

Joint Programme Document

1. Cover Page

Country: JORDAN

UNDAF Outcome(s): Outcome 3: Healthy and sustainable environment

Joint Programme Outcome(s):

Outcome 1: Sustained access to improved water supply sources despite increased water scarcity induced by climate change.

Outcome 2: Strengthened adaptive capacity for health protection and food security to climate change under water scarcity conditions

Programme Title:
Adaptation to Climate Change to Sustain Jordan's MDG Achievements

Programme Duration:
(Start/end dates): Three years from inception

Fund Management Option(s): Pass-through

Managing or Administrative Agent: UNDP
(if/as applicable)

Total estimated programme budget: \$4,126,667
Out of which:

1. Planned resources:

- UNDP and others \$126,667
(from which UNDP WGF at SIWI contributes \$105,000)
- Spain MDG Achievement Fund \$4,000,000

MDG- F Joint Programme

Jordan: Adaptation to Climate Change to Sustain Jordan's MDG Achievements

Consultations processes which have taken places as part of the formulation process

Meeting	Date / Place	Outcomes	Organizations / Participants
UN team meeting	UNDP / 23 August 2007	Discuss/review the following: 1- The approved concept note 2- The convener recommendations 3- The new guidelines to develop the JP with the new JP template. 4- The proposed work-plan to develop the JP.	UNDP, UNESCO, FAO, WHO/CEHA
UN team meeting	UNDP	Agree on the review process, agree on the TORs for the national consultant to prepare the full JPD and the role of each agencies	UNDP, UNESCO, FAO, WHO/CEHA
Coordination meeting	UNDP/ 3 September	Discuss next steps. Brief the government representative on the whole process	UNDP, Spanish Government
UN team meeting	UNDP / 13 September	Finalized the TORs, agree on the national consultants, and the action plan for the process	UNDP, UNESCO, FAO, WHO/CEHA
UNCT and National Consultants	UNDP	Review the TORs, agree with the national consultant team on	UNDP, UNESCO, FAO, WHO/CEHA.

		the timeframe, discuss the panel's comments/ recommendations	JUST = Jordan University for Science and Technology – 4 professors – National consultant team
National Stakeholders meeting	UNDP,	Review the concept note, Review the comments received and agree on next steps. Agree on the national stakeholders' workshop, 19 September 2007.	UNDP, UNESCO, FAO, WHO/CEHA, JUST, Ministry of Environment, Ministry of Agriculture, AECI –Spanish Government
National Stakeholders Workshop	UNDP / 19 September 2007	Present the Concept Note. Field discussion on pilot projects in Zarqa River Basin. Conduct a SWOT analysis for the project	43 organizations were invited
National Stakeholders meeting	UNDP / 1 October 2007	Discuss the result of the stakeholders workshops and the integrations of the workshops outcomes in the programme documents	UNDP, UNESCO, FAO, JUST, Ministry of Environment, Ministry of Agriculture, AECI –Spanish Government, National Agriculture Research Center, Land and Irrigation Department, Ministry of Health.
National Stakeholders meeting	WHO/ CEHA 1 October 2007	Review the draft document. Different donors to present their work linked to WHO initiative.	WHO, JUST, WHO's partners
National Stakeholders meeting	FAO / 2 October 2007	Review the draft document. Different donors to present their work linked to FAO initiative.	FAO, JUST, FAO's partners

National Stakeholders meeting	UNDP/ 3 October 2007	Review the draft document. Different donors to present their work linked to UNDP initiative.	UNDP, Ministry of Planning and International Cooperation, Ministry of Environment, USAID, World Conservation Union (IUCN) , AECI- Spanish Government
National Stakeholders meeting	UNESCO / 4 October 2007	Review the draft document. Different donors to present their work linked to UNESCO initiative.	UNESCO, JUST, UNESCO's partners
<i>National Steering Committee Meeting</i>	<i>Ministry of Planning and International Cooperation</i>	<i>Review and sign off the document</i>	<i>Ministry of Planning and International Cooperation – The secretary general. Government of Spain- UN Resident Coordinator</i>

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<i>FAO</i>	<i>Ministry of Agriculture</i>
<i>UNESCO</i>	<i>Ministry of Education</i>

ABBREVIATIONS

AA	Administrative Agent
AOM	Agency Output Managers
CBO's	Community Based Institutions
CCA	Common Country Assessment
CEHA	Centre for Environmental Health Affairs
CPAP	Country Programme Action Plan.
DOS	Department of Statistics
EU	European Union
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
GEF	Global Environment Facility
HACT	Harmonized Approach to Cash Transfer
HIV	Human Immunodeficiency Virus
INC	Initial National Communication
IUCN	The World Conservation Union
IWRM	Integrated Water Resources Management
JP	Joint Programme
MDG-F	Millennium Development Goals Fund
MDGs	Millennium Development Goals
MOA	Ministry of Agriculture
MOE	Ministry of Education
MOEnv	Ministry of Environment
MOH	Ministry of Health
MOPIC	Ministry of Planning and International Cooperation
MWI	Ministry of Water and Irrigation
NCARE	National Center for Agricultural Research and Extension
PNA	Palestinian National Authority
NGO's	Non-Governmental Organizations
NSC	National Steering Committee
PMC	Programme Management Committee
SCCF	Special Climate Change Fund
SNC	Second National Communication
TAG	Thematic Advisory Group
UN	United Nations
UNCT	United Nations Country Team
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCC	United Nations Framework Convention to Climate Change
UNRC	United Nations Resident Coordinator
UNU	United Nations University
WHO	World Health Organization
WTO	World Trade Organization
ZRB	Zarqa River Basin

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2. Executive Summary

This Joint Programme (JP) is submitted by four UN organizations working in Jordan including UNDP, WHO-CEHA, FAO, and UNESCO. It is submitted to the UNDP/Spain MDG Achievement Fund under the MDG-F Environment and Climate Change thematic window. The key national partners in this programme include the Ministry of Environment (MOEnv), Ministry of Health (MOH), Ministry of Agriculture (MOA), and Ministry of Education (MOE). The programme will also be supported by the UNDP Water Governance Facility at SIWI as it is in line with the strategy for UNDP's water governance programme. Other institutions, societies, and NGO's will be involved in the programme activities also.

Jordan made strategic advances towards the achievement of Millennium Development Goals (MDGs) including reduction of poverty rates from 21% in 1997 to 14% in 2005 (MDG 1), achieving adult literacy rate of 97% (MDG 2), infant mortality rate of 24 per 1000 (MDG 4), 97% access to water, and 65% access to sanitation (MDG 7). However 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 programme 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.

These outcomes address identified barriers to adaptation and provide support to Jordan's national strategies and action plans for sustainable management of its natural resources; reducing poverty; and enhancing health indicators. Barriers to adaptation include:

- a) Climate change risks not sufficiently taken into account within sectoral policies and investment frameworks;
- b) Existing climate information, knowledge and tools are not directly relevant for supporting adaptation decisions and actions; and
- c) Weak national capacity to develop sectoral adaptation responses.

