

**United Nations Development Programme**  
**Country: JORDAN**  
**PROJECT DOCUMENT<sup>1</sup>**



**Project Title: Jordan's** Enabling Activities for the Preparation of Jordan's Third National Communication Proposal to the UNFCCC (JSA-TNC)

**UNDAF Outcome(s):** Outcome (3): Sustainable Management of Natural Resources and the Environment.

**Expected CP Outcome(s):** Environmental Policies Aligned to Global Conventions & National Implementation Capacities Enhanced

**Expected CPAP Output (s):** Policy relevant capacities for the Implementation of the Global Environment Conventions developed.

**Executing Entity/Implementing Partner:** Ministry of Environment (MoEnv), Jordan

**Implementing Entity/Responsible Partners:** Ministry of Environment

**Brief Description**

This project aims at assisting Jordan with the enabling activities necessary to undertake the Third 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 Jordan'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 [emphasis on socio-economics, gender-mainstreaming and health]: (a) an inventory of greenhouse gases for the base year 2006 and time series 2000-2005; (b) an analysis of recommended measures to mitigate the increase in greenhouse gas emissions in Jordan, with emphasis on the energy/transport, industrial, waste, solvent, and LULUCF sectors; (c) an assessment of the vulnerability Jordan's water, health, and agriculture sectors to climate change, in conjunction with the ability of each sector to adapt; (d) preparation of the Third National Communication of Jordan and submission to the Conference of the Parties (COP). In addition, socio-economic, gender-mainstreaming and health adaptation scenarios, as well as public awareness activities and stakeholder consultations will be cross-cutting along the overall course of this project. Therefore, the preparation of the Third National Communication is expected to enhance general awareness and knowledge on climate change-related issues in Jordan, and to aid in the process of national planning and policy.

Programme Period:	2011-2013	Total resources required	\$480,000
Atlas Award ID:	00060123	Total allocated resources:	_____
Project ID:	00075554	• Regular	_____
PIMS #	4463	• Other:	_____
Start date:	October 2011	○ GEF	_____
End Date	October 2013	○ Government	_____
		○ In-kind	_____
		○ Other	_____
Management Arrangements	NIM	In-kind contributions	_____

Agreed by (Government): Ministry of Planning and International Cooperation

Date/Month/Year

Agreed by (Executing Entity/Implementing Partner): Ministry of Environment

Date/Month/Year

Agreed by (UNDP):

Date/Month/Year

02/11/2011

<sup>1</sup> For UNDP supported GEF funded projects as this includes GEF-specific requirements

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## ACRONYMS

APR	Annual Project Review
ARP	Annual Review Report
CCU	Climate Change Unit of the MoEnv
CO <sub>2</sub>	Carbon Dioxide
COP	Conference of the Parties
FAO	Food and Agriculture Organization of the United Nations
EEG	Energy/ Environment Group
GEF	Global Environment Facility
GHG	Greenhouse Gas
GoJ	Government of Jordan
INC	Initial National Communication to the UNFCCC
IPCC	Intergovernmental Panel on Climate Change
M&E	Monitoring and Evaluation
MDG	Millennium Development Goal
MEMR	Ministry of Energy and Mineral Resources
MENA	Middle East and North Africa
MoA	Ministry of Agriculture
MoE	Ministry of Education
MoEnv	Ministry of Environment
MoT	Ministry of Transport
MOPIIC	Ministry of Planning and International Cooperation
MWI	Ministry of Water and Irrigation
NCCC	National Climate Change Committee
NGO	Non-Governmental Organization
NPC	National Project Coordinator
NPM	National Project Manager
PAMs	Policies and Measures
PCC	Project Coordinating Committee
PIR	Project Implementation Reports
PMC	Project Management Committee for the TOR
PPR	Project Progress Reports
RTA	Regional technical Advisor
UN	United Nations
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
SNC	Second National Communication to the UNFCCC
TL	Team Leader
TNC	Third National Communication to the UNFCCC
TOR	Terms of Reference
V&A	Vulnerability and Adaptation
WHO	World Health Organization

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## **1 SITUATION ANALYSIS**

The Hashemite Kingdom of Jordan had a population of 5.2 million in 2001, which increased to approximately 6.4 million in 2010. Jordan is estimated to house nearly 2 million Palestinian refugees, and recently absorbed another half-million Iraqi refugees.

Jordan covers an area of 89,342 km<sup>2</sup>. The Kingdom can be divided into three climatic regions comprising the whole ecosystem of Jordan: 1) the Ghor Region (low lands); 2) the highlands and marginal steeps region; and 3) the Badia and desert region. Only approximately 3% of Jordan is classified as arable land. As of 2010, approximately 79% of Jordan's population lived in urban areas. The urban population within Amman, Irbid and Zarqa governorates now account for 3.8 millions of people, representing approximately 60% of the total population of Jordan. The capital, Amman, and most other centers of population in Jordan are clustered in the temperate northwest highlands, which comprise less than 20% of the total Jordanian territory.

Jordan's economy is among the smallest in the Middle East, and is heavily dependent upon foreign assistance. The 2010 GDP in Jordan is approximately 4,456 \$ per capita per year, with the largest sectors by contribution to GDP being industry (30%) and services (66%). Jordan is poor in natural resources, with indigenous supplies of water, oil, and other natural resources insufficient to meet its demand. Still, the economy has seen sustained growth in recent years. Real growth of GDP averaged approximately 6% between 2007 and 2009, falling to approximately 2.4% in 2009. (Reference MOPIC)

Jordan has an extended history of participation in the United Nations Framework Convention on Climate Change (UNFCCC). Jordan signed the Climate Change Convention in June 1992, and ratified it in 1993. Jordan then made an accession to the Kyoto Protocol in January of 2003. The country started its efforts within the UNFCCC in 1996 with a program supported by the Global Environment Facility (GEF) and managed by UNDP for national capacity building in documenting national emissions of greenhouse gases and preparing Jordan's Initial National Communication (INC) to the UNFCCC. Jordan was the first developing country to submit its INC to the secretariat of the UNFCCC in 1997. Since development of the INC, a national committee has been formed and empowered to pursue strategies and adaptation actions related to climate change; another committee was established as the Designated National Authority (DNA) to meet all the requirements of the Clean Development Mechanism (CDM) of the Kyoto Protocol.

During development of the INC, the UNDP in Jordan in partnership with the Ministry of Environment (MoEnv) initiated a comprehensive dialogue with government institutions that deal with aspects of climate change in a bid to agree on a climate change framework. The Government of Jordan considers environmental sustainability to be an integral component of all sectoral policies and programs, and is working to achieve integrated economic development which prioritizes environmental health and sustainability, and the protection of natural resources. Jordan's recently submitted its Second National Communication (SNC) that was funded by GEF, and came to highlight the importance of adaptation measures, recognizing Jordan's scarce water resources and the possible negative effects of climate change on Jordan.

A detailed description of ongoing and planned government activities related to climate change and background information that informed the design of proposed project activities are provided in the findings of the stock-taking exercise (see Annexes A and B).

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## **2 STRATEGY**

This project will enable Jordan to prepare its Third National Communication (TNC) to the Conference of Parties (COP) in accordance with Article 12 of the United Nations Framework Convention on

Climate Change (UNFCCC). As defined by COP2, enabling activities are those measures that facilitate the implementation of response measures in accordance with the UNFCCC Decision COP (17/CP.8), and in accordance with Article 12 of the UNFCCC, and the continuing enhancement of national capacities to fulfill commitments made to the Convention. The TNC project will:

1. develop and enhance national capacities to fulfill Jordan's commitments to the Convention on a continuing basis;
2. enhance general awareness and knowledge of government planners on issues related to climate change and reduction of GHG emissions, thus enabling them to take such issues into account in the national development agenda;
3. specifically address socio-economics, gender mainstreaming and health impacts related to climate change;
4. and mobilize additional resources for projects related to climate change projects which may be eligible also for further funding or co-funding by GEF or other multilateral or bilateral organization.

This project will also:

1. strengthen the capacity of the MoEnv to assist the Government of Jordan in achieving its global environment concerns and commitments to international conventions, and to integrate the environmental dimension in national development planning and policy;
2. build on the work done under Jordan's first two national communications (NCs), and involve the key experts and institutions responsible for compiling the most recent NC in order to maintain continuity in the NC compilation process. Additional experts and institutions will be consulted as needed, particularly international experts with experience in specific aspects of the preparation of NCs for non-Annex I countries;
3. take advantage of expert reviews through the following programs:
  - a. the GEF-financed National Communications Support Program (NSCP);
  - b. the in-depth review of the SNC to be organized by the UNFCCC Secretariat;
  - c. the in-depth review of the initial Inventory Report to be organized by the UNFCCC Secretariat.

## **2.1 Project Rationale and Approach**

This project will support environmental sustainability, which is one of the three priority areas addressed in the United Nations Development Assistance Framework (UNDAF) for the period 2008-2012. This area of cooperation specifically focuses on enhancing the capacity of the government in the area of integrated resources management, and it explicitly mentions climate change mitigation and adaptation as an agency outcome.

Support for the preparation of the TNC will empower national environmental objectives in several ways:

1. it will enhance the ability of Jordan to participate actively in addressing the global environmental threats of climate change;
2. it will build capacity in climate change related research and analysis that can support effective environmental policies and provide important data related to environmental challenges to sustainable development in Jordan that go beyond climate change; and
3. it will provide improved information and analysis for policies in key GHG-producing sectors, such as energy and transport, while addressing the vulnerability and adaptation requirements for key affected sectors identified within the 2010 National Environmental and Economic Development Study (NEEDS prepared by MoEnv) for Climate Change: agriculture and water resources.

This support for policy development directly supports Millennium Development Goal Number 7 by integrating sustainable development principles into country policies and programs.

## 2.2 Project Outcome, Outputs, and Activities

This section presents the 4 main outcomes of the TNC: GHG inventory, vulnerability and adaptation assessment, mitigation measures analysis, and an update to the national circumstances (including knowledge gaps and institutional/other constraints related to climate change). Each outcome is divided into outputs, which are further subdivided into activities. The activities are the subject of the detailed workplan presented in Section 5.

### 2.2.1 Outcome 1: GHG Inventory

*GHG Inventory Activities for the TOR of the TNC completed (preparation, inventory and capacity building needs)*

Jordan's INC marked its first GHG inventory, which covered all sources and sinks as well as all gases as mandated by 10/CP2. Estimates were made for the base year 1994. Concerning emission factors, in most cases they represented default factors provided by the IPCC 1996 Revised Guidelines. The major technical constraint that faced the inventory process was related to the activity data gaps, which is believed to have introduced a high level of uncertainty to the estimates (uncertainty analysis was not carried out in the INC). These activity data gaps were mainly related to the data un-availability at disaggregated levels. In most of the cases, activity data reported were aggregated.

In 2009, Jordan submitted its SNC report to the UNFCCC. The report provided the latest inventory of greenhouse gas emissions together with a vulnerability and adaptation assessment of the country's priority sectors. The GHG inventory in the SNC covered all sources and sinks, as well as all gases, as mandated by 17/CP8. Estimates of the key sources, sensitivity analysis and uncertainty level were provided. Also, supplementary indices such as CO<sub>2</sub> emissions per GDP and per capita were presented. Estimates under Jordan's SNC GHG inventory were made for the base year 2000. The Baseline Scenario developed under the Jordan's INC was reviewed in the SNC, in accordance with updated development conditions and the groundwork for future socio-economic developments. The plan put in place for the SNC consisted of the development of a methodology for filling the activity data gaps. Survey methods were used for priority categories selected from the key source analysis. This was the case for fuel combustion in industry, solid wastes, etc.

The TNC will update and advance the GHG inventory presented in the SNC through the completion of the outputs and activities presented here.

**Output 1.1:** The GHG inventory team and data collection and analysis process maintained and improved.

*Activity 1.1.1:* Identify and mobilize national experts in targeted sectors.

*Activity 1.1.2:* Review and document the previous GHG inventories.

*Activity 1.1.3:* Update the inventory of GHG emissions for the following sectors: Energy, Industrial Processes, Agriculture, Land Use and Land Use Change and Forestry (LULUCF), Waste, and Solvents.

*Activity 1.1.4:* Identify new sources of information for filling data gaps.

*Activity 1.1.5:* Assess and institutionalize a mechanism whereby private institutions become obligated to disclose their GHG emissions data to the MoEnv. At present this is not governed by any legal frame work.

*Activity 1.1.6:* Prepare a series of recommendations for institutionalizing data collection and harmonization with national statistical data collection processes. Review and update the current QA/QC plan.

*Activity 1.1.7:* Identify training needs for enterprises in data collection in key source sectors that are major point sources of emissions.

*Activity 1.1.8:* Procure and implement training for enterprises on data collection as necessary.

*Activity 1.1.9:* Capacity strengthening activity.

**Output 1.2:** GHG inventory data collected under validated methodologies.

*Activity 1.2.1:* Decide on the tier level based on the decision trees as per IPCC (2006) guidelines.

*Activity 1.2.2:* Review existing data on GHG inventories that are already archived.

*Activity 1.2.3:* Identify new sources of data gaps and source categories to fill information gaps.

*Activity 1.2.4:* Identify new activities needed for estimates of GHG emissions.

*Activity 1.2.5.:* Identify existing sources of data of emissions (Direct: CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, SF<sub>6</sub>, PFCS; Indirect: NOX, CO, NMVOC, SO<sub>2</sub>) and outline any additional source information needed for upper Tier analysis.

*Activity 1.2.6:* Update the measurement system for all sources to be referenced in the TNC and recommend improvement for the quality of uncertainty estimates. Sensitize the relevant agencies and institutions to the importance of uncertainty estimate.

*Activity 1.2.7:* Utilize IPCC 2006 and 1996 guidelines and good practice methodology to fill in data gaps.

*Activity 1.2.8:* Identify national studies that can support the development of national GHG guidelines.

*Activity 1.2.9:* Examine the application of a QA/QC plan and assess the relevance of new regionally-available emission factors (EFs) for GHG inventories to Jordan's circumstances.

*Activity 1.2.10:* Confirm emission factors (EFs) to be utilized.

*Activity 1.2.11:* Capacity strengthening activity.

**Output 1.3:** A completed national inventory of anthropogenic greenhouse gas emissions by sources and removals by sinks, for 2006 (or most recent data available) following the guidelines adopted by the COP (17/CP8). Suggestions from UNFCCC Secretariat or a technical specialist review incorporated into the new inventory.

*Activity 1.3.1:* Assess and Confirm the GHG emissions inventory and estimates carried out on a national level studies including those estimated under INC, SNC and NEEDS study and any new studies conducted thereafter.

*Activity 1.3.2:* Update time series of GHG emissions inventory to document the progression from SNC to TNC for 2000-2005 (or most recent data available) .

*Activity 1.3.3:* Prepare a draft inventory of anthropogenic greenhouse gas emissions by sources and removals by sinks for 2010 (or most recent data available) and a time series for (1996-2011) (or most recent data available) following the guidelines adopted by COP (17/CP8).

*Activity 1.3.4:* Document data available on HFCs, PFCs, and SF<sub>6</sub> (Anthropogenic emissions) for all sectors.

*Activity 1.3.5:* Develop key sources analysis and sensitivity analysis as guided by IPCC GPG.

*Activity 1.3.6:* Develop a key sources inventory for 2010 (or most recent data available).

*Activity 1.3.7:* Undertake uncertainty assessment as guided by the current IPCC good practice guidelines.

*Activity 1.3.8:* Commission a technical peer review as part of QA/QC plan and incorporate its recommendations into the inventory.

*Activity 1.3.9:* Organize a national workshop to present findings from the GHG inventory exercise and obtain additional comments.

*Activity 1.3.10:* Incorporate recommendation received from the review process.

*Activity 1.3.11:* Finalize the inventory to be submitted as a part of the TNC of Jordan.

*Activity 1.3.12:* Capacity strengthening activity.

**Output 1.4:** GHG inventory data and estimates documented and archived (The Inventory report and the Summary report are finalized to be included in the TNC).

*Activity 1.4.1:* Archive activity data, emissions factors for 2000-2006 (or most recent data available) and estimates to the template developed under GEF GHG inventories.

*Activity 1.4.2:* Update the Manual of Procedures and National Inventory Report with new GHG inventory data and estimates.

*Activity 1.4.3:* Capacity strengthening activity.

## **2.2.2 Outcome 2: Climate Change Data and Projections, and Sectoral Vulnerability and Adaptation**

*Updated assessment of climate changes, vulnerability and adaptation to CC with focus on socio-economic – gender mainstreaming and health, and measures to adapt to CC prepared; capacity to collect this information on an ongoing basis for future NCs strengthened.*

Jordan is a vulnerable country in terms of climate change impact, and is already suffering from reduced agricultural productivity due to seasonal shifts (the first rains falling later in the year), and historically low and erratic rainfall patterns, reduced freshwater resources and increased temperatures. Coupled with the effect of continuing drought incidents, plant cover removal has greatly accelerated. Climate change impacts agricultural sustainability in Jordan in two interrelated ways: first, by diminishing the long-term ability of agro-ecosystems to provide food and fiber locally; and second, by inducing shifts in agricultural regions that may encroach upon natural habitats, at the expense of floral and faunal diversity.

In Jordan the land suitable for cultivation is around 886,400 ha, or around 10 percent of the total area of the country. While the desert and range land is about 7.02 million hectare which is 79% of the total area. The agricultural rainfed area is about 58% while irrigated agriculture covered around 42 percent of the cultivated area in 2009. However, normally half of the rainfed land is left fallow in a given year due to fluctuating and unevenly distributed rainfall. The forests consist of 89.3 thousand hectares, which cover approximately 1% of the total area of Jordan. The Ministry of Agriculture estimates that between 1975 and 2000 around 88 400 ha of good rainfed land was lost due to urban expansion.

Climate change and the occurrence of drought have decreased the annual rainfall by 10% over the past 80 years. Over the same period of time, the population has increased by more than an order of magnitude. Over-abstraction of groundwater has resulted in water quality deterioration (esp. increasing salinity) of some wells. As a consequence, the competition between different water users in different sectors (e.g., domestic, tourist, and industrial, municipal, agricultural) has rapidly increased. These competitors for fresh water supply have conflicting economic, social and political priorities. At particular risk are rural farmers and low-income residents of Jordan's large cities (esp. Amman, Zarqa, Irbid, and Aqaba).

The TNC will focus on a comprehensive analysis of the socio-economic and health impacts of climate change, and mainstreaming gender in the targeted sensitive areas in Jordan. The assessment of vulnerability and adaptation will focus on water resources and agriculture.

**Output 2.1:** Current climate changes in Jordan described and analyzed noting the specific approaches, tools and methods developed under Adaptation Policy Framework.

*Activity 2.1.1:* Review the policy process and development context for the selected areas in order to explore how adaptation measures can be introduced into decision-making agendas.

