

UNDP Project Document Format

Government of Lebanon

United Nations Development Program

ENABLING ACTIVITIES FOR THE PREPARATION OF LEBANON'S SECOND NATIONAL COMMUNICATION TO THE UNFCCC

Brief description

This project aims at assisting Lebanon with the enabling activities necessary to undertake the Second National Greenhouse Gas Inventory and to prepare and report the Second National Communication to the Conference of Parties in accordance with guidance of the UN Framework Convention on Climate Change (UNFCCC). In addition, this project will help strengthen Lebanon's capacity to fulfill its commitments to the UNFCCC on a continuing basis. The structure of this project is based on the country's previous experience and studies already identified under a stocktaking exercise. The main components of the project are: (a) an inventory of greenhouse gases for the year 2000 and time series 1994-2000; (b) an update of analysis of potential measures to mitigate the increase in greenhouse gas emissions in Lebanon; (c) an assessment of potential impacts of climate change in Lebanon and adaptation measures; (d) preparation of the Second National Communication of Lebanon and submission to the COP. In addition, public awareness activities and stakeholder consultations will be cross-cutting along the overall course of this project. Therefore, the preparation of the Second National Communication is expected to enhance general awareness and knowledge on climate change-related issues in Lebanon, and to help into highly taking them into account in the process of national planning and policy.

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LIST OF ACRONYMS/ABBREVIATIONS

ALIND	Association of Lebanese Industrialists
APR	Annual Progress Report
CCT	Climate Change Team
CCU	Climate Change Unit
CDR	Council for Development and Reconstruction
CGF	Consultative Group of Experts
CH ₄	Methane
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
COP	Conference of Parties
GEF	Global Environment Facility
GHG	Greenhouse Gas
GHGNI	Greenhouse Gas National Inventory
GNESD	Global Network on Energy for Sustainable Development
HFCs	Hydro-fluorocarbons
INC	Initial National Communication
IPCC	Intergovernmental Panel on Climate Change
LUCF	Land Use Change and Forestry
MLF	Multilateral Fund
M&R	Monitoring and Reporting
MEW	Ministry of Energy and Water
MOE	Ministry of Environment
NCSR	National Council for Scientific Research
NGO	Non-governmental Organizations
NMVOC	Non-methane Volatile Organic Components
N ₂ O	Nitrous Oxide
NO _x	Nitrogen Oxides
PCC	Project Coordinating Committee
PFCs	Per-fluorocarbons
PIR	Project Inception Report
PM	Project Manager
QPR	Quarterly Progress Report
SF ₆	Sulphur Hexafluoride
SNC	Second National Communication
SO ₂	Sulphur Dioxide
TNA	Technology Needs Assessment
TOR	Terms of References
TT	Technology Transfer
UN	United Nations
UNDP	United Nations Development Program
UNFCCC	United Nations Framework Convention for Climate Change
V&A	Vulnerability and Adaptation

Part 1. Elaboration of Narrative

1.1 Situation Analysis

1. Located on the eastern shores of the Mediterranean Sea between the North Latitudes 33° 03' 38" and 34° 41' 35" and East Longitudes 35° 06' 22" and 36° 37' 22", Lebanon covers an area of 10,452 km², with an average width of 48 km and an average length of 220 km. In spite of its limited area, the Lebanese territory is dominated by two mountain ranges that run parallel to the sea (NNE-SSW) as well as to each other. The western range (Mount Lebanon) overlooks the narrow coastal plain and is separated from the eastern chain (the Anti-Lebanon) by the Beqaa valley. Another component of the Lebanese physical environment to be given a special attention is the river system. With the exception of the Litani and the Assi, the Lebanese rivers run perpendicular to the general direction of the above-mentioned mountains. Added to the steep relief and the local litho logy, the result is the formation of deeply incised valleys with particular climate conditions and specific riverbank vegetation.
2. Since 1994 the country has witnessed an unsteady trend in economic development. The Gross Domestic Product (GDP) decayed from 8.5% in 1994 to 4% in 1997. As of 2003, the estimated GDP average growth per year was around 2 % per year. Over the last 10 years, high levels of unemployment and migration have been observed.
3. The Government of Lebanon considers the environment to be an integral component of all sectoral activities, and will work to achieve an integrated rural development that includes the protection and improvement of use of natural resources. The Law on Environmental Protection (Law No. 444/2002) forms the basis for environmental management in Lebanon. The law addresses the prevention and reduction of pollution, sustainable management of natural resources, monitoring and how to define pollution levels. In addition, the Government of Lebanon has ratified the UNFCCC by Law No. 359 dated 1/8/1994.
4. UNDP is assisting Lebanon in achieving its national Development Goals targets and indicators. UNDP Lebanon's soft assistance interventions with the Ministry of Environment (MOE), the Ministry of Energy and Water (MEW), Ministry of Agriculture, and Ministry of Public Works and Transport, have played a significant role in terms of increasing national capacities for integrating environmental conventions into planning and policies.
5. UNDP's support to Lebanon in terms of sustainable environmental development has focused assistance towards compliance with international environmental conventions, aiming at (a) promoting environmental governance in mainstreaming sustainable development and implementing relevant policy, legal and regulatory measures, and (b) capacity development to implement global environmental conventions primarily through UNDP-GEF portfolio for Climate Change (Lebanon's Initial National Communication to the UNFCCC (1997-1999) and – Top-up Enabling Activity (2001-2002). A

detailed list of already accomplished and ongoing projects related to climate change is given in Appendix C.

1.2 Strategy

6. This project aims at strengthening the MOE to assist the Government in achieving its global environment concerns and commitments to international conventions, and to integrate the environmental dimension in national development planning and policy.
7. This project seeks funds for Lebanon to undertake enabling activities to prepare the country's Second National Communication (SNC) to the UN Framework Convention on Climate Change (UNFCCC). As defined by the COP2, enabling activities are those measures that facilitate the implementation of response measures in accordance with the FCCC (Decision 11/CP.2) to prepare the SNC of Lebanon to the Conference of the Parties, in accordance with Article 12 of the UNFCCC, and to continue to build capacity to fulfill its commitments to the Convention.
8. The SNC project will develop and enhance national capacities to fulfill Lebanon's commitments to the Convention on a continuing basis; enhance general awareness and knowledge of government planners on issues related to climate change and reduction of greenhouse gas emissions, thus enabling them to take such issues into account in the national development agenda; and mobilize additional resources for projects related to climate change and mitigation of greenhouse gases; projects which may be eligible also for further funding or co-funding by GEF or other multilateral or bilateral organizations.

1.3 Management Arrangements

9. The project will be executed through MOE as a Governmental body. The Climate Change Team (CCT) established in the MOE in the course of Lebanon's INC preparation managed by a Project Manager (PM) together with the focal point at the MOE would serve as the implementation body of this project after being complemented by new experts in the related fields. The Project Coordinating Committee (PCC) will provide guidance and support to the project. It is hoped that such a cooperation will lead to the establishment of a formal Climate Change Unit (CCU) which will be responsible for future climate change and related activities in the country.

1.4 Monitoring and Evaluation

10. Monitoring responsibilities and events: A detailed schedule of project reviews meetings will be developed by the project management, in consultation with

project implementation partners and stakeholder representatives and will be incorporated in the Project Inception Report. Such a schedule will include: (i) tentative time frames for Coordinating Committee meetings, (or relevant advisory and/or coordination mechanisms) and (ii) project related Monitoring and Evaluation activities.

11. Day to day monitoring of implementation progress will be the responsibility of the Project Manager, based on the project's Annual Work-plan and its indicators. The Project Team will inform the UNDP and MOE of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion.
12. Periodic monitoring of implementation progress will be undertaken by the UNDP through quarterly meetings with the project proponent, or more frequently as deemed necessary. This will allow parties to take stock and to troubleshoot any problems pertaining to the project in a timely fashion to ensure smooth implementation of project activities.
13. Project Monitoring Reporting The Project Coordinator in conjunction with the UNDP-GEF extended team will be responsible for the preparation and submission of the following reports that form part of the monitoring process.

1.4.1 Project Inception Report

14. A Project Inception Report (PIR) will be prepared immediately following the Inception Workshop. It will include a detailed First Year Work Plan divided in quarterly timeframes detailing the activities and progress indicators that will guide implementation during the first year of the project. The Report will also include the detailed project budget for the first year of implementation, prepared on the basis of the Annual Work Plan, and including any monitoring and evaluation requirements to effectively measure project performance during the targeted 12 months time-frame.
15. The PIR will include a more detailed narrative on the institutional roles, responsibilities, coordinating actions and feedback mechanisms of project related partners. In addition, a section will be included on progress to date on project establishment and start-up activities and an update of any changed external conditions that may effect project implementation.
16. When finalized the report will be circulated to project counterparts who will be given a period of one calendar month in which to respond with comments or queries. Prior to this circulation of the PIR, the UNDP Country Office and UNDP-GEF's Regional Coordinating Unit will review the document.

1.4.2 Quarterly Progress Reports (QPRs)

17. Short reports outlining main updates in project progress will be provided quarterly to the local UNDP Country Office and the UNDP-GEF regional office by the project team.

18. Technical Reports are detailed documents covering specific areas of analysis or scientific specializations within the overall project. As part of the Inception Report, the project team will prepare a draft Reports List, detailing the technical reports that are expected to be prepared on key areas of activity during the course of the Project, and tentative due dates. Where necessary this Reports List will be revised and updated, and included in subsequent Annual Progress Reports (APRs). Technical Reports may also be prepared by external consultants and should be comprehensive, specialized analyses of clearly defined areas of research within the framework of the project. These technical reports will represent, as appropriate, the project's substantive contribution to specific areas, and will be used in efforts to disseminate relevant information and best practices at local, national and international levels.

1.5 Legal Context

19. This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement (SBAA) between the Government of Lebanon and the UNDP. The host country-implementing agency shall, for the purpose of the SBAA, refer to the government co-operating agency described in that Agreement.

20. UNDP acts in this Project as Implementing Agency of the Global Environment Facility (GEF), and all rights and privileges pertaining to UNDP as per the terms of the SBAA.

21. The UNDP Resident Representative is authorized to effect in writing the following types of revision to this Project Document, provided that he/she has verified the agreement thereto by GEF Unit and is assured that the other signatories to the Project Document have no objection to the proposed changes:

- Revision of, or addition to, any of the annexes to the Project Document;
- Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation;
- Mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility; and
- Inclusion of additional annexes and attachments only as set out here in this Project Document.

Part 2. Budget

The project budget is estimated at US \$405,000 with additional contribution from the Government of Lebanon (in kind) of US \$100,000. The details of the budget covering the Government of Lebanon's contribution and the UNDP-GEF contribution are given in tables 1 and 2.