Sought outcomes of this JP are further translated into outputs and activities which are planned to be implemented within the project period which extends for three years from the date of inception. This JP will develop Jordan's key government and civil society counterparts' capacity to adapt to climate change threats to health, food security, productivity, and human security under the conditions of severe water scarcity that is expected to be compounded by climate change. Moreover, the capacity of vulnerable communities, including women and the poor, within the Zarqa governorate and other rural / urban pilot areas to adapt to climate change will be strengthened.

3. Situation Analysis

Jordan is a small, resource-starved, middle-income country. The total area of Jordan is 89297 km² mostly desert land. The country is classified as semi arid to arid region with annual rainfall of less than 200 mm over 90% of the land.

In 2005, the Jordanian population was reported at 5.5 million inhabitants, growing at an average rate of 2.3%. Its relatively young population characterizes the country, with 37.3% of its inhabitants below the age of 15 (DOS 2005).

The average family size is 5.4 persons with a per capita GDP of \$2,323. The Jordanian work force distribution shows that 17.9% of the populations above 15 years work in trade, compared to 11.6% in manufacturing, 11.3% in education, 4.9% in health and social work, and 3.4% in agriculture. The national unemployment rate is 14.8 % (DOS 2005).

About 82.3% of the population lives in urban areas, mainly in Amman, Irbid, and Zarqa. The Zarqa River Basin, home to over half of Jordan's population and base for over 50% of its industries, has been identified by the National Agenda as environmental and social priority area. Jordan's National MDG Report (2004) identifies Zarqa for focused development attention. Water resources in the basin suffer from over-abstraction and pollution and the Initial National Communication (INC) studies indicate that climate change will negatively impact the situation in the Basin.

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 (MDG 1), increasing adult literacy rate to 97% (MDG 2), achieving infant mortality rate of 24 per 1000 (MDG 4) and increasing the intermittent access to water supply to 97% and access to sanitation to 65% (MDG 7). The Common Country Assessment (2006) described Jordan's progress towards the achievement of the Millennium Development Goals (MDGs) as on track to be met by 2015. This progress is indicated by an array of positive human development indicators ranked Jordan at 86 out of 177 countries in 2006 with a score of 0.76. The population is well educated and the life expectancy stands at 71.5 years (DOS 2005). According to WHO statistics, Jordan is ranked 79th out of 191 WHO member states in terms of life expectancy, and 88th in terms of under 5-years mortality. The sustainability of these gains, is, however, threatened by several factors:

- (a) *High fertility* - despite the drop in fertility rates over the past decade, Jordan's population has more than doubled since 1980. The growth rate is still among the highest in the world, causing severe strains on the country's natural resources and infrastructure;
- (b) *Water scarcity* - already one of the world's most water-starved countries, Jordan faces increasing deterioration in the quality and quantity of its water resources;
- (c) *Severe land degradation* – a result of inadequate land-use planning, urban encroachment, soil erosion and poor waste disposal methods;
- (d) *Income poverty* – a combination of high population growth, the return of thousands of workers from the Gulf States following the 1990-1991 Gulf crisis and low economic growth has made income poverty more widespread. Unemployment among women is about twice that of men;
- (e) *Inefficient production* - much of Jordan's past economic growth has been created in sectors that were heavily shielded against international competition. To comply with conditions related to accession to the global trading system such as the World Trade Organization (WTO) and the Euro-Mediterranean Agreement many structural changes were implemented or planned in order to ensure sustainability; and
- (f) *Regional conflicts* – the escalation of the conflict between Israel and the Palestinian National Authority (PNA) has affected major economic sectors in the country (i.e. tourism).

Jordan has devised a number of strategies and national initiatives to deal with these challenges. The United Nations agencies are taking their cues from the 2006 CCA, the United Nations Development Assistance Framework (UNDAF) and the national Socio-Economic Transformation Plan for the years 2001-2003.

The proposed JP will focus on the challenges facing Jordan's MDG achievements due to water scarcity induced by climate change. The National Agenda that sets Jordan's development vision till 2015, as well as UNDAF document (2008-2012), stress that Jordan's remarkable development achievements are under threat due to the crippling water scarcity, which is expected to be aggravated by climate change. The Initial National Communication (INC) to the United Nations Framework Convention to Climate Change (UNFCCC) shows that Jordan will witness a rise in temperature, drop in rainfall, reduced ground cover, reduced water availability, heat-waves, and more frequent dust storms over the next three decades. The Second National Communication (SNC) to the UNFCCC identifies water as a priority area.

Recognizing the magnitude of threat of water scarcity, the Government of Jordan represented by the Ministries of Planning and International Cooperation, Water and Irrigation, Health, Agriculture, and Environment, developed a comprehensive set of water resources management strategy, policies, and legislation. Massive expenditures during the last decade by the government and external assistance partners are placed in enhancing water resources availability and managing water demand. However, there are several critical areas that are not addressed well and need more investment and policy development. These areas included minimum household water security, drinking water quality, wastewater use safety, and water use efficiency.

In addition, there are several barriers to water sector adaptation to climate change that threaten the sustainability of Jordan's achievement of the MDGs, these include: (i) climate change risks not sufficiently taken into account within sectoral policies and investment frameworks; (ii) existing climate information, knowledge and tools are not directly relevant for supporting adaptation decisions and actions; and (iii) weak national capacity to develop sectoral adaptation responses.

Jordan's success in adapting to increased water scarcity and related threats to health, food security, productivity, and human security induced by climate change is the key to sustaining its human development achievements and growth. Due to this fact, the current JP will address the identified adaptation barriers and gaps, their direct and indirect impacts of climate change on the health, nutrition, and livelihood of people, and the potential adaptation strategies that should be adopted to alleviate the negative impact of climate change.

Sustaining water quality is part of sustaining the achievement of MDG 8 on reliable access to safe water supply which involves measure of reliable supply of both sufficient quantity of water and safe quality. Climate change will further increase water scarcity in Jordan. As already experienced, increased water scarcity threatens the supply of drinking water. People are not getting enough water and drinking water quality is often compromised leading to water related epidemics. Sustaining the achievement of the goal of reliable access to safe drinking water requires measures and adaptations to secure sufficient water and good quality water to prevent disease outbreaks. Therefore, the work on water quality is an integral part of the efforts to sustain Jordan's achievement of MDG #8. On the other hand sustaining drinking water quality is part of the adaptation measures necessary for health security in the face of climate change. Protecting health from the impact of climate change is done through modifications to the environmental determinants of health or foundations of health. Water, air, and food are the key foundations for health security. Climate change negatively affects water security and quality and therefore affects the key foundation for health. Several large scale health problems have already resulted from this issue of water quality induced by climate change. Therefore adaptations to protect health from climate change include prevention of additional disease burden which might result from water insecurity and poor quality. Hence, the planned programme component on water quality management and minimum water requirements for health.

The International Hydrological Programme (IHP) of UNESCO was established in 1975 and it works with Member States through the IHP National Committees. There are a total of 165 IHP national Committees. The IHP programme focuses on broad ranges of water sciences programmes from climate change and water resources, integrated watershed and aquifer dynamics, integrated water resources management, eco-hydrology, land-habitat hydrology, water and society and water education and training for a revolving six year cycle.