*Activity 2.1.2:* Decide on the type of the assessment (qualitative versus quantitative). Decide on the approaches, tools and methods and data and information to be used for the assessment.

*Activity 2.1.3:* Collect, confirm, and synthesize the necessary data and information needed for updating the climate change scenarios, particularly socioeconomic, health and gender mainstreaming data.

*Activity 2.1.4:* Update the long-term climate change data and scenarios including temperature, precipitation and socio-economic data and assumptions regarding development..



*Activity 2.1.5:* Utilize improved modeling capacity and conduct trend analysis for the collected data.

*Activity 2.1.6:* Incorporate updated information into the discussion section of the TNC chapter on V&A and into recommendations on adaptation.

*Activity 2.1.7:* Capacity strengthening activity.

**Output 2.2:** Current vulnerability and adaptation of the priority selected areas described and assessed.

*Activity 2.2.1:* Develop an environmental-socio-economic baseline that addresses gender mainstreaming and health with the related development indicators.

*Activity 2.2.2:* Assess the current vulnerability of the key sectors, and previous adaptation experiences, if available.

*Activity 2.2.3:* Review information on vulnerability and impacts provided in the SNC and re-confirm gaps in data collection and analysis for all areas, with special emphasis on the following priority areas:

- Integrated water resources, particularly new data resulting from analyses presented in the National Water Strategy (2008-2022) and other recent water projects.
- Health, incorporating surveillance data from the health-related projects such as: Piloting Climate Change Adaptation to Protect Human Health, WHO and MDG mainstreaming on climate and health for Jordan.
- Agriculture, updating data and analysis on both rainfed and irrigated agriculture to cover the kingdom as a whole for agricultural output; and on sheep and poultry breeding, as the leading livestock industry, and regional distribution of potential vulnerability and adaptation measures.
- Biodiversity, the effect of climate change on which has not been studied as part of any previous NC for Jordan, but should be included in the TNC.
- Land Use and Land Use Change and Forestry (LULUCF), which was not included in the required detail in the INC and SNC, and should be further investigated as part of the TNC.
- Socio-economic and gender mainstreaming, update and collect the necessary data and information from both data sources (namely secondary and primary data).

*Activity 2.2.4:* Develop a data collection and analysis plan for two main regions:

- Agricultural areas. These areas are classified into two main parts:
  - Irrigated areas which are mainly in Jordan Valley and high-land areas (like in Mafraq). The Jordan Valley could be classified into many regions depending on the availability of water.
  - Rainfed areas include highland areas like Madaba and the Northern areas of Jordan.
- Non-agricultural areas include arid areas (rangeland such as Maan or the Badia region) and urban areas like Amman and Zarqa Governorates.

*Activity 2.2.5:* Collect existing data for priority areas and supplement the data with technical reports where necessary.

*Activity 2.2.6:* Obtain socio-economic data from the Department of Statistics, in addition to different government and non-government institutions. For data not available surveys must be conducted.

*Activity 2.2.7:* Analyze and document data sources, models used, and assumptions.

*Activity 2.2.8:* Incorporate updated information into a discussion section on vulnerability, and updated assessments of impacts into recommendations on adaptation.

*Activity 2.2.9:* Capacity strengthening activity.

**Output 2.3:** Future climate risk management and adaptation measures assessed for the priority areas.

*Activity 2.3.1:* Develop climate change trends, risk assessment and early warning systems.

*Activity 2.3.2:* Develop socio-economic trends, linkages and risk analysis on water resources, health, and agriculture as priority sectors.

*Activity 2.3.3: Capacity strengthening activity.*

**Output 2.4:** Measures and recommendations to adapt to climate change consequences described and assessed.

*Activity 2.4.1:* Review new policies and research on adaptation to climate change including the best and most relevant climate change model to be utilized (preferably the regional scale models, as opposed to the global scale models).

*Activity 2.4.2:* Incorporate updated information into the discussion sections of the V&A chapters and cross-check with findings on climate change (i.e., temperature and precipitation trends) and vulnerability and impacts.

*Activity 2.4.3:* Provide a listing of potential and actual adaptation measures and a discussion of the relative importance and impact of these measures (socioeconomic benefits) and their alignment with current government development policies, plans and programs.

*Activity 2.4.4:* Develop adaptation response measures with relative costs.

*Activity 2.4.5:* Identify barriers and opportunities, and compile the findings in an Adaptation Policy Paper related to key mitigation sectors as identified within the NEEDS report..

*Activity 2.4.6:* Prioritize the adaptation measures, and draft recommendations for addressing the priority measures to adapt to climate change. Incorporate this information into the V&A chapter of the draft TNC.

*Activity 2.4.7:* Develop measures for capacity building and awareness.

*Activity 2.4.8:* Capacity strengthening activity.

**Output 2.5:** SNC chapter on Vulnerability and Adaptation (V&A) Updated.

*Activity 2.5.1:* Revise and update time lines for medium and long-term scenarios in priority areas of the V&A chapter with focus on water and agriculture sectors linking socio-economic impacts.

*Activity 2.5.2:* Update the V&A chapter incorporating new research and analysis from recent national research and projects.

*Activity 2.5.3:* Circulate the draft chapter of V&A for internal review, and incorporate comments into the document.

*Activity 2.5.4:* Organize a national workshop to disseminate findings from the V&A study and solicit feedback and comments.

*Activity 2.5.5:* Finalize, archive and document V&A related studies and estimates.

*Activity 2.5.6:* Capacity strengthening activity.

### **2.2.3 Outcome 3: Mitigation**

*Updated policies and measures to mitigate CC and a report produced on enhanced capacity for data collection and maintenance in support of future NCs.*

The GHG abatement analysis under the SNC was sector-specific, including primary energy, renewable energy, energy efficiency waste, and agriculture. In the SNC, the Baseline scenarios presented in the INC were subjected to revision, update and adjustments in accordance with the new development conditions. The GHG mitigation analysis in the SNC extended to year 2033. Mitigation scenarios were proposed for each sector in the light of new developments. The impact of specific emission reduction actions/options was assessed against the baseline scenario (year 2000 in the SNC). Relative costs and benefits of mitigation actions were also discussed in the SNC. Prioritization criteria used in the INC were revisited and updated.

The MoEnv, with funds from the UNFCCC, recently conducted a National Environmental and Economic Development Study (NEEDS) for Climate Change in Jordan. The NEEDS study provided information on the financing needs to implement climate change mitigation and adaptation measures in Jordan, and information on financial and policy instruments available to support these measures. The study, published in October 2010, identified the priority mitigation and adaptation measures to be

implemented by Jordan in line with the country's national sustainable development strategy, and the financial instruments and sources available, such as public and private sector funding, multilateral initiatives, carbon markets and other sources of funding, with information on how to integrate these options in the national development plans.

The TNC will update and advance the analysis of mitigation options for GHG emissions in Jordan, and take steps to ensure that those mitigation options identified as most promising (reasonably priced, and effective) in are implemented. Barriers (financial, institutional, technological, political, etc.) hindering the implementation of proven (or highly promising) mitigation mechanisms should be identified and overcome.

**Output 3.1:** Relevant data and information for the development of mitigation scenarios collected, and analyzed.

*Activity 3.1.1:* Update estimates of GHG inventories listed under the NEEDS report, which has data for 2009, and which should serve as starting point for the analysis of the GHG emission projections.

*Activity 3.1.2:* Discuss any changes in the uncertainty level of figures/estimates obtained under the updated GHG Inventory in the SNC and NEEDS report.

*Activity 3.1.3:* Collect all relevant macro-level socio-economic scenarios utilizing the data generated under the SNC, the NEEDS report and the MDG mainstreaming of climate change. This should include updated data from the new national energy balance, as well as recent sectoral economic and socio economic plans.

*Activity 3.1.4:* Identify and update the Business as Usual (BAU) scenario developed under Jordan's SNC, including trends in fuel usage, export pricing, recent economic output in non-energy sectors, and stated goals under the Jordanian Government Implementation Plan 2010 and Executive Development Program 2011-2013.

*Activity 3.1.5:* Assess changes identified under the SNC that may be necessary in assumptions and data in the With Measures (WM) scenario due to new economic development policies for various production sectors and for the economy as a whole (drawing upon the findings from the Jordanian Government Implementation Plan 2010 and Executive Development Program 2011).

*Activity 3.1.6:* Process and format the collected data for software model entry for the purpose of generating scenarios. Include updated forecasts of energy output using new government projections and LEAP modeling software (or approved equivalent) that is well-suited to Jordan's status as a net energy exporter.

*Activity 3.1.7:* Cross-check scenario outputs for consistency in sectors and time lines with inventories, policies and measures data.

*Activity 3.1.8:* Capacity strengthening activity.

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

*Activity 3.2.1:* Revise baseline GHG emission scenarios for all sectors carried out under the SNC and those newly generated under the NEEDS report.

*Activity 3.2.2:* Identify any differences in / changes to the GHG baseline scenario developed under Jordan's SNC and NEEDS assessment. Explain the reasons for changes/differences (e.g., updated real-time data).

*Activity 3.2.3:* Capacity strengthening activity.

**Output 3.3:** GHG mitigation scenarios developed

*Activity 3.3.1:* Develop GHG mitigation scenarios for energy and related sectors (e.g. electricity supply, transport, industry, waste, agriculture, solvents, LULUCF and Biodiversity) for the years (2007-2040) by using appropriate software (LEAP, or approved equivalent).

*Activity 3.3.2:* Use the SNC-generated estimates for the GHG reduction potential and those estimates projected under the NEEDS report against the baseline scenario, and estimate the

cost of reduction and mitigation of each measure proposed under the GHG mitigation scenarios.

*Activity 3.3.3:* Develop GHG mitigation scenarios for the non-energy sectors. Gain approval for the use of any sector-specific software package, and document the qualifications of the software package relative to others.

*Activity 3.3.4:* Capacity strengthening activity.

**Output 3.4:** The GHG mitigation measures / technology options revisited and revised.

*Activity 3.4.1:* Revisit the list of technology options already developed under SNC, and Top-Up Enabling Activity projects for each sector under analysis. Add new GHG mitigation measures/technology options as appropriate.

*Activity 3.4.2:* Capacity strengthening activity.

**Output 3.5:** A GHG mitigation analysis completed for the period (2007-2040)

*Activity 3.5.1:* Develop the draft chapter of the GHG mitigation analysis, and circulate it for internal and external review and comments.

*Activity 3.5.2:* Archive and document all the GHG mitigation analysis-related studies and estimates.

*Activity 3.5.3:* Organize a national workshop to highlight findings from the GHG mitigation analysis and get more comments especially for priority sectors identified under the NEEDS Report: mainly the energy and waste sectors.

*Activity 3.5.4:* Examine the comments received and update the document accordingly. Finalize the GHG mitigation analysis, especially for priority sectors identified within the NEEDS Report (mainly the energy and waste sectors chapter) to be submitted as a part of the TNC.

*Activity 3.5.5:* Capacity strengthening activity.

**Output 3.6:** Reporting and analysis of Policies and Measures (PAMs) to mitigate climate change updated, strengthened, and incorporated into scenario development and reporting in the TNC.

*Activity 3.6.1:* Assess the status of the PAMs reported in the SNC and add any additional relevant PAMs; include a report and analysis of the current status of implementation activities based on information provided by the Ministry of Environment. Incorporate any information and expert comments provided in the in-depth review of the SNC.

*Activity 3.6.2:* Review the status of the relevant policy and legal framework, particularly the pending Jordanian Law on Energy Efficiency, the sustainable development plans and strategies, and forestry and land use management policies. Update the list of macro and micro socio-economic forecasts and plans provided in the PAMs chapter of the SNC and the forecast of GNP dynamics.

*Activity 3.6.3:* Incorporate updated information into the PAMs discussion section and into data for scenarios.

*Activity 3.6.4:* Capacity strengthening activity.

**Output 3.7:** Analysis of PAMs completed for the period through 2020, and beyond if feasible, incorporating new data and new assumptions that postdate the SNC. Distinguish clearly between technical potential and measures that actually have been or are being realized. Discuss the *relative* importance of supply-side and demand-side GHG mitigation measures in the energy sector and provide a summary overview of the relative potential impact (and actual mitigation realized) for all sectors presented in the SNC, including LULUCF. Include a discussion of the additional benefits (both economic and social) of the potential and actual PAMs that are presented.

*Activity 3.7.1:* Develop the draft chapter on PAMs, including a summary comparison of PAMs and a concluding sub-section that identifies priorities for action.

*Activity 3.7.2:* Circulate the draft chapter on PAMs for internal and external peer review and comments.

*Activity 3.7.3:* Receive comments and incorporate them into the document.

*Activity 3.7.4:* Organize a national workshop to highlight the findings from modeling and analysis of the PAMs and solicit feedback.

*Activity 3.7.5:* Finalize the PAMs chapter to be submitted as a part of Jordan's TNC.

*Activity 3.7.6:* Archive and document all related studies, model runs, assumptions, and estimates for the PAMs chapter.

*Activity 3.7.7:* Publish a selected number of policy papers in English and Arabic.

*Activity 3.7.8:* Organize a series of high-level briefings (either small roundtables or individual briefings) with decision-makers to present and discuss the findings.

*Activity 3.7.9:* Capacity strengthening activity.

## **2.2.4 Outcome 4: National Circumstances, Constraints and Gaps**

*Updated information in national circumstances and other areas required under the UNFCCC (education, training, public awareness, and technology transfer) prepared and all project-related information synthesized in the publication of the TNC.*

Jordan's INC did not contain a separate chapter addressing Public Awareness, Education and Training. During the preparation of the SNC this subject was discussed in a separate chapter as "other information." However, the provided information was limited and general, and thus it was recommended that for the TNC more detail should be added to this chapter (e.g., detailed curricula taught at universities, the content of workshops, training courses, national and international conferences). The TNC should mainstream climate change into the national development agenda, and activities related to technology transfer should be incorporated in this section. The particular focus should be on land use and land use change and forestry (LULUCF), and socioeconomic and gender mainstreaming as national priorities. In addition, information on all ongoing projects/programs relevant to climate change should be reported. A separate section should be devoted to the subject of documenting and verifying gaps and constraints and how the GoJ has addressed these issues since the completion of SNC. New gaps and constraints identified while undertaking each section of the TNC should be reported along with related financial, managerial and technical capacity needs. Special attention should be devoted to updates on the previously-identified gaps and needs under the INC and SNC.

**Output 4.1:** Updated account of National Circumstances prepared and capacity to collect this information on an ongoing basis for future NCs strengthened

*Activity 4.1.1:* Validate the gaps of information identified under SNC review and the 2011 self-assessment report in the light of recent /new developments, if any.

*Activity 4.1.2:* Include new developments since the National Circumstances section of the SNC.

*Activity 4.1.3:* Establish links to get new data and information, such as the re-formulated Energy Balance and updated demographic and socioeconomic-gender mainstreaming data.

*Activity 4.1.4:* Collect data and information identified in Activities 4.1.1 and 4.1.2 from different sources in the course of project implementation, incorporating any comments reflected from the updated IPCC review if applicable.

*Activity 4.1.5:* Fill the gaps, update and add the new information in accordance to the TORs for the National Circumstances section of the TNC.

*Activity 4.1.6:* Ensure that the national circumstances sections cover all areas identified as priorities for mitigation (esp. energy, industry and waste) and adaptation (esp. water resources, agriculture and health). Commission and fund any additional data necessary to support those areas.

*Activity 4.1.7:* Draft the National Circumstances section of the TNC report in compliance with the guidelines set by 17CP/8 (or the latest guidelines).

*Activity 4.1.8:* Circulate the National Circumstances section for comments and incorporate them into the report.

*Activity 4.1.9:* Finalize the National Circumstances section under the TNC.

*Activity 4.1.10: Capacity strengthening activity.*

**Output 4.2:** The information considered relevant to Article 6 of the UNFCCC (education, training, and public awareness), Article 4 (Technology Transfer), and Article 5 (climate research and systematic observation) for Non-Annex I parties compiled and synthesized.

*Activity 4.2.1:* Commission and fund a public opinion survey to assess the baseline level of public awareness and knowledge related to climate change. The survey should draw upon existing UNDP experience with climate change public opinion surveys and use a format and sample size that will allow the data to be compared with findings in other countries.

*Activity 4.2.2:* Collect information on steps taken to integrate climate change into socio-economic, health and environmental policies in Jordan, particularly on the National Strategies related to adaptation measures and Sustainable Development measures and strategies, from the team producing the PAMs chapter of the TNC.

*Activity 4.2.3:* Collect, update, synthesize, and report on steps Jordan is taking to ameliorate the sharing of information related to environmentally-sound technologies and know-how. Highlight research and systematic observation systems as described in the UNFCCC and subsequent COP decisions.

*Activity 4.2.4:* Collect, update, synthesize and document overall information relevant to the Article 6 activities in education and public awareness with an emphasis on recent activities designed to improve sustainable development capacity.

*Activity 4.2.5:* Collect, synthesize and document steps taken to integrate climate change into socio-economic-gender mainstreaming and environmental policies of Jordan

*Activity 4.2.6:* Summarize all the information collected and the findings of the public opinion survey in a draft chapter. Distribute the findings for review and comments (internally).

*Activity 4.2.7:* Incorporate comments to the above draft chapter and finalize it as part of the Jordan's TNC.

*Activity 4.2.8: Capacity strengthening activity.*

**Output 4.3:** Constraints, gaps and related needs (financial, technical and capacity) identified and reported.

*Activity 4.3.1:* Review the status of the constraints and gaps (technical, institutional, methodological, financial, capacity building) from the SNC and subsequent Climate Change studies, especially those identified under the mainstreaming of climate change into the Millennium Development Goals (MDGs) studies.

*Activity 4.3.2:* Identify any new constraints and gaps (technical, institutional, methodological, financial, capacity building) related to each thematic area (inventory, mitigation analysis, V&A) and elaborate the needs required to overcome them.

*Activity 4.3.3:* Summarize constraints, gaps and needs identified and draft a synthesis report as a separate chapter.

*Activity 4.3.4:* Distribute the draft chapter for comments, collect comments and update the chapter accordingly as part of Jordan's TNC.

*Activity 4.3.5: Capacity strengthening activity.*

**Output 4.4:** TNC prepared, translated, submitted and disseminated

*Activity 4.4.1:* Compile a draft of Jordan's TNC with the structure and scope of the report designed as guided by relevant COP decisions.

*Activity 4.4.2:* Circulate the draft for comments and review and incorporate the comments into subsequent versions of the document.

*Activity 4.4.3:* Ensure that all recommendations from IPCC in-depth reviews of the SNC are incorporated into all aspects of the TNC and that a time-table and plan are established to address any comments that cannot be fully covered.

*Activity 4.4.4:* Gain the endorsement of the document by the Project Steering Committee (PSC).