Table 1. Project Budget-GEF Contribution

Award ID: 00040950							
Award Title: PIMS # 3348 CC EA Second National Communication Lebanon							
Project ID: 00046553							
Project Title: Enabling Activities for the Preparation of Lebanon's Second National Communication to the UNFCC							
Executing Agency: Ministry of Environment							
GEF Outcomes/Atlas Activity	Responsible Party (Implementing Agency)	PLANNED BUDGET					
		Source of Funds	Budget Code	Budget Description	Year 1 (US\$)	Year 2 (US\$)	Total Budget (US\$)
National Circumstances	Ministry of Environment (MOE)	GEF	71300	Local consultants	2,000	2,000	4,000
Nat .Circum. total					2,000	2,000	4,000
Outcome 1: GHG inventory	MOE	GEF	71300	Local consultants	40,000	5,000	45,000
			71600	Travel	8,000		8,000
			72100	Contractual service companies	10,000	2,000	12,000
			72200	Equipment & furniture	7,000	-	7,000
			72400	Communication and audiovisual equipment	2,000	-	2,000
			74200	Printing/publication cost	6,000		6,000
			72500	Supply	2,000		2,000
			74000	Miscellaneous operating expenses	2,000	2,000	4,000
GHG inventory total				77,000	9,000	86,000	
Outcome 2: GHG	MOE	GEF	71200	International consultants		9,000	9,000
			71300	Local consultants	5,000	60,000	65,000
			71600	Travel		8,000	8,000

Mitigation			72200	Equipment & furniture		4,000	4,000
			72400	Communication and audiovisual equipment		2,000	2,000
			74200	Printing/ publication cost		5,000	5,000
			72500	Supply		2,000	2,000
			74000	Miscellaneous operating expenses		2,000	2,000
GHG Mitigation total					5,000	92,000	97,000
Outcome 3: Vulnerability & Adaptation	MOE	GEF	71200	International consultants		9,000	9,000
			71300	Local consultants	5,000	64,000	69,000
			71600	Travel		2,000	2,000
			72200	Equipment & furniture		3,000	3,000
			72400	Communication and audiovisual equipment		2,000	2,000
			74200	Printing/ publication cost		5,000	5,000
			72500	Supply		2,000	2,000
			74000	Miscellaneous operating expenses		2,000	2,000
V&A total					5,000	89,000	94,000
Gaps and constraints	MOE	GEF	71300	Local consultants		8,000	8,000
			74000	Miscellaneous operating expenses		2,000	2,000
Gaps and constraints total						10,000	10,000
Other information	MOE	GEF	71300	Local consultants		8,000	8,000
			71400	Contractual; services/individuals	12,000	12,000	24,000
			74000	Miscellaneous operating expenses		2,000	2,000
Other information total					12,000	22,000	34,000
Project Management	MOE	GEF	71400	Contractual; services/individuals	33,000	33,000	66,000
			74000	Miscellaneous operating expenses	2,000	2,000	4,000
PM total					35,000	35,000	70,000
Monitoring and Reporting (M&R)	MOE	GEF	74100	Professional services	5,000	5,000	10,000
M&R total					5,000	5,000	10,000

BUDGET TOTAL							
						141,000	264,000

Table 2. Project Budget-Lebanese Government Contribution

Description of Inputs	Total US\$
Administration and support staff	15,000
Office and related operations	10,000
Stationery and other office supplies	20,000
Furniture and office equipment	20,000
Utilities and maintenance	15,000
Media activities: leaflets, press calls, workshops	20,000
Grand total	100,000

Part 3. Appendices

Appendix A: Summary Report of the Self- Assessment Exercise

I. Introduction

22. The self-assessment exercise is performed in accordance with GEF Operational Procedures for the Expedited Financing of National Communications from Non-Annex I Parties (GEF/C.22/Inf.16). The main objective is to undertake a highly consultative and participatory process of needs assessment, to identify and validate the critical priorities for UNFCCC implementation in Lebanon in general, and SNC project proposal in particular.
23. Consultation of concerned stakeholders is important for the preparation of the project proposal of the SNC since it ensures the national ownership of the SNC. The identification of stakeholders has been based on the following criteria.
- Concerned experts in various ministries who have or will be contributing to the execution of the SNC.
 - Experts from regional and international organizations.
 - Experts from academic institutions and research centers who have participated in the preparation of the INC.
 - Experts from academic institutions and research centers that work in fields related to climate change issues.
 - Experts from on going climate change- related projects.
 - Representatives from professional associations.
 - Representatives from the private sector and major consulting firms.
 - Representatives from relevant NGOs.
 - Representatives from the expert press.
24. The outputs of the stocktaking process involved conducting a stakeholder consultation and analysis, during which concerned stakeholders have been identified and initial contacts with them established. Another step in the stocktaking activity was to conduct consultation with these stakeholders aimed at validating the methodology of selection of priority issues and new areas of action. The stakeholder consultation process was concluded by a

stocktaking workshop to finalize the feedback from concerned stakeholders, and to have it considered in preparing the project proposal for the SNC.

25. The main objectives of the stakeholder consultation process, as defined in the TOR, were to validate the stocktaking exercise to address the national priorities in the SNC, to agree on the institutional arrangements proposed for the SNC, to clarify the roles and responsibilities of concerned stakeholders, and to engage all concerned stakeholders and ensure adequate consultation mechanism for the SNC.

26. A synthesis report has been produced as the main output used as a baseline document for the SNC proposal, as well as an input to identify and validate priorities for further in-depth studies and new areas of work to be carried out in preparing the SNC. In addition, it has provided an assessment of gaps, uncertainties, barriers and lessons learnt from previous and ongoing activities.

II. The Stocktaking Analysis Tools

27. The following main tools have been used for the stocktaking process:

- i. review of relevant documents
- ii. stakeholders identification
- iii. discussions among stakeholders
- iv. interviews with stakeholders
- v. questionnaires
- vi. stocktaking workshop.

28. The stocktaking exercise took about 10 weeks and brought together around 30 stakeholders from different ministries, public institutions, academia, international organizations based in Beirut, private sector, NGOs, and expert media (see Table 3).

Table 3. Stakeholders Affiliation.

Name	Affiliation	Reasons for Inclusion	Role in Self-Assessment
Ali Yaacoub	Clean Production Center	Synergy with relevant activities	Consultation
Alia Kaskas	MOE	Climate Change Focal Point	Data provider, draft report preparation
Anwar Ali	LCECP, Project Manager	Synergy with relevant activities	Consultation
Boghos Ghougassian	MECTAT	Synergy with relevant activities	Consultation
Chafic Abi-Said	Consultant	Energy expert	Data provider
Edgard Chehab	UNDP	Representative	Draft report preparation
Farid Chaaban	AUB	Member of INC team	Draft report preparation
Habib Maalouf	Al-Safir Newspaper	Expert media/press	Consultation
Hassane Jaber	ALMEE	Member of INC team	Data provider

Hicham Abou Jaoude	Institute of Lebanese Industrialists, Environment	Representative	Consultation
Juryus Berbari	MOE	Representative	Draft report preparation
Lamia Mansour	GEF	Representative	Draft report preparation
Lutfi Saloum	Ministry of Agriculture	Synergy with relevant activities	consultation
Matilda Khoury	Thermal Standards for Buildings, INC	Synergy with relevant activities, Member of INC team	Data provider, consultation
Mazen Hussein	MOE, Ozone Office, Project Manager	Synergy with relevant activities	Consultation
Mohamad Khawli	NCSR, Remote Sensing, Director, INC	Member of INC team	Consultation
Mohamad Kordab	ESCWA, SDPD Team Leader	International experts	Consultation
Mounir Bou Ghanem	Assoc. for Forest Develop. & Conservation	Synergy with relevant activities	Consultation
Nabil Mina	Dar Al Handasah Consultants, Activities project	Climate Change Enabling Activity	Draft report preparation
Najib Saab	LATA	NGO, expert media	Consultation
Omar Mardam-Bey	Khatib and Alami Consultants	Energy expert	Consultation
Ramzi Ramadan	Ministry of Public Works & Transport	Synergy with relevant activities	Consultation
Raymond Ghajar	Professor, LAU	Energy expert	Consultation
Riad Chedid	EDL, Professor AUB, INC	Member of INC team	Draft report preparation
Saeed Chehab	ALMEE, Professor USJ,	Synergy with relevant activities, Member of INC team	Data provider
Sana Sairawan	MOE, Coordinator, Environment Committee, Order of Engineers	Data provider	Consultation
Soubhi Abu Chahine	Professor, Beirut Arab University	Energy expert	Consultation
Wafa Charafeddine	Council of Development and reconstruction (CDR)	Synergy with relevant activities	Consultation, data provider
Walid Haddad	UNDP	Representative	Draft report preparation
Ziad El-Zein	MEW/LCECP	Synergy with relevant activities,	Consultation

III. The Stocktaking Workshop

29. In accordance with the stocktaking process, a workshop was carried out with one main objective of gauging input from national and regional experts on key issues related to Lebanon's SNC. The Meeting, conducted on March 1, 2005, focused on the objectives, roles and approaches to be adopted for a successful implementation of the SNC. A summary of the feedback

obtained in the discussion that followed is presented in the following sections:

III-1. Assessment of Previous Works

30. This assessment was to ensure that the SNC would be conducted taking into consideration the good practice and lessons learnt from the INC and other climate- change related projects. These activities can be classified as GHG inventory, vulnerability assessment, mitigation options, action plan to combat desertification, water and coastal area: collection of data on “indicator” parameters to climate change. The energy sector in the country has been identified as the major GHG emitting sector. The majority of geographic and climatic profiles information provided in Lebanon’s INC was regarded as sufficient.
31. As per the natural resources, the majority of information to be updated will target forests, pastures and land use change along with the most recent legal and policy framework that regulates the forest and land use changes in the country. The review and update of the information on economic and sector profile will consist first of the update of the information regarding the newly adopted strategies for socio-economic development.
32. The review and update of the information on infrastructure such as: population; public health; education; and environment will consist of the update of the new trends of development for each item under this section. Moreover, the state of the public health and education will be updated. The state of the environment including the state of urban air quality, solid waste and water treatment and other related issues will be provided along with institutional framework, legal framework, and public awareness and education on environment.
33. The top- up enabling activities of 1998 were the GHG inventory update and preparation of a training manual, including a comparison between 1999 and 1994 inventories, Technology Needs Assessment (TNA) and Technology Transfer (TT) options and mechanisms, capacity building for local and regional systematic observation networks, uncertainty analysis of GHG emission factors, concept proposals for GHG assessment and mitigation in the various sectors, and a draft framework for the establishment of a National Climate Change Unit (CCU).

III-2. Lessons and Good Practice Learned from INC, to be Adopted in the SNC

34. The experience and good practice from the work conducted under the INC communication and its top- up enabling activities will provide a solid background for initiating and preparing the SNC. Such good practice is not limited to technical issues but also covers other managerial aspects and processes. These lessons and good practices, as extracted from the stocktaking process, are:

- Capable project managers that can lead the project to a successful conclusion. In this aspect it has been stressed that both climate change projects were executed by highly qualified and capable project managers.
- Deep collaboration amongst members of the teams established to prepare the INC that provided a platform for various researchers and other stakeholders to work together, and hence establish long- term contacts and partnerships.
- Lebanon joining the international community in combating the climate change issue.
- Wide and extensive support from the private and academic sectors to accept, assist, and participate in climate change activities.
- Professional and practical know how amongst private and academic sectors both on the local and international levels.
- Extensive support from the Ministry of Environment, and in a lesser extent from other Ministries.

