and procurement procedures are implemented quickly³¹, it takes approximately one to two months to recruit staff, and procurement is three months maximum; the EE programme has more procurement than any other programme, CEDRO in particular). Contractors were very complementary of the UNDP–EE programme contract management, and without exception, the project managers, government focal points and donor partners reiterated their high regard for the commitment and capacity of the team. It is evident that the team is able to work effectively with all key partners to ensure fluid and efficient programme functioning.

The UNDP “sharing” of resources between projects adds considerably to implementation efficiency as well through reducing costs to individual projects. This is evidently highly appreciated by the project managers as it allows them to access professional resources at little or no cost to the project.

A quick assessment of the funds allocated and spent under each outcome indicates that while projects under outcomes 2 and 3 are reasonably on target, there does seem to be delays under outcome 1³². Funds are generally transferred on schedule — with a few exceptions.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The main conclusions of this outcome evaluation are summarized below.

³¹ The operations manager indicated that they were the best team to work with.

³² The evaluator undertook an exercise of comparing budgets, length of implementation, and expected spending; this of course provides only very rough estimates but is still useful in providing some idea of how efficient project spending has been.

In general, there has been significant progress made towards each of the key outcomes, environmental mainstreaming, support to meeting the obligations of international environmental conventions, and climate mainstreaming. The support has been, in most cases, highly relevant, quite effective, and efficient, although there are some sustainability issues.

The UNDP–EE programme is perceived by most partners, both in government and outside, as being extremely successful in working in the environment and energy sectors. Some of the success factors include the strong trust relationship that has developed over the years between MoE and UNDP, the perception of UNDP as a “neutral” and impartial actor, able to work based on efficient and transparent process and recruit highly skilled staff through open recruitment processes (not political like GoL processes).

Partners also perceive that there is a “value-added” benefit to working with UNDP in the sector; this was mentioned by a number of people — that UNDP is able to work at different levels and on broader issues, but also that they play a crucial role in obtaining additional funds for the GoL (MoE specifically mentioned this as an important value-added element).

There are many examples of effective partnerships and collaborative efforts that have helped to generate good results that might not have otherwise occurred (working with the HHC and “active” mayors in the MSB project, selecting proactive “middlemen” in the MPAs project, working with a number of different NGOS, community work in the woodlands restoration project). Good evidence that the flexible and collaborative approach adopted by UNDP has may positive results (Example given by MoE that the Rio+20 was a collaborative document for the first time)

The overall quality of the support provided by UNDP is high, and the general UNDP approach to working in the sector is very successful. Project staff have been carefully selected, are extremely professional and appreciated by their government counterparts. It is more difficult to comment on the quality of final results, given the short timeframe for the evaluation and the large number of projects in the programme. The team approach to implementation (example is the Climate Change Unit in MoE which will include the low emissions capacity building project, the UNFCCC communications, and the TNA), the sharing of resources across projects to increase efficiency, the participatory manner adopted by the UNDP CO staff all contribute to this success and there are probably lessons to be learned for other programmes within UNDP

Programme management is excellent; there has been extremely positive feedback on this from everyone. However, there does appear to be some inefficiency in the existing systems, which lead to extra work. Not sure whether anything can be done about this but it is worth mentioning.

There are many very positive results, but there is a general weakness in systematically documenting these in an interesting and useful format (ie: clearly document improved livelihoods, of energy savings, etc). It is important to concretely plan for this from the beginning of the project activities. While there is a good M&E system, a lot of the reported results at project level focus on implemented activities rather than actual results. At the same time, the results-oriented annual reporting at outcome level is quite descriptive.

The current EE programme results framework was developed after most of the projects were already planned and were, in some cases, already under implementation. This has resulted in weaknesses that should be addressed in future versions. Some examples include:

- A weak logical framework: the stated outputs should contribute to achieving outcomes and there should be a clear hierarchy between the two. An outcome and an output are two different concepts and need to be clearly differentiated.
- It should be clear how projects are contributing to achieving the outcomes (this applies mainly to outcome 1)
- Indicators that are too general, not measurable, and not being reported on (they are not SMART indicators)

Strong GoL commitment to project activities is crucial to ensuring success and effective implementation, where this is absent there is a risk that UNDP becomes the “sole” responsible for ensuring results are generated (I think there are a few examples of this, one example is Litani, the second is possibly the LCWCM). It is very important to identify when these situations occur and develop a strategy to deal with them.

General governance issues and partner institutional weaknesses plays an important role in determining how UNDP works; the key challenge is how to manage this situation in a positive way and continue to work towards eventual longer-term institutional sustainability. Not clear how this is being addressed, and what can be recommended, but important to note and perhaps discuss.

There are many interesting and valuable results coming from the various projects, many could benefit from a more systematic “lessons learned” approach that brings everyone together to reflect on how success was achieved and how this could be replicated / applied elsewhere (either scaling up or even on completely different projects). This is being done in some cases but is it happening consistently?

Clearly articulated exit strategies should be an important element of project completion, especially under Lebanese conditions: projects ending could benefit from more clearly defined exit strategies, which would force government counterparts to consider some of the key issues that need to be addressed before and once the support terminated.

While the EE and RE activities are generating very positive results, there are definitely some sustainability issues with respect to the RE installations: this was referred to in the 2007 outcome evaluation, reiterated in CEDRO I evaluation and also noted during a visit to one of the pilot sites (a hospital). This highlights the need for more commitment especially from public sector building (they should be contributing to increase ownership and commitment), better follow up on the part of the contractor (could relate to contractor quality in the sector).

The sustainability of results obtained in MoA/LARI projects (MAPs, dryland products) are not guaranteed. Future collaboration MoA needs to be very carefully assessed.

There is little or no financial contribution by the end users. Financial contributions key recipients could add significantly to sustainability in a number of cases (reforestation, SWH, others?). This should be considered in the design of future activities.

5.2 Recommendations

Based on the assessment and conclusions outlined in the preceding sections, the following recommendations for improving the programme implementation are suggested:

Recommendation 1: The results framework structure should be significantly strengthened during the next UNDAF formulation. Clearly articulated project outputs/outcomes linked to the three outcomes in the results matrix (in theory, each which would then become outputs in the matrix) would significantly strengthen the logical hierarchy. Revision of the current output 3.1, which refers to the National Energy Strategy, is needed. All of the water management projects are currently included under UNDAF outcome 5.1 or 5.2, and it might make more sense to include them under UNDAF outcome 5.3, which deals with integrated water resources management.

Recommendation 2: Be much more rigorous in the implementation of results based programme monitoring, include improving indicators if they are not useful. One suggestion is to define one or two crucial indicators for each project, at outcome level which would then be reported on annually (these indicators could be defined jointly between UNDP CO and project partners).

Recommendation 3: All projects should be required to systematically document and share lessons learned as part of standard practice.

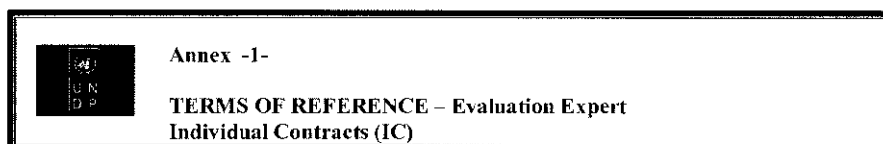
Recommendation 4: All projects, should, at least 12 months prior to their end date, develop a clear exit strategy (where relevant, of course) to be shared with key partners. In cases of specific concerns about the sustainability of generated results, this exit strategy should address these in a proactive fashion.

Recommendation 5: Further efforts should be undertaken to ensure sustainability of the renewable energy investments. This could include more rigorous initial assessments of the public sector partners, a requirement for end users to provide financial contributions, and a more careful follow-up on contractor performance.

Recommendation 6: Given the apparent lack of sustainability of projects implemented in collaboration with the Ministry of Agriculture, carefully assess existing and new collaboration with this ministry. In the case of existing projects, ensure that appropriate actions are taken to ensure sustainability (exits strategies, lesson learned studies, etc) prior to project termination. Reconsider future collaboration.

ANNEXES

Annex 1 Terms of reference



Project Name: UNDP Lebanon Evaluation (ID 00034346)

Reference Number:

Subject: Energy and Environment Programme Outcome Evaluation

1. Background

United Nations Development Programme (UNDP) conducts outcome evaluations to capture and demonstrate evaluative evidence of UNDP's contributions to development results at the country level as articulated in the country programme document and in the United Nations Development Assistance Framework (UNDAF). These are independent evaluations carried out within the overall provisions contained in the UNDP Evaluation Policy.

In line with the Evaluation Plan of UNDP Lebanon Country Office, an outcome evaluation will be conducted to assess the impact of UNDP's programme in Energy and Environment, specifically in relation to two outcomes:

1. Environmental considerations mainstreamed at the national and local levels
2. Support the GoL to meet its obligations under international environmental conventions

The proposed evaluation will evaluate the relevant country programme outcomes and outputs as stated in the Country Programme Action Plan (CPAP) and the Country Programme Document (CPD) for the period 2008-2012. It should also be based on the Energy and Environment's annual work programmes and project documents. The last outcome evaluation within the Energy and Environment Programme was undertaken in 2007.

2. Scope of Work, Responsibilities and Description of the Proposed Analytical Work

Scope of Work

The purpose of the outcome evaluation is to:

- assess the effectiveness and relevance of the UNDP's programme to meet the development priorities of the Government of Lebanon in the field of environment
- Provide substantive direction and recommendations to the formulation of new

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programme and project strategies

- Assess the programme implementation approach (operational procedures, structure, monitoring, control and evaluation procedures, financial and technical planning, project modality/structures) and their influence on the programme effectiveness;
- Support greater UNDP accountability to national stakeholders and partners
- Serve as a means of quality assurance for UNDP interventions at the country level; and,
- Contribute to learning at corporate, regional and country levels.