UNESCO's mission under IHP-VII (2008-2013) 'Water Dependencies: Systems under Stress and Societal Responses' is to strengthen scientific understanding of the impacts from global changes on water systems, and to link scientific findings to policies for promoting sustainable management of water resources. The current phase of IHP has endeavored to address demands arising from a rapidly changing world. Several focal areas have been identified by the IHP to address the impacts of global changes on river basins and aquifer systems within the framework of IHP-VII. These focal areas seek to assess the impacts of global changes on the hydrological cycle including the effect climate variability and change. Change on the hydrological cycle within the broad spectrum of global changes include urbanization, land-use change, population growth and all other changes that may affect water availability and water demand, including both water quantity and quality.

Although these changes are global, no institution or country can face the challenges they pose alone. UNESCO-IHP, as the only intergovernmental programme on water sciences with a focus on freshwater in the UN system, can foster the cooperation needed to bring all players together, whether they are Member States, research institutions, universities, UN agencies, NGOs, or national or international associations. The role of UNESCO IHP is to offer a platform to facilitate and support research and capacity to help to understand the scope of global change impacts on water resources in order to manage the water resources in a sustainable and adaptive way.

The Spanish MDG project is very much in conformity with the priorities of the UNESCO's IHP programme. Capacity building, research, and technical support in the water sciences related fields are provided through the IHP National Committee at country level. The Jordan IHP National Committee was established in 1993 which is led by H.E Minister of water and irrigation and constitutes of representatives from University of Jordan, University of Science and Technology, Yarmouk University, Muta'h University, Hashemite University, AlBayat University, Al Balqa University, Meteorological Department, Natural Resources Authority, the Higher Council for Science and Technology. The Jordan IHP National Committee is a unique structure that brings together all the strategic national institutions dealing with water related programmes. Since the establishment of the Jordan IHP National Committee has focused in capacity building research, awareness, technical support, water education. The capacity building programmes targets mainly water experts, academics, post-graduate students, students, local community and personnel of the Ministry of Water and Irrigation, UNESCO Chair in Wadi Hydrology establishment at the University of Jordan is playing another significant role nationally and regionally in capacity building and research. UNESCO Inter-Sectorial Task Force on Global Climate Change was created by the Director-General of UNESCO to define the organization's strategic and integrated approach for UNESCO on the issue of global climate change and provide technical assistance to the field offices to address and integrate climate change issues in the implementation of the water sciences programmes at country level. . The Spanish MDG implementation of the UNESCO component will depend on the technical backstopping from IHP, UNESCO Inter-Sectorial Task Force on Global Climate Change and Water Sciences Division at UNESCO Headquarters, UNESCO Regional Office in Cairo and the World Water Assessment Programme Unit at the UNESCO headquarters.

For more information:

4. Strategies including lessons learned and the proposed Joint Programme

Background/context:

Jordan as the rest of the world will have to bear the consequences of climate change on its water resources. Expected higher temperature will increase the evaporation losses and hence the demand for water by humans and agriculture. This will aggravate the country's water scarcity problems. There is a real need for the implementation of adaptation options to solve this problem. Otherwise, Jordanians will be faced by compromises they have to make concerning the quantity and quality of their drinking water.

This JP is submitted under the MDG-F Environment and Climate Change thematic window and aligned with the 'Enhancing Capacity to Adapt to Climate Change' priority area. Jordan made strategic advances towards the achievement of the MDGs, but its achievements are compromised by crippling water scarcity forced and depend by climate change, thus bringing about additional threats to health, food security, productivity, and human security. The UNDAF (2008-2012) addresses four key related challenges to sustain progress towards the achievement of the MDG's, which include: (i) water scarcity; (ii) drinking water supply security and quality; (iii) health, agriculture and food production vulnerability to climate change; and (iv) vulnerability of local biodiversity to climate change. The proposed JP will support the United Nations Country Team's (UNCT) efforts to achieve the UNDAF outcome of healthy and sustainable environment. This programme also will help Jordan governmental agencies in developing a national strategy to 1) Sustain access to improved water supply sources despite increased water scarcity induced by climate change; and 2) Strengthen adaptive capacity for health protection and food security to climate change under water scarcity conditions. These JP outcomes address the barriers to adaptation and provide support to Jordan's priorities of sustainable management of its natural resources; reducing poverty; and enhancing health indicators.

The ultimate goal of both outcomes is to protect human health against water scarcity induced by climate change. The first outcome involves securing an adequate and sustainable water supply for domestic use, including minimum water requirement for health. The second outcome targets attaining food security by the allocation of a safe alternative water supply for agriculture and through strengthening the adaptive capacity of agriculture and health sector to change in climate. The implementation plan for the two outcomes will ensure the efficient utilization of the limited and diminishing water resources of Jordan. While the priority will be given to secure a minimum drinking water requirement for health, there will be deficit in the amount of water allocated for food production which will be secured through the search for safe alternative water supply. Reclaimed wastewater is a key alternative water supply for agriculture. Safe wastewater reuse procedures and guidelines need to be developed and implemented.

The achievement of the programme outcomes will positively affect the economic, social, political, environmental and institutional context of Jordan. Providing access to a secure and sustainable minimum water supply and attaining food security for health protection of Jordanians despite the expected water scarcity problem which will be heightened by climate change will establish a stable social and economic system, thus reducing poverty and improve livelihood of local community in target areas. They will also yield political stability and attain environmental sustainability. Moreover, the institutional adaptive capacity for climate change will be strengthened.

The four UNCT organizations involved in implementing this joint programme are currently supporting interventions to address gaps in policy and practices that link closely to this proposed programme. Furthermore, the UNDP Water Governance Facility at SIWI has a cross-cutting role within the UNDP-Water framework to assure the implementation of adaptive water governance. WHO supports the drinking water quality management system, and together with Food and Agriculture Organization (FAO) supports safe wastewater use practices. WHO and UNDP have jointly developed the Special Climate Change Fund (SCCF) funded "Adaptation to Protect Health" project, which is expected to start by end of 2007. FAO supports efficient use of water in farming and the development of Jordan's national drought mitigation strategy. The United Nations Educational, Scientific and Cultural Organization (UNESCO) and UNDP strengthen the capacity for integrated water resources management (IWRM). UNDP assists Jordan to develop its SNC and supports the localization of MDGs in Zarqa Governorate. Moreover, this programme complements efforts by the Spanish Agency for International Cooperation to build the national capacity to restore Zarqa River Basin.

Lessons Learned:

The JP adopted a participatory approach that will involve many institutions and stakeholder groups: Four UN agencies; governmental agencies; research institutions; local community and local NGO's. The experience from previous projects suggested that increased expertise related to climate change adaptation and water scarcity would be effective in achieving the programme objectives. The UN agencies have demonstrated expertise in these fields; their role will be to introduce international expertise, to develop capacity and to help develop national implementation strategies. An added value will be the intervention of the UNDP Water Governance Facility at SIWI, which have the necessary expertise to give policy support and advisory services in multiple thematic areas, including: integrated water resources management, water supply and sanitation services, climate variability, experience and best practices exchange, gender, as well as capacity building. The government agencies will be responsible for implementing the project strategies and will benefit from the training programmes to improve its capacity. The research institutions will also benefit from the capacity building programmes and their participation will ensure quality data generating to be used in developing the policy framework. They also will be involved in the training of local communities.