III-3. Identification of Difficulties/Barriers of INC

35. Being the first of its kind in the country, the team that prepared the INC faced many difficulties, some of which can be listed as follows:

- Insufficient government support for climate change activities specifically at the decision taking and decision- making levels. This could be attributed to the lack of awareness, and the insufficient technical know how at the government level as well as other involved private stakeholders regarding climate change impacts, vulnerability and mitigation.
- Very little seriousness from the government side, and even from the civil society as a whole, towards the commitments made under the UNFCCC ratification. Again the lack of awareness and defined responsibilities are the main reasons.
- Inappropriate monetary compensation of team members.
- Absence of a permanent national CCU to continuously handle climate change as well as other related issues, whether on the national, regional or international level. Appointing only a national focal point at MOE proves to be insufficient regardless of the personal capability and qualifications.
- Some concerned experts and even decision- makers are convinced that such projects reflect the domination of the international agenda, pushed by international bodies, while overlooking more serious national economic and environmental problems.
- Lack of awareness of critical issues at all levels.

III-4. Identification of Gaps and Uncertainties

36. In addition to the difficulties faced in preparing the INC, the stocktaking process identified the following gaps in the INC, that may be avoided in preparing the SNC. These gaps/uncertainties include:

- Lack of a much-needed, accurate and scientific full-fledged database for the preparation and updating of national GHG inventories. Moreover, data obtained from many sources were not consistent.
- Large uncertainties inherent in the present /collected/measured data due to the absence of the required technical and quality control systems and due to the absence of national standards/guidelines.
- Lack of mechanisms and systems within the government and private sectors to assist and cooperate with climate change initiatives.
- Lack of funding sources and even mechanisms for supporting the private or the academic sectors to undertake pilot projects and research activities to better understand and assess the extent and implications of climate change, vulnerability, and the potential relevant mitigation measures.
- No emphasis on the benefits of the country as a whole. Impacts of climate change were not correlated to national development encompassing health, economy, and welfare.
- No emphasis on the sustainable development concept. Mitigation options that emphasized energy conservation measures were short of explaining the concept of sustainable development, and the sustainability of various economic sectors.
- Adaptation to climate change especially in the most sensitive areas did not receive special attention and follow-up from concerned government bodies.

III-5 New Studies and Areas of Work.

37. Sectors/areas that were not covered in the INC and need to be covered in the SNC, in addition to means of improving some of the studies performed have been identified in the stocktaking process as follows:

- Identification, categorization and mapping of climate change – sensitive areas in Lebanon.
- Health and socio-economic impacts, vulnerability and mitigation measures as well as adaptation strategies and programs especially in climate-change sensitive areas.
- Establishment of national emissions factors, if deemed necessary. Default factors provided by IPCC 1996 Revised Guidelines were used in the INC. The team will see the possibility to use Emission factors calculated under other studies and projects. Also, regional emission factors that are or will be developed under the GEF regional project on GHG inventories will be considered if appropriate.
- Land-use change and forestry, desertification and their linkages to climate change deserve more focused attention in the SNC
- Systematic observation networks and remote sensing.
- New mechanisms specified by Kyoto such as CDM (this will not be covered by the SNC funds)
- Developments and changes in energy supply for Lebanon over the past decade.
- Institutional arrangements to coordinate, conduct and follow-up on all climate related national, regional and international activities.

- Finally, the list of abatement options proposed for each sector will be reviewed and updated in the light of new developments and needs. Key sources identified and updated under the GHG inventory exercise will be considered while making the selection of technology options. The impact of specific emission reduction actions /options will be measured (quantitative at the possible extend) against the baseline scenario. The cost and benefit will be analyzed as well.

III-6. Measures to Ensure the Sustainability of INC Recommendations.

38. The following measures have been outlined as a mean to ensure the sustainability of the INC as well as SNC recommendation:

- Signature and ratification of the Kyoto protocol by the Lebanese Government, knowing that the country will not benefit from the protocol mechanisms before 2008.
- Secure serious governmental/official commitment through the establishment of a joint mechanism amongst various units such as MOE, MEW, CDR, with academic and research institutes and in collaboration with the private sector.
- Establishment of a permanent CCU to continuously handle climate change issues, whether on the national , regional or international level.
- CCU will follow up on all issues and government to support and endorse the CCU activities and recommendations.
- Emphasize the economic benefits associated with some mitigation measures (win-win opportunities).
- Increase awareness of decision makers and encourage/support research community.

III-7. Priorities for SNC

39. The stocktaking process identified a tentative priority list of areas to be covered in the SNC. Areas where new information is more available are the energy sector including electric power, transport and industries, health and socio-economic impacts, adaptation in sensitive areas, institutional arrangements, land-use change and forestry.

40. Emphasis will also be placed on the integration of selected recommendations into the governmental policies and planning such as privatization, availability of natural gas as a main energy resource through regional networking, and the impact of regional electrification on local electric power supply.

III-8. Synergies

41. The feedback obtained from the stocktaking process has identified associated projects and their link to climate change. Coordination measures have been suggested. Main synergies topics include National Nature Reserves, National Action Plan to Combat Desertification in

Lebanon, River Basins, Renewable Energy Potential in Lebanon, Biodiversity conservation, Energy Efficiency in Buildings, and GNESD Activities (Energy Access, and Renewable Energy).

42. Means of coordination amongst these projects include the CCU, researchers coordination, bilateral financial mechanisms, and civil society platforms. Suggested joint- action mechanisms are:

- CDR-MOE-CCU
- MOE-UNIDO-Industries-CCU
- CDR-MOE-MEW-CCU
- CDR-MoPWT-MOE-CCU
- Awareness campaigns
- Research themes/applications.

IV. Recommendations for the SNC

43. The stocktaking process came out with a set of information and suggestions to be considered in preparing the SNC. The main points have been listed above. The recommendations that were suggested by stakeholders can be summarized as follows:

- For the Lebanese Government to sign and ratify the Kyoto protocol, in agreement with other Arab countries.
- To adopt plans and strategies for better information dissemination of the findings of the SNC. Amongst suggested measures is to provide an executive summary of the SNC in Arabic, and to conduct awareness campaigns for the public as well as decision makers similar to what has been done in the top-up enabling activity (citizen's guide, ...).
- To coordinate the SNC activities amongst various ministries and other stakeholders through a permanent national CCU that would continuously handle climate change as well as other issues, at the national, regional or international level.
- To establish a full fledged database to assist in the preparation and updating of national GHG inventories on scientific basis, and to minimize uncertainties inherent in collected or measured data due to absence of the required technical and quality control systems.
- To suggest a joint mechanism, in collaboration with concerned stakeholders, for securing funds for the private or the academic sectors to undertake pilot projects and research activities aimed at better understanding and assessing the extent and implications of climate change, and the potential of relevant mitigation measures.
- To identify joint- action mechanism amongst various national and international units for implementing the recommendation of national communications on climate change.
- To secure more feedback from private sector in the report preparation.

- Stress more on economic factors in the mitigation options to be suggested for various economic sectors, mainly the industrial and residential sectors. In this aspect emphasis should be put on the win-win opportunities, i.e. achieving GHG reduction jointly with some economic benefits.
- Emphasis on the concept of sustainable development and the sustainability of each of the economic sectors, and to come- up with suggestions to maintain the sustainability of various mitigation options.
- Emphasis on recent regional developments such as in the energy supply sector, namely the regional gas networking and electrical interconnection planned and partially constructed among countries in the region.
- Emphasis on health and socio-economic impacts and adaptation measures.
- Stress the need to adopt capacity building activities.

Appendix B: Technical Components of the Project Proposal

I. Background and Project Context

44. Lebanon has submitted to the secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) its Initial National Communication (INC) report in 1999, through funding from the Global Environment Facility (GEF), management of the United Nations Environment Program (UNEP) and execution by the Ministry of Environment (MOE). The INC report established a national inventory of greenhouse gases (GHG), assessed Lebanon's vulnerability to climate change, and proposed a mitigation strategy to reduce GHG emissions in the various sectors along with some adaptation measures. In 2002, phase II of the climate change enabling activity was conducted, and national reports on technology needs assessment (TNA) and technology transfer (TT) were submitted and published. In order to continue to fulfill commitments to the UNFCCC in accordance with the relevant decisions of the Conference of Parties (COP) using IPCC guidelines. This project intends to prepare Lebanon's Second National Communication (SNC). The base year will be the most recent year possible. As a result of this project, an updated GHG emission inventory will be generated to bridge the gaps and reduce the uncertainties encountered in previous inventories.

45. In brief, the purposes of this project are to assist Lebanon with the enabling activities necessary to undertake the second national inventory, and to prepare the SNC to the COP in accordance with the UNFCCC. An additional purpose of this project is to strengthen Lebanon's ability to fulfill its commitments under the Convention.

II. Project Rationale

46. In accordance with the existing norms (Article 4, paragraph 1.a of UNFCCC), the greenhouse gas national inventory (GHGNI) of Lebanon needs to be updated to prepare the country's SNC. Lebanon has already published the GHGNI for the base year 1994 and its update for 1999. Through the second GHGNI, Lebanon will establish new and important information for the analysis and elaboration of projections regarding the behavior of the emissions and national absorption of GHG. This GHGNI will be highly valuable when analyzing, evaluating, and subsequently establishing targets for emissions of GHG.

47. According to the norms and directives of the Initial National Communications, the SNC will take into consideration the following elements:

- National circumstances;
- GHGNI;
- General description of steps taken to apply the convention; and,
- Other information.

48. In the preparation of the national circumstances for the INC, Lebanon had difficulties in gathering and preparing the required information. Due to the nature of the national circumstances, however, this information must be updated for the SNC.

49. Through the preparation of the GHGNI (1994), and its update for 1999 using the IPCC methodology (1996) and the comparative study of national net emissions (1994 - 1999), Lebanon has acquired experience in the collection, validation and data processing for the different sectors of national activities. Default emission factors were mainly used and local emission factors were not developed. The development of local emission factors would make an essential activity in the SNC.

III. Project Objectives

50. This project seeks funds for Lebanon to undertake enabling activities to prepare the country's SNC to the UNFCCC. As defined by the COP, enabling activities are those measures that facilitate the implementation of response measures in accordance with the UNFCCC (Decision 11/CP.2) to

prepare the SNC of Lebanon to the COP, in accordance with Article 12 of the UNFCCC, and to continue to build capacity to fulfil its commitments to the Convention. As this project is required for Lebanon to complete its SNC, the full costs represent the incremental costs of the activities.

51. In order to continue to build the institutional capacity necessary to go beyond the INC and SNC, Lebanon seeks to strengthen the technical-institutional capacity existing at a national level with regard to mitigation and adaptation measures, and legal-institutional instruments for addressing Climate Change.