Stakeholders

The evaluation should involve, in addition to programme & project staff, key programme partners at national and local level, and programme direct beneficiaries, participating in the programme. Main stakeholders are as follows:

- Ministry of Environment;
- Ministry of Agriculture;
- Ministry of Energy and Water;
- Lebanese Agriculture Research Institute;
- Programme donors;
- Various projects staff;
- Other UNDP Programmes;
- Private sector
- Civil sector organisations/NGOs

Evaluation deliverables

1. Evaluation inception report—An inception report should be prepared by the evaluator before going into the full-fledged evaluation exercise. It should detail the evaluator's understanding of what is being evaluated and why, showing how each evaluation question will be answered by way of: proposed methods; proposed sources of data; and data collection procedures. The inception report should include a proposed schedule of tasks, activities and deliverables, designating a team member with the lead responsibility for each task or product. The inception report provides the programme unit and the evaluators with an opportunity to verify that they share the same understanding about the evaluation and clarify any misunderstanding at the outset.
2. Draft evaluation report—The programme unit and key stakeholders in the evaluation should review the draft evaluation report to ensure that the evaluation meets the required quality criteria
3. Final evaluation report.
4. Evaluation brief and a power point presentation for UNDP management

Final Evaluation Report Format:

The expected output of the evaluation is a comprehensive report which includes recommendations and suggestion for programme improvement. The outline of the report should be in line with UNDP Evaluation Guidelines and include (but not be limited) to the following:

- Executive summary
- Introduction/background
- Programme objectives and its development context
- Findings and conclusions
- 1. Programme effectiveness and impacts

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2. Indirect impacts
 3. Attainment of programme objectives and outcomes
 4. Implementation approach
 5. Monitoring and evaluation systems
 6. Strategies and plans towards outcomes
 7. Ratings on relevance of outcome
- Recommendations
 - Lessons learned
 - Annexes

Guidance Documents

The evaluation should be based on UNDP's evaluation policy and other supporting documents, including but not limited to the below:

- Handbook on Planning, Monitoring and Evaluating for Development Results (available online: <http://web.undp.org/evaluation/methodologies.htm>)
- A companion guide to the handbook on planning monitoring and evaluating for development results for programme units and evaluators (available online: <http://web.undp.org/evaluation/methodologies.htm>)
- The evaluation policy of UNDP <http://web.undp.org/evaluation/documents/Evaluation-Policy.pdf>

3. Qualifications Required

Consultant must have work experience with development and environmental projects with UN or international organisations/NGOs. Willingness to travel to Lebanon is a requirement.

The International Consultant should possess the following minimum qualifications:

I- Academic Qualifications:

- a. Advanced University degree in environmental management or public policy or closely related field.

II- Years of Experience:

- a. The Consultant should have a minimum of 10 years of professional experience in the field of development and environmental projects;
- b. Good knowledge of procedures governing the implementation and management of internationally funded projects and programme
- c. Knowledge of the national situation and context
- d. Experience in the evaluation of similar projects is a plus;

III- Competencies:

- a. Good communication skills in English (Oral and written);
- b. French and Arabic are a plus;
- c. Demonstrable analytical skills;
- d. Proficiency in computer use.

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4. Duration of Contract

The overall duration of the tasks covered by this ToR has been estimated not to exceed 20 man days, including the mission to Beirut and related desk-work, over a period of 2.5 months. This should include a mission to Lebanon of 5 man-days during this time period.

5. Schedule and Deliverables

The Consultant should submit one soft copy of the first draft of his/her report.

The final report shall be submitted within 2 weeks from receiving the comments of UNDP on the draft report.

Deliverable Number	Description	# of working days	Expected date
Deliverable 1	Inception report	2	8 October 2012
Deliverable 2	Draft report and draft presentation	13	31 October 2012
Deliverable 3	Final report and final presentation	5	15 November 2012



Annex 2 List of key questions for stakeholder / partner meetings

Context

- Have there been any significant changes to the programme operating environment (political, social, economic) since the last evaluation? Summarize these changes.
- Within key partner institutions (MoE, MEW, MoA, MoF) have there been and significant changes, particularly from an institutional perspective (strengthening, weakening?) that affect programme implementation? What key institutional issues can be highlighted of relevance to this outcome evaluation?
- How does UNDP collaborate and coordinate with other initiatives and organizations within the environment and energy sector? (is there some sort of donor coordination and does this function effectively?)
- How difficult is it to get programme funding? Is there a reliable funding stream? Do funding options have an impact on outcome priorities and if so, to what extent? (for example, the changing status of Lebanon to middle income country?)
- Are there any on-going policy initiatives and / or alternatives that could have a significant impact on project outputs / programme outcomes? (for example, fuel subsidies, tariffs, taxes, etc?). Summarize these.

Relevance

- How has UNDP's initiative supported or contributed to relevant national policies or strategies? In which areas? Via which types of projects or other forms of advice? Can you provide specific examples of good contributions?
- Has UNDP followed good practices in its development work? Why or why not? Can you provide specific examples of where UNDP approaches were appropriate, well-needed and fit with national efforts? Where there were problems or challenges?
- Did the UNDP project/programme support the government's development goals and strategies?
- Is UNDP's project/programme aligned with government plans, procedures, and policies?
- Did UNDP design the right project/programme to meet the needs of the stakeholders? Why or why not? What could have been done differently?
- Were there obvious or critical gaps that the UNDP project/programme did not address? What were they?
- Did the UNDP project/programme respond to significant changes happening in

the local/country/regional/global context? In what ways did adaptation take place? What trade-offs were there (that you know of) between short-term response and support for longer term initiatives? What could have been done differently?

- Was the project/programme adequately adapted to changes in local conditions? Provide examples.

Effectiveness

- What activities have been undertaken under the UNDP project(s) you are familiar with? What short-term outputs have been produced?
- What longer-term effects were produced?
- Was the project linked to government activities or activities of other agencies? How well were they coordinated?
- Were there significant unexpected results or achievements that you know of? What were they, at different levels?
- What has been the scope or reach of the projects and their benefits? Who has been affected (either positively or negatively)? To what extent were men and women affected differently?
- Has the UNDP project made a difference via this project? Within a limited area or in this thematic area or sector overall? To whom? In what way?
- Did the project/programme have a capacity development objective? Were needs identified? Were some left out?
- Has the project/programme been effective in developing capacities of the men and women involved?
- Who have been the main beneficiaries of UNDP's work in the project you are familiar with? To what extent did men and women benefit differently? At what level (ministry-wide, specific departments or units, others for whom services or benefits were indirectly provided)?
- Have any benefits been realized via this project for the poor, disadvantaged groups, rural communities, women, or others with specialized needs in the country?
- Has any significant event occurred affecting project/programme outcomes? How well did UNDP adapt to these circumstances or changes?

Efficiency

- To your knowledge, how well did UNDP use its human and financial resources? Were resources used well? Were funds received on time? Why or why not? Were projects approved and launched in a timely fashion? Why or why not? Please provide specific examples.

- Are UNDP procedures and processes easy to understand? What types of reporting were required, and were they submitted on a regular basis? Why or why not? Did the plans and reports required from UNDP add to the burden of implementing partners or beneficiaries in any way? Please provide examples.
- Are you familiar with the monitoring and evaluation arrangements for UNDP's project/programme? How well did M&E work (in your opinion) and what effects did they have on the project in which you were involved?
- How would you describe UNDP's cooperation with other partners, including other Country Team partners and bilateral or multilateral donors, that were important to this initiative? What went well? What could have been done better?

Sustainability

- Were the project/programme achievements maintained and expanded over time?
- What was learned from the UNDP-assisted project/programme? Have any knowledge and lessons been used?
- Would you say there is a high degree of national/local ownership of UNDP-assisted projects/programmes? Why or why not? How could national ownership be improved?
- What indications are there that the government, civil society entities or other partners will continue to support, or even upscale, this or similar initiatives?

MDGs

- How did UNDP contribute to the achievement of the MDGs in the country? What specific initiatives, projects, or advice was UNDP able to offer towards fulfilling MDG aims? How has this made a difference to the country's overall development and/or commitment to the MDGs?

Gender

- Was the project or programme based on a gender analysis, targets and resources? What effects were realized in terms of gender equality, if any (provide examples)?
- Were women and men distinguished in terms of participation and benefits within specific projects? Were there clear gender strategies provided and/or technical advice on gender mainstreaming issues?

Equity

- Were specific vulnerable groups helped by UNDP's initiative? If so, how (provide examples)?

Annex 3 Evaluation matrix

Evaluation criteria	Outcome evaluation questions related to the criteria	What to look for	Data sources	Data collection methods and tools
Relevance	<ul style="list-style-type: none"> Is the initiative aligned with the national strategies? Is it consistent with human development needs and the specific development challenges of the country? 	<ul style="list-style-type: none"> How exactly does the programme align with national strategies (in specific thematic areas?) How does the project address human development needs of intended beneficiaries? 	<ul style="list-style-type: none"> UNDP programme / project documents UNDP programme / project Annual Work Plans Programmes/projects/ thematic areas evaluation reports Government's national planning documents Human Development Reports MDG progress reports Government partners progress reports Interviews with beneficiaries 	<ul style="list-style-type: none"> Desk review of secondary data Interviews with government partners Interviews with government NGOs partners and service providers Interviews with funding agencies and other relevant stakeholders Interviews with civil society in the concerned sector Field visits to selected projects (?)
	<ul style="list-style-type: none"> Are UNDP approaches, resources, models, conceptual framework relevant to achieving the planned outcomes? To what extent has UNDP adopted participatory approaches in planning and delivery of the initiative and what has been feasible in the country context? 	<ul style="list-style-type: none"> What analysis was done in designing the project? To what extent have a broad range of stakeholders, including women, been involved in project design? Are the resources allocated sufficient to achieve the objectives of the project? 	<ul style="list-style-type: none"> UNDP staff Development partners Government partners involved in specific results/thematic areas Concerned civil society partners 	<ul style="list-style-type: none"> Interviews with UNDP staff, development partners and government partners, civil society partners, relevant private sector organizations
Effectiveness	<ul style="list-style-type: none"> Did the project or programme implementation contribute towards the stated outcome? Did it at least set dynamic changes and processes that move towards the long-term outcomes? 	<ul style="list-style-type: none"> What outcomes does the project intend to achieve? What outputs has the project achieved? 	<ul style="list-style-type: none"> Project / programme / thematic areas evaluation reports Progress reports on projects UNDP staff Development partners 	<ul style="list-style-type: none"> Desk reviews of secondary data Interviews with government partners, development partners, UNDP staff, civil society partners, private