*Activity 4.4.5: Finalize Jordan's TNC.*

*Activity 4.4.6:* Publish Jordan's TNC to the COP of UNFCCC in English, and following approval of COP of UNFCCC, prepare an Arabic version of the executive summary of the TNC.

*Activity 4.4.7:* Following approval of COP of UNFCCC prepare an Arabic version.

*Activity 4.4.8:* Prepare e-copies of Jordan's TNC in CD-ROMs, both in English and Arabic.

*Activity 4.4.9:* Submit, through official channels, Jordan's TNC to the COP of the UNFCCC.

*Activity 4.4.10:* Organize a national workshop to launch and present the findings of Jordan's TNC.

*Activity 4.4.11:* Launch the report in a side event during the COP /Subsidiary Body Sessions.

*Activity 4.4.12:* Capacity strengthening activity.

### 3 PROJECT RESULTS FRAMEWORK:

This project will contribute to achieving the following Country Program Outcome as defined in CPAP or CPD:

Country Program Outcome Indicators:

Primary applicable Key Environment and Sustainable Development Key Result Area (same as that on the cover page, circle one): 1. Mainstreaming environment and energy OR 2. Catalyzing environmental finance OR 3. Promote climate change adaptation OR 4. Expanding access to environmental and energy services for the poor.

Applicable GEF Strategic Objective and Program: Enabling Activities: Climate Change

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
<b>Project Objective<sup>2</sup> Preparation and submission of the Third National Communication (TNC) for Jordan</b>	<i>Jordan has completed in 2009 its SNC and a NEED report in 2010 planning for the Preparation and submission of the TNC</i>	<i>INC and SNC's have been completed prior to the TNC.</i>	<i>The TNC will be endorsed and submitted to the UNFCCC.</i>	<i>Documentation from the UNFCCC to Jordan's Ministry of Environment and the UNDP office in Amman.</i>	<ul style="list-style-type: none"> <li>Assumes strong political support for the preparation of the TNC.</li> <li>No risks envisaged as there is strong will and support by GoJ to support the TNC development</li> </ul>
<b>Outcome 1<sup>3</sup> GHG Inventory</b>	* Identification of existing sources of data for Emissions (Direct: CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, SF <sub>6</sub> , PFCS; Indirect: NO <sub>x</sub> , CO, NMVOC, SO <sub>2</sub> ) including additional source information for upper Tier	*Tier1 data were listed for all key sources in SNC (Energy, Industrial processes, Agriculture, Land Use and Forestry, Waste,	*GHG inventory uses Tier 2 and Tier 3 data where applicable for key source emissions *(Direct: CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, SF <sub>6</sub> , PFCS; Indirect: NO <sub>x</sub> , CO, NMVOC, SO <sub>2</sub> )	<ul style="list-style-type: none"> <li>Project documentation</li> <li>Government reports</li> <li>External expert review of (NCSP), NEEDS report</li> </ul>	<p>Risks: An effective system is not fully operational to ensure that enterprises report, document their GHG generations</p> <p>Assumptions: Enterprises will be willing and able to share data on their emissions with the project team, etc.</p>

<sup>2</sup> Objective (Atlas output) monitored quarterly ERBM and annually in APR/PIR

<sup>3</sup> All outcomes monitored annually in the APR/PIR. It is highly recommended not to have more than 4 outcomes.



	<p>analysis.</p> <ul style="list-style-type: none"> <li>*GHG inventory with Tier 2 or 3 data if applicable for all key source emissions</li> <li>*Measurement and reporting of fluoric gases</li> <li>*Establishment of continuous data measurement and analysis system</li> <li>*Complete inventory chapter for the TNC.</li> </ul>	<p>Solvents)</p> <ul style="list-style-type: none"> <li>*Fluoric gases not measured in SNC</li> <li>*Data collected on an ad hoc basis when NC is compiled.</li> </ul>	<ul style="list-style-type: none"> <li>including fluoric) gases are measured and reported</li> <li>*Data measurement and analysis is institutionalized</li> <li>*Decide on the Tier level based on the decision trees as per IPCC (2006) guidelines</li> <li>*Complete inventory chapter is prepared for the TNC.</li> </ul>	<p><i>and SNC, and any new documentation available nationally</i></p> <ul style="list-style-type: none"> <li>• TNC</li> </ul>	
<p><b>Outcome 2 Climate Change Data and Projections, and Sectoral Vulnerability and Adaptation</b></p>	<ul style="list-style-type: none"> <li>*Improved CC modeling capacity and trend analysis utilized for the collected data</li> <li>* long-term climate change data and scenarios including temperature, precipitation and socio-economic data and assumptions regarding development</li> <li>* Develop an environmental-socio-economic baseline that addresses gender mainstreaming and health with the related development indicators Recommended adaptation measures that reflect current best practice thinking</li> <li>*Complete V&amp;A chapter</li> </ul>	<ul style="list-style-type: none"> <li>*V&amp;A experts require upgraded software, and updated data input preferably the regional scale models</li> <li>* Recent developments on V&amp;A to CC need updating since SNC completed.</li> </ul>	<ul style="list-style-type: none"> <li>* Current vulnerability and adaptation of the priority selected areas described and assessed</li> <li>* Scenarios are prepared that incorporate current data and modeling techniques</li> <li>* Develop climate change trends, risk assessment and early warning systems</li> <li>*Key components of the V&amp;A section are updated</li> <li>* Measures and recommendations for adaption to CC consequences described and assessed</li> <li>*V&amp;A chapter is completed for the TNC</li> </ul>	<ul style="list-style-type: none"> <li>*Project documentation,</li> <li>*CC models tested and running</li> <li>* training &amp; procurement records</li> <li>*Expert review</li> <li>*TNC</li> </ul>	<p>Risks: N/A</p> <p>Assumptions: modern models are procured under the program to all continued data input and testing. Utilization of regional scale models is preferable</p>
<p><b>Outcome 3 Mitigation</b></p>	<ul style="list-style-type: none"> <li>*Robust scenarios for mitigation incorporating the current data and modeling techniques</li> <li>*Relevant data and information for mitigation scenarios development collected, and analyzed.</li> </ul>	<ul style="list-style-type: none"> <li>* Collect all relevant macro-socio economic scenarios utilizing the data generated under SNC, the NEEDS report and the MDG mainstreaming of climate change reports</li> </ul>	<ul style="list-style-type: none"> <li>*Recent policy developments incorporated into new scenarios through 2020.</li> <li>*models and Software used suitable and experts utilize the software fully</li> <li>*changes identified and data</li> </ul>	<ul style="list-style-type: none"> <li>* Cross-check of scenario outputs for consistency in sectors and time lines with inventories, policies and measures</li> <li>*Project</li> </ul>	

	<ul style="list-style-type: none"> <li>*Complete PAMs chapter that incorporates expert review</li> </ul>	<ul style="list-style-type: none"> <li>*Update policy developments affecting scenarios.</li> <li>*include data from the updated national energy balance and sectoral economic and socio economic plans</li> <li>*update modeling software</li> <li>*Need new scenarios through 2020.</li> </ul>	<ul style="list-style-type: none"> <li>in the With Measures (WM) scenario due to new economic development policies for the economy as a whole assessed</li> <li>*Complete PAMs chapter is prepared for the TNC</li> </ul>	<ul style="list-style-type: none"> <li>documentation, including technical reports</li> <li>*Expert review (NCSP)</li> <li>*TNC</li> </ul>	
<p><b>Outcome 4: National Circumstances, Constraints and Gaps</b></p>	<ul style="list-style-type: none"> <li>*Required chapters covered in the TNC</li> <li>*Peer review of all materials</li> <li>*Translation of TNC to Arabic</li> <li>* policy papers and briefings produced</li> <li>*Public awareness tools utilized</li> <li>*socio-economic, gender mainstreaming is made part of the V&amp;A assessment process</li> <li>*Project website launched and active</li> </ul>	<ul style="list-style-type: none"> <li>*Need new chapter on current national circumstances, education, training, public awareness, and technology transfer.</li> <li>*Gender mainstreaming/socio-economic not well addressed in SNC</li> <li>*impact , baseline info and mitigation measures from climate change not well disseminated to policy-makers and the public at large</li> <li>*No active CC website with links to key stakeholders and project documentation; weak documentation of national GHG emissions.</li> </ul>	<ul style="list-style-type: none"> <li>* TNC report prepared, reviewed, amended, and submitted.</li> <li>*TNC is translated to Arabic</li> <li>*TNC is published and distributed in hard-copy and CD-ROM format.</li> <li>*key reports published and presented to policy-makers.</li> <li>*Public opinion and socio-economic surveys that cover the kingdom have results incorporated into TNC and/or TNC launch.</li> <li>*Active Project website on climate change populated and operational</li> </ul>	<ul style="list-style-type: none"> <li>*Project documentation</li> <li>*Policy reports</li> <li>*socioeconomic surveys results</li> <li>*Expert Review (NCSP)</li> <li>*TNC</li> <li>*Project website posted</li> </ul>	<p><i>Assumptions: National teams supported with policy options in support of data collection, procurement and generation</i></p>

## 4 TOTAL BUDGET AND WORKPLAN

<b>Award ID:</b>				Project ID(s):			
<b>Award Title:</b>		PIMS 4456 CC Jordan “Enabling Activities for the Preparation of Jordan’s Third National Communication to the UNFCCC”					
<b>Business Unit:</b>		JOR10					
<b>Project Title:</b>		PIMS 4456 CC EA Jordan “Enabling Activities for the Preparation of Jordan’s Third National Communication to the UNFCCC”					
<b>PIMS no. 4456</b>		4456					
<b>Implementing Partner (Executing Agency)</b>		Ministry of Environment -Jordan)					
	<b>Funding Source</b>	<b>Budget Code</b>	<b>Item</b>	<b>Year 1 (US\$)</b>	<b>Year 2 (US\$)</b>	<b>Total (US\$)</b>	<b>Budget notes</b>
<b>Outcome 1: GHG INVENTOR Y</b>	GEF	71200	Intl. Cons.	4500	4500	9000	3 weeks at \$3000
	GEF	71300	Local Cons.	60000	60000	120000	(Task 1 leader), Task (2,3&4) leaders
	GEF	72100	Contractual Services – Companies	12000	0	12000	training for govt agencies, enterprises
	GEF	71600	Travel	6000	3000	9000	International/National Consultant
	GEF	72800	Info. Technology & Equipment	10000	0	10000	Computers and CC and GHG required software
Sub-Total for Outcome 1				92500	67500	160000	
<b>Outcome 2: Vulnerability &amp; Adaptation</b>	GEF	71200	Intl. Cons.	4500	4500	9000	3 weeks at \$3000
	GEF	71300	Local Cons.	21000	18000	39000	local experts(mainly socio-economist and water resources/agriculture specialists)
	GEF	72100	Contractual Services – Companies	8000	5000	13000	data collection and data surveys in priority areas
	GEF	71600	Travel	6000	3000	9000	International/National Consultant
	GEF	72800	Info. Technology & Equipment	3000	5000	8000	hardware and software to support modeling
Sub-Total for Outcome 2				42500	35500	78000	
<b>Outcome 3:</b>	GEF	71200	Intl. Cons.	4500	4500	9000	3 weeks at \$3000

<b>Mitigation</b>	GEF	71300	Local Cons.	24000	9000	33000	Local experts
	GEF	72100	Contractual Services – Companies	15000	15000	30000	data collection and processing
	GEF	72800	Info. Technology & Equipment	10000	5000	15000	hardware and software to support modeling
	GEF	71600	Travel	6000	3000	9000	International/National Consultant
	GEF	71300	Local Cons	3500	3500	7000	PAMs Short term experts
Sub-Total for Outcome 3				63000	40000	103000	
<b>Outcome 4: National circumstances, constraints and gaps</b>	GEF	72100	Contractual Services – Companies	5000	5000	10000	public opinion / awareness surveys
	GEF	75700	Training and workshops	2500	2500	5000	NC launch, policy briefings
	GEF	71600	Travel	3000	0	3000	International/National Consultant
	GEF	74200	Audio Visual and printing production cost	6500	2500	9000	Project-related publications
Sub-Total for Outcome 4				17000	10000	27000	

<b>Project management</b> Project activities managed, coordinated, monitored	GEF	71400	Contractual Services – individuals	34000	40000	74000	CC unit PMU support, and Secretarial PA support for 24 months
	GEF	74200	Audio Visual and printing production cost	5000	10000	15000	translation of TNC docs, letters, consultations, publication of reports in 2 languages, printing in 2 languages, dissemination of TNC report
	GEF	72400	Communications & Audio visual Equipments	3000	3000	6000	telephones, internet connections, postage
	GEF	72500	Supplies	2000	2000	4000	office supplies, stationary, sundries
	GEF	72800	Info. Technology & Equipment	5000	0	5000	Office computers

	GEF	74100	Professional Services	4000	4000	8000	Annual independent financial audit
Sub-Total for Project Management				53000	59000	112000	
Total GEF Budget						480,000	
<b>TOTAL BUDGET</b>				268 000	212 000	480 000	

**Summary of Funds:**

	Amount Year 1	Amount Year 2	Total
<b>GEF</b>	\$278,000	\$202,000	\$480,000
<b>UNDP (in cash)</b>	\$	\$	\$
<b>UNDP (in kind)</b>	\$	\$	\$
<b>Government of Jordan (in cash and in kind)</b>	\$	\$	\$
<b>TOTAL</b>	\$	\$	\$

## 5 WORKPLAN

Outputs/Activities	Responsible Party	Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
1. Contract the project office staff	NPM	X							
2. Establish technical teams	NPM	X	X						
3. Update the composition of the PSC to define roles and responsibilities	NPM	X							
4. Organize a project initiation workshop	NPM	X	X						
5. Organize a scoping meeting	NPM	X							
<b>1.1: GHG Inventory</b>									
<i>Activity 1.1.1:</i> Identify and mobilize national experts.	GHG Inventory TL	X	X						
<i>Activity 1.1.2:</i> Review and document existing and previous GHG inventories.	GHG Inventory TL, National Experts		X	X					
<i>Activity 1.1.3:</i> Update the inventory of GHG emissions for (Energy, Industrial processes, Agriculture, Land Use and Forestry, Waste, Solvents Sectors).	TL, National Experts			X	X				
<i>Activity 1.1.4:</i> Identify new sources of information for filling data gaps.	TL, National Experts				X	X			
<i>Activity 1.1.5:</i> Assess and institutionalize a mechanism for disclosure of GHG emissions by private sector to MoEnv.	TL & National Experts			X	X				
<i>Activity 1.1.6:</i> Prepare recommendations for institutionalizing data collection & harmonization with national statistical data. Review and update current QA/QC plan.	TL, National Experts			X	X				
<i>Activity 1.1.7:</i> Identify training needs for enterprises in data collection for major point sources of emissions.	TL			X					
<i>Activity 1.1.8:</i> Procure and implement training on data collection.	TL, ST Training Experts				X				
<i>Activity 1.1.9:</i> Capacity strengthening activity.	National Experts	X	X	X	X	X	X	X	X
<b>1.2: GHG inventory data collected under validated methodologies.</b>									
<i>Activity 1.2.1:</i> Decide on the Tier level based on decision trees as per IPCC (2006) guidelines.	TL, National Experts		X	X					
<i>Activity 1.2.2:</i> Review archived data on GHG inventories.	TL, National Experts		X	X					
<i>Activity 1.2.3:</i> Identify new sources of data gaps and source categories.	TL, National Experts			X	X				
<i>Activity 1.2.4:</i> Identify new GHG emissions for estimation.	TL, National Experts			X	X				

Outputs/Activities	Responsible Party	Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
<i>Activity 1.2.5:</i> Identify existing sources of data for Emissions (Direct: CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, SF <sub>6</sub> , PFCS; Indirect: NO <sub>x</sub> , CO, NMVOC, SO <sub>2</sub> ) and outline any additional source information needed for upper Tier analysis.	TL, National Experts		X	X	X				
<i>Activity 1.2.6:</i> Update the measurement system for all sources and recommend improvement for the quality of uncertainty estimates.	TL, National Experts			X	X				
<i>Activity 1.2.7:</i> Utilize IPCC 2006 guidelines and 1996 guidelines and good practice methodology to fill in data gaps.	TL, National Experts		X	X	X				
<i>Activity 1.2.8:</i> Identify national studies that can support the development of national GHG guidelines.	TL, National Experts	X	X	X					
<i>Activity 1.2.9:</i> Examine the application of a QA/QC plan and relevance of new regionally-available Emission Factors on GHG inventories to Jordan's circumstance.	NPM, TL, National Experts			X	X				
<i>Activity 1.2.10:</i> Confirm emission factors (EFs) to be utilized.	NPM, TL, National Experts				X				
<i>Activity 1.2.11:</i> Capacity strengthening activity.	National Experts	X	X	X	X	X	X	X	X
<b>1.3: A completed national inventory of anthropogenic greenhouse gas emissions by sources and removals by sinks for (2010).</b>									
<i>Activity 1.3.1:</i> Assess and Confirm the GHG emissions inventory and estimates carried out on a national level studies including those estimated under INC, SNC and NEEDS study and any new studies conducted thereafter.	TL, National Experts					X	X	X	
<i>Activity 1.3.2:</i> update time series of GHG emissions inventory to document the progression from INC to SNC to TNC for (2000-2005):	TL, ST National Experts				X	X	X	X	
<i>Activity 1.3.3:</i> Prepare a draft inventory of anthropogenic greenhouse gas emissions by sources and removals by sinks for 2010 and a time series for (1996-2011).	TL, National Experts		X	X	X				
<i>Activity 1.3.4:</i> Document data available on HFCs, PFCs, and SF <sub>6</sub> (Anthropogenic emissions) for all sectors.	TL, National Experts					X	X		
<i>Activity 1.3.5:</i> Develop key sources analysis as guided by IPCC GPG.	TL, National Experts				X	X	X		
<i>Activity 1.3.6:</i> Develop sensitivity analysis for key sources' inventory for 2010.	TL, National Experts					X	X		
<i>Activity 1.3.7:</i> Undertake uncertainty assessment as guided by IPCC good practice guidelines.	TL, National Experts							X	
<i>Activity 1.3.8:</i> Commission a technical peer review into the inventory.	NPM, TL							X	X