The local community and NGO's will be involved in training, experimentations and monitoring. Many of the local communities will be participating in the programme as individuals or as local community base institutions (CBO's). In the early stage of the programme the potential of these CBO's will be assessed and their role in the programme will be determined. The assessment will include the needs, fears, concerns and potential support to the programme by the local communities, especially women and poor. This assessment will be repeated throughout the life span of the project from planning up to impact assessment.

The previous experience also indicated that a clear policy and legislation framework should be developed to ensure enabling legal environment for implementing and sustaining the programme strategies. The programme will review all relevant policy and legislation instruments and identify the policy gaps. Then the policy options will be suggested and tested by all stakeholders to be included in the policy framework. Moreover, the project will have a pilot project area which is considered as one of the priority areas for development according to the National Agenda and The Jordan's national MDG report (2004). A public awareness and capacity building programme will be implemented in this pilot area to empower local communities, including women and the poor, and strengthening their institutions capacity for climate change adaptation within the Zarqa governorate and other rural / urban pilot areas.

The Proposed Joint Programme:

This joint project includes two strategies to achieve the outcomes identified by the programme stakeholders; The first strategy intended to secure water supply sources in spite of the pressure on these resources due to change in climate through adopting water resource management plan that ensure more water supply to health and food production; while the second one will concentrate on adopting suitable mechanisms for adaptation to climate change in food production and health. To implement the activities in an efficient way the programme will adopt the following modalities:

- a) It will adopt the participatory approach in implementing the different programme activities. This joint project will be implemented by four UN agencies and their governmental partners in addition to the NGO's and local community institutions working in the target area. Stakeholders will be involved in all project stages from planning throughout the final impact assessment stage.
- b) Public awareness campaigns will be conducted to promote the project concepts and lessons learnt from the implementation of different activities.
- c) The programme includes an extensive training and capacity building scheme of local community and governmental partners.
- d) Development of policy and legal framework to support the implementation of the adaptation strategies.

The programme strategies will address the root causes of water scarcity through sustaining access to water supply and strengthen adaptive capacity of food production and health sectors to climate change. The joint programme includes six outputs which will be achieved through implementing 27 activities, over three years. The six outputs will be implementing by the following institutions:

- Ministries of Health and Water and Irrigation, as well as the Water Authority of Jordan, water supply companies, and the parliament, with assistance from the WHO, will work together to implement the following outputs:
 - Output 1.1: Strengthened national drinking water quality management system at central and periphery level
 - Output 1.2: Sustainable and reliable supply of minimum water requirements for health protection
- Ministry of Agriculture and the National Center for Agricultural Research and Extension (NCARE) in cooperation with FAO and WHO, will implement the following outputs:
 - Output 2.1: Improved rural sector adaptive capacity for climate variability and change.
- Ministry of Water and Irrigation (MWI) and Ministry of Education (MOE) will achieve the following outputs in cooperation with UNESCO and FAO:
 - Output 2.2: Improved national institutional and community capacity in integrated water resources management.
- Ministry of Health, Water Authority of Jordan (WAJ), Ministry of Water and Irrigation, and local municipalities will achieve the following output in cooperation with WHO:
 - Output 2.3: Adaptation measures, by health sector and other sectors, to protect health from climate change are institutionalized.
- Ministry of Environment (MOEnv), Ministry of Water and Irrigation, Zarqa Governorate, the World Conservation Union (IUCN), and local municipalities and communities with assistance from the UNDP, will achieve the following output:
 - Output 2.4: Adaptation capacity of Zarqa River Basin to climate change is piloted and strengthened.

5. Results Framework

Summary of Results Framework:

This JP will develop Jordan's key government and civil society counterparts' capacity to adapt to climate change threats to health, food security, productivity, and human security under the conditions of severe water scarcity that is expected to be compounded by climate change. This joint programme seeks to enhance capacity to adapt to climate change by addressing Jordan's long-term adaptation needs (see Annex 1 for Joint Programme Results Framework) through the following outcomes and outputs:

Outcome 1: Sustained access to improved water supply sources despite increased water scarcity induced by climate change

- Output 1.1: Strengthened national drinking water quality management system at central and periphery level: The activities will concentrate on upgrading the national drinking water management systems, increasing the capacity of the national partner staff and improving the working environment for water quality monitoring system.
- Output 1.2: Sustainable and reliable supply of minimum water requirements for health protection. The activities under this output will include inventories to identify the minimum water requirements and the development of policy instruments for securing the supply of these requirements.

Outcome 2: Strengthened adaptive capacity for health protection and food security to climate change under water scarcity conditions

- Output 2.1: Improved rural sector adaptive capacity for climate variability and change: The activities include the risk assessment of climate change and water scarcity and identification of the adaptation measures to reduce climate change impacts on food productivity. In addition to a public awareness campaigns for local community to promote these measures on the target areas.
- Output 2.2: Improved national institutional and community capacity in integrated water resources management: The activities will concentrate on the capabilities of the local community institutions and the introduction of water resource management concepts into the school and University curriculum.
- Output 2.3: Adaptation measures, by health sector and other sectors, to protect health from climate change are institutionalized: Activities to achieve this output will focus on assessing the direct and indirect risks of climate change on health sector. Adaptation strategies will be developed and early warning system will be established to protect health from the negative effect of climate change.
- Output 2.4: Adaptation capacity of Zarqa River Basin to climate change is piloted and strengthened: The activities will include the assessment of direct and indirect effects of climate change on water availability and quality in Zarqa River Basin; identify opportunities and barriers to adaptation to climate change; review and deliver reform strategies for legal and institutional frameworks and national water policies and action plans; build local and national capacities for adaptation to climate change using participatory approach; and document and share knowledge generated from the Zarqa River Basin and establish linkages to regional and global experiences.

The detailed list of activities and subactivities designed to achieve the above outcomes and outputs are outlined in Annex 5.

The Work Plan and Budget:

The common work plan and budget for this three year JP is shown in Annex 2. It is designed at the activity level, but it will be re-examined by the steering committee in

consultation with the implementing partners and counterparts. It can be modified to fit unforeseen variables that might require changes in the time frame. The budget is distributed among the different UN agencies and different items of the budget are allocated the required amount of money. A summary of the budget and fund allocations among different UN agency is shown in Table 1.

Annual reviews:

The implementing national partners and the four participating UN Organizations shall jointly conduct scheduled/annual planning and review meetings for all activities covered in the results framework, monitoring and evaluation plan and work plans of this joint programme. This will include an assessment of the risks and assumptions to determine whether they are still holding. A new work plan and budget will be produced with the necessary adjustments made based on lessons learned and review of implementation progress achieved. The new work plan needs to be approved in writing by the Steering Committee. The JPD need not be signed every year. However, any substantive change in the joint programme scope will require revision of the JPD. Any amendments to the JPD will need to be signed by all parties. Annex 1 (table 2) shows summary of Joint Programme result framework.