III.1. Development Objective

52. The development objective of this project is to develop and enhance national capacities and facilitate the process of mainstreaming climate change issues into national planning and policy, thus enabling the country to deal with climate change and consider it not only as environmental issue but as an issue of sustainable development.
53. The project will contribute to the on-going global effort to better understand the sources and sinks of greenhouse gases, potential impacts of climate change, and effective response measures to achieve the ultimate objective of the UNFCCC, which is "to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system".
54. The project helps to identify and develop projects related to climate change and mitigation of greenhouse gases, which may be eligible also for further funding or co-funding by GEF other multilateral or bilateral organizations.
55. In addition, the project will contribute to enhance general awareness and knowledge on climate change related issues in Lebanon, and to strengthen the dialogue, information exchange and cooperation among all the relevant stakeholders including governmental, non-governmental, academic, and private sectors in accordance to the Article 6 of the UNFCCC and Implementation of Buenos Aires Plan of Action.

III.2. Immediate Objectives

56. The immediate objectives of the project include:
- Developing the Second National Inventory of Greenhouse Gas Emissions and Removals;
 - Collecting and describing the national programs being designed and initiated to abate GHG emissions and to facilitate adaptation to Climate Change. This will involve the description of policies, programs and measures contributing (directly or indirectly) either to the decrease in GHG emissions or to the attenuation of Climate Change impacts;
 - Preparing and presenting the SNC to the COP to the UNFCCC; and,

- Strengthening the interest, awareness and technical capacity at a national level to respond to the UNFCCC.

57. The following results are expected to be accomplished by the project: a) the consolidation of the institutional capacity of the MOE to apply the UNFCCC; b) a set of measures oriented towards the achievement of national aims on GHG emission reduction; c) consensus in favor of the measures relative to Climate Change which may contribute to sustainable development; d) the results of a new GHGNI; e) the submission of the SNC of Lebanon to the COP to the Convention; and f) framework for the establishment of the National CCU.

IV. Project Strategy

58. The strategy of the project is to involve expert teams already established under Lebanon's INC and Top-up enabling activities and institutions that have already been put in a roster mainly for the purpose of facilitation of administrative arrangements. New experts and institutions should be invited to join the teams after provision training-of-trainers on different thematic areas. This strategy will enhance the sustainability of the teams and the process of preparation of national communication. Participation in trainings and workshops to be organized from UNFCCC Secretariat, UNDP-GEF; The SNC preparation will rely on existing expertise in the country. Mobilization of local experts is a strategy for sustaining the knowledge in the related areas. This will also foster internal networking of national experts. The project will hire a short-term international consultant if and when necessary. Lebanon's experience in institutional and technical capacity building and development regarding National Communication should be sustained and leveraged to support the preparation of the SNC project. This experience will be utilized for taking highly into consideration climate change issues into national planning and policy and for the programming purposes such as promotion of innovative financing schemes for climate friendly technology transfer and development in the country.

59. The strategy of partnership with governmental institutions, international organizations, academia and NGOs, that was found to be successful from the experience of Lebanon's INC and Top-up enabling activities will be utilized and improved by bringing more stakeholders on board and building an emerging partnership with the private sector that is crucial for promoting investments of cleaner technologies in the country. The role of the Project Coordinating Committee (PCC) will be critical to the success of this strategy.

60. The initial emphasis of the project will be on GHG inventory and assessment of vulnerability and impacts for the selected areas. Building on results of these studies, the options to mitigate climate change by addressing GHG emissions and facilitating adaptation to climate change for the selected area will be analyzed and reviewed in the light of country

development context. Gaps, uncertainties and constraints along with other information related to the UNFCCC will be addressed as indicated by 17/CP.8. Finally, the information gained during the project will be communicated to the COP in the form of the SNC of Lebanon.

V. Factors Favoring the Revision and Update of Lebanon's INC

61. Since the INC was developed and published, the following major changes have taken place: (i) availability of new information and new technologies; (ii) new methodologies; (iii) structural changes in important sectors of Lebanon's economy (e.g., introduction of natural gas into Lebanon from Syria, etc.); and, (iv) additional capacity and experience acquired by the national technical experts who continue to be active in the field of climate change and who may play a role in the application of the Convention. It is proposed that the above developments be considered in Lebanon's SNC.
62. In previous studies and evaluations, important sectors have not been addressed sufficiently (e.g., fisheries, health and industry). It is proposed that these sectors be addressed in details and subsequently included in the SNC.
63. The general description of steps, as they appeared in the INC, was developed after consideration of Lebanon's experience and that of other institutions that co-operated in this respect. Although there were no difficulties with developing this section, a need for the adoption of new measures has since been identified. For example, when the INC and the Top-up enabling activity were prepared, there was a lack of specific information related to project financing and technology transfer. There was also a lack of information about additional costs and estimated benefits associated with measures or concrete projects for mitigation. Based on the accumulated, since then knowledge, it is recognized that there is a need to develop policies and general measures for the reduction of emissions, and programs for ensuring the sustainability of such policies and general measures. The development of such programs is proposed in this project.
64. Lebanon is also proposing to establish an institution to foster and facilitate the execution of projects and investments, both national and foreign. The objective is to introduce practical technologies and processes that contribute to the reduction of GHG emissions (e.g., energy efficiency, renewable energy, livestock efficiency, and reforestation) and the increased absorption of GHG. A number of projects supporting this trend has already been undertaken and will constitute the basis for further development.
65. Finally, Lebanon has started, and will continue with the development of public awareness, which has been highly successful in the past few years. It is anticipated that public awareness will make an important tool to facilitate

the development and to assure the success of the whole project and the application of the UNFCCC at the national level.

VI. Project Activities

66. The components of the project are described below, and include:

- National Circumstances
- Updating Lebanon's GHGNI;
- Description of national efforts to mitigate GHG emissions
- Description of national efforts to adapt to climate change
- Other information considered relevant
- Constraints, gaps and capacity needs
- Preparation of Lebanon's SNC.

VI.1 National Circumstances

67. The information provided on National Circumstances under Lebanon's INC aimed at giving a clear and full picture of geography, climate, natural resources, relevant economic sectors, resources and infrastructure. In addition, Lebanon's TNA and TT provided some updates of the sectors relevant to TNA process. Given that the inventory base year was the year 1994, the relevant inventory sectors were analyzed around this year. The information provided so far on National Circumstances lacks country development context; sector profile including policy and legal framework description of institutional arrangements relevant to the preparation of NC on regular basis. Due to the fact that important changes have taken place in the period 2000-2005 compared to the period 1994-2000 in many relevant economic sectors, there is a strong need to update the sectors profiles, especially for energy, transport, agriculture, land use change and forestry (LUCF,) industrial processes and waste for such a time frame.

Output VI.1: National circumstances reviewed, updated and described.

Activities:

- a. Validate the gaps of information identified under stocktaking exercise in the light of recent /new developments, if any.
- b. Identify the respective sources of information, and collect data and information from them in the course of the project implementation.
- c. Update and add the new information in accordance to the TORs for National Circumstances section of Lebanon's SNC.
- d. Draft the National Circumstances section under the SNC in compliance with the latest guidelines.
- e. Circulate the National Circumstances section for comments and incorporate them into the report.
- f. Finalize the National Circumstances section under the SNC.

VI.2GHG Inventory

68. Lebanon's first GHG inventory covered all sources and sinks as well as all gases as mandated by 10/CP2. Estimates of key sources were provided as well. In addition, indicators such as CO₂/GDP and CO₂/Capita were estimated mainly for comparability purposes. Estimates have been made for the base year 1994. Concerning emission factors, in most of the cases they represented default factors provided by IPCC 1996 Revised Guidelines. The major technical constraint that has faced the inventory process is related to the activity data gaps, which is believed to have brought a high uncertainty level of estimates (uncertainty analysis was not carried out in the INC). Activity data gaps have mainly been related to the data availability at disaggregate levels. In most of the cases, activity data reported were at aggregate form. Lack of reporting from the private sector due to the lack of respective legislation and other reasons is identified as a significant constraint for data gathering, and will still represent a major challenge for the SNC. A plan that can be put into place for SNC consists of the development of a methodology for filling the Activity data gaps where survey methods will be used for priority categories selected from the key source analysis in order to fill the activity data gaps, which do not exist in disaggregate form. This is the case for example of fuel combustion in industry, fuel wood, solid wastes, etc.

69. Lebanon's second national GHG inventory will cover all sources and sinks as well as all gases as mandated by 17/CP8. In addition to those reported under INC, estimates of new gases such as HFCs, PFCs and SF₆ will be provided. Estimates of the key sources, sensitivity analysis and uncertainty level will be provided. Also, indices such as CO₂ emissions per GDP and per Capita would be estimated mainly for comparability purposes. Estimates under Lebanon's second national GHG inventory shall be made for the base year 2000.

Output VI.2.1: The GHG inventory team maintained and strengthened.

Activities:

- a. Identify and mobilize national experts in targeted sectors and areas of relevance.
- b. Review the existing information on the initial GHG inventory already archived and documented.
- c. Identify new sources of information for filling data gaps.

Output VI.2.2: Methodologies for GHG inventory estimates analyzed, selected and validated.

Activities:

- a. Decide on the Tier level based on the decision trees as guided by IPCC.
- b. Decide and select the methodology for estimates of emissions from the new group of GHG gases such as HFCs, PFCs and SF₆.
- c. Verify the source categories, mainly energy sector, to which filling data gaps will be carried out.
- d. Examine the application of a QA/QC plan considering the IPCC Good Practice Guidelines.

Output VI.2.3: GHG inventory data collected

Activities:

- a. Identify new activity data and possible sources of data needed for estimates of GHG emissions for 2000.
- b. Collect the necessary activity data from the available sources.
- c. Fill the data gaps to get the data that does not exist for the year 2000 for those categories considered as priority ones such as fuel consumption from static and mobile sources, fuel combustion in industry, etc. Key source categories were not analyzed in the INC. From the emissions data, however, it was clear that the energy sector can be considered as a key source.
- d. Decide on Emission Factors (EFs) to be utilized. Analyze the suitability of those developed under the initial GHG inventory of Lebanon. Identify national studies that can provide EFs.

Output VI.2.4: A completed national inventory of anthropogenic GHG emissions by sources and removals by sinks for 2000 following the latest developed guidelines. Time series 1994-2000 developed.

Activities:

- a. Prepare an inventory of anthropogenic GHG emissions by sources and removals by sinks for 2000 and time series for 1994-2000 following the guidelines adopted by COP.
- b. Develop key sources analysis (year 2000) and sensitivity analysis (years 1994-2000) as guided by IPCC.
- c. Develop a key sources inventory for 2000.
- d. Undertake uncertainty assessment as guided by IPCC.
- e. Circulate the inventory for internal review as part of QA/QC plan.
- f. Organize a national workshop to present findings from the GHG inventory exercise and get more comments.
- g. Incorporate comments received from the review process, and finalize the inventory to be submitted as a part of the SNC of Lebanon.

Output VI.2.5: GHG inventory data and estimates disseminated, documented and archived

Activities:

- a. Archive activity data, emission factors and estimates.
- b. Update the training manual of GHGNI.
- c. Conduct a workshop for information dissemination.