Outputs/Activities	Responsible Party	Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
<i>Activity 1.3.9:</i> Organize a national workshop to present findings from the GHG inventory and obtain additional comments.	NPM, TL							X	
<i>Activity 1.3.10:</i> Incorporate recommendation received from the review process. Responsible party	TL, National Experts							X	
<i>Activity 1.3.11:</i> Finalize the inventory to be submitted as a part of the TNC of Jordan.	NPM, TL, National Experts							X	
<i>Activity 1.3.12:</i> Capacity strengthening activity.	National Experts	X	X	X	X	X	X	X	X
<b>1.4: GHG inventory data and estimates documented and archived (The Inventory report and the Summary report are finalized to be included in the TNC).</b>									
<i>Activity 1.4.1:</i> Archive activity data, emissions factors for (2000-2006)	TL, National Experts, & Information & PA Assistant							X	X
<i>Activity 1.4.2:</i> Update the Manual of Procedures and National Inventory Report with new GHG inventory data and estimates.	TL, National Experts, & ST Information & PA Experts						X	X	X
<i>Activity 1.4.3:</i> Capacity strengthening activity.	National Experts	X	X	X	X	X	X	X	X
<b>2.1: Current climate changes in Jordan described and analyzed noting the specific approaches, tools and methods developed under Adaptation Policy Framework.</b>									
<i>Activity 2.1.1:</i> Review the policy process and development context to explore how adaptation measures can be introduced into decision-making agenda.	V&A TL, and National Experts.					X	X	X	
<i>Activity 2.1.2:</i> Decide on the range of the assessment (qualitative versus quantitative). Decide on the approaches, tools and methods and data and information to be used for the assessment.	V&A TL, and National Experts.		X						
<i>Activity 2.1.3:</i> Collect, synthesize and Confirm, data and information needed for updating the climate change scenarios, particularly socioeconomic, health and gender mainstreaming.	V&A TL, and National Experts		X	X					
<i>Activity 2.1.4:</i> Update the long-term climate change data. Responsible party:	V&A TL, and National Experts.			X					
<i>Activity 2.1.5:</i> Utilize improved modeling capacity and conduct trend analysis for the collected data.	V&A TL, and National Experts			X	X				
<i>Activity 2.1.6:</i> Incorporate updated information into the discussion section of the TNC chapter on V&A and into recommendations on adaptation.	V&A TL, and National Experts				X	X			



Outputs/Activities	Responsible Party	Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
<i>Activity 2.1.7: Capacity strengthening activity.</i>	National Experts	X	X	X	X	X	X	X	X
<b>2.2: Current vulnerability and adaptation of the priority selected areas described and assessed.</b>									
<i>Activity 2.2.1: Develop an environmental-socio-economic baseline that addresses gender mainstreaming and health with the related development indicators.</i>	V&A TL, and National Experts		X						
<i>Activity 2.2.2: Assess current vulnerability of key sectors and previous adaptation experiences.</i>	V&A TL, and National Experts		X	X					
<i>Activity 2.2.3: Review information on vulnerability and impacts provided in the SNC and re-confirm gaps in data collection and analysis for Integrated water resources, Health Agriculture, Socio-economic and Gender mainstreaming</i>	V&A TL, and National Experts(socio-economist and water resources/agriculture specialist)	X	X						
<i>Activity 2.2.4: Develop a data collection and analysis plan for two main regions: Agricultural areas &amp;Non- agricultural:</i>	V&A TL and National Experts.		X	X					
<i>Activity 2.2.5: Collect existing data for priority areas and supplement with technical reports.</i>	V&A TL, and National Experts	X	X	X					
<i>Activity 2.2.6: Obtain data from Department of Statistics, government and non-government institutions regarding socio-economic data. For data not available surveys will be conducted.</i>	V&A TL, and National Experts	X	X	X					
<i>Activity 2.2.7: Analyze and document data sources, models used, and assumptions.</i>	V&A TL, and National Experts		X	X					
<i>Activity 2.2.8: Incorporate updated information into discussion section on vulnerability, and impacts into recommendations on adaptation.</i>	V&A TL, and National Experts			X					
<i>Activity 2.2.9: Capacity strengthening activity.</i>	National Experts	X	X	X	X	X	X	X	X
<b>2.3: Future climate risk management and adaptation measures assessed for the priority areas.</b>									
<i>Activity 2.3.1: Develop climate change trends, risk assessment and early warning systems.</i>	V&A TL, and National Experts		X	X	X				
<i>Activity 2.3.2: Develop socio-economic trends, linkages and risk analysis on water resources, health, and agriculture</i>	V&A TL, and National Experts.			X	X	X			
<i>Activity 2.3.3: Capacity strengthening activity.</i>	National Experts	X	X	X	X	X	X	X	X

Outputs/Activities	Responsible Party	Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
<b>2.4: Measures and recommendations to adapt to climate change consequences described and assessed.</b>									
<i>Activity 2.4.1:</i> Review new policies and research on adaptation to climate change including the best and most adequate climate change model to be utilized and preferably the regional scale models.	V&A TL.		X	X	X				
<i>Activity 2.4.2:</i> Incorporate updated information into the discussion sections of the V&A chapters.	V&A TL, and National Experts				X	X			
<i>Activity 2.4.3:</i> Provide a listing of potential and actual adaptation measures and their alignment with government development policies, plans and programs.	V&A TL, and National Experts			X	X				
<i>Activity 2.4.4:</i> Develop adaptation response measures with relative costs.	V&A TL Administrative and Finance Assistant, and National Experts.				X	X	X		
<i>Activity 2.4.5:</i> Identify barriers and opportunities, and compile the findings in an Adaptation Policy Paper.	V&A TL and National Experts					X	X	X	
<i>Activity 2.4.6:</i> Prioritize and draft recommendations, for addressing adaptation measures.	V&A TL and National Experts						X	X	X
<i>Activity 2.4.7:</i> Develop measures for capacity building and awareness.	V&A TL, and National Experts							X	X
<i>Activity 2.4.8:</i> Capacity strengthening activity.	National Experts	X	X	X	X	X	X	X	X
<b>2.5: Chapter on Vulnerability and Adaptation (V&amp;A) Updated.</b>									
<i>Activity 2.5.1:</i> Revise and update time lines for medium and long-term scenarios in priority areas of the V&A chapter with focus on water and agriculture sectors linking socio-economic impacts.	V&A TL		X	X					
<i>Activity 2.5.2:</i> Update the V&A chapter incorporating new research and analysis and projects.	V&A TL			X	X	X			
<i>Activity 2.5.3:</i> Circulate the draft chapter of V&A for internal review and incorporate comments	NPM, TL and socio-economist			X	X				
<i>Activity 2.5.4:</i> Organize a national workshop to disseminate findings from the V&A study and solicit feedback and comments.	NPM, TL				X				
<i>Activity 2.5.5:</i> Finalize, archive and document V&A related studies and estimates.	NPM, TL, National Experts					X			
<i>Activity 2.5.6:</i> Capacity strengthening activity.	National Experts	X	X	X	X	X	X	X	X

Outputs/Activities	Responsible Party	Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
<b>3.1 Relevant data and information for mitigation scenarios development collected, and analyzed.</b>									
<i>Activity 3.1.1:</i> Update estimates of GHG inventories listed under the NEEDS report which has data projections from 2009 or the most current year available since the completion of the SNC which will serve as starting point for the analysis of the GHG emissions towards 2033.	GHG Abatement Analysis Team Leader and National Experts	X	X	X					
<i>Activity 3.1.2:</i> Discuss any changes in the uncertainty level of figures /estimates of GHG Inventory to take it into account the scenario development/updates identified under SNC and the NEEDS report.	GHG Abatement Analysis Team Leader and National Experts		X	X	X				
<i>Activity 3.1.3:</i> Collect macro-socio economic scenarios & data (SNC, NEEDS report & MDG mainstreaming of CC).	GHG Abatement Analysis Team Leader, Socio-economist and National Experts	X	X						
<i>Activity 3.1.4:</i> Identify and Update difference/change to the Business as Usual (BAU) scenario developed under Jordan's SNC, including trends in fuel type usage, export pricing, recent economic output in non-energy sectors.	TL, socioeconomic and national experts.	X	X						
<i>Activity 3.1.5:</i> Assess changes identified in SNC as assumptions and data in the With Measures (WM) scenario due to new economic development policies.	TL, socioeconomic and national experts		X	X					
<i>Activity 3.1.6:</i> Process and format the collected data for software model entry using LEAP model for (generating scenarios, updated forecasts of energy output using new government projections.	National Experts			X	X	X			
<i>Activity 3.1.7:</i> Cross-check scenario outputs.	TL, National Experts				X	X	X		
<i>Activity 3.1.8:</i> Capacity strengthening activity.	National Experts	X	X	X	X	X	X	X	X
<b>3.2: A revised GHG baseline scenario developed.</b>									
<i>Activity 3.2.1:</i> Revise baseline GHG emission scenario for all sectors and select the appropriate software such as LEAP.	TL, National Experts	X	X	X					
<i>Activity 3.2.2:</i> Identify any difference/change to the GHG baseline scenario correct according to real time data, update and explain the reasons for such differences.	TL, National Experts			X	X	X			
<i>Activity 3.2.3:</i> Capacity strengthening activity.	National Experts	X	X	X	X	X	X	X	X
<b>3.3: GHG mitigation scenarios developed</b>									
<i>Activity 3.3.1:</i> Develop GHG mitigation scenarios for energy and related sectors for the years (2007-2040).	TL, National Experts				X	X	X		

Outputs/Activities	Responsible Party	Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
<i>Activity 3.3.2: Estimate cost of reduction and mitigation of each measure proposed under GHG mitigation scenarios.</i>	TL, National Experts					X	X	X	
<i>Activity 3.3.3: Develop GHG mitigation scenarios for non-energy sectors, use IPCC 2006 recommended software.</i>	TL, National Experts				X	X	X		
<i>Activity 3.3.4: Capacity strengthening activity.</i>	National Experts	X	X	X	X	X	X	X	X
<b>3.4 The GHG mitigation measures / technology options revised.</b>									
<i>Activity 3.4.1: Revise list of technology options developed under SNC. Add new GHG mitigation measures/technology options.</i>	TL, National Experts						X	X	X
<i>Activity 3.4.2: Capacity strengthening activity.</i>	National Experts	X	X	X	X	X	X	X	X
<b>3.5 A GHG mitigation analysis completed for the period (2007-2040).</b>									
<i>Activity 3.5.1: Develop the draft chapter of the GHG mitigation analysis, circulate for comments.</i>	TL, National Experts					X	X	X	
<i>Activity 3.5.2: Archive GHG mitigation analysis &amp; estimates.</i>	TL, National Experts						X	X	
<i>Activity 3.5.3: Organize a workshop for findings of GHG mitigation analysis for comments for priority sectors.</i>	TL, National Experts							X	
<i>Activity 3.5.4: Sort and examine comments , update and finalize GHG mitigation</i>	TL, National Experts								X
<i>Activity 3.5.5: Capacity strengthening activity.</i>	National Experts	X	X	X	X	X	X	X	X
<b>3.6 Policies and Measures (PAMs) report to mitigate climate change updated</b>									
<i>Activity 3.6.1: Assess status PAMs reported in SNC &amp; current status of implementation activities.</i>	TL, National Experts	X	X						
<i>Activity 3.6.2: Review policy and legal framework, update macro and micro socio-economic forecasts and plans in PAMs &amp; GNP dynamics.</i>	NPM, TL, Legal expert, National Experts	X	X						
<i>Activity 3.6.3: Incorporate updated information into PAMs &amp; data for scenarios.</i>			X	X					
<i>Activity 3.6.4: Capacity strengthening activity.</i>	National Experts	X	X	X	X	X	X	X	X
<b>3.7 Analysis of PAMs completed</b>									
<i>Activity 3.7.1: Develop draft chapter on PAMs and a sub-section for priorities for action.</i>	TL, National Experts	X	X						
<i>Activity 3.7.2: Circulate draft chapter on PAMs for review and comments.</i>	NPM, TL		X	X					
<i>Activity 3.7.3: Receive and incorporate comments.</i>	NPM, TL, National experts.			X	X				

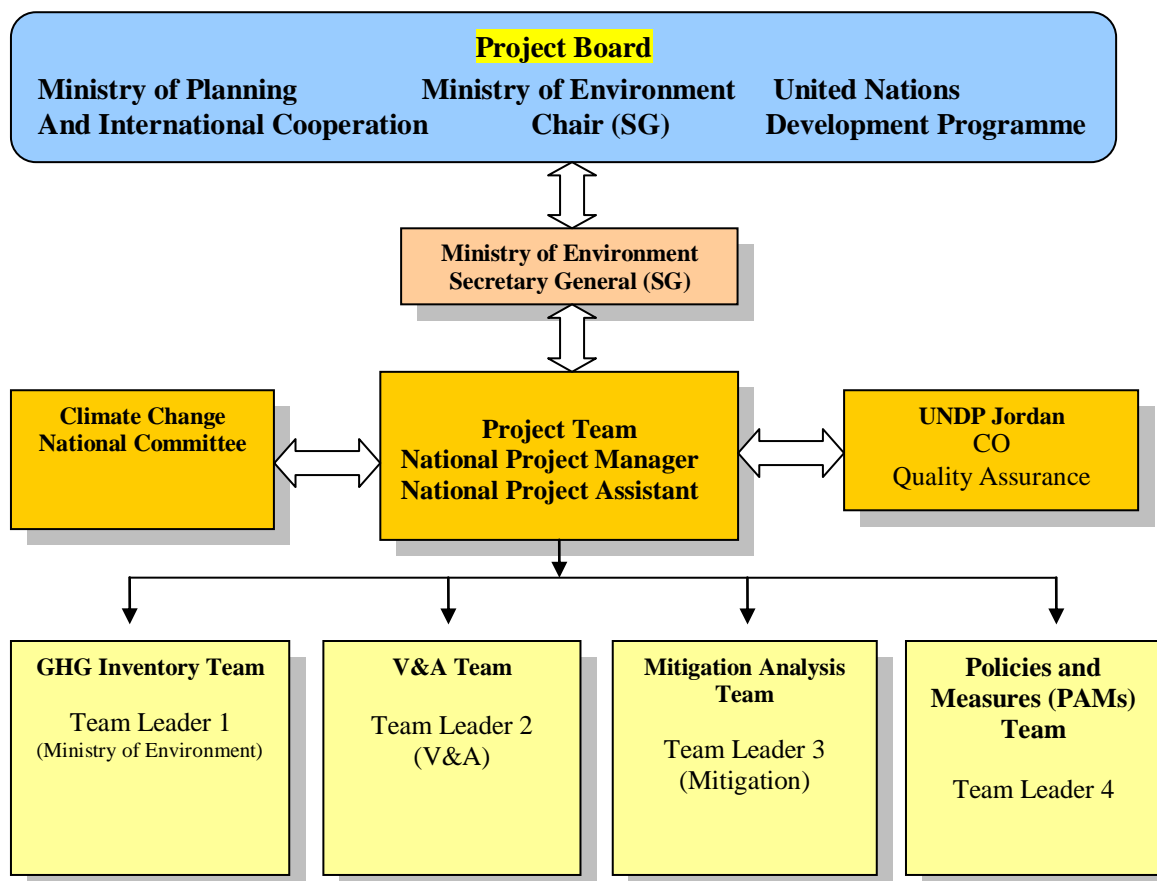
Outputs/Activities	Responsible Party	Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
<i>Activity 3.7.4:</i> Organize a national workshop to highlight findings PAMs and get more comments.	NPM, TL				X				
<i>Activity 3.7.5:</i> Finalize PAMs.	NPM, TL, National Experts				X	X			
<i>Activity 3.7.6:</i> Archive and document studies, model runs, assumptions, and estimates for the PAMs chapter.	NPM, TL, National Experts						X		
<i>Activity 3.7.7:</i> Publish a selected number of policy papers in English, Arabic.	NPM, TL, National Experts						X	X	X
<i>Activity 3.7.8:</i> Organize a set of high-level briefings with decision-makers to present and discuss findings.	NPM, TL							X	X
<i>Activity 3.7.9:</i> Capacity strengthening activity.	National Experts	X	X	X	X	X	X	X	X
<b>4.1 Updated Account of National Circumstances, constrains and gaps</b>									
<i>Activity 4.1.1:</i> Validate information gaps under SNC and latest stocktaking of recent/new developments.	NPM, TLs, PA, National Experts	X	X						
<i>Activity 4.1.2:</i> Include new developments in the National Circumstances section of the NC.	NPM, TLs, PA, National Experts		X						
<i>Activity 4.1.3:</i> Establish links for new data and information, on re-formulated Energy Balance and updated demographic and socioeconomic-gender main streaming data.:	NPM, TLs, PA, National Experts		X	X					
<i>Activity 4.1.4:</i> Collect data from different sources, incorporating comments reflected from the updated IPCC review.	NPM, TLs, Information & PA, National Experts			X	X				
<i>Activity 4.1.5:</i> Fill gaps, update and add the new information.	NPM, TLs, PA, National Experts		X	X	X	X			
<i>Activity 4.1.6:</i> Ensure national circumstances sections cover all areas identified as priorities for mitigation for GHG inventory; fund and commission additional data. Responsible party:.	TLs, PA, and National Experts					X	X		
<i>Activity 4.1.7:</i> Draft the National Circumstances section.	NPM, TLs, PA.				X	X	X		
<i>Activity 4.1.8:</i> Circulate the National Circumstances section for comments and incorporate into the report.	NPM, PA Expert							X	
<i>Activity 4.1.9:</i> Finalize the National Circumstances section under the TNC.	NPM, Project Assistant								X
<i>Activity 4.1.10:</i> Capacity strengthening activity.	National Experts	X	X	X	X	X	X	X	X
<b>4.2 Update the information considered relevant to Article 6 of the UNFCCC (education, training, and public awareness), Article 4 (Technology Transfer), and Article 5 (climate research and systematic observation) for Non-Annex I parties compiled and synthesized.</b>									

Outputs/Activities	Responsible Party	Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
<i>Activity 4.2.1:</i> Fund and Commission to conduct a public opinion survey to assess the baseline level of public awareness on climate change.	NPM, TL on PAMs	X	X	X					
<i>Activity 4.2.2:</i> Collect information on steps taken to integrate climate change into socio-economic, health and environmental policies in Jordan.	NPM, TL on PAMs.		X	X					
<i>Activity 4.2.3:</i> Collect, update, synthesize and provide information on how Jordan is addressing activities related to environmentally sound technologies and know-how.	NPM, Information and Public awareness assistant, TL for PAMs, National Experts		X	X					
<i>Activity 4.2.4:</i> Collect, update, synthesize and provide overall information relevant to the Article 6 activities in education and public awareness.	NPM, Information and Public awareness assistant		X	X					
<i>Activity 4.2.5:</i> Collect information on steps taken to integrate climate change into socio-economic-gender mainstreaming and environmental policies of Jordan.	NPM, Information and Public awareness assistant		X	X					
<i>Activity 4.2.6:</i> Summarize information & findings in a draft chapter. Distribute for review.	NPM, Information and Public awareness assistant				X	X			
<i>Activity 4.2.7:</i> Incorporate comments and finalize.	NPM, Information and Public awareness assistant, TLs.					X	X		
<i>Activity 4.2.8:</i> Capacity strengthening activity.	National Experts	X	X	X	X	X	X	X	X
<b>4.3 Constraint, gaps and related needs (financial, technical and capacity) identified and reported.</b>									
<i>Activity 4.3.1:</i> Review constraints & gaps identified under mainstreaming of CC into millennium development goals studies.	NPM and TLs						X		
<i>Activity 4.3.2:</i> Identify new constraints and gaps for each thematic area (inventory, mitigation analysis, V&A) and elaborate needs required to overcome them.	NPM and TLs						X		
<i>Activity 4.3.3:</i> Summarize constraints, gaps and needs identified and draft a synthesis report as a separate chapter.	NPM and TLs							X	
<i>Activity 4.3.4:</i> Distribute the draft chapter for comments, collect feedback and update the chapter.	NPM and TLs							X	
<i>Activity 4.3.5:</i> Capacity strengthening activity.	National Experts	X	X	X	X	X	X	X	X
<b>4.4 TNC prepared, translated, submitted and disseminated</b>									
<i>Activity 4.4.1:</i> Compile a draft of Jordan's TNC with structure and scope as guided by relevant COP decisions.	NPM and TLs							X	
<i>Activity 4.4.2:</i> Circulate draft for comments. Review and incorporate comments.	NPM and TLs							X	
<i>Activity 4.4.3:</i> Ensure recommendations from IPCC reviews of SNC incorporated into aspects of TNC.	TL, National Experts. NPM and TLs							X	

Outputs/Activities	Responsible Party	Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
<i>Activity 4.4.4:</i> Endorse the document by the Project steering committee (PSC).	NPM, TL, National Experts								<b>X</b>
<i>Activity 4.4.5:</i> Finalize Jordan's TNC.	NPM and TLs								<b>X</b>
<i>Activity 4.4.6:</i> Publish Jordan's TNC to the COP of UNFCCC in English.	NPM and TLs								<b>X</b>
<i>Activity 4.4.7:</i> Following approval of COP of UNFCCC prepare an Arabic version.	NPM and CC Unit								<b>X</b>
<i>Activity 4.4.8:</i> Prepare e-copies of Jordan's TNC in CD-ROMs, both in English and Arabic.	NPM and TLs						<b>X</b>		
<i>Activity 4.4.9:</i> Submit officially Jordan's TNC to the COP of the UNFCCC.	NPM and TLs								<b>X</b>
<i>Activity 4.4.10:</i> Organize a national workshop to launch and present the findings of Jordan's TNC.	NPM and TLs								<b>X</b>
<i>Activity 4.4.11:</i> Launch the report in a side event during the COP /Subsidiary Body Sessions. CC Unit	NPM, TLs and CC unit								<b>X</b>
<i>Activity 4.4.12:</i> Capacity strengthening activity.	National Experts	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>

## 6 MANAGEMENT ARRANGEMENTS

The project will be executed following established UNDP national execution (NEX) procedures. The NEX Advances modality will be applied which will entail using the MoEnv (Implementing Partner) financial systems.