6. Management and Coordination Arrangements

Coordination:

This JP is developed and will be implemented by four UN agencies (FAO, UNDP, UNESCO, and WHO), all of which are core UNCT members. The implementation arrangements of the JP will be modeled after the UNDAF, where all programme interventions are aligned with national priorities and coordinated with the Ministry of Planning and International Cooperation (MOPIC). Each UN agency will implement its specific outputs according to its usual work modality with the Government. UNDP will be the administrative agency (AA) for the Fund at the national level. These functions are the responsibility of the Multi Donor Trust Fund (MDTF) Office at UNDP HQs. It will coordinate the joint activities with the other three agencies and implement the UNDP output. Figure (1) shows the proposed management structure of the proposed MDG F programme.

The fund will rely on UN Resident Coordinators (RC) to facilitate collaboration between participating UN Organizations to ensure that the programme is on track and that promised results are being delivered.

Table 1: Budget summary and fund allocation among UN agencies

Category	Agency	ITEM	UNIT COST	No. of Units	TOTAL COST
1. Personnel Research assistance, Consultants, Drivers and labor	FAO	Local staff & consultants	161,222	1	161,222
		International consultants	14,760	3	44,280
	UNDP	Local staff & consultants	2,087	110	229,620
		International consultants	554	110	60,046
	UNESCO	Local staff & consultants	22,140	2	44,280
		International consultants	29,542	2	59,084
	WHO	Local staff & consultants	92,988	3	274,169
		International consultants	4,059	45	182,655
2. Contracts	FAO	Local contracts	36,533	3	109,600
	UNDP	Local contracts	201,400	1	201,400
	UNESCO	Local contracts	18,450	10	184,500
	WHO	Local contracts	405,900	1	405,900
		International contracts	73,800	1	73,800
3. Training	FAO	Training and workshops	202,040	1	202,040
	UNDP	Training and workshops	34,045	6	204,269
	UNESCO	Training and workshops	17,086	11	187,950
	WHO	Training and workshops	205,640	1	205,640
4. Transport	FAO	Transport	22,140	1	22,140
	UNDP	Transport	50,350	1	50,350
	UNESCO	Transport	7,380	2	14,760
	WHO	Transport	52,836	1	52,836
5. Supplies and commodities	FAO	Supplies	35,400	1	35,400
	UNDP	Supplies	7,380	3	22,140
	UNESCO	Supplies	14,760	4	44,040
	WHO	Supplies	59,040	1	59,040
6. Equipment	FAO	Equipment	18,450	4	73,800
	UNDP	Equipment	36,900	2	73,800
	UNESCO	Equipment	14,760	3	44,280
	WHO	Equipment	128,332	1	128,332
7. Travel	FAO	Local & international	18,350	4	73,400
	UNDP	Local & international	11,070	3	33,210
	UNESCO	Local & international	7,380	3	22,140
	WHO	Local & international	11,808	3	35,424
8. Miscellaneous	FAO	Miscellaneous	28,120	1	28,120
	UNDP	Miscellaneous	11,070	3	33,210
	UNESCO	Miscellaneous	7,380	1	7,380
	WHO/CEHA	Miscellaneous	36,466	1	36,466
9. Agency Management Support (fixed 7%)	FAO				53,726
	UNDP				56,955
	UNESCO				44,686
	WHO				104,738
10. Monitoring & Evaluation	FAO				24,000
	UNDP				35,000
	UNESCO				30,000
	WHO				51,000
TOTAL By Agency	FAO				827,728
	UNDP				1,000,000
	UNESCO				683,100
	WHO				1,610,000
GRAND TOTAL	All				4,126,667

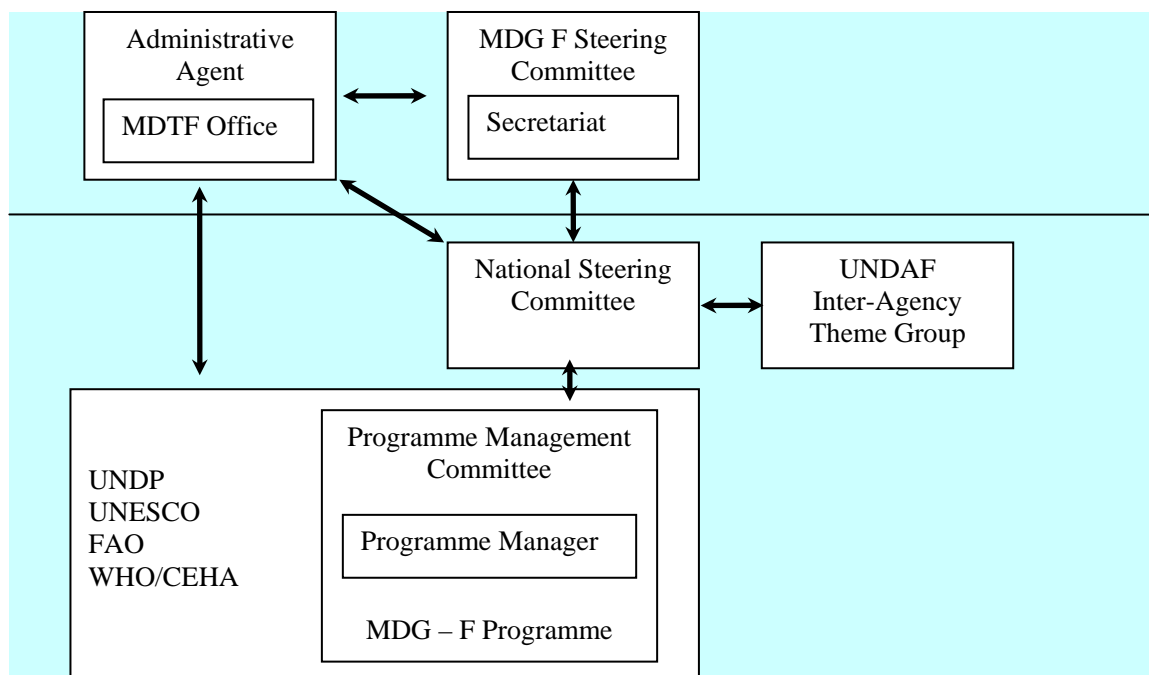


Figure 1: Proposed Management structure

The JP will be managed through the following bodies:

1. The National Steering Committee (NSC): the NSC's role is to provide oversight and strategic guidance to the programme. The NSC should be small and the membership should formally consist of non-implementing parties to allow for independence. The NSC members should at a minimum be a representative of the Government (the Secretary General of the Ministry of Planning and International Cooperation), a representative from Government of Spain and the RC. The Steering Committee will be chaired by the United Nations Resident Coordinator (UNRC) and the representative from the Government will co-chair the NSC. The NSC will meet at least two times a year and/or upon the request of one of the representatives to discuss urgent issues. Tasks to be performed by the steering committee are listed in Annex 3.
2. The Programme Management Committee (PMC): the PMC's role is to provide operational coordination to the Joint Programme. The programme management committee will include the UN agencies in addition to the governmental institutions involved in the implementation of the programme; Ministries of Environment, Water and Irrigation, Health, Education, Agriculture, and Planning and International Cooperation, as well as one NGO and one academic institution and it will meet at least four times a year to address issues related directly to management and implementation of the programme. The RC or his/her representative will chair the PMC. Tasks to be performed by the PMC are listed in Annex 3.
3. Local Community Consultation Group: The local community consultation group will include the representatives of the local community institutions and NGO's in addition to governmental field staff. (The tasks of each group will be determined according to the type of activities and the capacity of the members of each group).