- d. Develop and inventory management system to facilitate the sustainability of the national GHG inventory process.\

VI.3 Programs Containing Measures to Mitigate Climate Change

70. The first GHG emission mitigation analysis for Lebanon performed in the frame of the Lebanon's INC consisted on development of two classes of GHG scenarios: (i) GHG baseline scenario and (ii) GHG mitigation scenarios. Projections have already been made for the time horizon 1994-2040 and were sector-specific ones. They were built up for all GHG source categories, which have been analyzed in quantitative manner by performing a cost-benefit analysis for each of them. Selection of measures has been made taking into account the situation of the relevant sectors at that time and key sources of GHG emissions. The tool used for development of mitigation scenarios was the LEAP version 95.0 for the electricity supply, industry, building, transport and waste sectors. The scenarios for the forestry sector were developed using COMAP.
71. GHG abatement measures / technology options identified under Lebanon's INC have undergone a prioritization process through the Lebanon's project. The TNA and TT carried out under the Top-Up Enabling Activity project were a continuation of the work carried out under Lebanon's INC and other related activities. This assessment of technology needs and technology transfer has been made through a sector-by-sector approach, covering energy, waste, industrial and building sectors. A range of technologies was selected under a multi-criteria analysis that involved about 20 decision makers and experts.
72. Having the GHG inventory as the starting point for the GHG mitigation analysis and given the data gaps related to this inventory, gaps of the same nature were present to the mitigation analysis as well. In the course of the preparation of Lebanon's INC sector-specific scenarios, not all related national strategies were available for the sectors that have been under the focus of the GHG mitigation analysis. There are many new strategies and action plans recently adopted by the Government of Lebanon that would have their impact on GHG mitigation in Lebanon, therefore both scenarios (baseline and abatement scenario) need to be updated and improved.
73. The GHG abatement analysis under the SNC will be sector – specific, and will cover the same sectors as previous studies. The Baseline Scenario developed under Lebanon's INC will be subject of revision, update and adjustments in accordance with the new development conditions. The GHG inventory base year 2000 will serve as the starting point of the GHG analysis. The GHG mitigation analysis and will go up to 2050. The mitigation scenarios proposed for each sector will be reviewed and updated in the light of new developments and needs and key source categories. The impact of specific emission reduction actions/options will be assessed against the baseline scenario. The cost and benefit will be analyzed. Criteria of prioritization will be revisited and updated as well.

Output VI.3.1: Necessary data and relevant information for scenario development collected analyzed and fed into the mitigation scenarios.

Activities:

- a. Consider estimates of GHG inventory for the base year 2000, which will serve as starting point for the analysis of the GHG emissions towards 2050.
- b. Develop a comparative analysis of figures /estimates obtained under the GHG Inventory for 2000 to those figures forecasted for the same year (2000) under Lebanon's INC. Define the uncertainty level for such a case and take it into account in the mitigation scenarios.
- c. Collect all relevant macro-economic data and set assumptions to be made for the purpose of mitigation scenario development.
- d. Assess to what extent the GHG mitigation measures developed under the INC have been undertaken into adopted National Strategies and Action Plans.

Output VI.3.2: A revised GHG baseline scenario developed.

Activities:

- a. Develop a revised baseline GHG emission scenario for all sectors (except Agriculture and forestry) for 2000-2050 by using the software LEAP (use latest version) and STAIR or COMAP for agriculture.
- b. Identify any difference / change to the GHG baseline scenario developed under Lebanon's INC, if any and, explain the reasons for such differences.

Output VI.3.3: The GHG mitigation measures / technology options revisited and revised.

Activities

- a. Re-visit the list of GHG mitigation measures /technology options already developed under INC, and Top-Up Enabling Activity projects for each sector under analysis. Add new GHG mitigation measures / technology options as appropriate.

Output VI.3.4: GHG mitigation scenarios developed / updated

Activities

- a. Develop/ update the GHG mitigation scenarios for energy and related sectors (e.g. electricity supply, transport, industry, waste, agriculture and building sectors) for 2000-2050 by using the software LEAP.
- b. Estimate the GHG reduction potential against the baseline scenario, cost of reduction and penetration rate of each measure proposed under GHG mitigation scenarios.
- c. Develop / update the GHG mitigation scenarios for non-energy sectors. Use IPCC software or any other sector-specific software.
- d. Identify any difference / change to the mitigation scenarios developed under Lebanon's INC. Explain the reasons for such differences.

Output VI.3.5: A GHG mitigation analysis completed for the period 2000-2050

Activities

- a. Develop the draft chapter of the GHG mitigation analysis, and circulate it for internal and external review and comments.
- b. Organize a national workshop to highlight findings from the GHG mitigation analysis and get more comments.
- c. Sort out and examine the comments received and update the document accordingly. Finalize the GHG mitigation analysis chapter to be submitted as a part of the SNC of Lebanon.
- d. Archive and document all the GHG mitigation analysis related studies and estimates.
- e. Conduct a workshop for information dissemination

VI.4 Programs Containing Measures to Facilitate Adaptation to Climate Change

74. The study covered the vulnerability and adaptation measures for the overall Lebanese territory. As a climatologic baseline a 30-years 'normal period' was used. The period 1961-1990 has been selected as a baseline to study the influence of climate on the relevant sectors and three time horizons were considered: 2020, 2050 and 2080. The assessment process carried out was sector – specific. It covered: (i) water resources, (ii) agriculture, (iii) terrestrial ecosystem, natural habitats and wild life, (iv) coastal system and (v) socio-economic impact.
75. In the course of the stocktaking, the team agreed to focus in the SNC on topics not assessed in depth in the INC such as health and socio-economic impact and to target sensitive areas in Lebanon (See Appendix A). The team agreed that the assessment of vulnerability would be sector–specific, and that a special attention will be given to water resources. An integrated assessment will be done at the extent possible.
76. Current climate vulnerability as a new area of study and future climate risk to sectors will be assessed through the use of some indicators: For the climate system the indicators will be temperature (seasonal), precipitation (seasonal), wind, cloudiness and sunshine duration. The average change in mean runoff will be selected as the main indicator for water resources. Forests area and eroded land would be the main indicators to assess the forestry sector. Plant production, irrigation systems, cattle breeding poultry production would be as indicators for agriculture/livestock. Coastal tourism will be assessed in terms of the impact of the sea level rise and the rise of temperature. Impact to population / settlements will be assessed in terms of frequency and scale of droughts and flooding into people's wellbeing.
77. Designing of an Adaptation Policy Paper for Lebanon by using, at the extent possible, the Adaptation Policy Framework (APF) will be the main outcome of the vulnerability and adaptation exercise under the SNC. The strategy paper will outline adaptation measures and plans of implementation (what); the way of implementation and resources needed (how); time frame (when); responsible parties for its implementation (who). It will serve as the basic

document that will create the momentum for a follow-up of this process, i.e. addressing climate variability and change to the national planning and policy.

Output VI.4.1: Specific approaches, tools and methods to be used under APF decided. Pertinent data and information assembled, analyzed, and synthesized.

Activities

- a. Decide on the range of the assessment: qualitative versus quantitative. Decide on the approaches, tools and methods to be used for the assessment.
- b. Identify the type and scope of data and information needed in order to use the above models and tools.
- c. Review the policy process and development context for the selected area in order to explore how adaptation measures can be introduced into decision-making agenda and what is the best way of addressing them.
- d. Collect and synthesize the necessary data and information.

Output VI.4.2: Current vulnerability and adaptation of the priority selected area assessed

Activities

- a. Develop respective indicators for the purpose of the baseline development.
- b. Develop an environmental-socio-economic baseline.
- c. Access current vulnerability of climate and sectors under the priority area, and access any previous adaptation experience under priority area, if available.

Output VI.4.3: Future climate risk and adaptation measures assessed for the priority area.

Activities

- a. Develop climate trends and risks.
- b. Develop environmental-socio-economic trends and risks (water resources, energy, agriculture, forests, tourism, population and settlements). Put special attention to water resources as a priority.
- c. Develop adaptation response measures, identify barriers and opportunities, and compile the findings in an Adaptation Policy Paper.
- d. Develop measures for capacity building and awareness.

Output VI.4.4: Chapter of Vulnerability and Adaptation (V&A) completed

Activities

- a. Develop the draft chapter of the V&A, circulate it for internal and external review and comments.
- b. Organize a national workshop to highlight findings from the V&A study and get more comments.

- c. Sort out and examine the comments received and update the document accordingly and finalize the V&A chapter to be submitted as a part of the SNC of Lebanon.
- d. Archive and document all the V&A related studies and estimates.
- e. Conduct a workshop for information dissemination.

VI.5 Other Relevant Information to the Achievement of the Objective of the Convention

78. Lebanon's INC did not contain a separate chapter regarding Public Awareness, Education and Training. Due to the importance of these issues in ensuring the sustainability of climate change activities, the SNC of Lebanon will have a separate chapter on "other information". A special attention will be given to information about Article 6 activities (Public Awareness, Education, and Training). This section will also provide information on any steps that have been taken to mainstreaming climate change into national development agenda and activities related to technology transfer as indicated under Article 4/CP7 and, climate change research and systematic observation systems. In addition, information on all relevant ongoing projects/programs relevant to climate change will be reported.

Output VI.5.1: The information considered relevant to the achievement of objective of the UNFCCC compiled and synthesized

Activities:

- a. Collect, synthesize and provide the overall information relevant to the Article 6 activities.
- b. Collect, synthesize and provide information on steps taken to integrate climate change into socio-economic and environmental policies of Lebanon.
- c. Collect, synthesize and provide information on climate change related research and systematic observation systems.
- d. Collect, synthesize and provide information on ongoing programs and projects relevant to climate change and National Communication process.
- e. Summarize all the information collected in a draft chapter. Distribute it for review and comments (internally).
- f. Incorporate comments to the above draft chapter and finalize it as part of Lebanon's SNC.

VI.6 Constraints, Gaps and Related Financial, Technical and Capacity Needs

79. In the SNC of Lebanon, a separate section will be devoted to the subject. New gaps and constraints identified while undertaking each section of the SNC, would be reported along with related financial, managerial and

technical capacity needs. A special attention will be paid to the previously identified gaps and needs under the INC.

Output VI.6.1: Constraint, gaps and related needs (financial, technical and capacity) identified and reported.

Activities

- a. Review the status of the constraints and gaps (technical, institutional, methodological, financial, capacity) from previous studies.
- b. Identify new constraints and gaps (technical, institutional, methodological, financial, capacity), if any related to each thematic area (inventory, mitigation analysis, V&A) and elaborate the needs required to overcome them.
- c. Summarize constraints, gaps and needs identified and draft a synthesis report as a separate chapter.
- d. Distribute the above draft chapter for comments, collect comments and update the chapter accordingly as part of Lebanon's SNC.