A Project Board (PB) will be established by the Implementing Partner to monitor the project's implementation and to provide strategic, long-term guidance for the project and provide consultations whenever needed. The PB will make recommendations on issues such as the prioritization of project activities, shifts in strategic direction when required and also help to secure project partnerships with other relevant institutions. The PB will meet twice a year and include a high official representative from MoEnv (Chair), Ministry of Planning and International Cooperation (MOPIC) GEF Operational Focal Point, and UNDP.

The Implementing Partner will hire:

- National Project Manager (NPM) on a full-time basis will coordinate the day-to-day project execution activities and will be responsible for meeting the objectives, outputs of the project. The NPM will work under the overall supervision of the Secretary General of Ministry of Environment and closely with the Climate Change National Committee.
- Project Administrative and Financial Assistant (PA). The (PA) will provide assistance to the NPM. She/he is responsible for all administrative (contractual, organizational and logistical) and accounting (disbursements, record-keeping, cash management) matters related to the project.



In addition, the NPM will supervise the work of four technical teams: (1) The GHG inventory team; (2) The Vulnerability & Adaptation team; (3) The Mitigation team; and (4) The policies and measures team, which will perform technical tasks and activities proposed under this project. Each technical team will be headed by a National Team Leader.

It is expected that this project will involve experts who were previously engaged under the INC, SNC and Top-up phases. However, it is expected that new participants will enter the process. National experts will come from key relevant sectors including government agencies, academic institutions, NGOs, and private sector as necessary. National experts mentioned above will be hired on an ad-hoc basis under Special Service Agreements. The recruitment process will be conducted according to the UNDP rules and regulations.

The Climate Change National Committee (CCNC) will oversee the implementation of the project as an advisory committee. The (CCNC) will provide overall guidance and direction to the project implementation, in accordance with the project document and annual work plan, overseeing the project's technical progress and providing recommendations for its improvement, where necessary, reviewing the Project Monitoring and Evaluation Plan that will assess the project success, ensuring coordination of project activities with related national and donor-funded initiatives, advocating for the project outcomes, outputs and activities.

The UNDP-CO will be an active partner in the project's implementation. It will support implementation by monitoring the project budget and project expenditures, contracting project personnel, experts and subcontractors, undertaking procurement, and providing other assistance upon request of the IP. The UNDP-CO will also monitor the project's implementation and achievement of the project outcomes and outputs, and will ensure the proper use of UNDP/GEF funds. Financial transactions, reporting and auditing will be carried out in compliance with national regulations and established UNDP rules and procedures for national project execution. Project assurance will be ensured by GEF OFP, UNDP CO together with the Climate Change Programme Officer at Environment and Energy Group / Bureau for Development Policy at UNDP HQ.

In order to accord proper acknowledgement to GEF for providing funding, a GEF logo will appear on all relevant GEF project publications, including, among others, project hardware purchased with GEF funds. Any citation on publications regarding this project will also accord proper acknowledgement to GEF.

The project will maintain links with the UNDP-GEF, which will be regularly updated on the status of activities, and will provide technical assistance as required. Technical assistance is also expected from the UNFCCC Secretariat mainly through the workshops and trainings.

During the project inception phase, a full-time National Project Manager (NPM) and Project Assistant (PA) will be contracted. Terms of Reference for the NPM and PA are provided in the appendix. It's a repeat TORs for team leaders are also provided in the appendix. Once the project implementation mechanisms have been put in place, a project inception workshop will be organized aiming at presenting objectives and activities of the project, clarifying linkages between previous, ongoing and future climate change activities, identifying possible synergies with other projects, and finalizing the project work plan and TORs. This workshop will also serve at raising awareness among the invited stakeholders about climate change issues.

As part of the project implementation, set-up mechanisms of communication, participation, networking and dissemination will be decided and established. An e-communication network must be maintained and upgraded for the purposes of effective communication and dissemination of relevant information received from UNFCCC, UNDP/GEF, IPCC and others. Moreover, links to ongoing similar projects in other countries, especially from the Middle East and North Africa (MENA) 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, either for collaboration on this project or on 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 effective communication and dissemination of project relevant information.

A detailed work plan of the project distributed over the project duration of two years is shown in Section 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.

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 the interest of a critical mass of experts, and (ii) to achieve an adequate degree of representation and expertise. In light 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 selection of adaptation and mitigation measures. Should any of the perceived difficulties arise; rapid actions will be taken by the IP through the Secretary General to assist the working groups so that the foreseen outputs are not hampered in any of the areas or sectors affected. The Project Team will work under the overall supervision of the Secretary General of the MoEnv and in close collaboration with UNDP Jordan CO.

### **Roles and Responsibilities**

#### 1. Ministry of Environment (MoEnv):

- Accountable to the government coordinating authority (MOPIC) and to UNDP for achieving all outputs, objectives and the use of resources.
- The Secretary General of Ministry of Environment will supervise the project team to ensure the smooth preparation and logistics.
- Will ensure the engagement of the Stakeholders in the TNC exercise (e.g., Reviewing the deliverables, consultation process).

#### 2. United Nations Development Programme (UNDP):

- Will assist MoEnv in building partnership, coordinate between the various parties involved, and obtain knowledge from global sources and experiences.
- UNDP will be the budget holder under the national execution modality.
- Will provide overall policy and technical advice to the program.

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## **7 MONITORING AND EVALUATION FRAMEWORK**

The project will be monitored through the following M& E activities.

### **7.1 Project start**

A Project Inception Workshop will be held within the first 3 months of project start with those with assigned roles in the project organization structure, UNDP country office and where appropriate/feasible regional technical policy and program advisors as well as other stakeholders. The Inception Workshop is crucial to building ownership for the project results and to plan the first year annual work plan.

The Inception Workshop should address a number of key issues including:

- a) Assist all partners to fully understand and take ownership of the project. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff will be discussed again as needed.
- b) Based on the project results framework and the relevant GEF Tracking Tool if appropriate, finalize the first annual work plan. Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks.
- c) Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget should be agreed and scheduled.
- d) Discuss financial reporting procedures and obligations.
- e) Plan and schedule Project Steering Committee meetings. Roles and responsibilities of all project organization structures should be clarified and meetings planned. The first Project Steering Committee (CCNC) meeting should be held within the first 12 months following the inception workshop.

An Inception Workshop report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

## 7.2 Bi-annually

- Questionnaires to indicate progress and identify bottlenecks as well as technical support needs will be carried out twice a year.
- Progress made shall be monitored in the UNDP Enhanced Results Based Management Platform.
- Based on the information recorded in Atlas, a Project Progress Reports (PPR) can be generated in the Executive Snapshot.
- Other ATLAS logs can be used to monitor issues, lessons learned etc...

## 7.3 Annually

- Annual Project Review/Project Implementation Reports (APR/PIR): This key report is prepared to monitor progress made since project start and in particular for the previous reporting period (30 June to 1 July). The APR/PIR combines both UNDP and GEF reporting requirements.

The APR/PIR includes, but is not limited to, reporting on the following:

- Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative)
- Project outputs delivered per project outcome (annual).
- Lesson learned/good practice.
- AWP and other expenditure reports
- Risk and adaptive management
- ATLAS QPR

## 7.4 Periodic Monitoring

A detailed schedule of project reviews meetings will be developed by the project management, in consultation with project implementation partners and stakeholder representatives and incorporated in the Project Inception Report. Such a schedule will include: (i) tentative time frames for Steering Committee Meetings, (or relevant advisory and/or coordination mechanisms) and (ii) project related Monitoring and Evaluation activities.

Day to day monitoring of implementation progress will be the responsibility of the Project Manager, based on the project's Annual Workplan and its indicators. The Project Team will inform the UNDP-CO 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.

*Periodic monitoring* of implementation progress will be undertaken by the UNDP-CO 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.

## **7.5 End of Project**

During the last three months, the project team will prepare a brief terminal report. This brief report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

## **7.6 Learning and Knowledge Sharing**

Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums.

The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation through lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects.

Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

## 7.7 M& E Work Plan and Budget

Type of M&E activity	Responsible Parties	Time frame
Inception Workshop and Report	<ul style="list-style-type: none"> <li>▪ Project Manager</li> <li>▪ UNDP CO, UNDP GEF</li> </ul>	Within first four months of project start up
Measurement of Means of Verification of project results.	<ul style="list-style-type: none"> <li>▪ UNDP GEF HQ/Project Manager will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members.</li> </ul>	Start, mid and end of project (during evaluation cycle) and annually when required.
Measurement of Means of Verification for Project Progress on <i>output and implementation</i>	<ul style="list-style-type: none"> <li>▪ Oversight by Project Manager</li> <li>▪ Project team</li> </ul>	Annually prior to ARR/PIR and to the definition of annual work plans
Annual Review Report (ARR)/Project Implementation Report (PIR)	<ul style="list-style-type: none"> <li>▪ Project manager and team</li> <li>▪ UNDP CO</li> <li>▪ UNDP- GEF HQ</li> <li>▪ UNDP-Energy/Environment Group (EEG)</li> </ul>	Annually
Periodic status/ progress reports	<ul style="list-style-type: none"> <li>▪ Project manager and team</li> </ul>	Bi-annually (second and forth quarter – the latter as part of the annual ARR/PIR)
Project Terminal Report	<ul style="list-style-type: none"> <li>▪ Project manager and team</li> <li>▪ UNDP CO</li> </ul>	At least three months before the end of the project
Audit	<ul style="list-style-type: none"> <li>▪ UNDP CO</li> <li>▪ Project manager and team</li> </ul>	Annually

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## 8 LEGAL CONTEXT

Standard text has been inserted in the template. It should be noted that although there is no specific statement on the responsibility for the safety and security of the executing agency in the SBAA and the supplemental provisions, the second paragraph of the inserted text should read in line with the statement as specified in SBAA and the supplemental provision, i.e. “the Parties may agree that an Executing Agency shall assume primary responsibility for execution of a project.”

**If the country has signed the [Standard Basic Assistance Agreement \(SBAA\)](#), the following standard text must be quoted:**

This document together with the CPAP signed by the Government and UNDP which is incorporated by reference constitute together a Project Document as referred to in the SBAA [or other appropriate governing agreement] and all CPAP provisions apply to this document.

Consistent with the Article III of the Standard Basic Assistance Agreement, the responsibility for the safety and security of the implementing partner and its personnel and property, and of UNDP’s property in the implementing partner’s custody, rests with the implementing partner.

The implementing partner shall:

- a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
- b) assume all risks and liabilities related to the implementing partner’s security, and the full implementation of the security plan.

UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via <http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm>. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

**If the country has not signed the SBAA, the following standard text must be quoted:**

This document together with the CPAP signed by the Government and UNDP which is incorporated by reference constitute together the instrument envisaged in the [Supplemental Provisions](#) to the Project Document, attached hereto.

Consistent with the above Supplemental Provisions, the responsibility for the safety and security of the implementing partner and its personnel and property, and of UNDP's property in the implementing partner's custody, rests with the implementing partner.

The implementing partner shall:

- a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
- b) assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.

UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via <http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm>. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

**The following standard text for a global/ multi country and regional projects should be included:**

This project forms part of an overall programmatic framework under which several separate associated country level activities will be implemented. When assistance and support services are provided from this Project to the associated country level activities, this document shall be the "Project Document" instrument referred to in: (i) the respective signed SBAAs for the specific countries; or (ii) in the [Supplemental Provisions](#) attached to the Project Document in cases where the recipient country has not signed an SBAA with UNDP, attached hereto and forming an integral part hereof.

This project will be implemented by the agency (name of agency) ("Implementing Partner") in accordance with its financial regulations, rules, practices and procedures only to the extent that they do not contravene the principles of the Financial Regulations and Rules of UNDP. Where the financial governance of an Implementing Partner does not provide the required guidance to ensure best value for money, fairness, integrity, transparency, and effective international competition, the financial governance of UNDP shall apply.

The responsibility for the safety and security of the Implementing Partner and its personnel and property, and of UNDP's property in the Implementing Partner's custody, rests with the Implementing Partner. The Implementing Partner shall: (a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried; (b) assume all risks and liabilities related to the Implementing Partner's security, and the full implementation of the security plan. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

The Implementing Partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via <http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm>. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

## 9 APPENDICES

### 9.1 Appendix A: Summary Report of the Self-Assessment Exercise

The two primary elements of the Self-Assessment exercise are stocktaking and stakeholder consultation. The defining element of stocktaking is document review, whereas the defining element of stakeholder consultation is personal communication through interviews and questionnaires.

#### 9.1.1 Description of the process and approach adopted for the stocktaking exercise

The stocktaking exercise was necessary to ensure that the Third National Communication (TNC) will build on the activities, studies, outcomes, experiences and institutional settings of the INC and the SNC. During the stocktaking exercise the list of documents acquired, surveyed and summarized included, but was not limited to:

- The Initial and Second National Communications the UNFCCC
- The Self-Assessment Report for the SNC
- Sectoral Master Plans (Water, Energy, Transport, Agriculture)
- The State of Environment Report
- MDG and Human Development Reports (2004, 2006, 2010)
- A recent NEEDS assessment for Climate Change in Jordan
- Websites of Jordanian sectors and municipalities
- IPCC general climate change documents
- GEF guidelines for writing NCSAs

These activities were included in the stocktaking work.

1. Preparation of a detailed Self-Assessment work plan. The workplan was organized by week, with each week assigned tasks, events, and deliverables. A sample 4-week section of the workplan is presented here for reference.

**Table 1 Sample 4-week portion of the work plan for the self-assessment, 2011**

Week of	10-Feb	17-Feb	24-Feb	3-Mar
<b>Task</b>	3	3	4	4
	Stakeholder Consultation	Stakeholder Consultation		
		Initiate Proposal Writing for TNC		
<b>Event</b>			Stakeholder workshop	
<b>Deliverable</b>		Stocktaking Report	Stakeholder Report	Socio-Economic Matrix Report
	Inception Report			Stocktaking/ Stakeholder consultation combined report - Draft NCSA

2. Assessment of work carried out under the INC and SNC. Acclimation to the structure and methodology of the SNC was prioritized. The structure of the SNC, to be carried over to the TNC, is as follows:
  - a. National circumstances
  - b. Greenhouse gas inventory
  - c. Greenhouse gas mitigation analysis
  - d. Vulnerability assessment and adaptation measures
  - e. Other information: Public awareness, education and capacity building



- f. Problems, constraints and needs
3. Identification of new studies and areas of work to be tackled in the TNC. The INC and SNC did not adequately cover socio-economics. Socio-economic aspects of climate change on biodiversity, land use change and forestry will require further concentration in the TNC.

### **9.1.2 Main outcomes of and lessons learned from the self-assessment exercise**

The self-assessment exercise highlighted a number of current and ongoing issues particularly relevant to Jordan's climate change activities. Detailed descriptions of each priority sector, as well as institutional capacity and relevant legislation and policies have been provided in the self-assessment document. In this section we focus only on the main outcomes and lessons learned, the understanding of which will be most important to those carrying out the TNC. The information and findings presented here not only cover the SNC, but update information presented in the SNC to the present time.

#### **Millennium Development Goals**

Jordan made strategic advances towards the achievement of the Millennium Development Goals (MDGs), including reduction of poverty rates from 21% in 1997 to 14% in 2005 to 13% in 2006, and then it witnessed a marginal increase to 13.3 % in 2008.

It is worth noting here that these achievements are compromised by crippling water scarcity and aggravated by climate change, thus bringing about additional threats to health, food security, productivity, and human security. This on-going program will help Jordan address the above key strategic issues through achieving:

1. Sustained access to improved water supply sources despite increased water scarcity induced by climate change.
2. Strengthened adaptive capacity for health protection and food security to climate change under water scarcity conditions.

A Joint Program was initiated in April 2010 by four UN organizations working in Jordan, including the United Nations Development Program (UNDP), the World Health Organization Center for Environmental Health Activities (WHO-CEHA), the Food and Agriculture Organization of the United Nations (FAO), and the United Nations Educational, Scientific, and Cultural Organization (UNESCO). It was submitted to the UNDP/Spain MDG Achievement Fund under the MDG-F Environment and Climate Change thematic window. The key national partners in this program included the Jordan Ministry of Environment (MoEnv), Ministry of Health (MoH), Ministry of Agriculture (MoA), and Ministry of Education (MoE). Other institutions, societies, and NGO's were also involved in the program activities. It would be valuable to include the findings of this Joint Program in the next national self-assessment.