Evaluation criteria	Outcome evaluation questions related to the criteria	What to look for	Data sources	Data collection methods and tools
	<ul style="list-style-type: none"> How does UNDP measure its progress towards expected results/outcomes in a context of change? 	<ul style="list-style-type: none"> What percentage of the project results at the output level has been achieved? What changes can be observed as a result of these outputs? In addition to UNDP initiatives, what other factors may have affected the results? What were the unintended results (+ or -) of UNDP initiatives? 	<ul style="list-style-type: none"> Government partners Beneficiaries 	<ul style="list-style-type: none"> sector Field visits to selected projects
	<ul style="list-style-type: none"> How broad are the outcomes (e.g., local community, district, regional, national)? Are UNDP's efforts concentrated in regions/districts of greatest need? 	<ul style="list-style-type: none"> Are the results of the project intended to reach local community, district, regional or national level? 	<ul style="list-style-type: none"> Evaluation reports Progress reports on projects 	<ul style="list-style-type: none"> Desk reviews of secondary data
	<ul style="list-style-type: none"> Who are the main beneficiaries? To what extent do the poor, vulnerable groups, women, and other disadvantaged and marginalized groups benefit? 	<ul style="list-style-type: none"> Who are the target beneficiaries and to what extent have they been reached by the project? How have the particular needs of disadvantaged groups been taken into account in the design and implementation, benefit sharing, monitoring and evaluation of the project/programme? How far has social inclusion been taken into account in the project/programme? How far has the regional context (least developed region) 	<ul style="list-style-type: none"> Programme documents Annual Work Plans Evaluation reports MDG progress reports Human Development Reports 	<ul style="list-style-type: none"> Desk reviews of secondary data

Evaluation criteria	Outcome evaluation questions related to the criteria	What to look for	Data sources	Data collection methods and tools
		been taken into consideration while selecting the project/ programme?		
Efficiency	<ul style="list-style-type: none"> ▪ Has the project or programme been implemented within deadline and cost estimates? ▪ Have UNDP and its partners taken prompt actions to solve implementation issues? ▪ What impact has political instability had on delivery timelines? 	<ul style="list-style-type: none"> ▪ Have there been time extensions on the project? What were the circumstances giving rise to the need for time extension? ▪ Has there been over-expenditure or under-expenditure on the project? ▪ What mechanisms does UNDP have in place to monitor implementation? Are these effective? 	<ul style="list-style-type: none"> ▪ Programme documents ▪ Annual Work Plans ▪ Evaluation reports ▪ Government partners ▪ Development partners ▪ UNDP staff 	<ul style="list-style-type: none"> ▪ Desk reviews of secondary data ▪ Interviews with government partners and development partners
	<ul style="list-style-type: none"> ▪ Were UNDP resources focused on the set of activities that were expected to produce significant results? ▪ Was there any identified synergy between UNDP initiatives that contributed to reducing costs while supporting results? ▪ Is there a Project / Programme Implementation Support Unit and if so, has it assisted the efficiency of programme delivery? 	<ul style="list-style-type: none"> ▪ Are resources concentrated on the most important initiatives or are they scattered/spread thinly across initiatives? 	<ul style="list-style-type: none"> ▪ Programme documents ▪ Annual Work Plans ▪ Evaluation reports ▪ Government partners ▪ Development partners ▪ UNDP staff (Programme Implementation Support Unit) 	<ul style="list-style-type: none"> ▪ Desk reviews of secondary data ▪ Interviews with government partners and development partners
Sustainability	<ul style="list-style-type: none"> ▪ Were initiatives designed to have sustainable results given the identifiable risks? ▪ Did they include an exit strategy? ▪ How does UNDP propose to exit from projects that have run for several years? 	<ul style="list-style-type: none"> ▪ Does/did the project have an exit strategy? ▪ To what extent does the exit strategy take into account the following: <ul style="list-style-type: none"> ✓ Political factors (sup- 	<ul style="list-style-type: none"> ▪ Programme documents ▪ Annual Work Plans ▪ Evaluation reports 	<ul style="list-style-type: none"> ▪ Desk reviews of secondary data

Evaluation criteria	Outcome evaluation questions related to the criteria	What to look for	Data sources	Data collection methods and tools
		<ul style="list-style-type: none"> port from national authorities) ✓ Financial factors (available budgets) ✓ Technical factors (skills and expertise needed) ✓ Environmental factors (environmental appraisal) 		
	<ul style="list-style-type: none"> What issues emerged during implementation as a threat to sustainability? What corrective measures were adopted? How has UNDP addressed the challenge of building national capacity in the face of high turnover of government officials? 	<ul style="list-style-type: none"> What unanticipated sustainability threats emerged during implementation? What corrective measures did UNDP take? 	<ul style="list-style-type: none"> Evaluation reports Progress reports UNDP programme staff 	<ul style="list-style-type: none"> Desk reviews of secondary data Interview UNDP programme staff
	<ul style="list-style-type: none"> How has UNDP approached the scaling up of successful pilot initiatives projects? Has the government taken on these initiatives? Have donors stepped in to scale up initiatives? 	<ul style="list-style-type: none"> What actions have been taken to scale up the project if it is a pilot initiative? 	<ul style="list-style-type: none"> Evaluation reports Progress reports UNDP programme staff 	<ul style="list-style-type: none"> Desk reviews of secondary data Interview UNDP programme staff
Supporting policy dialogue on human development issues	<ul style="list-style-type: none"> To what extent did the initiative support the government in monitoring achievement of MDGs? 	<ul style="list-style-type: none"> What assistance has the initiative provided supported the government in promoting human development approach and monitoring MDGs? Comment on how effective this support has been. 	<ul style="list-style-type: none"> Project documents Evaluation reports HDR reports MDG reports National Planning Commission Ministry of Finance 	<ul style="list-style-type: none"> Desk review of secondary data Interviews with government partners
Contribution to gender equality	<ul style="list-style-type: none"> To what extent was the UNDP initiative designed to appropriately incorporate in each outcome area contributions to attainment of gender equality? To what extent did UNDP support positive 	<ul style="list-style-type: none"> Provide example(s) of how the initiative contributes to gender equality Can results of the programme be disaggregated by sex? 	<ul style="list-style-type: none"> Project documents Evaluation reports UNDP staff Government partners Beneficiaries 	<ul style="list-style-type: none"> Desk review of secondary data Interviews with UNDP staff and government partners Observations from field visits

Evaluation criteria	Outcome evaluation questions related to the criteria	What to look for	Data sources	Data collection methods and tools
	changes in terms of gender equality and were there any unintended effects?			
Addressing equity issues (social inclusion)	<ul style="list-style-type: none"> How did the UNDP initiative take into account the plight and needs of vulnerable and disadvantaged to promote social equity, for example, women, youth, disabled persons? 	<ul style="list-style-type: none"> Provide example(s) of how the initiative takes into account the needs of vulnerable and disadvantaged groups, for example, women, youth, disabled persons. How has UNDP pro-grammed social inclusion into the initiative? 	<ul style="list-style-type: none"> Project documents Evaluation reports UNDP staff Government partners Beneficiaries 	<ul style="list-style-type: none"> Desk review of secondary data Interviews with UNDP staff and government partners Observations from field visits

Annex 4 Detailed project list

Environment and energy projects											Source of funds											
Project ID	Title	Status	Budget (\$US)	Exp. to 09.2012	Expected exp. (approx.)	Start	End	Duration	Ministry of Environment	UNDP	UNDP HQ	Sol	UNFCC	Lebanon Recovery Fund	United Nations Environment Programme	Ministry of Finance	Ministry of Agriculture	BRA	Global Environment Facility	ME	Montreal protocol	ITA
UNDAF outcome 5.1, CPAP outcome 1, output 1.1 Env. Mainstreamed into sector and local level strategies and plans																						
40894	Institutional Support to the Ministry of Environment	Ongoing	2,345,155	1,755,060	1,700,000	01/01/10	31/12/13	48 months	2,005,155	200,000	20,000	120,000										
47447	Developing a Financing Strategy for National Action Plan to Combat Desertification	Compl.	125,000	97,957	125,000	01/01/06	30/06/11	66 months														
49964	Promotion of Innovative Trade Initiatives to Increase Market Opportunities for Dryland Products	Ongoing	335,000	298,716	335,000	01/09/06	30/04/12	68 months					315,000									
68344	Sustainable Land Management Programme for Livelihood Development in Lebanon	Ongoing	347,536	345,913	347,536	01/10/07	31/03/12	54 months		100,000							100,000	147,536				
71490	Hydro-Agricultural Development for Marjayoun Area	Ongoing	2,000,000	819,663	1,900,000	01/09/09	31/12/12	40 months						2,000,000								
72975	Groundwater Assessment and Database	Ongoing	2,496,960	894,994	1,800,000	01/01/10	31/12/13	48 months														2,496,960
74096	Lebanese Centre for Water Conservation and Management (LCWCM)	Ongoing	150,000	44,877	109,000	01/01/10	31/12/13	48 months		50,000												
76485	Integrated Solid Waste Management of Baalbek Caza	Ongoing	2,476,190	81,821	1,130,000	01/01/11	30/09/13	33 months														2,476,190
77384	Environmental Resources Monitoring in Lebanon	Ongoing	706,200	55,747	500,000	01/02/11	30/06/13	29 months							706,200							
79364	Developing an Ecosystem Strategy in the Fisheries Sector Along the Lebanese Coast	Ongoing	150,000	144,411	140,000	01/07/11	31/12/12	18 months		150,000												
Subtotal			11,132,041	4,539,159	4,086,536				2,005,155	520,000	20,000	120,000	315,000	2,000,000	706,200		100,000	147,536	0	0	0	4,973,150
UNDAF outcome 5.1, CPAP outcome 2, output 2.1 Government capacity to meet international obligations																						
58543	Best Techniques and Practices for Reducing Health-Care Waste to Avoid Releases of Dioxins and Mercury	Ongoing	600,000	345,549	570,000	01/06/09	31/12/12	43 months														600,000
60013	Mainstreaming migratory soaring birds conservation into key productive sectors/Rift Valley/Red Sea flyway	Ongoing	1,324,000	741,771	1,050,000	01/06/08	31/12/13	67 months														1,324,000
61783	Safeguarding and Restoring Lebanon's Woodland Resources	Ongoing	980,000	472,398	770,000	01/01/09	31/12/13	60 months														980,000
61785	Mainstreaming Biodiv. Mgmt. into Medicinal / Aromatic Plants (MAPs) Production Processes in Lebanon	Ongoing	1,130,000	893,756	1,030,000	15/06/08	30/04/13	58 months			150,000											980,000
71157	Preparation of HCFC Phase-out Management Plan in Lebanon	Ongoing	237,250	236,607	237,250	01/01/10	30/04/12	28 months													237,250	155,090
76555	Institutional Strengthening Project for the Implementation of Montreal Protocol in Lebanon (Phase VII)	Ongoing	155,090	67,313	123,000	01/04/11	31/03/13	24 months														155,090
81853	HCFC HPMP Stage-1/Compliance with 2013/2015 control targets/Annex-C, Group-1 substances Lebanon	Ongoing	2,495,109	450,219	285,155	01/03/12	31/12/17	70 months														2,495,109
Subtotal			6,921,449	3,207,613	4,065,405				0	150,000	0	0	0	0	0	0	0	0	3,884,000	0	2,887,449	0
UNDAF outcome 5.2, CPAP outcome 3, Climate change considerations mainstreamed (output 3.1, National Sustainable Energy Strategy developed)																						
62901	Global Solar Water Heating Market Transformation and Strengthening Initiative	Ongoing	1,140,660	699,257	800,000	01/06/09	01/06/14	60 months		100,000									1,000,000	40,660		
56603	CEDRO I Community EE/RE Demonstration Project/Recovery of Lebanon (South, Bekaa and Akkar)	Ongoing	2,732,240	2,729,464	2,732,240	10/10/07	31/03/11	42 months														2,732,240
60150	CEDRO II Country EE and RE demonstration project for the recovery of Lebanon	Ongoing	3,500,000	3,345,718	3,500,000	31/01/09	31/12/12	47 months														3,500,000
71261	CEDRO III Country EE and RE demonstration Project for the Recovery of Lebanon	Ongoing	3,500,000	1,238,409	2,600,000	01/10/09	31/12/13	51 months														3,500,000
82149	PPHS 4695: Small Decentralized Renewable Energy Power Generation - PPG	Ongoing	50,000	11,500	30,000	01/04/12	31/03/13	12 months														50,000
Subtotal			10,922,900	8,624,348	9,662,240				0	100,000	0	0	0	9,732,240	0	0	0	0	1,658,000	40,660	0	0
UNDAF outcome 5.2, CPAP outcome 3, Climate change considerations mainstreamed (output 3.2, Effects of climate change identified and measures to adapt (and mitigate))																						
59666	Flood Risk Management and Water Harvesting for Livelihood Recovery in Baalback-Hermel - Phase I	Ongoing	2,843,881	2,838,451	2,843,881	01/01/08	31/05/11	41 months							2,843,881							
69789	Flood Risk Management and Soil Conservation for Livelihood Recovery in Baalback-Hermel, Phase II	Ongoing	3,800,000	2,236,832	3,700,000	01/01/09	31/12/12	48 months														3,800,000
77227	Enabling Activities for the Preparation of Lebanon's Third National Communication to the UNFCCC	Ongoing	480,000	550	85,000	01/04/11	31/12/14	46 months														480,000
78921	Technology Needs Assessment	Ongoing	120,000	96,163	120,000	01/06/11	30/09/12	16 months							120,000							
82292	Preparation of Lebanon's Low Emission Capacity Building project proposal	Ongoing	32,100	32,100	32,100	11/04/12	30/09/12	18 months														
Subtotal			7,275,881	5,180,396	6,780,861				0	0	0	0	0	6,643,881	120,000	0	0	0	480,000	0	0	0
Total			36,252,371	20,951,516	28,995,162	0	0	0	2,005,155	770,000	20,000	120,000	315,000	18,376,121	826,200	0	100,000	147,536	5,414,000	40,660	2,887,449	4,973,150