VI.7: SNC Prepared, Submitted and Disseminated

Activities:

- a. Compile a draft of Lebanon's SNC;
- b. Circulate the draft for comments and review and incorporate them;
- c. Endorse the document by the PCC;
- d. Finalize the Second National Communication of Lebanon;
- e. Publish Lebanon's SNC to the COP of UNFCCC in English; Prepare an Arabic version of the executive summary of the SNC.
- f. Prepare e-copies of Lebanon's SNC in CD-ROMs;
- g. Submit officially Lebanon's SNC to the COP of the UNFCCC;
- h. Organize a national workshop to launch and present the findings of Lebanon's SNC;
- i. Launch the report in a side event during the COP /Subsidiary Body sessions.

VII. Institutional Framework

80. Created by the MOE, the CCU together with CCT have the experience and capability necessary to enable them to address and develop new objectives on behalf of the Government, in reference to the commitments and application of the UNFCCC. The functions of the CCU and CCT are to: (i) organize, manage and execute the activities emerging from the application of the UNFCCC; (ii) develop international relationships with agencies and institutions belonging to or related to the UNFCCC; (iii) elaborate and update GHG inventories, identify, elaborate and assess policies and measures to respond to Climate Change; (iv) identify, disseminate and promote technologies, practices and processes for the reduction and prevention of GHG emissions; and, (v) promote and develop training and public

awareness activities in reference to Climate Change. The CCU and CCT, therefore, have the key role in the project, as the element in charge of developing the execution activities. As the CCU was the lead executing agency in the preparation of Lebanon's INC, this project, therefore, will build upon the institutional framework established in the earlier project.

81. To facilitate the achievement of the corresponding outputs, a detailed organization has been foreseen for the tasks of planning, assessing, supporting and monitoring. Also, the development of inter-institutional mechanisms has been considered. (Table 4 and Figure 1). Advantage will be taken of the coordination agreements developed by the CCU with public and private institutions. Special importance will be given to the participation and involvement in the project activities of the private sector, NGOs and other planning and decision-making governmental agencies.

82. For developing the tasks and activities emerging from the project execution, the support and cooperation of several national private and public institutions is expected. These institutions have already acted with the MOE on the matter of Climate Change, including: Ministry of Agriculture, Ministry of Industries, Ministry of Energy and Water, Ministry of Transport and Public Works, Ministry of Health, NCSR, Universities, ALIND, CDR, and others.

Table 4. Institutions Participating in the Development and Implementation of the Project

Institutions	Type of Representation	Form	Main Activities
Ministries and Departments of the National Government	High level	National Advisory Commission	<ul style="list-style-type: none"> Establishment of planning process
General Directorates in concerned Ministries	Technical	Inter-institutional Working Groups	<ul style="list-style-type: none"> Analysis and selection of proposed measures
Centers of Research and Education			<ul style="list-style-type: none"> Identification of needs and resources Strategies of implementation
Non-governmental Organizations		Sectoral and Multi-sectoral Working Groups	<ul style="list-style-type: none"> Determination of priorities Identification of measures Evaluation of measures Preparation of proposals
Industrial and Commercial Organizations			
Private Consultants			

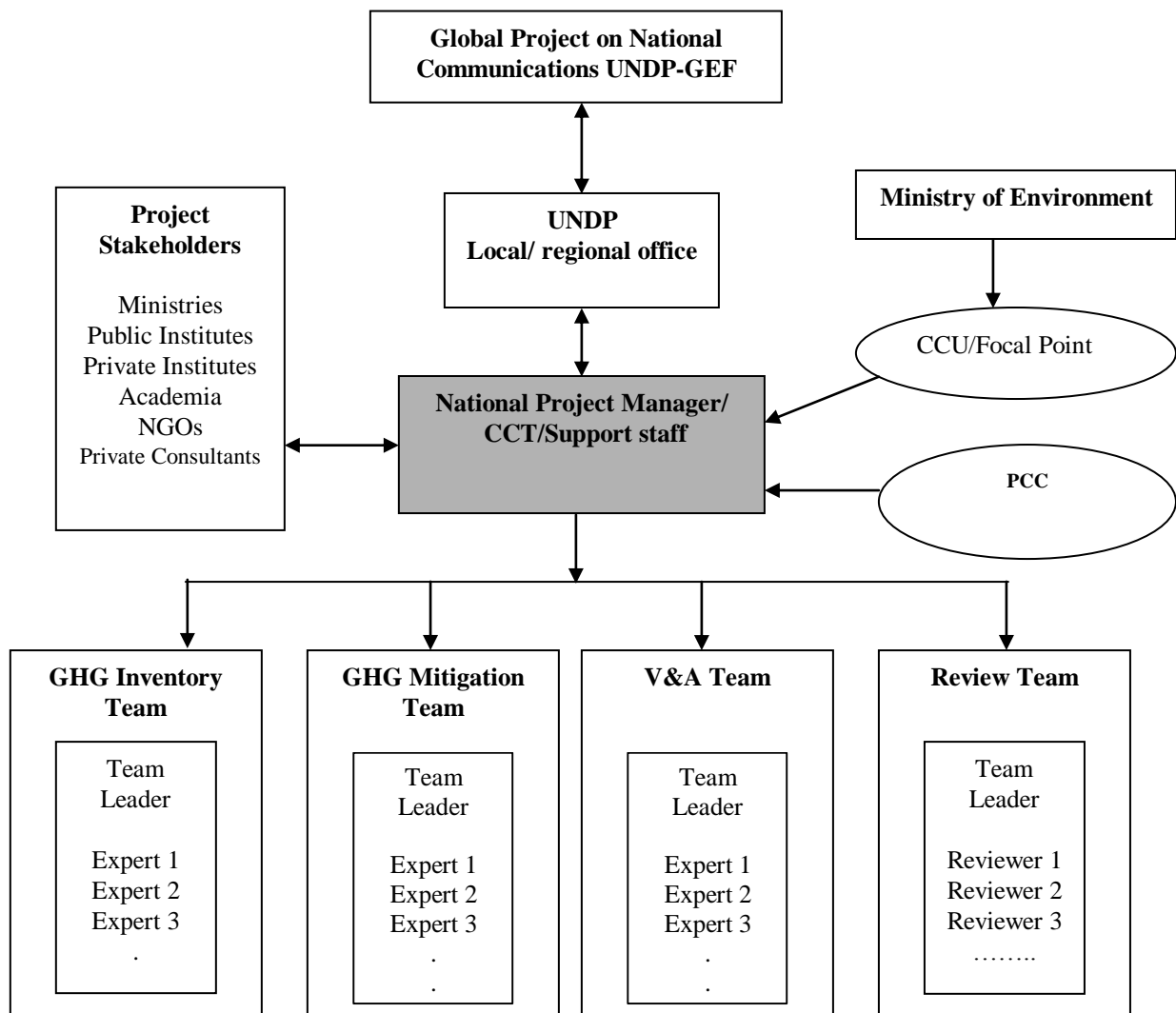


Figure 1. Institutional Framework for the Project

VIII. Project Implementation

83. This project will utilize the National Execution modality with the MOE as the Executing Agency. Given that responsibility the MOE will be responsible for the overall management of the project, primarily with regard to the achievement of the outputs (results), impact and objectives. Similarly, MOE will be accountable to UNDP for use of project resources.
84. In order to ensure the sustainability, efficient use of resources and linkages between prior and ongoing climate change enabling activities, the SNC processes will be fully executed under the same structures, already established under Lebanon's INC. The Climate Change Unit at the MOE will be fully responsible not only for the planning, coordination and management of UNDP-GEF climate change portfolio but also for the overall UNFCCC implementation process.
85. A Project Manager (PM), to be hired on a full-time basis (See Appendix D), will coordinate the day-to-day project execution activities and will be responsible for meeting the objectives of the project. An Assistant to Project Manager will be hired on a full-time basis (See Appendix D). Administrative, finance, information and public Awareness assistants will be hired occasionally as needed to assist the PM. In addition, the PM will supervise the work of three technical teams; namely the GHG inventory team, the GHG mitigation team and the vulnerability and adaptation team, which, will perform technical tasks and activities proposed under this project. A National Team Leader will lead each of these teams (See Appendix D). It is expected that this project will involve the majority of the experts who were previously engaged under the INC and Top-up phases. However, new comers are expected to enter the process. National experts will be coming from key relevant sectors including government agencies, academic institutions, NGOs, and private sector as necessary. National experts mentioned above will be hired on Ad-Hoc basis under Special Service Agreements. The recruitment process will be made according the UNDP rules and regulations.
86. Although not being active since its establishment in 1998, as a high level body, the Climate Change Project Coordinating Committee¹ (PCC) will continue to provide support and guidance to the implementation of this project by ensuring that the results will be disseminated to, and validated by, all the relevant stakeholders in Lebanon. An update and revision of the composition of the PCC is planned also. This will be done at the start-up phase of the project. The members of the PCC will be from, but not limited to, the Ministry of Environment, Ministry of Energy and Water, Ministry of Industry, Ministry of Agriculture, CDR, UNDP Beirut, NGOs, Academia, and Private sector.
87. The project will maintain links to the UNDP-GEF, which will be regularly updated for the status of activities, and will provide at the same time

¹ The PCC is an informal Committee

technical assistance as required. Technical assistance is also expected by the UNFCCC secretariat /Consultative Group of Experts (CGE), mainly through the workshops and trainings.

88. During the project inception phase project key personnel will be contracted that includes: a full-time national Project Manager (PM), and a full-time assistant to the PM. Terms of Reference for the PM and his/her assistant are provided in Appendix D. Technical teams will be established, and short-term experts will be recruited on a part-time basis as and when needed by the project, possibly including Team Leaders for each thematic area and technical experts as member of the teams. TOR for Team Leaders are also provided in Appendix D. PCC composition will be updated during the inception phase. Once the project implementation mechanisms have been in place, a project initiation workshop will be organized aiming at presenting objectives and activities of the project; clarifying the link between previous, ongoing and future climate change activities; identifying possible synergies with other projects; finalizing the project work plan and TORs. This workshop will also serve at raising awareness among the invited stakeholders about climate change issues.
89. A special meeting (scoping meeting) will also be organized for the national experts. The TORs of the SNC which details the structure and content of each chapter of Lebanon's SNC will be drafted at the start-up phase of the project and discussed during a scoping meeting with Team Leaders, Experts and PCC members.
90. As part of the project implementation, set up mechanisms of communication, participation, networking and dissemination will be decided and established. The network of e-communication already established under previous activities among national experts/institutions will be maintained and upgraded for the purposes of effective communication and dissemination of relevant information received from UNFCCC, UNDP/GEF, UNIDO, IPCC and others. Moreover, links to ongoing similar project in other countries, especially from the region, will help in gaining information to support the implementation of this project and to learn from experiences of similar projects conducted elsewhere. These links will also help to identify potential international partners to cooperate with, either on this project or on the eventual follow-up projects, dealing with the implementation of the identified response measures. The project will maintain and upgrade the electronic network among national experts / institutions to ensure an effective communication and dissemination of project relevant information. And will also update and maintain the national climate change web page.
91. A detailed work plan of the project distributed over the project duration of two years is shown in Table 5. The major work in the first year is devoted to project initiation and preparation of GHG inventory. The second year will be devoted to activities pertaining to mitigation and vulnerability and adaptation, and to project documentation and dissemination.