Programme management arrangements:

The project arrangements will be important to ensure efficient implementation mechanisms to ensure that activities of the different themes of this programme complement each other to achieve the objectives of this JP. The specific mechanisms at various levels proposed for this purpose are as follows:

- **Joint Programme Coordinator:** The JP coordinator will be appointed by and based at UNDP. The JP coordinator will be accountable to the UNDP and UNCT and report to the UNDP and National Steering Committee. Tasks to be performed by the Joint Programme Coordinator are listed in Annex 3
- **Three agency output managers (AOM)** for FAO, WHO and UNESCO will be recruited and based at each corresponding agency. The manager will be accountable to the corresponding agency and report to the agency head and the JP coordinator. Tasks to be performed by the agency output managers are listed in Annex 3.

Cash transfer modalities:

A pass-through modality will be established for financial matters with UNDP as the administrative agency. Each UN agency then will follow its own modality in according to its usual working modalities with the Governmental agency. Details for financial monitoring are included in the fund management arrangement section (Section 5). For UNDP (ExCom Agency) the provision required under the Harmonized Approach to Cash Transfer (HACT) as detailed in their CPAP or in other agreements covering cash transfers will apply.

7. Fund Management Arrangements

This JP is submitted under the MDG-F Environment and Climate Change thematic window and aligned with the 'Enhancing Capacity to Adapt to Climate Change' priority area. The UNDP/Spain MDG Achievement Fund will allocate US\$ 4,000,000 for the programme activities managed by four UN organizations working in Jordan, namely UNDP, FAO, WHO, and UNESCO. The share of each organization and their contribution to the JP is detailed in the budget. The total fund for this JP from all sources is US\$ 4,126,667.

The pass-through fund management option will be used for this JP (Figure 1). The donor and the participating four UN organizations jointly agree to channel the fund through the UNDP who will be the Administrative Agent (AA). The UNDP Office of Finance (OF) will issue a unique fund code by for each pass through arrangement. Copies of signed agreements (MOUs) between the Participating UN Organizations and the AA and Letters of Agreement between the Donor and the AA must first be forwarded to OF. Atlas donor codes should also be provided for all donors. Accounts Receivables (Pending Items) for total JP contributions are established for the JP fund code based on signed donor agreements.

Each UN organization participating in the joint programme will recover indirect costs in accordance with its financial regulations and rules and as documented in the Memorandum of Understanding signed with the AA. The rate of recovery may vary between UN organizations participating in the joint programme, based on their applicable regulations and rules.

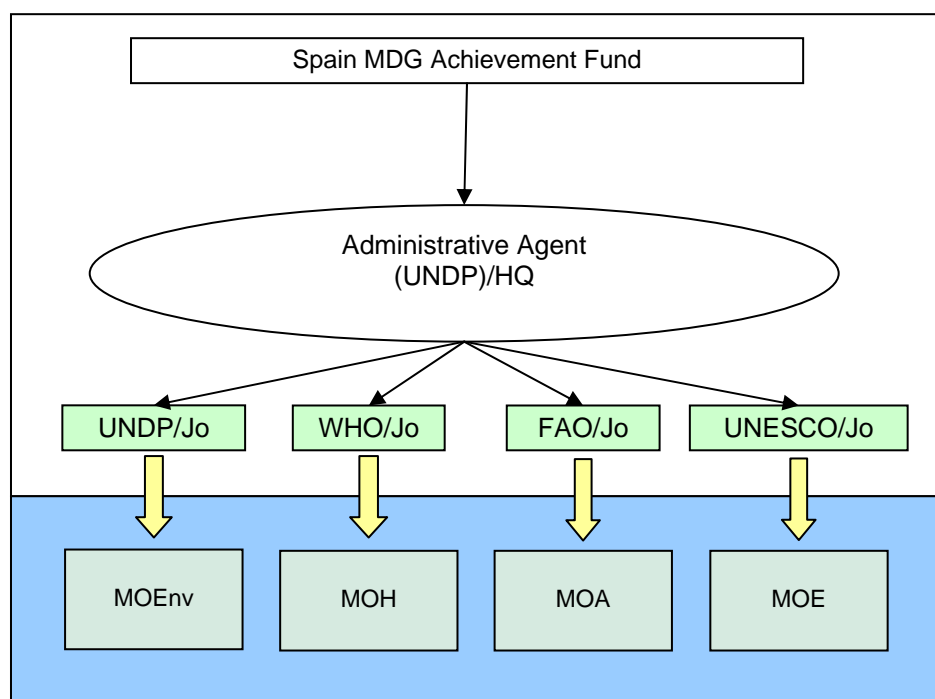


Figure 2: Pass-Through Fund Management

Each participating UN organization (PO) assumes complete programmatic and financial responsibility for the funds disbursed to it by the Administrative Agent (AA) and can decide on the execution process with its partners and counterparts following the organization's own applicable regulations.

Each PO established a separate ledger account for the receipt and administration of the funds disbursed to it by the AA. POs are requested to provide certified financial reporting according to the budget template provided in the MDF –F Operations Guidance Note issued by the MDTF Office and are entitled to deduct their indirect costs on contributions received not exceeding 7 per cent for the Joint Programme budget in accordance with the provisions of the MDG- F MOU signed between the AA and the POs.

Subsequent installments will be released in accordance with Annual Work Plans approved by the NSC> the release of funds is subject to meeting a minimum commitment threshold (legally binding contracts signed, including multi-year commitments which may be disbursed in future years) of 70% of the previous fund release to the POs combined. If the 70% threshold is not met for the programme as a whole, funds can't be released to any organization, regardless of the individual organization's performance.

On the other hand, the following year's advance can be requested at any point after the combined commitment against the current advance has exceeded 70% and the work plan requirements have been met. If the overall commitment of the programme reaches 70% before the end of the twelve-month period, the POs may after endorsed by the NSC request the MDTF Office, through the RC to release the next installment ahead of the schedule.

8. Feasibility, risk management and sustainability of results

The expected potential risks for this programme will include the followings:

- Lack of willingness and commitment from the governmental institutions to participate actively in implementing the activities, adopting successful stories and lesson learned and enforcing the suggested laws and legislations. To alleviate the

impact of this risk, governmental partners including policy makers will be involved from the planning stage of this programme and stakeholders meetings are conducted during all stages of this project to assess their needs and increase their awareness on the importance of the adaptations mechanisms for climate change. In addition, a major part of the training will be directed toward increasing the capacity of government staff that will lead to increasing the interest and commitment of these partners in implementing the activities of the programme and sustain its activities.