Environment and energy projects																															
Project ID	Title	MoEW	EC	Global Mechanism	Implementing partner	Govt.	Farmers	Rural local communities	Women cooperatives	Public sector buildings and facilities	Local ministries	Private sector	Public at large	Academia	Health care workers	Hospitals and institutions	NGOs	Public institutions	Synagogues	Vulnerable groups	Tourism sector at large	Public/research institutions	Municipalities	Industries	Private/public sectors	MoP	Public administration	Lebanese citizens	Baalbek municipality	Lebanese coast	
UNDAF outcome 5.1, CPAP outcome 1, output 1.1 Env. Mainstreamed into sector and local level strategies and plans																															
40894	Institutional Support to the Ministry of Environment				MoE	+																									
47447	Developing a Financing Strategy for National Action Plan to Combat Desertification			125,000	MoA			+	+																						
49964	Promotion of Innovative Trade Initiatives to Increase Market Opportunities for Dryland Products				MoA			+	+	+																					
58344	Sustainable Land Management Programme for Livelihood Development in Lebanon				MoA			+	+	+																					
71490	Hydro-Agricultural Development for Marjayoun Area				Farmers	+																									
72975	Groundwater Assessment and Database				NEW	+																									
74096	Lebanese Centre for Water Conservation and Management (LCWCM)	100,000			NEW	+																						+			
76489	Integrated Solid Waste Management of Baalbek Caza				MoE	+																									
77384	Environmental Resources Monitoring in Lebanon				MoE	+								+								+	+	+			+	+	+		
79364	Developing an Ecotourism Strategy in the Fisheries Sector Along the Lebanese Coast				UNDP direct execution																										
Subtotal		100,000	0	125,000																											
UNDAF outcome 5.1, CPAP outcome 2, output 2.1 Government capacity to meet international obligations																															
58542	Best Techniques and Practices for Reducing Health-Care Waste to Avoid Releases of Dioxins and Mercury				MoE									+	+	+	+	+			+										
60018	Mainstreaming migratory soaring birds conservation into key productive sectors/Rift Valley/Red Sea Flyway				MoE																										
61783	Safeguarding and Restoring Lebanon's Woodland Resources				MoE				+	+	+	+										+									
61785	Mainstreaming Biodiv. Mgmt. into Medicinal / Aromatic Plants (MAPs) Production Processes in Lebanon				LARI	+		+	+	+	+																				
71157	Preparation of HCFC Phase-out Management Plan in Lebanon				MoE									+																	
77055	Institutional Strengthening Project for the Implementation of Montreal Protocol in Lebanon (Phase VII)				MoE									+																	
81853	HCFC RHPF Stage 1/Compliance with 2013/2015 control targets/Annex-C, Group-1 substances Lebanon				MoE	+																					+				
Subtotal		0	0	0																											
UNDAF outcome 5.2, CPAP outcome 3, Climate change considerations mainstreamed (output 3.1, National Sustainable Energy Strategy developed)																															
62901	Global Solar Water Heating Market Transformation and Strengthening Initiative				NEW	+																					+	+			
56604	CEPRO I Community EE/RE Demonstration Project/Recovery of Lebanon (South, Bekaa and Akkar)				UNDP direct execution				+																						
60150	CEPRO II Country EE and RE demonstration project for the recovery of Lebanon				UNDP direct execution								+																		
71261	CEPRO III Country EE and RE Demonstration Project for the Recovery of Lebanon				UNDP direct execution																						+				
82149	PPRS 4695: Small Decentralized Renewable Energy Power Generation - PPG				UNDP direct execution																										
Subtotal		0	0	0																											
UNDAF outcome 5.2, CPAP outcome 3, Climate change considerations mainstreamed (output 3.2, Effects of climate change identified and measures to adapt (and mitigate))																															
59666	Flood Risk Management and Water Harvesting for Livelihood Recovery in Baalbek-Hermel - Phase I				UNDP direct execution	+	+														+										
69789	Flood Risk Management and Soil Conservation for Livelihood Recovery in Baalbek-Hermel, Phase II				UNDP direct execution	+	+																		+						
77227	Enabling Activities for the Preparation of Lebanon's Third National Communication to the UNFCCC				MoE	+						+																			
78921	Technology Needs Assessment				MoE	+							+																		
82292	Preparation of Lebanon's Low Emission Capacity Building project proposal			32,100	UNDP direct execution	+																									
Subtotal		0	32,100	0																											
Total		100,000	32,100	125,000																											

Annex 5 Results framework detailed progress reporting

	Outcomes, outputs and key contributing projects	Key performance indicators and summary of results obtained
5	UNDAF outcome 5: By 2012, improved accessibility and management of natural resources and enhanced response to national and global environmental challenges	<p>Indicator 5: Percentage of population with sustainable access to an improved water source, urban and rural <i>Target 5: At least 20% increase for each water and waste water in each of urban and rural areas by 2014: establishment of sub-national data by 2014.</i> <i>Baseline 5: water: 79.8% connected to public and private network; wastewater, 67.4%</i></p> <p>Indicator 5a: Carbon dioxide emissions per capita (metric tons) <i>Target 5a: In accordance with target set by international action (2014)</i> <i>Baseline 5a 2010: 5.4 (2003) to be updated to 2008 or 2009</i></p> <p><i>Status 2012:</i></p>
5.1	UNDAF outcome 5.1: Environmental considerations are mainstreamed in sector and local-level strategies and plans	<p>Indicator 5.1: Policy makers and other key stakeholders understand and act upon including systematically and consistently key environmental priorities in sector and local-level strategies and plans <i>Target 5.1: At least three quarters of key stakeholders have very good understanding and at least half of them have taken successful initiatives to systematically and consistently include key environmental priorities in sector strategies and local-level plans (2014)</i> <i>Baseline 5.1 (2008): Environmental issues and priorities not systematically and consistently considered in strategies and plans by line ministries and local level government; level of understanding to be surveyed (2009)</i></p> <p><i>Status 2012:</i></p>
	CPAP outcome 1 Environmental considerations mainstreamed	<p>Indicator: Ministerial plans / strategies include environmental considerations <i>Target: Percentage of national budget allocated to environmental issues, including a greater amount to the</i></p>

	Outcomes, outputs and key contributing projects	Key performance indicators and summary of results obtained
	<p>into sector and local-level strategies and plans</p> <p>Output 1.1: (UNDAF output 5.1.1) Environmental action plans / strategies developed for the relevant line ministries and decentralized structures</p>	<p><i>Ministry of Environment (by 2014)</i></p> <p><u>Baseline 2010:</u> Current national budgetary allocation to Ministry of Environment on average does not exceed 2.0 million annually</p> <p><u>Status 2012:</u></p> <p><u>Indicator 5.1.1 from UNDAF:</u> Number of sector strategies and plans that include environmental considerations</p> <p><u>Target 5.1:</u> <i>At least two line ministries have environmental action plans (by 2012)</i></p> <p><u>Baseline 5.1:</u> Sector strategies and plans do not include environmental considerations</p> <p><u>Status 2012:</u> (general) Environment increasingly highlighted in policy, strategy and plans Policy advisory unit in MoE established in 2011 (cost shared despite small MoE budget) Examples of SEAs (in MoEW, water sector strategy and oil and gas project) as evidence of interest/ commitment National water sector strategy includes environmental considerations (coordinated with MoE), developed with intersectoral cooperation which is rare in Lebanon National electricity policy includes EE and RE (indirectly related) General move in the right direction over the last 4-5 years Institutional: NEC as possible vehicle for discussing CC and other important issues</p>
		<p><u>Completed projects:</u></p> <ul style="list-style-type: none"> ▪ Environmental jurisprudence reference compilation ▪ Environmental legislation course finalized and adopted by Institute of Judiciary Training ▪ Capacity gap analysis for effective control of environmental crimes (Interior Ministry) ▪ Oil spill clean-up ▪ Environmental action plan Nahr El Bared Camp ▪ Rubble removal NBC
58344	<p><u>Sustainable land management programme for livelihood development in Lebanon</u> (USD 347,536)</p>	<p><u>Key progress / achievements contributing to outcome:</u></p> <ul style="list-style-type: none"> ▪ Industrial hemp trials undertaken in Bekaa with positive growth results ▪ Policy support to MoA and LARI: proposed amendment decree regarding industrial