IX. Project Assessment

92. The INC provided a reliable database on GHG, as well as other emissions, from different economic sectors. Such information has been cited and used in many local as well as regional studies in various sectors, namely the energy and residential sectors. The ESCWA, for example, has relied on the GHGNI in several energy- and water- related policy studies over the past 5 years. Accordingly, a strategy has to be adopted by the Government to assess the potential policy and planning impacts of the SNC on different sectors locally and regionally. Also, analytical tools and their integration in GHG mitigation projects have to be identified. GHG emissions reduction is integrated into the sectoral sustainability concepts and constitute the main objectives of several international initiatives such as the Clean Development Mechanism (CDM) that the country could benefit from.

X. Risks

93. Difficulties in the integration and operation of the various work groups (inter-institutional, sectoral, multi-sectoral) may arise in reference to the following critical issues: (i) to gather regularly and keep a critical mass of experts interested, and (ii) to achieve an adequate degree of representation and ability. As a result of these potential difficulties, the normal operation of the group could be delayed and the institutional involvement in the activities could be hampered, thereby impacting the achievement of an acceptable level of quality in the identification, evaluation and election of adaptation and mitigation measures. Given the importance of the outputs of the work groups in the process of elaboration of the adaptation and mitigation measures, should any of the mentioned difficulties arises, rapid action will be taken so that the foreseen output is not hampered in any of the areas or sectors affected.

Table 5. Detailed Work Plan

Outputs/Activities	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Implementation arrangements and project inception:								
1. Contract the project office staff	X							
2. Establish technical teams	X							
3. Update the composition of the PCC	X							
4. Organize a project initiation workshop	X							
5. Organize a scoping meeting	X							
6. Maintain and upgrade the electronic network among experts/institutions	X	X	X	X	X	X	X	X
7. Update and maintain the national climate change web page	X	X	X	X	X	X	X	X
IV.1: National circumstances								
1. Validate the gaps of information identified under stocktaking	X	X						
2. Identify the respective sources of information and Collect data and information from them	X	X						
3. Fill the gaps, update and add the new information		X	X					
4. Draft national circumstances sections relevant to each thematic area.			X	X				
5. Draft the National Circumstances section under the SNC				X				
6. Circulate the National Circumstances section for comment, get comments.				X				
7. Finalize the National Circumstances section under the SNC				X				
IV.2: GHG inventory								
IV.2.1 The GHG inventory team maintained and strengthened								
1. Identify and mobilize national experts in targeted sectors and related areas of relevance	X	X						
2. Review the existing information on the previous GHG inventory and familiarize with guidelines	X	X						
IV.2.2 Methodologies for GHG inventory estimates analyzed, selected and validated								
1. Decide on the Tier level based on the decision trees as guided by IPCC GPG	X	X						
2. Decide and select the methodology of estimates new gases: HFCs, PFCs, SF ₆		X						
3. Decide on the source categories to which surveys for filling data gaps will be carried out		X						
4. Examine the application of the QA/QC plan		X	X					
IV.2.3: GHG inventory data collected								
1. Identify new activity data needed for estimates of GHG emissions for 1994-2000			X					

Outputs/Activities	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
2. Collect the necessary activity data from the available sources		X	X					
3. Fill data gaps by undertaking surveys for needed data			X					
4. Decide on EFs to be utilized.			X					
IV.2.4: A completed national inventory for 2000 along with time series 1994-2000 developed								
1. Prepare a draft inventory for 2000 and time series 1994-2000		X	X					
2. Develop key sources analysis for 2000 and sensitivity analysis (1994-2000)		X	X					
3. Develop a key sources inventory for 2000.			X					
4. Undertake uncertainty assessment			X					
5. Circulate the inventory for internal review as part of QA/QC plan				X				
6. Organize e national workshop to present findings of the GHG inventory				X				
7. Incorporate comments received from the review process and finalize the inventory to be submitted as a part of the SNC of Lebanon.				X				
IV.2.5: GHG inventory data and estimates documented and archived								
1. Archive activity data, emission factors and estimates					X	X	X	X
2. Update the Manual of Procedures and National Inventory Report with new GHG inventory data and estimates.					X	X	X	X
IV.3. Programmes containing measures to mitigate climate change								
IV.3.1: Necessary data and relevant information for scenario development collected, analyzed and taken into consideration for scenario development.								
1. Consider estimates of GHG inventory for the base year 2000					X			
2. Compare figures /estimates obtained under the GHG Inventory for 2000 to those figures forecasted for the same year (2000) under Lebanon's INC					X			
3. Collect all relevant macro-economic data and set assumptions				X	X			
4. Assess at what extend GHG abatement measures developed under INC have been undertaken into all adopted National Strategies and Action Plans.				X	X			
IV.3.2 A revised GHG baseline scenario developed.								
1. Develop a revised baseline GHG emission scenario						X		
2. Identify and explain any difference / change to the GHG baseline scenario developed under Lebanon's INC						X		
IV.3.3: The tier of GHG abatement measures / technology options revisited and revised.								
1. Re-visit the list of GHG mitigation measures /technology options & Add new GHG mitigation measure/technology options, if data available					X	X		
IV.3.4: GHG abatement scenario developed / updated								
1. Develop / update the GHG mitigation scenario for energy and related sectors						X	X	
2. Estimate the GHG reduction potential, cost of reduction and penetration rate of						X	X	

Outputs/Activities	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
each measure proposed under GHG mitigation scenarios.								
3. Develop / update the GHG abatement scenario for non-energy sectors						X	X	
4. Identify any difference / change to the abatement scenario developed under FNC							X	
IV.3.5: A GHG mitigation analysis completed for the period 2000-2050.								
1. Develop the draft chapter of the GHG mitigation analysis and circulate it for internal and external reviews							X	
2. Organize a national workshop to present findings from the GHG abatement analysis								X
3. Sort out the findings and finalize the GHG abatement analysis chapter to be submitted as a part of the SNC								X
4. Archive and document all the GHG mitigation analysis related studies and estimates								X
IV.4. Programs containing measures to facilitate adaptation to climate change								
IV.4.1: Specific approaches, tools and methods to be used under APF decided. Pertinent data and information assembled, analyzed, and synthesized.								
1. Decide on the range of the assessment, approaches, tools and methods					X			
2. Identify the type and scope of data and information needed					X			
3. Review the policy process and development context for the selected area					X			
4. Collect and synthesize the necessary data and information.				X	X			
IV.4.2: Current vulnerability and adaptation of the priority area assessed								
1. Develop respective indicators for baseline development						X		
2. Develop an environmental-socio-economic baseline						X		
3. Access current vulnerability of climate and sectors under the priority area and access any previous adaptation experience under priority area, if available						X		
IV.4.3: Future climate risk and adaptation measures assessed for the priority area. A policy paper for adaptation developed								
1. Develop climate trends and risks						X		
2. Develop environmental-socio-economic trends and risks						X	X	
3. Develop adaptation response measures and compile an Adaptation Policy Paper						X	X	
IV.4.4: Chapter of Vulnerability and Adaptation (V&A) for the priority system completed								
1. Develop the draft chapter of the V&A and circulate it for internal and external review and comments							X	
2. Organize a national workshop to present findings from the V&A and get comments								X
3. Sort out the findings and finalize the V&A chapter to be submitted as a part of the SNC								X

Outputs/Activities	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
4. Archive and document all the V&A related studies and estimates								X
IV.5. Other relevant information to the achievement of the objective of the convention								
IV.5.1: The information considered relevant to the achievement of objective of the UNFCCC compiled and synthesized								
1. Collect, synthesize and provide the overall information relevant to the Article 6 activities					X	X		
2. Collect, synthesize and provide the information on steps taken to integrate climate change into socio-economic policies in Lebanon.					X	X		
3. Collect, synthesize and provide information on the research and systematic observation systems					X	X		
4. Collect, synthesize and provide information on relevant ongoing projects					X	X		
5. Summarize all the information collected in a draft chapter. Distribute it for review and comments internally.							X	
6. Incorporate comments to the above draft chapter and finalize it as part of the Lebanon's SNC							X	
IV.6. Constraints, gaps, and related financial, technical and capacity needs								
IV.6.1. Constraint, gaps and related needs identified and reported								
1. Review the status of the constraints and gaps from previous studies					X			
2. Identify new constraints and gaps for each thematic area						X		
3. Summarize constraints, gaps and needs identified and draft a synthesis report as a separate chapter						X	X	
4. Distribute the above draft chapter for comments, and update the document accordingly							X	
IV.7. SNC produced, translated, submitted and disseminated								
1. Compile a draft of the Lebanon's Second National Communication							X	
2. Circulate the draft for comments and review and incorporate them							X	
3. Endorse the document by the PCC							X	
4. Finalize the Second National Communication of Lebanon								X
5. Publish Lebanon's SNC to the COP of UNFCCC								X
6. Prepare e-copies of Lebanon's SNC in CD-ROMs								X
7. Submit officially Lebanon's SNC to the COP of the UNFCCC								X
8. Organize a national workshop to launch and present the findings of Lebanon's SNC								X

APPENDIX C. Past and Ongoing Projects Related to Climate Change

Name of Project	Duration	Funding Sources	Aim
INC	Oct. 97-99	UNDP, MOE	Prepare the first national communication on climate change
Top- up enabling activity	01-02	UNDP, MOE	Develop technology needs assessment and technology transfer
Capacity Building	Feb.02- May02	GEF	Establishing Thermal Standards for buildings, provision of needed capacity building and information dissemination to enable the adoption and application of the standards.
LCECP	June 99- June 2004 (April 03 – April 05)	UNDP, MEW	Reducing GHG emissions by improving demand side energy efficiency through the creation of a multi-purpose LCECP. Also removing Barriers in front of energy efficiency market as well as ESCO's operations.
IPP	99-02	EU	Supporting the implementation of public infrastructure investments
LCPC	Dec.02- Dec.05	EC-LIFE, MOE, UNIDO	To build up the capacity of the LCPC, to offer CP services to Lebanese SMEs and to facilitate the transfer to cleaner processes, thus contributing to the sustainable and continuous application of CP by industry in Lebanon.
SDNP	Apr.96- Apr.97	UNDP	Facilitating and disseminating sustainable development related information, capacity building and enhancing communication between different stakeholders.
NRP	01-06	Lebanese Government	Restoration of the country's green cover loss.
BEA	Oct.97- Oct.98	GEF	Preparation of the NBSAP to fulfill the requirements of article 6 of the Convention on Biological Diversity.
Top-Up BEA	Apr.02- Feb.03	GEF	To assist the MOE to further assess national capacity building needs, identify specific priorities, analyze institutional and functional capabilities and determine mechanisms to protect national biodiversity in accordance with the NBSAP recommendations.
LEDO	Dec.99- Dec.01	EC-LIFE, MOE	Collecting and disseminating more information of the state of the Environment and environmental degradation in Lebanon, and providing decision makers with necessary data.
SPASI	Feb.00- Feb.02		Strengthening the Permitting, monitoring & Auditing System in Industries through the development of necessary legislation & introduction of adequate tools.
Methyl Bromide Alternatives	May 99- May 01	Multi-lateral	Preparing agricultural sector to substitute the use of methyl bromide according to "article 5 countries" of Montreal protocol.
Enhancement of Permanent Environmental Awareness	Dec.02- Dec.04	EC-LIFE, MOE	Enhancing the permanent environmental awareness unit at the Ministry of Environment.