- Lack of interest and active participation of the local community is one of the constraints that should be addressed during the planning and implementation of this programme to ensure the sustainability of its activities. The local community is the end user, the key beneficiary and the most important stakeholder in sustaining the activities of the programme during and after the implementation of this programme. The measures taken by the programme to reduce the effect of this risk will be:
 - The project will ensure the participation of the local community in all stages of the programme as key for its successes and sustainability.
 - The programme includes a local community training courses to increase the capacity of the local community institutions and individuals.
 - The programme includes a public awareness campaign that will be directed mainly at the local community and its leaders.
- Since the joint programme involves different UN agencies and government partners, conflict of interests among the different agencies and partners involved is a potential risk that must be addressed. This in turn will affect the proper implementation and coordination of the different activities. To overcome this risk and constraint, the programme will be adopting clear and transparent coordination mechanisms stating the roles and responsibilities of each agency. This will prevent any duplication in roles throughout the implementation phase of this programme.
- The last risk facing this programme is the unsecured financial resources from sources other than the MDG-F fund. These resources will be mobilized to complement the budget needed to implement the activities of the programme from different UN agencies. The following measures to remove this risk will be:
 - Identify potential financial resources at the planning stage.
 - Make sure that the existing financial regulation and roles of the UN agencies allow the transfer of identified resources to implement the activities of this joint programme.

The adaptation and implementation of the risk alleviation mechanisms will ensure the sustainability of the programme activities after the life of the programme time, especially the awareness and training programmes that will be targeting local community leaders and policy makers.

9. Accountability, Monitoring, Evaluation and Reporting

Responsibilities for accountability for achievement of JP results are illustrated in the Programme Monitoring Framework (PMF) (Annex 4). The PMF sets out the outcomes to which the JP is meant to contribute, the outputs which the JP will deliver, the UN organization which will be responsible for each output, and the indicators (with base lines and targets to be achieved) which will measure achievement of the outputs and outcomes.

The success of the JP will depend upon systematic monitoring and evaluation of progress towards the achievement of the results therein. The indicators found in the programme monitoring framework will be used to guide the Monitoring and Evaluation process. These will be further refined as more data becomes available. In this context the

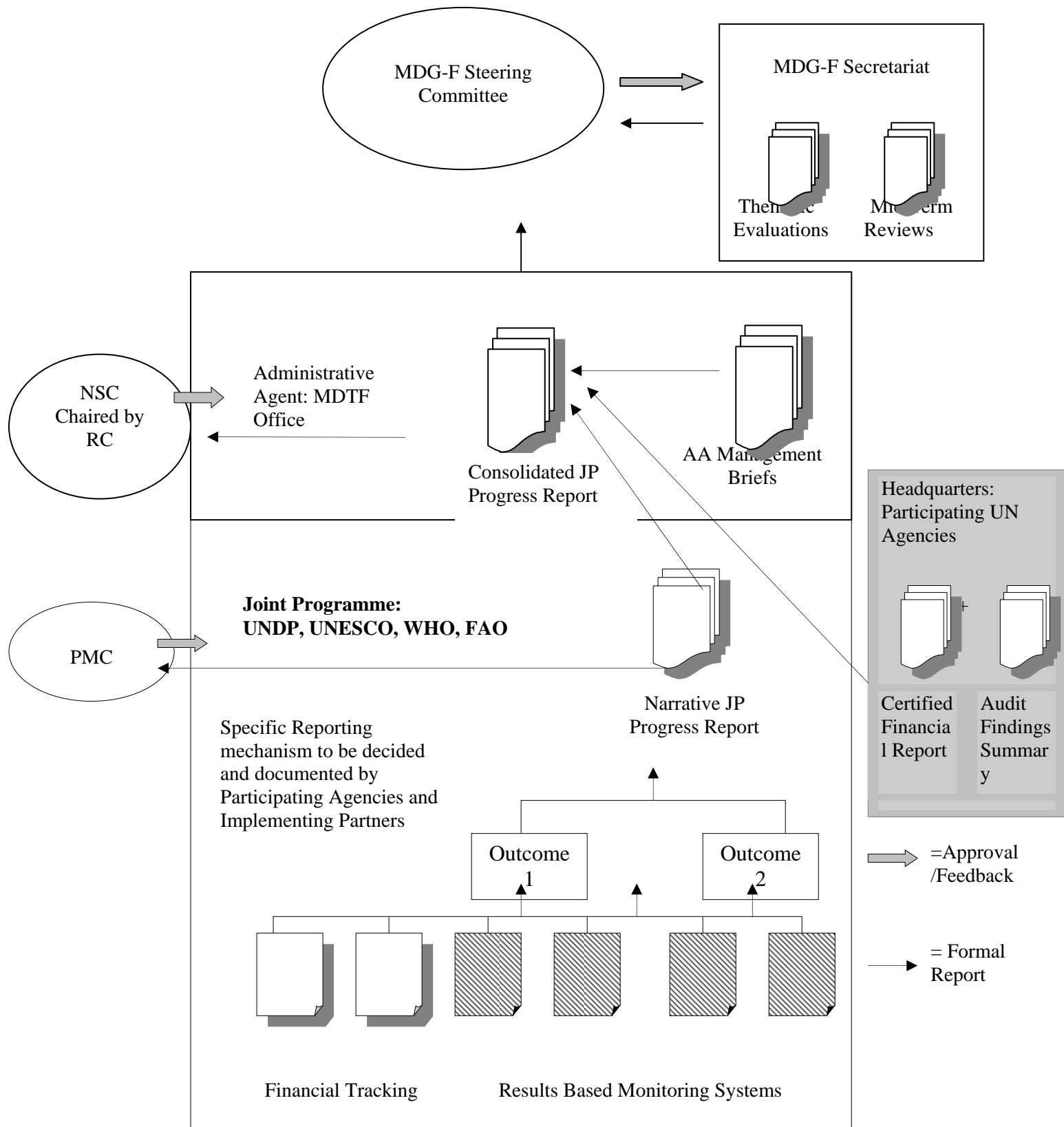
steering committee (with representatives from the Ministry of Planning and International Cooperation, UN agencies and the Spanish Fund) will play an instrumental role in ensuring systematic follow up and feedback on the joint programme. The JP has several levels of reporting requirements at both fund and programme levels. Figure 3 visualized the proposed flow of reports.

Monitoring occurs throughout the year and culminates at the annual review of the common work plan. The planned monitoring activities and evaluation(s) of the joint programme should form part of the UNDAF M&E plan. Participating UN organizations should undertake joint field visits, where appropriate.

The formal Monitoring and Evaluation process will consists of:

- Semi annual and annual outcome reviews; including the Annual Implementation Report. The annual reviews will be conducted by the joint programme coordinator who will report to the steering committee and the government agencies partners.
- Mid-Term and Final evaluations which will measure overall impact of the joint programme. This review should be done by independent evaluation team of consultants and it should report to the UNDP country office.
- Field visits: UN agencies will undertake joint field visits, where appropriate to make sure that the field implementation of the activities directed toward the achievement of the joint programme outcomes.

Figure 3: MDG-F Reporting Structure



Responsibility for narrative and financial reporting rests with the participating UN organizations and (sub-) national partners, who are accountable for their respective components of the Joint Programme. Each participating UN organization prepares quarterly, annual and final financial reports, and a final Certified Statement of Income and Expenditure for its components of the JP. These reports are submitted to the AA.

The AA prepares aggregated/consolidated financial reports from the reports submitted by the participating UN organizations. After financial closing of the JP, the AA prepares an aggregated/consolidated Certified Statement of Income and Expenditure and a Sources and Uses of Funds Report on its activities as AA. The later report provides financial information on funds received and disbursed to participating UN organizations by the AA. The AA submits all reports to the JP Steering Committee and donors.