	Outcomes, outputs and key contributing projects	Key performance indicators and summary of results obtained
	<ul style="list-style-type: none"> MoA assisted in promoting sustainable land management for rural livelihood development Industrial hemp promoted as a potential alternative to narcotic plants in the Bekaa for improving livelihoods of local communities 	<p>hemp</p> <ul style="list-style-type: none"> Legal review of import of hemp seeds Technical capacity building to farmers No evidence of improved livelihoods/what is the final result? Have livelihoods improved?
74096	<p><u>Lebanese centre for water conservation and management (LCWCM)</u> <u>(USD 150,000)</u></p> <ul style="list-style-type: none"> Establishment of a centre at MEW to coordinate and promote sustainable water management through technical and policy-level support Technical capacity building on sustainable water management National public awareness-raising 	<p><u>Key progress / achievements contributing to outcome:</u></p> <ul style="list-style-type: none"> Minister liked the LCEC model and wanted the same for water sector Relies on some government funding, not formally institutionalized Water conservation awareness activities (games, etc) Work with an NGO called “arc en ciel” on rainwater harvesting Pilot project on water metering (Hamat municipality) Installation of water saving devices Sustainability of LCWCM depends on GoL continued funding, otherwise it will disappear (GoL confirms this) Total staff only 3 Needs more focus on policy level, could generate more significant impacts (strategy is a good starting point) Tendency for donors to support infrastructure in the water sector (more visible) Government criticism that there is insufficient attention to demand side management (95% of LCWCM focussed on data) Government sees role for LCWCM in monitoring
72975	<p><u>Groundwater assessment and database</u> <u>(USD 2,496,960)</u></p> <ul style="list-style-type: none"> Updated national groundwater assessment (last one in 1970) Project management (report collection, consultant hire, reporting, support to MEW on water issues, assist in coordination) Groundwater / hydrogeology database development 	<p><u>Key progress / achievements contributing to outcome:</u></p> <ul style="list-style-type: none"> Last groundwater study in 1970 Tendered internationally following UNDP procedures Surveys of public and private wells (16,000 licensed and 40,000 unlicensed wells in Lebanon), 849 public wells in municipalities only 15% metered Issue of data publication (will it be available publicly) Water conservation is challenging when the resource is very cheap Low level of commitment from GoL who are not so interested in the data (says project manager) Government priority is on investment in infrastructure but groundwater assessment is a

	Outcomes, outputs and key contributing projects	Key performance indicators and summary of results obtained
		<p>priority</p> <ul style="list-style-type: none"> ▪ “Borrowed” graphic artist from CEDRO to work on brochures (great idea to share project resources)
71490	<p>Hydro agricultural development for Marjeyoun area (Litani) (USD 2,000,000)</p> <ul style="list-style-type: none"> ▪ Demonstration of the advantages and efficiency of modern irrigation techniques and new cropping patterns ▪ Improved livelihood for 1,250 households within five communities affected by 2006 conflict through extending areas suitable for agriculture ▪ Establishment of water users association ▪ Production of topo-cadastral maps for designing irrigation systems ▪ Land classification database ▪ Land reclamation of 522 ha 	<p>Key progress / achievements contributing to outcome:</p> <ul style="list-style-type: none"> ▪ Baseline activities established as a first step to pilot project implementation ▪ Stakeholder analysis of target villages ▪ Draft water law for Water Users Association ▪ Coordination and working relationships established between key project partners ▪ Project relatively delayed due to civil works (no bidding by contractors as it is a high-risk area) ▪ Issues included the need for permit to rehabilitate, land ownership issues, approved by previous cabinet therefore current GoL commitment perhaps not as strong ▪ UNDP responsible for delivering results without adequate GoL support ▪ LRF (Spanish government) objectives are recovery and not development, which has caused some difficulties
49964	<p>Promotion of innovative trade initiatives to increase market opportunities for dryland products (USD 335,000)</p> <ul style="list-style-type: none"> ▪ Trade opportunities for dryland products, including for ecotourism, identified and strengthened through increased marketing, identifying prospects with EU trade agreements, support to fair trade certification ▪ Targets women empowerment and poverty alleviation through trade with the Finnish market and through creation of other income-generating livelihoods such as responsible tourism 	<p>Key progress / achievements contributing to outcome:</p> <ul style="list-style-type: none"> ▪ Organic market expanding in Lebanon so activities are timely ▪ MoA licenses certification companies to certify organic farmers ▪ Cooperatives difficult in Lebanon; individualist approach, so they had to think carefully about strategy for the drylands projects (no group can be excluded so they need to help each other) ▪ Dryland idea started as an idea with a Finnish women’s cooperative ▪ Did testing, sent samples, but limited feedback ▪ Contract with local cooperatives to enhance their products (7 coops in dryland areas, plus 3 medicinal and aromatic plants; 10 in total) ▪ Labelling called “the Lebanese village” ▪ No export yet, difficult to convince international buyers ▪ Fair trade logo very expensive process to get certified ▪ MoA has different logo working with different coops (seems to be some overlap...

	Outcomes, outputs and key contributing projects	Key performance indicators and summary of results obtained
		<ul style="list-style-type: none"> ▪ Sustainability issues: continuity once support? ▪ No exit strategy ▪ No evidence of significant changes in income as a result of investment ▪ Support from ministry relatively weak ▪ LARI is semi autonomous and has its own funds to sustainability might be higher but is still an issue: they say they will continue with some of the project activities
47447	<p><u>Developing a financing strategy for the National Action Programme to combat desertification (USD 125,000)</u></p> <ul style="list-style-type: none"> ▪ Financing strategy for implementation of NAP to combat desertification, including innovative financing mechanisms and new donors ▪ Mainstreaming of UNCCD considerations into existing strategies ▪ Local action plans prepared (Akkar, Deir El Ahmar, Tyre, and ▪ Marjeyoun/Hasbaya) ▪ Concept papers 	<p><u>Key progress / achievements contributing to outcome:</u></p> <ul style="list-style-type: none"> ▪ Financing strategy now completed, remaining funds will be used to look at ations for debt swap ▪ Initial assessment of a debt swap mechanism undertaken, detailed implementation pending (due to limited government interest?)
77384	<p><u>Environmental resources monitoring in Lebanon (USD 706,200)</u></p> <ul style="list-style-type: none"> ▪ Specifications for air quality monitoring equipment ▪ Procurement and delivery of equipment ▪ Capacity to operate and maintain equipment 	<p><u>Key progress / achievements contributing to outcome:</u></p> <ul style="list-style-type: none"> ▪ In line with the objectives of the proposed Lebanon Clean Air Act ▪ Coordination with private sector (oil and gas) on campaigns for air pollution reduction through efficient energy use in land transportation ▪ Deliverables reviewed and finalized ▪ CZ monitoring activities commenced
76489	<p><u>Integrated solid waste management of Baalbek Caza (USD 2,476,190)</u></p> <ul style="list-style-type: none"> ▪ Sanitary landfill in Caza of Baalbek ▪ Archaeological site of Baalbek cleaned up 	<p><u>Key progress / achievements contributing to outcome:</u></p> <ul style="list-style-type: none"> ▪ Landfill design contract awarded for four months design and supervision to end 2013 ▪ Continuous coordination with Baalbek Municipality and other key stakeholders
79364	<p><u>Developing an ecotourism strategy in the fisheries sector along the Lebanese coast (USD 150,000)</u></p>	<p><u>Key progress / achievements contributing to outcome:</u></p> <ul style="list-style-type: none"> ▪ Grant agreement signed with fishermen ▪ Centre rehabilitated and equipment purchased and delivered

	Outcomes, outputs and key contributing projects	Key performance indicators and summary of results obtained
	<ul style="list-style-type: none"> Ecotourism strategy developed Dbayeh fishermen cooperative pilot project implemented, including rehabilitation of premises to encourage ecotourism activities 	
40894	<p><u>Institutional support to Ministry of Environment (USD 2,345, 155)</u></p> <ul style="list-style-type: none"> MoE strengthened in planning, programming, environmental inspection and enforcement Environmental management capacity developed Sustainable environment development enabling environment established 	<p><u>Key progress / achievements contributing to outcome / issues:</u></p> <ul style="list-style-type: none"> Two key activities: needs assessment and planning for sustainable development MoE only gets .05% of total GoL budget (MoE established in 1993) Updated State of the Environment report, very collaborative process Business plan for combatting pollution in Aroon lake, includes follow-up committee to ensure implementation, proposal for a law that would allow cross sectoral funding (Loi Programme) Master plan for closure of illegal dumps (670 uncontrolled municipal dumps) Report to RIO+20 summit; GoL/NGOs submitted a single report for first time Needs assessment for GEF (Plan Bleu) Proposed master plan for protection of the mountains and SEA on the plan Proposal to update the Environmental Strategy for Lebanon (it is from 1997) and strategy framework paper produced Serious staffing problems, but did recently recruit 23 positions but it took 2 years (UNDP supported this process) MoE has 182 official positions; currently they have 70 GoL staff, 20 Italian-supported and 15 UNDP-supported. They are mobilizing resources for project implementation all the time Upcoming projects (not UNDP-related) <ul style="list-style-type: none"> Include EU grant on inspection and enforcement (8 million) managed my PM office EU sustainable growth (12 million grant) managed directly by EU World Bank Industrial pollution abatement (20 million, 15 million loan and 5 grant or 35 million), technical assistance and low interest investments through commercial banks GIZ environment fund for Lebanon (used to set up WB project) WB/ GEF project on PCBs (2.5 million) They also do SWH installation with Italian funding