#### **Available Financial Mechanisms and Initiatives**

The UNFCCC facilitated investments to achieve stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. It also has recognized that new and additional financial resources as well as the transfer of, or access to, environmentally sound technologies and know-how, particularly for developing countries, will be required to help them implement the provisions of the Convention.

At COP 7 (Marrakesh, October/November 2001) Parties adopted the Marrakesh Accord where financial resources for the implementation of the convention were made available. The first four funds below are managed GEF and cover climate change as a focal area.

1. the GEF Trust Fund,
2. the Special Climate Change Fund (SCCF),
3. the Least Developed Countries Fund (LDCF) and

4. The Adaptation Fund (after the Kyoto Protocol entered into force).
5. Funding is also available through bilateral, regional and multilateral channels.

## **Demographics**

The population of Jordan has grown from approximately 400,000 in the 1920s to 5.2 million in 2001, to approximately 6.4 million in 2010. Jordan is estimated to house nearly 2 million Palestinian refugees, and recently absorbed another half-million Iraqi refugees. Jordan covers an area of 89,342 km<sup>2</sup>, stretching an average distance of 562 km from northeast to southwest, and 349 km from southeast to northwest. As of 2010, approximately 79% of Jordan's population lived in urban areas. The urban population within Amman, Irbid and Zarqa governorates now account for 3.8 millions of people, representing approximately 60% of the total population of Jordan. The capital, Amman, and most other centers of population in Jordan are clustered in the temperate northwest highlands, which comprise less than 20% of the total Jordanian territory.

Despite the limited natural resources of Jordan, the narrow economic base and its location in a conflict stricken region, tremendous progress has been made in the last twenty years. This progress led to reduction in poverty rates from 21% in 1997 to 14% in 2005 to 13.3% in 2008 (MDG 1), increasing adult literacy rate from 97% in 1990 to 99.10 % in 2008 (MDG 2), achieving infant mortality rate of to 28 per thousand in 2009 (MDG 4) and increasing the intermittent access to water supply to 98.41 % in 2008 and access to sanitation to 62.15 % in 2008 (MDG 7). The Common Country Assessment (2006) and the Second National Millennium Development Goals Report – Jordan 2010) described Jordan's progress towards the achievement of the Millennium Development Goals (MDGs) as on track to be met by 2015. See the Self-Assessment document for detailed descriptions of Jordanian demographics, including a summary table presenting a chronological progression of human development indicators.

### **9.1.2.1 Priority Sectors for Vulnerability and Adaptation**

#### **Update of the SNC Land-Use and Land-Use Change and Forestry (LULUCF) Sector Profile**

According to the 2009 National Agriculture Strategy, the main priorities in relation to LULUCF Development into the next phase are the mitigation of drought effects by:

- Intensification of water harvesting (earthworks and excavations) in various regions, especially the pastoral areas.
- Use of non-conventional water resources in agricultural production (forage production and the development of forestry resources).

#### **The Water Sector**

According to Jordan's National Water Master Plan (2004), annual per capita water availability has declined from 3,600 m<sup>3</sup> in 1946 to 145 m<sup>3</sup> today according to the water strategy (2008-2022). It is projected that the population will continue to grow from about 5.87 million in 2008 to over 7.80 million by 2022. Total projected water demand may increase to 1348 MCM per year by 2020. Water supplies needed for urban areas are expected to be approximately 515 MCM per year. Water is a driver of development affecting all aspects of life: social and family well-being, economic, and political. Both surface and groundwater are scarce in Jordan – demand currently exceeds supply and demand continues to increase.

On a socio-economic level, budgetary outlays for water shortage and health will need to increase. Costs of doing business will rise, affecting the competitiveness of Jordan's economy. The poor and lower classes are the first to feel the impact of water shortages and poor water quality. These impacts are already being felt today and expected to worsen in the coming years.

Jordan has a number of alternatives available for future water supply expansion. Two are mega-scale water import projects: the Disi fossil aquifer project is currently under construction and, barring unforeseen setbacks, is expected to provide Amman with between 50 and 100 MCM/year of fresh water beginning in 2013, but running dry within 50 to 100 years; and conveyance of desalinated water from the Red Sea to Amman, 320 km from the coast and at an elevation change of more than 1000 meters. Reduction of distribution system losses, water reuse (of multiple grades at all scales), rainwater harvesting, and further conservation are Amman's other principal options for alleviation of its water stress.

Due to the increase in the water demand, the Ministry of Water and Irrigation (MWI) adopted a Water Strategy 2008-2022 aiming to balance water demand and supply, and emphasizing the role of the private sector. Certain core principles of the Water Strategy emphasize adaptation to climate change, and should be included in the TNC.

### **The Agricultural Sector**

The MENA region is among the most vulnerable areas of the world to the effects of climate change. It has the highest levels of water scarcity in the world, a significant income and employment dependence on climate-sensitive agriculture, and large proportions of its population and economic activity concentrated in flood-prone urban coastal zones. Climate-induced resource scarcity could escalate migration even beyond the region's borders.

The agricultural sector is among the most vulnerable of Jordan's sectors to climate change, as the available water and land resources are limited and most of the country's land is arid and used as open range. The Zarqa and Yarmouk River basins were selected as the main study areas to analyze baseline situation and to predict the effects of climate change on agriculture under the different future scenarios. The impact of climate change on rainfed agriculture has been investigated using a Decision Support System for Agro-technology Transfer (DSSAT) model on two main crops: wheat and barley. Twenty incremental scenarios of future climate change and three GCM scenarios were used to modify 27-years of climatic data for Irbid station and to predict the average yield under the different scenarios.

The results of the vulnerability assessment for the agricultural sector showed that climate change could have significant impacts, in particular on rainfed agriculture. Field crops and fruit trees are the main rainfed crops. Adverse impacts of climate change on rainfed cultivation and the arid and semiarid rangelands were identified as the most significant impacts on the sector of livestock and the overall production of the country's food. Data for the governorates within both study areas showed no obvious correlation or similar trends between rainfall and yield of wheat and barley, except in year 1999 when rainfall amounts and yield were extremely low.

### **The Health Sector**

Jordan was among 8 countries selected by UNDP and GEF for participation in a 2010-2013 pilot intervention to increase their respective adaptive capacities to respond to the impact of climate change on human health. The objective of this first global project on public health adaptation to climate change is to "increase adaptive capacity of national health system institutions, including field practitioners, to respond to climate-sensitive health risks." The project outcomes will contribute to the broader goal of ensuring that "health sectors are able to manage health risks driven by climate change, including variability". The participating countries will implement a set of nationally-executed activities. The countries were selected because of demonstrated priority vulnerabilities to climate change; the results will therefore cover a wide range of critical issues that will be directly relevant to decision-makers in other vulnerable countries.

The Health section in Jordan's SNC identified gaps in the current health-related analysis. In summary, the health section is not quantitative, but effectively identifies the health concerns that predominate in

Jordan. More attention and focus is needed on ensuring continuous and streamlined data sets from Ministry of Health and Department of Statistics. The preliminary findings of studies carried out as part of the SNC show that climate change is expected to have impacts on public health through demographic dislocations and socio-economic disruptions, but those impacts are as yet poorly understood. This sector, as a subset of socio-economics more generally, should be a focus of concentrated effort in the SNC.

### **9.1.2.2 Priority Sectors for GHG Mitigation**

#### **The Energy Sector**

According to the NEEDS assessment, the anthropogenic emissions by source and sink of all GHGs not controlled by the Montreal Protocol have been assessed. The inventory took the year 2000 as a base year. According to the inventory, Jordan contributed about 20140 gigagrams (20.14 million tons) of CO<sub>2</sub> eq to the atmosphere. About 74% of the total emissions were attributed to the energy sector, while the waste sector was the second emitter with 14% followed by the industrial sector with 8% and the agricultural, land use and forestry were the least-contributing sectors with 4%.

The current and projected percentage of contribution of fuel types in Jordan's total energy mix for the medium demand scenario, are presented by the Ministry of Energy and Mineral Resources in its **2007 Updated Master Strategy of the Energy Sector in Jordan for the Period 2007-2020**. In the medium demand scenario, the Ministry of Energy expects reduced reliance on oil products (imported from neighboring countries) from 57% to 47% (as a fraction of all energy sources for Jordan) with greater domestic generation of energy through development of Jordan's renewable energy resources, as well as exploitation of Jordan's oil shale resources. The Ministry of Energy does not anticipate a significant shift, relative to other sources, in the import of natural gas, but expects direct imports of electricity to be reduced as a fraction of all energy sources by 2020.

Jordan is considering the development of local energy-resources including renewable energy and oil shale and gas reserve due to lack of indigenous conventional energy resources. The National Energy Strategy was launched in 2006. The strategy aimed at enhancing the use of alternative sources of energy and the integration of CDM in the national plans. The main goals of the strategy were to:

- Diversify the local energy resources.
- Increase the potential contribution of the local energy resources in the total energy mix.
- Reducing dependency on oil imports.
- Enhancing environmental protection.

In 2010, the Jordanian cabinet passed the Renewable Energy and Energy Efficiency Law Number 3, for the year 2010. This law has paved the road for private sector investment in renewable energy projects. According to the law, a Renewable Energy Fund has to be established in the Ministry of Energy and Mineral Resources (MEMR). Article three of the law states that the main goal is to increase the share of the renewable energy in the national energy mix and to increase energy efficiency, so as to improve the national energy security, attract the investment and to protect the environment.

The strategy expected that (MEMR) will increase the potential contribution of renewable to be 7% by 2015 & 10% by 2020. The energy mix in Jordan starts from 2007 up to 2020 when the nuclear energy is expected to contribute 6% into the total energy mix.

#### **Transport Sector**

According to the 2009 Jordan State of the Environment Report, vehicle exhaust is one of the most important sources of pollution in Jordan. The severity of pollution from vehicle exhaust systems is a function of fuel type and the concentration of sulfur (and other pollutants) generated from fuel

burning. In the year 2005, Jordan's Ministry of Environment and Department of General Security implemented a campaign to measure the level of air pollutants generated from vehicle exhaust. This initiative remains active today.

Moving sources of air pollution consist of cars and other vehicles in Jordan, the number of which has grown rapidly in the past decade. The number of cars operated by benzene grew six-fold during the period from 1981 to 2006, while cars operated by diesel grew ten-fold during the same period. The fuel combusted by the transportation sector increased rapidly during the period from 1996 to 2006, resulting in a major increase of air pollutants to the surrounding environment.

Jordan's Ministry of Transport (MoT) in 2009 issued a Proposed National Transport Strategy for the Years 2009-2011. The self-assessment summarizes the main findings and recommendations of the Strategy, which includes one seaport, two railway corporations, a multi-level road network, and three international airports.

Several policies have been recommended in the MoT Strategy to develop the institutional and regulatory framework necessary to improve public transport. The policies specifically aimed at reducing pollution are:

- Policy A: Establish a sustainable and efficient framework for public transport services with a focus on social mobility.
- Policy B: Improve the mobility of the urban and rural populations through management and operation of public transport services.
  - e.g., construction of a national railway connecting residents of Jordan to its production centers, and to neighboring countries
- Policy C: Increase the operational efficiency of public transport services.
- Policy D: Develop environmentally sustainable public transport services.
  - e.g., development of technical specifications to continuously improve the public transport fleet
- Policy E. Promote environmentally friendly freight transport solutions.
  - e.g., restrict the access of heavy trucks to targeted cities and city centers
- Policy F. Improve the safety conditions when carrying out road transport operations.

## **Industrial Sector**

Industry is important in Jordan's economy (over 22% of GDP), with a fast rate of annual growth (12% in recent years). The sector suffers from poor or not easily accessible monitoring data on polluting emissions makes it difficult to evaluate priorities for pollution abatement across sectors, locations, pollutant types, and enterprise size and the lack of an adequate regulatory and enforcement framework, the industrial sector is an important source of environmental pressure in Jordan.

To overcome monitoring obstacles and provide policy makers with broad indications for action, the World Bank Country Environmental Analysis (CEA) proposed international emission coefficients (obtained from the World Bank's IPPS system) to estimate the structure of industry's pollution.

The following key findings were recommended for use as first indications of areas of policy interest, but revisited on the basis of Jordan-specific industrial emission data as soon as they become available:

- The bulk of pollution originates from enterprises located in the Amman and Zarqa industrial districts; the relatively lower share of total pollution in Irbid and Zarqa is associated to advanced forms of localized environmental degradation.
- While at the national level most of the pollution comes from (larger) industrial enterprises (70% to 90% depending on the pollutant), in Irbid, and particularly Zarqa, micro enterprises are an important source of pollution, accounting for up to 60% of some emissions (i.e. BOD in Zarqa).

- At the national level, the chemical, medical and engineering/ electrical sectors account for the larger contributions to most polluting emissions.
- Pollution shares of industrial subsectors vary by location. The ranking of polluting industries per medium in Amman and Zarqa is similar to that at the national level.
- Mining is important in terms of air pollution. However, because it is remotely located with respect to urban areas, it is difficult to determine its importance in terms of health impacts.
- Projections of environmental pressures for 2012 and 2017 indicate that the top 4 polluting industry will remain the same (the chemical, medical, engineering/electrical and construction sectors).
- Targeting abatement efforts to air pollution, where 80% of total emissions can be obtained by focusing on the food, chemicals, medical and plastic sectors.

### **9.1.3 Explanation of the stakeholder consultations and validation process**

The stakeholder consultation process followed the following steps:

1. Definition of stakeholder involvement.
2. Development of strategies for stakeholder participation.
3. Stakeholder sessions
  - a. Adequate for the preparation of the TNC project proposal and its implementation.
  - b. Oriented toward the participant.

The stakeholder consultation process included numerous semi-weekly meetings with the Taskforce (a subset of the stakeholder committee including the consultant, UNDP, MoEnv, MEMR, MOPIC, MOT, and MWI), which provided documents and guidance. The inception meeting with representatives of each member of the taskforce was held at the Ministry of Environment on 14 February 2011. At the inception meeting, the preliminary results of the stocktaking work were presented, feedback was requested, and a strategy for the stakeholder consultation was prepared.

The stakeholder consultation was held on 24 February 2011. The primary objectives of the stakeholder consultation were:

- To inform stakeholders of the commencement of activities related to the TNC, at the stage of pre-proposal, so that they are informed and engaged, and formally invited into the process at the earliest stage.
- Solicitation of targeted feedback from the Stakeholders regarding the constraints identified for each sector of the Second National Communication (SNC).
- Discussion of issues related to selection of the base year for the TNC.
- Presentation of findings related to new and current IPCC guidelines for greenhouse gas inventories. The SNC was developed using the 1996 guidelines. Since the SNC, the 2006 guidelines have come into full effect.
- Incorporation of the feedback received from the stakeholders into the terms of Reference (TOR) to be developed by consultant in the Third National Communication (TNC) proposal to be submitted to GEF for funding through UNDP-Jordan.

The table below presents the stakeholders involved in the 24 February stakeholder consultation at the Ministry of Environment by name and institution.

**Table 2 Stakeholders in attendance at the 24 February 2011 Stakeholder Consultation meeting at the MoEnv**

Stakeholder Consulted	Institution	Reasons for inclusion	Role in the self-assessment process
<i>Dr Mohammad Saidam</i> <i>Ms. Maha Al-Zubi</i> <i>Mohammad Alatoom</i>	UNDP UNDP UNDP	Coordination between various parties involved, obtaining knowledge from global sources and experiences as well as providing the overall policy and technical advice to the program.	Funding Agency
<i>Hussein Badarin</i> <i>Mohammad Alam</i> <i>Farag Altaleb</i> <i>Jabur Daradkh</i> <i>Indira Dahabi</i>	MOEnv MOEnv MOEnv MOEnv MOEnv	Responsible for establishing Taskforce to be hired for JSA-TNC in coordination with UNDP and the consultant, provide feedback and assist in data compilation from different stakeholders.	National Taskforce Member
<i>Dr. Asma Al-Ghzawi</i>  <i>Lana Dabbas</i> <i>Mohammad Al- Hajoj</i>	Head section of Environment/MOMA JPMC JPMC	Government stakeholder for feedback on land use and planning To represent GHG emission industry and communicate their future plans to reduce their GHG generation and impact on the surrounding environment.	Governmental Stakeholder  Private sector/industry stakeholder
<i>Mohammad Hiary Ahmad Alrousar</i>	National Center for Research & Development	Provide information on current on-going projects & research in the field of energy and latest technologies relevant to the JSA-TNC Project	Renewable Energy Research Institution/ Stakeholder
<i>Eng. Saleh Alamoush</i>	Jordan Civil Aviation Commission	Indicate the relation & Influence of the Aviation on climate change and demonstrate the commission's efforts and policies to mitigate their GHG emissions and impact on the environment.	GHG Generator/Government Stakeholder
<i>Hussien Alkisswani</i> <i>Mohammad Qtaishat</i> <i>Thabit Bani Ata</i>  <i>Mufleh Abbadi</i> <i>Dr. Ghazi Abu Rumman</i>	RSCN project/IEM-jo JES Jordan Environmental Society Royal Society for Conservation of nature (RSCN) International Union for the Conservation of Nature ETS	To address the current and future threats on ecosystems and biodiversity resulting from climate change, and identify the most vulnerable areas to be studied.	NGO Stakeholder NGO Stakeholder NGO Stakeholder  NGO Stakeholder Consulting firm

Stakeholder Consulted	Institution	Reasons for inclusion	Role in the self-assessment process
Rania Abdel Khaleq	Ministry of Water and Irrigation (MWI)	Provide information on current on-going projects and present the ministry plans and policies to reduce climate change influence on the water sector.	National Taskforce Member
P. Halim Abu Hazim	Meteorology Department	Provide information on changes in weather conditions and scenarios through the past decade as well as recent/future climatic trends in Jordan.	Gov't Stakeholder
Dr. Jarrah Alzaubi Dr. Atallah Rabi	Al Balqa Applied University Jordan University for Science and technology (JUST)	Present how the subject of climate change is integrated in university teaching curricula & give information on research and development relevant to reducing impact of climate change in Jordan.	Higher Education Stakeholder
Awwad Salameh	Ministry of Planning and International Cooperation (MOPIC)	Donor lender coordination.	National Taskforce Memembr
Eng. Mohammad Dalain	Jordan Farmers Union	Demonstrate problems and difficulties that farmers face due to influence of climate change impacts on the agricultural sector. And suggest plans & programs to mitigate climate change influence on their daily farming activities.	Agricultural Stakeholder-NGO
Maysoon Bseiso	Ministry of Health/ Env. Health Dir.	Demonstrate problems and diseases that might arise as a result of climate change impact, and provide information on present & future programs designed to prevent and reduce the spread of any possible diseases.	Stakeholder-Vulnerability and adaption/Public Health
Munjed Al-Sharif	UNCT/UNDP	UNDP funded Climate Change project coordinator on integration of CC in MDGs	Stakeholder
Eng Mohammad Dabbas	MEMR	Suggest issues relevant to the assigned task, and provide comprehensive feedback on JSA &TNC proposal especially to GHG inventory and generations and mitigation/forecasting.	National Taskforce Member
Mahmoud Smerat	Jordan Petroleum Refinery	To represent their industry and communicate their future plans to reduce their impact on the	Industrial Stakeholder



Stakeholder Consulted	Institution	Reasons for inclusion	Role in the self-assessment process
		surrounding environment.	
Eng. Nagham Al-Soub Eva Hammoudeh	Ministry of transport (MOT) Land Transport Regulatory Commission (LTRC)	Suggest issues relevant to the assigned task, and provide comprehensive feedback on JSA &TNC proposal in relation to the transport sector.	National Taskforce member Stakeholder
Sona Abu Zahra	Department of Statistics	Provide up to date statistics for demographic, economic, energy, agricultural, industrial sectors, etc.	Data/information Stakeholder
Saeb Khresat	Food and Agriculture Organization (FAO)	Demonstrate how the impacts of climate change will affect the food & agriculture sectors and provide information on present & future programs designed to reduce that impact. UNDP funded Climate Change project coordinator on integration of CC in MDGs	UNDP Stakeholder
Farah Attyyat	Al Ghad Newspaper	Newspaper -Media/To Communicate & publish all the findings and recommendations of this consultation workshop to the public.	Media/Stakeholder

## 9.2 Appendix B: Technical components of the project proposal

### 9.2.1 Description of components and activities

#### 9.2.1.1 National circumstances

##### *Baseline and issues identified*

- The national circumstances section of the SNC is largely still relevant in terms of geographic and other descriptive data related to land and natural resources.
- The demographic and socioeconomic data should be updated to reflect the most recent available statistics.