SELDAS	Mar.03- Sep.05	EC LIFE Third Countries Program	To strengthen the capacities of the institutions dealing with environmental legislation development and application and trigger environmental law education.
Strategic Environmental Assessment & Land Use Planning	Jan.03- June 06	EC LIFE Third Countries Program	To integrate environmental considerations into policies, plans and programs at the national level in order to alleviate major problems facing the national sustainable development agenda.
CoDeL	2002-2005	ACSAD, MoA, NCRS, GTZ	A sustainable management of the dry-lands in the framework of the UN-CCD is being practiced by the Lebanese government and regional cooperating partners
Ozone Office	1998 -	Multi Lateral Fund (MLF) for the Montreal Protocol	Institutional Strengthening Project for the Implementation of Montreal Protocol in Lebanon
NEAP	Jan.05-06	UNDP, MOE	To develop a national environment action plan for Lebanon

Appendix D: Terms of Reference (TOR)s

1. TOR for National Project Manager

In consultation with the Project Coordinating Committee (PCC), the Project Manager (PM) is responsible for day-to-day management, co-ordination and supervision of the implementation of the above project. Specifically, his\her responsibilities are but not limited to the following:

- Supervises and ensures the timely implementation of the project relevant activities as scheduled in the working plan
- Prepares a detailed work plan for the project and draft terms of reference for the subcontracts (in consultation with the PCC and UNDP);
- Compiles the scope and content of the overall SNC report and relevant sections in consultation with Team Leaders;
- Develops the scope of the work and TORs and other procurement documentation required to identify and facilitate recruitment of experts and consultants;
- Identifies and hire/subcontract the national experts and institutions (in consultation with the PCC and UNDP);
- Supervises project support staff national consultants who are recruited to provide technical assistance
- Organizes and supervises the workshops and training needed during the project;
- Liaises with the relevant ministries, national and international research institutes, NGOs, and other relevant institutions in order to involve their staff in project activities, and to gather and disseminate information relevant to the project;
- Prepares periodic progress reports of the project;
- Controls the expenditures and otherwise ensures adequate management of the resources provided for the project;
- Summarizes and synthesizes the results of the project;
- Identifies the follow up activities and mobilizes other resources at the extend possible;
- Identifies and ensures synergy of the SNC with other relevant ongoing / new projects.
- Finalizes the Second National Communication of Lebanon along with the government personnel and national experts;
- Ensures that the SNC process is in the line with guidance provided by the COP of the UNFCCC and contributes to the improvement of the UNFCCC reporting process.
- Oversees the maintenance and update of Lebanon's climate change web page;
- Collaborates with all relevant stakeholders and the Project Steering Committee and other partners to ensure their involvement in the SNC

Qualifications And Experience

- Preferably master's degree in environment-related studies and other related disciplines;
- Good understanding of Lebanon's environment/development issues as well as

- the three thematic areas under investigations;
- At least six to eight years experience relevant to the project;
 - Excellent communication (Written and Oral) Skills;
 - Demonstrated experience in project management;
 - Expertise in putting together results-oriented action plans;
 - Demonstrated experience in working with government, donors and the United Nations system;
 - Appropriate experience working with government structures at local levels, and working with NGOs and private sector;
 - Substantial involvement in the preparation of the national GHG inventory and the initial National Communication is mandatory
 - Substantial knowledge of methodologies for inventories (*IPCC Revised 1996 Guidelines* and *Good Practice Guidance, LEAP etc*)
 - Substantial experience in Government and in inter-departmental procedures preferred
 - Familiarity with international negotiations and processes under the UNFCCC preferred
 - Familiarity with computers and word processing

2. TOR for Assistant Project Manager

In consultation with the Project Manager (PM), the Assistant Project Manager is responsible for assisting in day-to-day management and implementation of project tasks. Specifically, his/her responsibilities are but not limited to the following:

- Assist in the preparation of project work plan and TOR for the subcontracts (in consultation with the PM);
- Coordinate the work of national experts and institutions (in consultation with the PM);
- Assist in the organization of the workshops and training needed during the project;
- Assist in the preparation of periodic progress reports of the project;
- Assist in the development of the SNC report of Lebanon by liaising with government personnel and national experts;
- Report to the PM on the SNC process to ensure that it is in line with guidance provided by the CoP of the UNFCCC.
- Supervise the maintenance and update of Lebanon's climate change web page;
- Assist the PM in the daily execution of the project.

Qualifications And Experience

- University degree in environment-related studies or other related disciplines;
- Good understanding of Lebanon's environment/development issues;
- At least five years experience relevant to the project;
- Appropriate experience working with government, NGOs and private sector;
- Familiarity with computers and word processing
- Excellent communication (written and oral) skills;
- A very good knowledge in English is absolutely necessary.

3. TOR for National GHG Inventory Team Leader

The National GHG inventory Team Leader should work in consultation with and under the guidance and supervision of the National Project Manager. Specifically, his/her responsibilities are but not limited to the following:

- Assists the PM in establishing the team of experts for performing the GHG inventory on the basis of the roster of experts;
- Oversees the training –of –trainers sessions on GHG inventory.
- Assists PM to organize GHG inventory relevant training and workshops.
- Prepares a detailed work-plan for GHG inventory exercise on the basis of the overall project work plan.
- Provides periodic progress report to the PM on the GHG inventory thematic area;
- Develops the scope of work and respective terms of reference for the team members;
- Leads the data collection process, including surveys.
- Leads and oversees the team to conduct the GHGs national inventory;
- Ensures synergy with Regional Project on GHG inventories;
- Ensures the timely and effective management of the activities as scheduled;
- Selects and implement, in consultation with PM, the methodologies for the conducting of GHGs inventory;
- Identifies gaps and key sectors for GHGs inventory;
- Incorporates comments received from the review process.
- Drafts the National Inventory Report and respective chapter of Lebanon’s SNC along with the respective part of executive summary.
- Leads and coordinates the updating the Manual of Procedures in the light of the new findings under the SNC exercise.
- Archives new data and estimates of new inventory.

Qualifications and experience

- An advanced degree in energy, environmental management or other field relevant to the project;
- A minimum of 7 years of working experience in the area relevant to the Climate Change;
- Substantial involvement in the preparation of the First National Communication is mandatory (GHG inventory and abatement analysis) ;
- Good understanding of GHGs inventory process and demonstrable knowledge of IPCC and GPG;
- Demonstrated ability of analytical and drafting work;
- Familiarity with computers and word processing (EXCEL; ACCESS)
- Fluency in English;

4. TOR for GHG Abatement Analysis Team Leader

The team leader of scenarios development sector should work in consultation with and under the guidance and supervision of the National Project Manager. Specifically, his\her responsibilities are but not limited to the following:

- Assists the PM in establishing the team of experts for performing the GHG abatement analysis on the basis of the roster of experts;
- Prepares a detailed work-plan for GHG abatement analysis on the basis of the overall project work plan.
- Provides periodic progress report to the PM on the GHG abatement analysis thematic area
- Develops the scope of work and respective terms of reference for the team members;
- Leads the data and information collection process.
- Decides, in consultation with PM, on methodologies for the elaboration of scenarios for sectors than energy;
- Leads and oversees the scenario development and update
- Organizes the scheduled consultations/workshops and ensure their success;
- Ensures synergy with other relevant projects;
- Ensures the timely and effective management of the activities as scheduled;
- Incorporates comments received from the review process.
- Drafts the GHG Abatement Analysis Report and respective chapter of Lebanon's SNC along with the respective part of executive summary.
- Oversees the documentation of the studies made and archiving.

Qualifications and experience

- An advanced degree in energy, environmental management or other field relevant to the project;
- A minimum of 7 years of working experience in the area relevant to the Climate Change;
- Substantial involvement in the preparation of the First National Communication is mandatory (inventory and abatement and analysis);
- Good understanding of GHGs inventory process and projection;
- Demonstrable knowledge of IPCC 1996, IPCC GPG, LEAP etc.
- Demonstrated ability of analytical and drafting work;
- Familiarity with computers and word processing;
- Fluency in English;

5. TOR for V&A Team Leader

The Vulnerability and Adaptation sector team leader should work in consultation with and under the guidance and supervision of the National Project Manager. Specifically, his\her responsibilities are but not limited to the following:

- Assists the PM in establishing the team of experts for performing the V&A on the basis of the roster of experts;
- Prepares a detailed work-plan for V&A on the basis of the overall project work plan.
- Provides periodic progress report to the PM on the V&A thematic area.
- Develops the scope of work and respective terms of reference for the team members.
- Leads the data and information collection process for performing the V&A study.
- In consultation with PM decide on approaches (not concluded under stocktaking phase) to be used if necessary;
- Leads and oversees the development baseline climate and socio-economic scenario and impact of climate change.
- Organize the scheduled consultations/workshops and ensure their success.
- Ensures synergy with other relevant projects
- Ensure the timely and effective management of the activities as scheduled.
- Incorporates comments received from the review process.
- Drafts the V&A Report and respective chapter of Lebanon's SNC along with the respective part of executive summary.
- Oversees the documentation of the studies made and archiving.

Qualifications and experience

- An advanced degree in energy, environmental management or other field relevant to the project;
- A minimum of 7 years of working experience in the area relevant to the Climate Change;
- Substantial involvement in the preparation of the initial National Communication is mandatory (V&A);
- Good understanding of climate change and sustainable development issues;
- Demonstrated ability of analytical and drafting work;
- Demonstrable knowledge of IPCC 1994, MAGIC / SCHENGEN etc.
- Familiarity with computers and word processing;
- Fluency in English;

6. TOR for Project Steering Committee

In order to ensure a successful implementation of the UNDP-GEF climate change projects, the Ministry of Environment of Lebanon as the Executing Agency of these Projects has agreed on establishment of a Project Steering Committee (PCC), being chaired by the National Project Manager (PM) and composed of senior officials from the relevant ministries, research institutes, UNDP, NGOs and academia.

The duties, responsibilities and operating rules of the above PCC are as following:

- Provides assistance and political support to the National Project Director, National Project Manager and national experts and counterparts during the implementation process of all project activities.
- Reviews and make necessary comments for the all draft documents prepared by the national climate change team
- Receives information on regular basis on the status of the implementation of the project activities and problems to be faced with. The PM submits the report on the status of the implementation of project activities.

Rules under which PCC operates:

- PM serves as Moderator of PCC meetings. PM chairs the PCC meetings
- PCC meets not less than three times during the project life-time. In special cases the PCC shall meet upon the initiative of the PM.
- When the PCC does not meet, the PM may request inputs and support from individual members of the PCC.

In principle, the PCC shall operate on the basis of consensus. If consensus cannot be reached, then the case under discussion might put to a vote. Voting is performed through secret balloting.