	Outcomes, outputs and key contributing projects	Key performance indicators and summary of results obtained
		<ul style="list-style-type: none"> Water efficiency campaigns Key legislation is the 2002 Environment Law and two decrees (ozone depleting substances and health care waste) March 2012: 4 new decrees <ul style="list-style-type: none"> EIA decree, SEA decree, NEC decree, and environmental compliance for establishing industries Council of Ministers recently approved 4 draft laws on: <ul style="list-style-type: none"> Establishment of and environmental prosecutor Integrated solid waste management Framework law on protected areas Air quality protection UNDP plays a very important role in developing ideas and helping to push them forward Developing a communication strategy to highlight to the people what MoE is doing Lots of value-added from UNDP in the MoE
Pipeline	Third phase of ISMoE (USD ???)	
Concept	Rehabilitation of Saidi dumpsite (USD 25,000,000)	
Concept	Green village (USD 5,000,000)	
	<p>CPAP outcome 2: Capacity of government to meet its obligations under international environmental conventions and protocols timely and adequately strengthened</p> <p>Output 2.1: (UNDAF output 5.1.2) Technical and operational capacity of government strengthened to meet its international environmental obligations</p>	<p>Indicator: Technical units operational and with the needed capacity <u>Target:</u> GoL is able to implement its environmental policies developed in response to national needs <u>Baseline 2010:</u> Limited self-sustaining capacity exists within the relevant ministries</p> <p><u>Status 2012:</u></p> <p>Indicator 5.1.2 from UNDAF: Decreased use of ozone-depleting substances to meet Montreal Protocol reduction targets by 2013 <u>Target:</u> GoL continues to meet obligations under the Montreal Protocol (2013) <u>Baseline 2008:</u> Some obligations set within the Montreal Protocol are not met (2008)</p>

	Outcomes, outputs and key contributing projects	Key performance indicators and summary of results obtained
		<p><u>Status 2012:</u></p> <p><u>Indicator 5.1.2a from UNDAF: # of national projects that work towards meeting the requirements of international environmental conventions</u> <u>Target:</u> <i>At least 10 national projects currently work towards meeting the requirements of international environmental conventions</i> <u>Baseline 2008:</u> 5 national projects currently work towards meeting the requirements of international environmental conventions</p> <p><u>Status 2012:</u> Important progress on fulfilling obligations (Montreal Protocol, UNFCCC, and CBD in particular) UNFCCC national communications very important instruments for generating awareness and commitment to CC, also increased Lebanon's understanding of how to act in the international arena (climate negotiations) Move towards more fully integrating CC into national policies and strategies (examples?) Biodiversity work in MoE growing, GEF funding and UNDP support has played a role in this</p> <p><u>Indicator 5.1.2b from UNDAF: # of socio-economic research studies on biodiversity</u> <u>Target:</u> <i>At least 2 socio-economic research studies on biodiversity completed (2012)</i> <u>Baseline 2008:</u> None</p> <p><u>Status 2012:</u></p>
71157	<p><u>Preparation of the HCFC phase-out management plan for Lebanon</u> (USD 237,230)</p> <ul style="list-style-type: none"> ▪ Comprehensive HCFC phase-out management plan established ▪ Technical awareness tools on HCFCs and technical 	<p><u>Key progress / achievements contributing to outcome:</u></p> <ul style="list-style-type: none"> ▪ Finalization of HPMP project document ▪ Will focus on investment reconversion of HCFCs on the foam sector, thematic workshops in the sector and legislation updating (ODS licensing to include HCFCs)

	Outcomes, outputs and key contributing projects	Key performance indicators and summary of results obtained
	<p>knowledge on alternatives developed and disseminated</p> <ul style="list-style-type: none"> ▪ HPMP project document signed and project initiated ▪ Project completed 	
71158	<p><u>Institutional strengthening for the Montreal Protocol (USD ??)</u></p> <ul style="list-style-type: none"> ▪ Project completed 	<p><u>Key progress / achievements contributing to outcome:</u></p> <ul style="list-style-type: none"> ▪ Management of completed ODS phase-out projects ▪ Subsequent phase of project approved
77655	<p><u>Institutional strengthening project for the implementation of the Montreal Protocol in Lebanon Phase VII (USD 155,090)</u></p> <ul style="list-style-type: none"> ▪ Ozone-depleting substances (ODS) legislation and regulation (to control ODS consumption) in place ▪ ODS data collection and monitoring ▪ Strengthened institutional capacity to address ODS issues ▪ Preparation of HCFC phase-out plan (team established, institutional arrangements in place, baseline data collection, technology selection, sector prioritization, cost estimates and technical assistance (TA)) ▪ Raised awareness and information exchange, regional cooperation 	<p><u>Key progress / achievements contributing to outcome:</u></p> <ul style="list-style-type: none"> ▪ Started as an institutional strengthening project ▪ Manage 12.5 million from the MP fund for reconversion projects ▪ 100 industries converted ▪ Lebanon is in full compliance with the Protocol ▪ Started with converting CFCs to HCFCs, now 70% of industries need to be reconverted ▪ Public awareness on skin protection ▪ Lebanon has 2025 target for HCFC phase-out ▪ UNDP funding only for the running of the office, MP funds the rest ▪ Good strong support from MoE ▪ Good progress ▪ Lebanon is a member of implementation committee for MP ▪
81853	<p><u>HCFC phase out management plan (HPMP) stage-1 for compliance with 2013/2015 control targets for Annex-C, group-1 substances in Lebanon (USD 2,495,109)</u></p> <ul style="list-style-type: none"> ▪ Lebanon's compliance with the control targets for HCFC consumption is facilitated, with minimal impacts on the national economy, on environment and on occupational health ▪ Achievable sustainable reductions and phase-out of 	

	Outcomes, outputs and key contributing projects	Key performance indicators and summary of results obtained
	<p>HCFC consumption, through interventions such as technology transfer investments, policies and regulations, technical assistance, training and capacity building, awareness and education and monitoring and management in the HCFC consuming sector.</p>	
58542	<p><u>Demonstrating and promoting best techniques and practices for reducing health care waste to avoid environmental releases of dioxins and mercury (POPs Stockholm convention)</u> (USD 600,000)</p> <ul style="list-style-type: none"> ▪ Best practices for health care waste management demonstrated, documented and replicable ▪ Non-incineration health care waste management treatment technologies successfully deployed and demonstrated ▪ Mercury waste management best practices demonstrated, documented and replicable, and use of mercury-free devices promoted ▪ Established training programmes to build capacity for the implementation of best practices and appropriate technologies ▪ National policies aimed at replication and sustaining best practices and techniques demonstrated and, where feasible, initiated ▪ Project results disseminated and replicated 	<p><u>Key progress / achievements contributing to outcome:</u></p> <ul style="list-style-type: none"> ▪ Model hospitals selected and baseline established ▪ Training manual in process ▪ Phase in of mercury-free equipment in selected hospitals ▪ Importance of having national policies and clear strategies for replication (status of this?)
60018	<p><u>Mainstreaming conservation of migratory soaring birds into key productive sectors along the Rift Valley/Red Sea flyway</u> (USD 1,324,000)</p> <ul style="list-style-type: none"> ▪ Raised awareness of the Rift Valley / Red Sea flyway for migratory soaring birds (MSB) 	<p><u>Key progress / achievements contributing to outcome:</u></p> <ul style="list-style-type: none"> ▪ Close collaboration with all key stakeholders (national, as well as regional partners) for project inception ▪ Study on ecological and economic significance of MSBs ▪ Increased awareness and altered socio/cultural behaviour (evidence of this, surveys?) is key result according to project manager

	Outcomes, outputs and key contributing projects	Key performance indicators and summary of results obtained
	<ul style="list-style-type: none"> Altered social and cultural behaviour amongst target groups that threaten MSBs in the key sectors, decision-makers and the general public Increased capacity to implement double mainstreaming and application of the flyway concept Content and tools to enhance flyway friendly practice developed, delivered and mainstreamed effectively into sector processes and programmes Learning, evaluation and adaptive management increased 	<ul style="list-style-type: none"> Strategic partnership with Higher Hunting Council as project implementing body (key threat is hunting (out of four), MOUs with MoE and CRD) Collaboration with mayors (using their position in the social hierarchy) for successful pilot sites HHC decrees to implement hunting law Guidelines for Lebanese hunters Training (250 police officers and forest guards) and media MSB considerations mainstreamed into Lebanon Land Use Plan prepared by CDR, including flyway Wind Atlas has a chapter about birds Strategic partnerships with NGOs has been very important (Society for Nature Protection) Problem with enforcement as MoA issue fines, not MoE (not able to quickly follow up on complaints) National monitoring strategy
61785	<p><u>Mainstreaming biodiversity management into medicinal and aromatic plants (MAPs) production processes in Lebanon</u> (USD 1,130,000)</p> <ul style="list-style-type: none"> Increased financial return flows to local communities to sustainably manage wild stocks of medicinal and aromatic plants Establishment of sustainable harvest and management practices Outputs include development of appropriate collection methods, value-added processing and product improvement resulting in increased value of globally significant MAP species Supply chain framework strengthened 	<p><u>Key progress / achievements contributing to outcome:</u></p> <ul style="list-style-type: none"> Four pilot sites and support to Community-based Enterprises (CBEs) 7 assessments for target species (will be externally assessed) including fact sheets Support for protection and use of target species (support to MoA) Establishment of quality standards and sustainable harvesting for each species Increased community benefits from work on the product value chain and quality Collectors primarily women Focussed on poorest areas of Lebanon (North) Good example of success based on working with a committed “middleman” Sustainable harvesting standard (Ministerial Decision) including harvesting, transport and exports approved in 2012 Increased income (documented increase in \$\$/kg) is not due to sustainable harvesting but to improved quality standards from better processing Project played catalytic role in bringing together traders and MoA Permitting system for harvesters (difficult to implement but an important step); rangers