##### *Priorities and new areas for work under the TNC*

- Update relevant sections of the chapter on National Circumstances, and ensure that socioeconomic and gender mainstreaming data used in that chapter are consistent with the data used in other chapters and in modeling related to the TNC.

#### 9.2.1.2 Greenhouse gas inventory

##### *Baseline and issues identified*

- The greenhouse gas chapter of the SNC covers most relevant sectors and sources of GHG emissions.
- GHG data from the industrial, waste-related, energy and transportation sectors should be updated to reflect the most recent available statistics. See Outcome 1 in the body of this report for descriptions of specific activities.

##### *Priorities and new areas for work under the TNC*

- The GHG inventory for the SNC was conducted under the authority of the 1996 IPCC guidelines.
- Both the *2006 IPCC Guidelines for National Greenhouse Gas Inventories* and the 1996 IPCC Guidelines will be used to prepare the reports in an evolutionary manner to ensure that moving from the previous guidelines to these new guidelines is as straightforward as possible. These new guidelines cover new sources and gases as well as updates to previously published methods where technical and scientific knowledge have improved.
- The 2006 Guidelines are the latest step in the IPCC development of inventory guidelines for national estimates of greenhouse gases. In the opinion of the authors, they provide the best, widely applicable default methodologies and, as such, are suitable for global use in compiling national greenhouse gas inventories.
- The *2006 IPCC Guidelines* were prepared in response to an invitation by the Parties to the UNFCCC. They may assist Parties in fulfilling their commitments under the UNFCCC on reporting on inventories of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol, as agreed by the Parties. The *2006 IPCC Guidelines* are in five volumes. Volume 1 describes the basic steps in inventory development and offers the general guidance in greenhouse gas emissions and removals estimates based on the authors' understanding of accumulated experiences of countries over the period since the late 1980s, when national greenhouse gas inventories started to appear in significant numbers. Volumes 2 to 5 offer the guidance for estimates in different sectors of economy.
- The Terms of Reference specified that the revision should be based on, *inter alia*, the *1996 IPCC Guidelines*, *GPG2000*, *GPG-LULUCF*, and experiences from the UNFCCC technical inventory review process.

### **9.2.1.3 Programs containing measures to facilitate adequate adaptation to climate change**

The self-assessment exercise highlighted a number of current and ongoing issues particularly relevant to Jordan's climate change activities. **Detailed descriptions of each priority sector, as well as institutional capacity and relevant legislation and policies have been provided in the self-assessment document. In this section we focus only on the main outcomes and lessons learned, the understanding of which will be most important to those carrying out the TNC.** The information and findings presented here not only cover the SNC, but update information presented in the SNC to the present time.

#### **From the LULUCF Sector**

According to the 2009 National Agriculture Strategy, the main priorities in relation to LULUCF Development into the next phase are:

To mitigating the succession of drought by:

- Intensification of water harvesting (earthworks and excavations) in various regions, especially the pastoral areas
- Use of non-conventional water resources in agricultural production (forage production and the development of forestry resources).

The specific goals of the Agricultural Strategy are these:

- The completion of the agricultural land survey and soil classification in order to classify their use, and an integrated natural resources management approach (land and water) to maintain resources integrity and sustainability.
- To maintain environmental and natural resources safety and improve natural resources. (P:21)
- Development and protection of forest and grazing resources, and the increase of productivity of pastoral areas through:
  - Production of (5) million forest seedlings.
  - Forestation of (3500) dunums of land in the Kingdom and the cultivation of 100 km roadside trees.
  - Establishment of (16) Oasis in the Kingdom's various sites.
  - Development of 3 nurseries in the Kingdom's various sites.
  - Reforestation of land surrounding Dams (1000) dunums in the Kingdom's various sites.
  - Maintenance and protection of (1,300,000) dunums of forest land.
  - The protection and development of 10 million dunums of pastureland.
  - Establishment of water harvesting techniques (earthworks and excavations) in the pastoral areas with a capacity of (900 thousand) cubic meters.
  - Activation of the legislation on the protection of forest and pastoral Resources.

#### **From the Water Sector**

Due to the increasing of the water demand, Ministry of Water and Irrigation (MWI) adopted a Water Strategy 2008-2022 and aiming to make a balance between water demand and supply and emphasizing the role of private sector.

Climate Change scenarios indicate a certain probability for an additionally imposed hydro-environmental decline of Jordan's water resources. In order to protect its groundwater aquifers, Jordan will need to explore new water resources which will support its development.

In this context, alternative water resources may be defined as water resources that are not readily available and suitable for direct use and will include:

- Reuse of treated wastewater.
- Use of grey-water.
- Desalination of brackish water and of seawater
- Treated wastewater reuse must be for activities that provide the highest socio-economic return, and standards for use in agriculture will be continuously evolving and reinforced;
- Desalination projects and related infrastructure at the Red Sea must be supported to become operational in order to meet the emerging demands;
- Rainwater harvesting and grey-water use must be encouraged and promoted; and
- Energy resources must be developed to keep the cost of desalination as low as possible

**Water and health as cross cutting sectors:** Jordan is ranked among the poorest countries in the world in water availability, with a current per capita availability of 145 CM/year, already far below the water poverty line, and well below that of any Western European country. Climate change is expected to decrease surface water availability by 20-40% over the next half century (Abdulla, 2003), which will reduce the per capita water share for Jordanians. The Jordanian Ministry of Water and Irrigation has a strategy to guarantee domestic water security by promoting, among other measures, marked increasing use of treated wastewater as a strategic alternative water supply.

- The heavy and increasing use of treated wastewater in Jordan occurs in a manner that is considered to pose potential risks to human health. Unless new adaptive measures are implemented, this change in the water strategy will cause direct and indirect health risks to the population. International and local studies show that increasing use of wastewater in agriculture, driven partly by climate change, will increase health risks
- The consumption of or exposure to pathogenic microorganisms, heavy metals, harmful organic chemicals such as endocrine disrupting compounds and pharmaceutically-active compounds. Analysis of the available data in Jordan give a preliminary indication that areas that make heavy use of wastewater; Deir Alla, South Shauna, Madaba, Jarash, Ramtha, and Balqa have higher rates of key diseases associated with poor water quality (e.g. diarrhoea and Nematode worms) than those reported for the rest of the country.
- The assessment in SNC further highlighted key vulnerable populations, including farm workers, their families, neighboring communities and the consumers of the crops. Geographic locations downstream of wastewater treatment plants include the part of Zarqa River from the Assamra wastewater treatment plant to King Talal Reservoir and from the KTR outflow to the point of mixing with water coming from King Abdullah Canal (Yarmouk river water), at Abu Al Zeighan near Deir Allah.

**Table 3 Proposed adaptation projects for the water sector up to the year 2020**

No.	Project/Program Name	Total cost (Million US\$)	Additional Cost (Million US\$) <sup>a</sup>	Implementing Agency
1	Disi Water Conveyance Project	1075	430	MWI
2	Red-Dead Project	5000	2000	MWI
3	Millennium challenge project MCC/service water tender to study the value of technical and environmental aspect for rebuilding and re habitation of the water system in Zarqa city p1-A and P1-B	4.23	1.69	MWI

No.	Project/Program Name	Total cost (Million US\$)	Additional Cost (Million US\$) <sup>a</sup>	Implementing Agency
4	Repair and rehabilitation project (RRF) for Water Supply network for Jeresh/Balela, Abu Eiat, Sakeb, Bani Obead, Alrmtha, and Bani Kenanah	42.09	16.84	MWI
5	Water loss reduction project (WLRP) for Northern Governorates	31.82	12.73	MWI
6	Rehabilitation of water conveyance system for northern governorates (Hofa-Alzatari conveyance)	45.12	18.05	MWI
7	Water resources management program WRMP (Water Loss Reduction in the middle and northern parts of Jordan, reuse of treatment waste water in Northern Jordan Valley, reduce water loss in Amman city)	122.67	49.07	MWI
8	Water Loss reduction project for Karak city	42.24	16.90	MWI
9	Water loss reduction project in Northern governorates	31	12.41	MWI
10	Improvement of water supply in Zarqa city 2 <sup>nd</sup> stage	21.15	8.46	MWI
11	Improve the mechanical services to farmers	5.5	2.2	MWI
12	Wastewater system collection (sewer network) project	58.23	23.29 M	MWI
13	Enhancement of Monitoring systems	2.93	1.17	MWI
14	Irrigation improvement projects	13.1	5.24	JVA
15	Dam construction program: Ibn Hammad Dam, Khaled ibn Alwaleed dam, Al-whihdee Dam, Al-Karak Dam, Kufranja Dam etc.	86.74	34.7	JVA
16	Operation and Maintenance Program for King Abdullah Canal (KAC)	15.09	6.03	JVA
17	Early Warning System for Floods	6.0	6.0	JMD
<b>Total</b>		6.60 billions	2.64 billions	

<sup>a</sup> Incremental cost is assumed to be 40% of the total cost.

Reference: The National Environmental and Economic Development Study (NEEDS) for Climate Change report (JUST 2010)

### The Agricultural Sector

The main axes of the priorities of Agricultural Development plans for the next phase emphasize mitigating the succession of drought by:

- Intensification of water harvesting (earthworks and excavations) in various regions, especially the pastoral areas.
- Use of non-conventional water resources in agricultural production (forage production and the development of forestry resources).

- Implementation of water harvesting projects at the farm scale and conservation of water resources.
- Enact legislation to control drilling of wells and the exploitation and desalination of brackish wells for agricultural production.
- Developing and directing agricultural research towards efficient irrigation programs and crops varieties and types resistant to drought and encourage cooperation between research institutions in this regard.
- Development of irrigation water management in the Jordan Valley to reduce water loss and the involvement of farmers' water users associations in the planning and management of water resources.
- Encourage protected crops technologies instead of open cropping techniques.
- Facilitate soft loans for the implementation of water harvesting techniques in agriculture.
- Follow-up on the procedures for the establishment of an agricultural risk management fund and the establishment of its board of directors.
- As for the adaptation costs, Total budget and workplan table presents the costs of adaptation project for agriculture and water sectors, respectively. It was estimated that the total cost of needed projects in agricultural sector is 308.6 million US\$ and the additional cost is 154.3 million US\$. Concerning the water sector, the total cost of the projects and programs was estimated to be 6.6 billion and the additional cost was estimated to be 2.64 billion up to the year 2020. On the long term basis, up to the year 2050, additional 4.5 billion US\$ for mitigation and 5 billion US\$ for adaptation projects and programs will be needed.

**Table 4 Proposed adaptation projects for the agricultural sector up to the year 2020**

No.	Project/Program Name	Estimated Total Cost (Million US\$)	Additional Cost (Million US\$) <sup>a</sup>	Implementing Agency
1	Introduce water harvesting techniques in rangeland	3.3	1.65	MoA
2	The protected crops project	15	7.5	MoA
3	Water harvesting	25.4	12.7	MoA
4	Enhancement of irrigation efficiency by using fertilized irrigation	42.8	21.4	MoA
5	Rehabilitation of Desert lands	167.8	83.9	MoA
6	Program for development of Desert Projects	9.0	4.5	MoA
7	Rehabilitation and development of forest and rangeland areas	37.8	18.9	MoA
8	Agricultural sustainability of Petra Region	7.5	3.75	MoA
<b>Total</b>		<b>308.6</b>	<b>154.3</b>	

<sup>a</sup> incremental cost is assumed as 50% of the total cost

Reference: The National Environmental and Economic Development Study (NEEDS) for Climate Change report (JUST 2010)

### **The Health Sector**

As of the publishing of the SNC, Jordan was at an early stage of assessment of health-related measures for adaptation to climate change. Suggested adaptive strategies at a national level to minimize impacts of climate change on population's health:

- Undertake assessment of health vulnerability to climate change and generate a national health vulnerability profiles with two explicit objectives:
  - Identifying direct and indirect threats to health from climate change; and
  - Assessing the health systems preparedness to cope with additional burden of climate change.
- Strengthen the health systems monitoring of the health impacts of climate change by establishing capacity for early warning on climate sensitive diseases integrating information on meteorological condition and other environmental determinants of health within existing health information systems and disease surveillance systems.
- Revitalize existing environmental health functions and services, within and outside the formal health sector, that already protect health from environmental risk factors, in order to respond to the additional threats of climate change. Priority threats are water security for health, water quality degradation, droughts, heat waves, food security and safety, vectors redistribution, air quality degradation, floods and other climate related natural disasters.
- Strengthen health systems' preparedness to cope with the additional burden of climate-sensitive health problems.
- Priority groups of diseases are water-borne diseases, food-borne disease, malnutrition associated with food insecurity, health effects of heat waves and extreme cold conditions, respiratory and other diseases associated with air pollution, vector diseases and health effects of climate related disasters.
- Undertake interdisciplinary applied research and demonstration projects on health vulnerability to climate change and on effectiveness of health protection measures.
- Support “healthy” Development Strategies in other sectors that protect and promote health and mitigate climate change. The suggested approaches are to:
- Strengthen the institutional capacity of the public health systems for providing guidance and leadership on health protection from climate change. The suggested approaches are to:
- Specific issues that can be identified through the vulnerability review and stakeholder consultation process can be outlined for Adaptation Policy Frameworks, and are:
  - Water-stress;
  - Related cardiovascular diseases;
  - Floods and drought;
  - Water quality and water quantity in Jordan;
  - Changing transmission intensity and distribution of malaria in the highlands; (not Jordan specific) and
  - Intestinal, cardiovascular and respiratory diseases associated with Heat stress and water-stress in Jordan
  - Monitoring data from the Jordanian meteorological agency show increases in the magnitude and frequency of extreme temperatures. As detailed in the SNC, Climate change is projected to result in higher temperatures and lower precipitation in Jordan. However, Based on current and projected climate changes, and the known environmental stresses on health,
  - Climate change-related impacts include increasing water scarcity, and its secondary effects, can be viewed as the highest priority threats to health within Jordan.

#### **9.2.1.4 Programs containing measures to mitigate climate change**

The self-assessment exercise highlighted a number of current and ongoing issues particularly relevant to Jordan's climate change activities. **Detailed descriptions of each priority sector, as well as institutional capacity and relevant legislation and policies have been provided in the self-assessment document. In this section we focus only on the main outcomes and lessons learned, the understanding of which will be most important to those carrying out the TNC.** The information and findings presented here not only cover the SNC, but update information presented in the SNC to the present time.

### **From the Energy Sector**

Table 5 presents the costs of the mitigation projects for the energy sector. From the tables, it can be observed that the total cost for energy projects up to the year 2020 is 8.265 billion US\$ and the incremental cost is 3.22 billion US\$. On the other hand, the total baseline cost for the waste sector is 250 million US\$ and the total incremental cost is 125 million US\$.

The total costs of the proposed projects for energy sector were obtained from the Jordanian public budget and from the government strategic plan. On the other hand, the incremental costs were calculated for energy sector based on comparing the cost and carbon emissions of alternative energy sources (natural gas, wind energy, solar energy) to baseline scenario of using fuel oil. It should be noted that for some projects the total cost is equal to the incremental cost. This is because these projects are will be totally implemented to mitigate the climate change impact.

### **From the Transport Sector**

Several policies have been recommended in the National Strategy Proposal 2009-2011 to develop the institutional and regulatory framework necessary to improve public transport. This report is particularly interested in those policies which would reduce pollution. The policies are as follows:

- Policy A: Establish a sustainable and efficient framework for public transport services with a focus on social mobility.
- Policy B: Improve the mobility of the urban and rural populations through management and operation of public transport services.
- Policy C: Increase the operational efficiency of public transport services.
- Policy D: Develop environmentally sustainable public transport services.
- Policy E. Promote environmentally friendly freight transport solutions.
- Policy F. Improve the safety conditions when carrying out road transport operations.

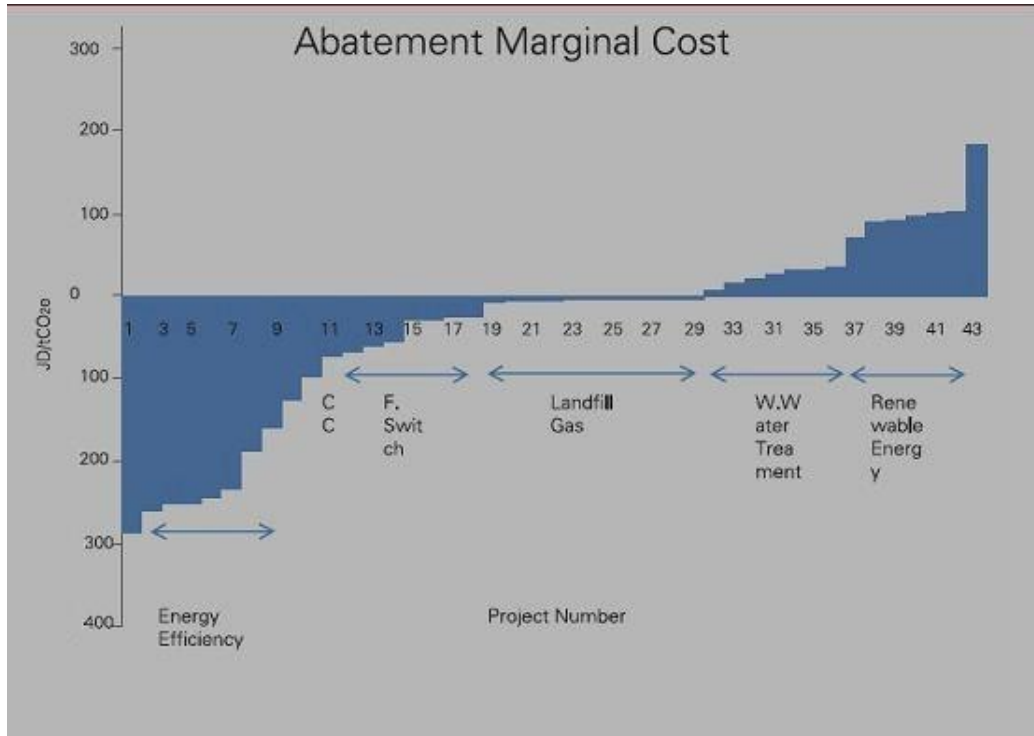
### **From the Industrial Sector**

The following key findings were recommended by a World Bank Country Environmental Analysis (CEA) for use as first indications of areas of policy interest, but revisited on the basis of Jordan-specific industrial emission data as soon as they become available:

- The bulk of pollution originates from enterprises located in the Amman and Zarqa industrial districts; the relatively lower share of total pollution in Irbid and Zarqa is associated to advanced forms of localized environmental degradation.
- While at the national level most of the pollution comes from (larger) industrial enterprises (70% to 90% depending on the pollutant), in Irbid, and particularly Zarqa, micro enterprises are an important source of pollution, accounting for up to 60% of some emissions (i.e. BOD in Zarqa)
- At the national level, the chemical, medical and engineering/ electrical sectors account for the larger contributions to most polluting emissions.
- Pollution shares of industrial subsectors vary by location. The ranking of polluting industries per medium in Amman and Zarqa is similar to that at the national level.



- Mining is important in terms of air pollution. However, because it is remotely located with respect to urban areas, it is difficult to determine its importance in terms of health impacts.
- Projections of environmental pressures for 2012 and 2017 indicate that top 4 polluting industry will remain the same (chemical, medical, engineering/ electrical and construction sectors).
- Targeting abatement efforts to air pollution, where 80% of total emissions can be obtained by focusing on the food, chemicals, medical and plastic sectors.



**Abatement marginal cost for the mitigation projects proposed by the SNC (1JD = 1.5 US\$)**  
 Reference: The National Environmental and Economic Development Study (NEEDS) for Climate Change report (JUST 2010)

**Table 5 Proposed mitigation projects for the energy sector up to the year 2020**

No.	Project/Program Name	Estimated Total Cost (Million US\$)	Incremental Cost (Million US\$)	Reduced CO <sub>2</sub> emissions quantities (ton/year) Adaptation/Mitigation	Implementing Agency
1	Second Independent Power Producer (IPP) of Qatraneh to Produce 373 MW	449	82.6	866,526	MEMR
2	Third Expansion Project of Samra Power Station to Produce 285 MW	196	65.5	662,090	MEMR
3	Natural Gas (N.G) Distribution Network in Amman & Zarqa	260	260	Infrastructure for supply purpose	MEMR
4	AL-Kamshah Wind Power Project (40MWe)	92	60	230,759	MEMR
5	Fujeij Wind Power Project (80-90) MW	207	135	519,208	MEMR
6	1 MWe PV Project	5.13	4.33	5769	MEMR
7	Supply natural gas to the 2 <sup>nd</sup> Special production electricity project /Alqatranah 373 MW, and to Samra electricity station 285 MW	13.54	13.54	Infrastructure for supply purpose	MOEMR
8	Finance energy efficiency programs in industrial sector	56.4	56.4	Mitigation	MEMR
9	Establishment of wind database	28.2	28.2	Mitigation	NERC and JMD
10	Establishment of Solar radiation database	98.7	98.7	Mitigation	NERC
11	Energy efficiency lamp project	513.2	513.2	Mitigation	NERC
12	National Railway project	5823	1746.9	Mitigation	Ministry of Transport
13	Light railway project between Amman and Zarqa Cities	522	156.6	Mitigation	Ministry of Transport
<b>Total</b>		8.265 Billion	3.220 Billion		

- Estimated cost were calculated based on fuel oil usage as a source of energy
- Distance from Aqaba to Samra is 393 km, and the cost of pipe line installation per km is 800,000 US \$. This cost is distributed among all the power stations that utilize natural gas based on their installed capacities. In addition, a cost of 10 M US\$ is added for internal installations for each power station.
- Reference: The National Environmental and Economic Development Study (NEEDS) for Climate Change report (JUST 2010)

## From the Waste Sector

**Table 6 Proposed mitigation projects for the waste sector up to the year 2020**

No.	Project/Program Name	Estimated Baseline Cost (Million US\$)	Incremental Cost (Million US\$)	Implementing Agency
1	Landfill with biogas plant for the Middle Region of Jordan	60	30	MoEnv and GAM
2	Landfill with biogas plant for Northern Jordan	50	25	MoEnv and MMA
3	Landfill with biogas plant for Southern Jordan	40	20	MoEnv and MMA
4	Rehabilitation of the existing landfills with erection of biogas plants	100	50	MMA
<b>Total</b>		250	125	

Reference: The National Environmental and Economic Development Study (NEEDS) for Climate Change report (JUST 2010)

### 9.2.1.5 Other information considered relevant to the achievement of the objective of the Convention

The National Environmental and Economic Development Study (NEEDS) for Climate Change report (JUST 2010) stated that in Jordan, climate change is expected to affect the quantity and quality of the country's water resources. To assess the impact of climate change on Jordan, it was necessary to construct the future climate change scenarios. Therefore, in the SNC report, outputs of 13 Global Climate Models (GCMs) were analyzed for Jordan and consequently the most comparable 3 GCM models to the observational data were selected to construct climate change scenarios for the projection period 2005 – 2050. These models are: the Australian model CSIRO-Mk3 (Commonwealth Scientific and Industrial Research Organization (CSIRO) Model), the German model ECHAM5OM (The 5th generation of the ECHAM general circulation model) and the British model, HADGEM1 (HADley Center Global Climate Model). **The modeling should be updated using IPCC working group V data, if that is available, and updating the baseline scenarios for forecasting from 2005 to at least 2010. It should be re-evaluated if Hadley, CSIRO, and the Australian model are best.**

### 9.2.1.6 Constraints and gaps, and related financial, technical and capacity needs

The priority capacity constraints were identified in the Second National Communication (SNC), and the filling of the identified gaps, and loosening of the identified constraints, has become the subject of this TOR for the TNC. The self-assessment document contains an exhaustive list of gaps and climate change capacity constraints identified within the SNC, by the stakeholder committee, and through the consultant's broader survey of the reports and documents related to climate change activities in Jordan. Furthermore, this TOR has translated the identified gaps and constraints into activities listed under the outcomes in the main body of this report.

The National Capacity Self Assessment for Global Environmental Management (NCSA)- Jordan, Ministry of Environment 2005 identified national priorities in capacity development for implementation of the UNFCCC is a complex process that involves detailed analysis of the country's obligations stated under the UNFCCC and the specific national characteristics.

The Climate Change Taskforce identified a set of 15 priority capacity development constraints, ranked by a national consultation meeting that included around 30 national institutions, that should be further screened and re-prioritized by national stakeholders for re-financing the task of developing the national capacity development action plan based on real needs and concerns. The priority constraints to be further analyzed in the next phase are listed as follows (expanded and explained in the text of the self-assessment):

1. National Capacity building for developing Mitigation measures
2. Lack of economic incentives for climate change mitigation and adaptation
3. Weak Institutional and technical capacity development for the Climate Change focal point at the Ministry of Environment
4. Capacity Building for implementing the CDM
5. Developing linkages between research, systemic observation and policy making.
6. Technology Inventory and Transfer
7. Lack of clear and systematic integration of the UNFCCC main concepts in the national policy formulation process
8. Capacity Development for Energy Efficiency
9. Capacity Development for Practical Education and Training
10. Capacity development for Knowledge management and networking
11. Improving the Quality of Future National Communication Reports
12. Capacity Development for National GHG inventory
13. Capacity Development for National Adaptation Plans
14. Creating an enabling environment for renewable energy
15. Capacity Development for Resource Mobilization

## 9.3 Appendix C: Terms of Reference

### 9.3.1 TOR for National Project Manager (NPM)

In consultation with the Project Board and UNDP CO, the NPM is responsible for day-to-day management, co-ordination and supervision of the implementation of the 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 work plan;
- Prepares a detailed work plan for the project and drafts TORs for the subcontracts (in consultation with UNDP);
- Compiles the scope and content of the overall TNC 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 hires/subcontracts the national experts and institutions (in consultation with the 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 extent possible;
- Identifies and ensures synergy of the TNC with other relevant ongoing/new projects;
- Finalizes the TNC along with the government personnel and national experts;
- Ensures that the TNC 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 Jordan's climate change web page;
- Collaborates with all relevant stakeholders and the Project Steering Committee and other partners to ensure their involvement in the TNC.

#### Qualifications and Experience

- Master's degree in environment-related studies or other related disciplines;
- Good understanding of Jordan's environment/development issues as well as the three thematic areas under investigations;
- At least six to eight years experience in the field of desired study;
- Excellent communication (written and oral) skills in English and Arabic;
- 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 in working with government structures at local levels, and working with NGOs and private sector;
- Substantial knowledge in the preparation of the national GHG inventory and the Second National Communication is mandatory;
- Substantial knowledge of methodologies for inventories (*IPCC 2006 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;
- English fluency is absolutely necessary.

### **9.3.2 TOR for National GHG Inventory Team Leader**

The National GHG inventory Team Leader, will be hired full-time basis and should work in consultation with and under the guidance and supervision of the National Project Coordinator. Specifically, his\her responsibilities are but not limited to the following:

- Assists the NPC 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 NPC 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 reports to the NPC 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 Projects on GHG inventories;
- Ensures the timely and effective management of the activities as scheduled;
- Selects and implement, in consultation with NPC, 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 Jordan's TNC along with the respective part of the executive summary;
- Leads and coordinates the updating of the Manual of Procedures in the light of the new findings under the TNC exercise;
- Archives new data and estimates of new inventory.

#### **Qualifications and experience**

- An advanced degree in energy, environmental management or other fields 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 Second 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;

### **9.3.3 TOR for GHG Abatement Analysis Team Leader**

The team leader of GHG Abatement Analysis will be hired on part-time basis and should work in consultation with and under the guidance and supervision of the National Project Coordinator. Specifically, his/her responsibilities are but not limited to the following:

- Assists the NPC 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 reports to the NPC 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 NPC, on methodologies for the elaboration of scenarios;
- 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 Jordan's TNC along with the respective part of the executive summary;
- Oversees the documentation and archiving of the studies made.

#### Qualifications and experience

- An advanced degree in energy and/or environmental management or other fields relevant to the project;
- A minimum of 7 years of working experience in areas relevant to the Climate Change;
- Substantial involvement in the preparation of the Second National Communication is mandatory (inventory and abatement and analysis);
- Good understanding of GHGs inventory process and projection;
- Demonstrable knowledge of IPCC 2006, IPCC GPG, LEAP etc;
- Demonstrated ability of analytical and drafting work;
- Familiarity with computers and word processing;
- Fluency in English.



### **9.3.4 TOR for V&A Team Leader**

The Vulnerability and Adaptation sector team leader will be hired on part-time basis and should work in consultation with and under the guidance and supervision of the National Project Coordinator. Specifically, his\her responsibilities are but not limited to the following:

- Assists the NPC 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 NPC 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 NPC, decides on approaches (not concluded under stocktaking phase) to be used if necessary;
- Leads and oversees the development baseline climate and socio-economic scenarios and impacts 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 Jordan's TNC along with the respective part of the executive summary;
- Oversees the documentation and archiving of the studies made.

#### Qualifications and experience

- An advanced degree in energy and/or environmental management or other fields relevant to the project;
- A minimum of 7 years of working experience in areas relevant to the Climate Change;
- Substantial involvement in the preparation of the Second 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 2006, MAGIC / SCHENGEN etc;
- Familiarity with computers and word processing;
- Fluency in English.

### **9.3.5 TOR for Socio-Economist**

The Socio-Economist will be hired on part-time basis and should work in consultation with and under the guidance and supervision of the National Project Coordinator.

Specifically, his\her responsibilities are but not limited to the following:

- Develops the scope of work and respective terms of references for the team members;
- Prepares a detailed work plan for the Socio-Economic tasks;
- Assists the NPC in establishing the team of experts for performing the Socio-Economic and Gender analysis;
- Cooperate with all relevant stakeholders and the Project Steering Committee and other partners;
- Leads the data collection process, including surveys;
- Archives new data and estimates of Socio-Economic and Gender analysis;
- Decides, in consultation with NPC, on methodologies for the elaboration of scenarios;
- Prepares periodic progress reports of the project;
- Organizes the scheduled consultations/workshops and ensure their success;
- Incorporates comments received from the review process;
- Oversees the documentation and archiving of the studies made.

#### **Qualifications and Experience**

- An advanced degree in Economic, socio-economic or other relevant fields;
- A minimum of 7 years of working experience in the area relevant to the socio-economic analysis;
- Demonstrated ability of analytical and drafting work;
- Excellent communication (written and oral) skills in English and Arabic;
- Familiarity with computers and word processing (EXCEL, ACCESS);
- Substantial involvement in the preparation of the Second National Communication is mandatory (inventory and abatement and analysis);
- Good understanding of GHGs inventory process and projection;
- Fluency in English.

### **9.3.6 TORs for Project Assistant (Administrative and Finance Assistant)**

The Administrative and Finance Assistant will work under the direct supervision of the National Project Manager and provide assistance to project implementation in the mobilization of inputs, the organization of training activities and financial management and reporting. The Administrative and Finance Assistant will be responsible of the following duties:

- Prepare all payment requests, financial record-keeping and preparation of financial reports required in line with NEX financial rules and procedures;
- Assistance to the recruitment and procurement processes, checking the conformity with UNDP and the Government rules and procedures;
- Assistance to the organization of in-country training activities, ensuring logistical arrangements;
- Preparation of internal and external travel arrangements for project personnel;
- Maintenance of equipment ledgers and other data base for the project;
- Routine translation/interpretation during projects meetings and drafting of correspondence as required;
- Maintain project filing;
- Other duties which may be required.

#### **Qualifications and Experience**

- University Degree, some training in business and/or administration desirable (finance or accounting);
- At least five years administrative experience;
- Good organizational skills;
- Good computer skills, including spread-sheets and database;
- Languages: High proficiency in English.

### **9.3.7 TOR for Climate Change National Committee (CCNC)**

In order to ensure a successful implementation of the UNDP-GEF climate change project, the Ministry of Environment of Jordan as the Executing Agency of this project has agreed on establishment of a Project Coordinating Committee (PCC), being chaired by the National Project Coordinator (NPC) and composed of senior officials from the relevant ministries, research institutes, UNDP, NGOs and academic institutions.

Since a National Climate Change Committee (NCCC) has already been established in Jordan by the Prime Ministers' decree dated 3rd April 2001, and since NCCC works under the umbrella of the Ministry of Environment and includes representatives from all concerned institutions, it may be beneficial to assume that the NCCC will play the role of the PCC after having the composition of its members modified as appropriate.

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

- Provides assistance and political support to National Project Coordinator and national experts and counterparts during the implementation process of all project activities;
- Reviews and makes necessary comments on all draft documents prepared by the national climate change team;
- Receives information on a regular basis about the status of implementation of the project activities and problems faced with. The NPC submits the status report on the implementation of project activities.

Rules under which PCC operates:

- NPC serves as Moderator of PCC meetings. NPC chairs the PCC meetings;
- PCC meets not less than three times during the project lifetime. In special cases the PCC shall meet upon the initiative of the NPC.
- When the PCC does not meet, the NPC 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 be put to a vote. Voting is performed through secret balloting.

### **9.3.8 TOR Project Board**

#### **Membership**

Initial membership consists of:

- Ministry of Environment (chair)
- Ministry of Planning and International Cooperation / GEF OFP
- UNDP

#### **Duties**

- Review, comment upon and recommend changes of quarterly work plans and budgets, project monitoring and evaluation reports, and progress reports;
- Follow up, approve and recommend administrative issues of the project such as recruitment, TORs, etc;
- Ensure consistency with the NEX execution modality;
- Facilitate co-ordination with other government projects and programs;
- Facilitate consultation with, and participation of, a broad range of stakeholders.

At the first meeting of the PMC, the PMC members will review this TOR and the PMC membership, and adopt changes as appropriate.

#### **PMC Procedures**

Each 3 months, following the project document signature, the National Project Coordinator will distribute to the PMC a progress report describing project progress, the financial status of the project,

#### **Meetings**

The PMC shall meet at least quarterly during the duration of the project. More frequent meetings are possible, if need arises. The Ministry of Environment will organize the meetings and the National Project Coordinator will act as Secretary. The NPC will prepare and distribute all concerned documents in advance of meetings, including the meeting agenda. The NPC will prepare the Minutes of Meeting of the PMC, which are to be signed by the participants and kept on file.

## **9.4 Appendix D: Endorsement letters**

- GEF Operational Focal Point
- UNFCCC Focal Point

**SIGNATURE PAGE**

**Country: Jordan**

**UNDAF Outcome (s)/Indicator (s):** *Link to UNDAF Outcome. If no UNDAF, leave blank.*

**CPAP Outcome (s)/Indicator (s):**

**CPAP Output (s)/Indicator (s):**

Executing Entity/Implementing Partner  
Implementing entity/Responsible Partner

Programme Period:	2011-2013	Total resources required	<u>\$480,000</u>
Atlas Award ID:	00060123	Total allocated resources:	_____
Project ID:	00075554	• Regular	_____
PIMS #	4463	• Other:	_____
Start date:	October 2011	○ GEF	_____
End Date	October 2013	○ Government	_____
Management Arrangements	NIM	○ In-kind	_____
		○ Other	_____


**Agreed by (Government):**



NAME \_\_\_\_\_  
Date/Month/Year

SIGNATURE

**Agreed by (Executing Entity/Implementing Partner):**

Ministry of Environment 

NAME \_\_\_\_\_  
Date/Month/Year

SIGNATURE

**Agreed by (UNDP):**



NAME \_\_\_\_\_  
Date/Month/Year

SIGNATURE