	Outcomes, outputs and key contributing projects	Key performance indicators and summary of results obtained
		<p>assess permit applications and estimate sustainable harvesting levels</p> <ul style="list-style-type: none"> ▪ Training documentary and other training ▪ Close working relationship with MoA (initially not interested but now very committed) ▪ Working with LIBNOR (National Standards Organization) ▪ Key to success is linking sustainability to better processing ▪ Certification: Fair Wild certification too complicated and expensive, so took main ideas and developed these to establish a national certification called “Cedar Excellence” ▪ No systematic lessons learned yet, will be done ▪ No systematic exit strategy, could also be good to have one ▪ MTR states that assumption that consumers will pay more sustainably harvested products is not a suitable strategy, and focus should be on successful regulatory framework
61783	<p><u>Safeguarding and restoring Lebanon’s woodland resources</u> (USD 980,000)</p> <ul style="list-style-type: none"> ▪ An appropriate management framework for degraded forest safeguarding and restoration ▪ Management capacities developed for degraded forest safeguarding and restoration ▪ Innovative technologies and instruments for forest restoration and sustainable management designed and validated 	<p><u>Key progress / achievements contributing to outcome:</u></p> <ul style="list-style-type: none"> ▪ Slow start due to problems with national budgetary process ▪ Approach based on former National Forest Plan but with improvements ▪ Criteria for selection of reforestation sites ▪ Third Phase: Partnership approach: Grant agreements between municipalities and MoE (used to be done by 3rd party contractors with many problems) and checked by MoF ▪ 48 municipalities contracted to reforest (250 out of 500 municipalities show strong interest in participating) ▪ Data and information management ▪ Pilot trials to minimize costs (seedlings very expensive in Lebanon), will publish results ▪ Working with NGO “Roots of Lebanon” ▪ Goal to develop guidelines for better reforestation in Lebanon ▪ Revenue sharing and livelihood improvement? ▪ Very critical MTE indicating poor M&E and other issues, giving an unsatisfactory rating for effectiveness (?)
Pipeline	<p>GEF landscape approach to ecosystem conservation in the Qaroun watershed (USD 3,600,000)</p>	
Pipeline	<p>POPs NIP enabling activity (USD 200,000)</p>	

	Outcomes, outputs and key contributing projects	Key performance indicators and summary of results obtained
	UNDAF outcome 5.2: Increased effective response to climate change reflected in national programmes and external assistance programmes	<p>Indicator 5.2: # of national investment budget and of aid programmes directly concerned with programmes and projects that respond to climate change</p> <p><u>Target 5.2:</u> <i>At least 1% of national investment budget and 5% of international aid programmes allocated to directly respond to climate change (2014)</i></p> <p><u>Baseline 5.2 (2008):</u> No national or international funding allocated to respond to climate change</p> <p><u>Status 2012:</u></p>
	CPAP outcome 3: Climate change considerations mainstreamed in national priorities	<p>Indicator: Climate change is considered as a higher priority at the national level</p> <p><u>Target:</u> <i>Impacts of climate change on Lebanon identified and implementation of adaptation and mitigation options initiated by 2014</i></p> <p><u>Baseline 2010:</u> Climate change is not yet considered as a priority at the national policy or planning level</p> <p><u>Status 2012:</u></p> <p>UNDP plays a key role (the most significant of all donors) in CC in Lebanon and has contributed to increased focus on CC at government level</p> <p>However, many challenges remain, still relatively low level of real commitment to CC impacts and need for adaptation</p> <p>Provision of strong technical support to EE and RE initiatives and promotion of cost effective alternatives to fossil fuel consumption key to promoting more attention to CC issues</p>
	Output 3.1: (UNDAF output 5.2.1) National sustainable energy strategy developed and its implementation promoted	<p>Indicator 5.2.1: National sustainable energy strategy</p> <p><u>Target 5.2.1:</u> <i>National sustainable energy strategy operational (2011)</i></p> <p><u>Baseline 5.2.1 (2008):</u> National sustainable energy strategy does not exist</p> <p><u>Status 2012: (evidence of general progress)</u></p> <p>Initial LCEC project (13385) created strong momentum for energy conservation in Lebanon</p>

	Outcomes, outputs and key contributing projects	Key performance indicators and summary of results obtained
		<p>LCEC as focal point for EE and RE within GoL</p> <p>CC (EE and RE) mainstreamed into the Policy Paper for the Electricity Sector (sections 5 and 6) (some criticize the document as weak but an important first step)</p> <p>Energy Conservation Law not yet approved (should include mandatory SWH according to MoEW focal point, and does not include anything on feed-in tariffs according to CDR)</p> <p>Lebanese declaration to achieve 12% RE in the energy mix by ??</p> <p>Central Bank of Lebanon RE and EE finding mechanism targeting SMEs</p> <p>NEEREA</p> <p>Lebanon now 2nd (after Tunisia) in the region with respect to EE initiatives</p> <p>NEEAP 2011-2015 is first example in the region</p> <p>Beirut energy forum (largest in the Middle East) and Lebanon sustainability week</p>
62901	<p><u>Global solar water heating market transformation and strengthening initiative (LCEC)</u></p> <p>(USD 1,140,660)</p> <ul style="list-style-type: none"> Market development of solar water heating (SWH) accelerated 	<p><u>Key achievements contributing to outcome / key issues:</u></p> <ul style="list-style-type: none"> First phase had a difficult start-up, current project started in 2005 2005-2009 actual establishment of the LCEC 2009-2013 global SWH activities 2009 LCEC established as an independent organization linked to the MoEW (like an NGO status; this is a “plan B” or interim status until it can become an official institute) There is a draft law at the Council of Ministers for LCEC to become an official institution (semi-autonomous body) but CRD claims this will not be ratified; poor institutional analysis, overlap of functions with other depts in MoEW Institutionalization of LCEC; initial lack of clarity hindered other donors (EU and WB) from engaging with LCEC as a government agency All RE and EE coordination for MoEW done via LCEC so plays an important role LCEC mandate much broader than just UNDP activities; 3 MoEW staff full time, and 11 others working on energy efficient light bulb programme (managed by UNDP as main contract holder) Target and simple approach (choosing a few things and doing them well) is very effective (according to evaluation report) Currently very strong support from the Minister of MoEW (crucial to success) Expecting an “enabling environment” project 2013-2018 LCEC should eventually be fully financed by GoL, they are trying to move towards institutionalization

	Outcomes, outputs and key contributing projects	Key performance indicators and summary of results obtained
		<ul style="list-style-type: none"> ▪ Learning by doing approach led to effective policy / strategy work ▪ NEEAP 2011-2015 is the first example in the Arab world ▪ Wide range of partners (public and private, civil society), very effective ▪ NEEREA (National Energy Efficiency and Renewable Energy Action to encourage adoption of SWH) financing mechanism (0% bank loans, grant for SWH) ▪ Sustainability of NEEREA requires GoL financing ▪ Exit strategy: they have a business plan ▪ Lots of data available, apparently (but not included in normal reporting) ▪ 53 qualified SWH contractors ▪ No systematic “lessons learned” could be beneficial for LCWCM
71486	<u>RE and energy saving appliances within the affected regions of Lebanon (solar collectors, low energy lamps)</u> (USD 250,877)	<u>Key progress / achievements contributing to outcome:</u> <ul style="list-style-type: none"> ▪ 90,000 energy efficient lamps installed in villages in South Lebanon ▪ 350 SWH installed by Greek NGO ▪ Solar thermal testing facility established
56604	<u>CEDRO 1 Community EE and RE demonstration projects for the recovery of Lebanon (South, Bekaa and Akkar)</u> (USD 2,732,240) <ul style="list-style-type: none"> ▪ Installation of EE and RE equipment in selected public buildings in three target areas (south, Bekaa and Akkar) directly affected by the 2006 conflict ▪ Monitor direct impact on beneficiaries electricity bills (should be reduced costs) 	<u>Key progress / achievements contributing to outcome:</u> <ul style="list-style-type: none"> ▪ Combined CEDRO projects have three overall objectives: <ul style="list-style-type: none"> ○ (1) Implementation of end-use EE and RE projects to reduce national energy consumption and costs; ○ (2) Setting an enabling environment for the conversion of all public sector buildings and facilities in to energy efficient modalities; ○ (3) Setting n enabling environment for the development of a national sustainable energy strategy and action plan ▪ Technical and policy advice to key decision-makers (MoEW and UNDP CO) ▪ Support to understanding and implementation of the ‘net metering’ concept ▪ Streamlining of CEDRO activities into the National Energy Efficiency Action Plan (NEEAP) ▪ Contributing to the 15 key initiatives in the NEEAP covering most key themes in the sector ▪ 35 PV sites (data on operation and impacts currently being collected) <ul style="list-style-type: none"> ○ Impacts include autonomy for the users and freedom from expensive diesel costs
60150	<u>CEDRO II Country EE and RE demonstration project for the recovery of Lebanon</u> (USD 3,500,000) <ul style="list-style-type: none"> ▪ Enabling environment for sustainable energy strategy through: ▪ Situation analysis and assessment ▪ Implementation of EE and RE projects 	

	Outcomes, outputs and key contributing projects	Key performance indicators and summary of results obtained
	<ul style="list-style-type: none"> Database on energy saving measures and results Increased public capacity on EE and RE applications and policies Establishment of relevant institutional policies and procedures for application of EE and RE measures in public buildings 	<ul style="list-style-type: none"> With net metering, systems will generate electricity for the grid 10 wind measurement sites for installation of micro wind projects Ground source heat pump (GSHP) project in Bejji municipality 4 SWH systems in public hospitals and prison 439 street lighting fixtures Awareness activities Networking and coordination with national partners Synergy with LCECP project National Wind Atlas for Lebanon National bioenergy assessment completed EIA guidelines for wind farms CEDRO I evaluation report: \ <ul style="list-style-type: none"> Highlights the importance of effective follow-up on current installations (also noted on my field trip to Keserwen Public Hospital) Product quality and proper maintenance is also key Need for clear cooperation strategy between LCEC team, CEDRO and MEW CEDRO has been an important “incubator” for new ideas (says the energy advisor to the Minister) Contractors say CEDRO played an important role in showing the value of RE and really pushing for investment in RE PV and micro wind — CEDRO was pioneering in this regard Increased # contractors entering the market, which is good but quality is an issue, risk of people being disillusioned with poor quality products Sustainability: <ul style="list-style-type: none"> Issues include duty and customs on RE systems Option of USD 200,000 fund for maintenance to avoid problems. Recipients sign MOUs but difficult to ensure compliance Ultimate sustainability will come when electricity prices are higher Example of concrete impact: one SWH (6000 lts) saves 19,999 USD / year They are working on a marketing strategy with will also address sustainability issues Net metering not functioning yet and needs follow-up with EDL Contractors (SES) highlight lots of maintenance and sustainability issues that need to be
71261	<p><u>CEDRO III Country EE and RE demonstration project for the recovery of Lebanon</u> (USD 3,500,000)</p> <ul style="list-style-type: none"> Activation of EE and RE applications Implementation of EE and RE projects Decrease GHG emissions by introducing and demonstrating energy and cost efficient approaches by shift to EE and RE 	

	Outcomes, outputs and key contributing projects	Key performance indicators and summary of results obtained
		<p>addressed</p> <ul style="list-style-type: none"> End users don't contribute anything to investment, this is a problem (selection criteria could include contribution by users)
82149	<p><u>PIMS 4695: Small decentralized RE power generation (USD 50,000)</u></p> <ul style="list-style-type: none"> Detailed assessment of the market, cost-efficiency and GHG reduction potential of small decentralized RE applications with a focus on photovoltaic (PV) Establishment of links to the MEW policy paper and Mediterranean Solar Plan 	<p><u>Key progress / achievements contributing to outcome:</u></p> <ul style="list-style-type: none"> Advanced draft version of project document circulated for review
57517	<p><u>Sustainable Energy Strategy for Lebanon (USD ???)</u></p> <ul style="list-style-type: none"> Project cancelled due to lack of expected funds 	<p>Key progress / achievements contributing to outcome:</p> <ul style="list-style-type: none"> Idea of looking more closely at demand side management Fiscal and legal incentives for demand side management SES task force established in earlier phase to look at this (included all key actors) MoF was supposed to commit USD 400,000 in 2nd phase but funding did not materialize Last MoF minister was interested but current minister is not at all interested
Pipeline	<u>Enabling environment for RE (GEF V) (USD1,600,000)</u>	
Pipeline	<u>CBC Med: large PV (USD 1,400,000)</u>	
Concept	<u>CEDRO IV: Implementation of RE large-scale pilot (USD 5,000,000)</u>	
	<p>Output 3.2: (UNDAF output 5.2.3): Effects of climate change identified and measures to adapt (and mitigate) implemented including capacity of line ministries</p>	<p><u>Indicator 5.2.3: Number of national programmes and projects that include adaptation to climate change</u></p> <p><u>Target 5.2.3: At least 2 programmes and projects that include adaptation to climate change</u></p> <p><u>Baseline 5.2.3 (2008):</u> No projects exist that include adaptation to climate change</p> <p><u>Status 2012:</u></p>
40691	<u>Enabling activities for the preparation of Lebanon's</u>	<u>Key progress / achievements contributing to outcome:</u>

	Outcomes, outputs and key contributing projects	Key performance indicators and summary of results obtained
	<u>Second National Communication to the UNFCCC (USD ???)</u> <ul style="list-style-type: none"> Project completed 	<ul style="list-style-type: none"> Second National Communication submitted to COP GHG inventory finalized Vulnerability and impact assessments, and mitigation action plans completed Participatory process with numerous stakeholder workshops and partner dialogue
59666	<u>Flood risk management and water harvesting for livelihood recovery in Baalbek–Hermel, phase I (USD 2,843,881)</u> <ul style="list-style-type: none"> Flood risk management plan for 94km2 in Aarsal and Fakhe region Water harvesting in North Bekaa and installation of efficient irrigation networks Crop diversification and improved land cover in North Bekaa Improved public awareness on flood risks management Training of target municipality on maintenance of flood management structures 	<u>Key progress / achievements contributing to outcome:</u> <ul style="list-style-type: none"> Serious design issues initially, need for repetition (costly?) Tree seedlings of indigenous species planted to ensure soil conservation (coordination with Reforestation Project for this?)
69789	<u>Flood risk management and soil conservation for the livelihood recovery in Baalbek–Hermel, phase II (USD 3,800,000)</u> <ul style="list-style-type: none"> Expansion of flood risk management programme to 200 km2 in Ras Baalbek Management and reduction of flood risks in target area Increasing land cover in risk area and reducing soil erosion Sustainability, capacity building and public awareness 	<u>Key progress / achievements contributing to outcome:</u> <ul style="list-style-type: none"> Design for phase completed Technical specifications for the reforestation component finalized in line with national methodology Sustainable land management is an important integrating concept that is crucial to the longer term success of these large investments Recent updating of Lebanon land use map important for more sustainable land management as long as it is effectively implemented MoA states that investments address the symptoms and not the causes, so integrated land management is crucial
78921	<u>Technology needs assessment (TNA) UNFCCC (USD 120,000)</u> <ul style="list-style-type: none"> Assessment of technology needs (for climate friendly technologies) improved 	<u>Key progress / achievements contributing to outcome:</u> <ul style="list-style-type: none"> UNEP-Risoe funding: usually implemented by government but MoE asked UNDP to take over (focal point refused) Lebanon was the only country of 15 to chose UNDP modality and they were the only

	Outcomes, outputs and key contributing projects	Key performance indicators and summary of results obtained
	<ul style="list-style-type: none"> Priority technology needs identified to form the basis for a portfolio of environmentally sound technology (EST) projects and programme to facilitate access to EST (funding) 	<ul style="list-style-type: none"> ones to finish on time The EU 8 million grant (STREG) includes funds for the cement sector, fiscal reform, new market mechanisms Commitment to CC is improving and UNDP has played an important role in this
82292	<p><u>Preparation for Lebanon's low emission capacity building project proposal</u> (USD 32,100)</p> <ul style="list-style-type: none"> Raised awareness and capacity built on climate change in line ministries Action plan for green economy Project proposal for donor 	<p><u>Key progress / achievements contributing to outcome:</u></p> <ul style="list-style-type: none"> National consultant finalized project document Final quality assessment?
77227	<p><u>Enabling activities for the preparation of Lebanon's Third National Communication to the UNFCCC</u> (USD 480,000)</p> <ul style="list-style-type: none"> National GHG inventory 2000-2010 produced and 1994-2010 time series refined GHG mitigation assessment prepared Sector and regional vulnerabilities assessed using improved methodologies and regional climate models Publication of Lebanon's third national communication 	<p><u>Key progress / achievements contributing to outcome:</u></p> <ul style="list-style-type: none"> Good progress, based on lessons learned from SNC Lessons learned include that they can prepare the document "in house" Need to avoid breaks between the processes (of the 2nd to the 3rd, etc) Good information sharing in the cement sector New decree on environmental compliance means industries have to report on electricity and fuel consumption (not GHGs) Biannual updating reporting (BUR) new requirement under UNFCCC will mean more data needs and expertise Sustainability: working on tools and systems is a good approach in the Lebanese context
Pipeline	<p><u>Climate change unit (CCCU)</u> (USD 800,000)</p>	<ul style="list-style-type: none"> Will try to embed in the NEC Will implement NAMAs Adaptation on themes from the TNA project Three projects linked: SNC-TNA-CCCU MoE had hoped for more significant funding for CCU as there is strong need for coordination in the sector (lots of isolated CC activities in other ministries and could benefit from a strong coordinating body)
Pipeline	<p><u>Adaptation to CC: Agricultural and water practices</u> (USD 1,800,000)</p>	<ul style="list-style-type: none">

	Outcomes, outputs and key contributing projects	Key performance indicators and summary of results obtained
Pipeline	<u>Low emission capacity building programme</u> (USD 600,000)	<ul style="list-style-type: none"> ▪ This will involve NAMAs for sectors ▪ MRVs for the NAMAs ▪ GHG inventory ▪ Will adopt a staged approach to implementation
Pipeline	<u>LODEL Sustainable oil and gas development</u> (USD 2,000,000)	<ul style="list-style-type: none"> ▪ Approved
Pipeline	<u>Rehabilitation of quarries</u> (USD 5,333,000)	
Concept	<u>EU mitigation to climate change</u> (USD 17,000,000)	
Concept	<u>SCCF: Adaptation to water programme</u> (USD 7,000,000)	
	UNDAF outcome 5.3: Improved integrated water resources management, including sanitation, reflected in national decision-making	<p><u>Indicator 5.3:</u> Decisions on water resource management, including sanitation, are based on a more integrated approach</p> <p><i><u>Target 5.3:</u> At least on national decision (legislation or policy) taken on the basis of an integrated water resource management approach by 2012, and annually thereafter</i></p> <p><i><u>Baseline 5.3 (2008):</u> No integrated approach to national water management</i></p>

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Annex 7 Persons interviewed

Institution	Persons interviewed
United Nations Development Programme Country Office	Luca Renda , Country Director Edgar Chahab , Assistant Resident Representative, RM Shombi Sharp , Deputy Country Director Jihan Sehoud , EE Programme Analyst Raghd Assi , Social and Local Development Programme Manager Joelle Salamé , Programme Assistance, EE Programme Yendi xxx , Programme Assistant, EE Programme Laurette Said , Operation Manager Hassan Krayem , Governance Programme Manager
UNDP CEDRO	Hassan Harajli , Project Manager CEDRO Elie , CEDRO engineer (field visit to Keserwen Hospital)
Council for Development and Reconstruction	Dr. Wafa Charafeddine , Funding Division Director
Ministry of Environment	Ghassan Sayyah , Advisor to the Minister Joelle Jmayel , Personal Assistant to the Minister Manal Moussallem , IS MoE Project Manager Rola El Sheik , Head, Dept of Air Quality Mazen K. Hussein , Head-National Ozone Unit (UNDP) Joumana A. Samaha , Administration and Communications Assistant, IS MoE (UNDP) Saleem Hamadeh , MSB Project Manager (UNDP) Garro Haroutunian , National Reforestation Project Manager (UNDP) Lara Samaha , Head, Dept of Ecosystems, National Focal Point Vahakn Kabatian , Climate Change Project Manager (UNDP) Lea Kai , Climate Change Project Officer (UNDP)
Ministry of Energy and Water	Abdo Tayer , Advisor to the Minister Mahmoud Barroud , National Focal Point Karim M. Osseiran , Energy Consultant Pierre Khoury , Project Manager LCEC/GEF Global SWH project Ziad Khayat , Groundwater Assessment and Database Project Manager
Ministry of Finance	Chris Léa Hakim , Senior Economic Officer, Technical Assistance for Fiscal Management and Reform
Ministry of Agriculture	Imad Nahhal , National Focal Point Liliane El Khoury , Technical Officer, Trade Project
Lebanese Agricultural Research Institute	Michel Antoine Afram , President – Director General Maya Aboud , MAPs Project Manager
European Union	Nicolas , Attaché, Programme Manager Cyril Dewaleyne , Attaché, Programme Manager, Sustainable Development Section

Institution	Persons interviewed
ASACO General Trade and Contracting/ Lebanese Solar Energy Society (ESCO)	Ramzi Abu Said , Managing Director
Albina	Salah Tabbara , General Manager Pierre Fares , Electrical and Automation Engineer
Green Future	Bernard Ammoun , CEO
European Union (EU)	
Keserwen Public Hospital	Dr. Charbel Azar , Hospital Director Maintenance Director