Each UN organization will be responsible for auditing its own contribution to the programme as part of its existing regulations and rules. Audit opinions of the individual UN organizations should be accepted by the other UN organizations.

The disposition of any balance of funds remaining at the end of programme implementation will be in accordance with the agreements between the participating UN organizations and the implementing partners as well as donors where applicable. Any unprogrammed funds remaining in the joint programme account after the financial closure of the Joint Programme will be returned to the donor(s) or utilised in a manner agreed upon between the AA and the donor(s), and approval of the joint programme coordination mechanism

The MDTF Office is responsible for the annual consolidated Joint Programme Progress Report, which will consist of three parts:

AA management Brief: the management brief consists of analysis of the certified financial report and the narrative report. The management brief will identify key management and administrative issues, if any, to be considered by the NSC.

Narrative Joint Progress Report: this report is produced through an integrated Joint Programme Reporting arrangement. The report should be reviewed and endorsed by the PMC before it is submitted to the MDTF Office on 28 February of each year.

Financial Progress Report: each participating UN organization will submit to the MDTF Office a financial report starting expenditures incurred by each programme during the reporting period. The deadline for this report is 31 March.

In addition, the Joint Programme Document should not that the quarterly updates will be made available to the donor and that the Joint Programme will have a mid-term review and a final evaluation. The mid-term review will be organized by the MDG-F Secretariat.

10. Ex Ante Assessment of Cross-cutting Issues

The cross cutting issues that will be addressed in this programme include gender, unemployment, poverty, food security, and education. Some activities of the programme will be implemented in rural areas. This include sites for the implementation of improved drinking water quality systems, as well as sites for wastewater reuse in agriculture as part of a food security scheme in the designated regions. Furthermore, adaptation mechanisms for climate change will also be tested. It is evident that the implementation of the above activities will certainly impact various social and economical parameters of many of the stakeholders in the sites under consideration. This project will try to assess the impact on these parameters to better understand future trends and variability in them as a result of any modification to the activities outlined in the detailed work plan.

To assess the current status of the above issues on the target areas, the project will conduct an inventory that includes a questionnaire survey and focus group meetings. In addition to the current status of the cross cutting issues, the inventory will identify the capacity and training gaps and needs of the involved stakeholder institutions related to the above issues.

According to the inventory results and the gap analysis a capacity development strategy and action plan for local community and governmental institutions will be developed and implemented.

11. Legal Context or Basis of Relationship

The UN system has established strong working relationships with national institutions, NGO's, civil society and multi-bilateral partners. Very close ties are found between some UN agencies and sectoral ministries among these are: FAO and the Ministry of Agriculture; WHO with the Ministry of Health; UNESCO and the Ministry of Education and UNDP with Ministry of Planning and International Cooperation. All of these ties are controlled by bi-lateral agreements that determine the responsibility and obligations of each party. These agreements will form the bases for the management arrangements of this JP and it will be applied during all implementation stages as clarified in sections 6, 7, and 9.

Participating UN Organization	Agreement
UNDP	This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement (SBAA) between the Authorities of the Government of Jordan and the United Nations Development Project (UNDP), signed by the parties on 12 January 1976.
UNESCO	UNESCO Amman office in Jordan was established in accordance with the agreement between UNESCO and the Government of the Hashemite Kingdom of Jordan in 1987. The office was established after signing of the agreement in 1987.
WHO	Legal context for this programme is provided in the Basic Agreement concluded between WHO and the Government of Jordan in 1951 and amended in 1960 and the agreement concluded between the Government of Jordan and WHO in 1985 for establishment of WHO Regional Centre for Environmental Health Activities (WHO/CEHA).
FAO	Amman Office was established in accordance with the Agreement between the Government of the Hashemite Kingdom of Jordan and the Food and Agriculture Organization of the United Nations. The office was established in 2002

ANNEXES

Annex 1 (Table 2)
Summary of Results framework

UNDAF Outcome 3: Health and Sustainable Environment								
Indicators: Access to water supply sources improved despite the increase in water scarcity induced by climate change.								
JP Outputs	SMART Outputs and Responsible UN Organization	Reference to Agency priority or Country Programme	Implementing Partner	Indicative activities for each Output	Resource allocation and indicative time frame*			
					Y1	Y2	Y3	TOTAL
Joint Programme Outcome 1: Sustained access to improved water supply sources despite increased water scarcity induced by climate change								
Output1.1: Strengthened national drinking water quality management system at central and periphery level <u>Indicators:</u> No. of operational water safety plans resilient to climate change No. of drinking water quality (DWQ) systems upgraded. No. of training courses conducted. <u>Baselines:</u> there are no operational water safety plans the current DWQ system is not responsive to expected climate change impacts Limited and weak capacity	National drinking water quality (DWQ) management system upgraded. <i>WHO</i>	<ul style="list-style-type: none">WHO/Jordan Country Program 08-09WHO/CEHA Biennial Programme 08-09	MOH	1. Upgrade the national drinking water quality (DWQ) system for comprehensive national coverage: <ul style="list-style-type: none">Review and assess current national DWQ systems including standards, and management practices at both the national and sub regional level and Suggest needed upgrading on the DWQ systemsConduct a stakeholders (decision makers from MOH, MWI, WAJ, legislators, Jordan Institute for Meteorology, water companies, consumer protection associations experts (water treatment and distribution, environmental, hydrologists, etc), research institutions, and NGO's) consultations to map their feedback on the recommended modification on the DWQ systems.Revise the national DWQ standards and management practices (including intensive consultation with different stakeholders).Commission revision of the national DWQ management system based on preventive management and water safety planning.Develop legislation tools governing the management of DWQ system.Introduce the revised DWQ management system	51402	28038	18692	98131
					3598	1962	1308	6869
					55000	30000	20000	105000
	5 operational water safety plans for different sources	<ul style="list-style-type: none">WHO/Jordan Country Program 08-09	MOH	2. Develop and implement 5 demonstration water safety plans (3	65421	65421	65421	196262

	developed. WHO	<ul style="list-style-type: none"> WHO/CEHA Biennial Prog. 08-09 		urban & 2 rural) <ul style="list-style-type: none"> Develop technical guidance and manuals on the development of Water Safety Planning. Develop training program packages on WSP. select the 5 demonstration sites for the implementation of the water safety plans (3 urban and 2 rural) Select technical service providers (consultants) to develop the demonstration water safety plans. Conduct stakeholder's workshop. Develop protocols for the implementation of WSP at the selected demonstration sites. Commission technical service providers to develop the water safety plans for the demonstration systems. Train the owners of the five water systems on the on the implementation of the water safety plans Undertake monitoring of the implementation of the WSP at different sites. Revise the water safety protocols manuals, implementation procedures. Disseminate & introduce the revised WSP protocols, manuals, and procedures to all stakeholders. 	4579	4579	4579	13738
					70000	70000	70000	210000
	All DWQ management staff of MoH &, WAJ at central and regional levels and 5 water companies staff trained. WHO	<ul style="list-style-type: none"> WHO/Jordan Country Program 08-09 WHO/CEHA Biennial Prog. 08-09 	MOH	3. Design and implement training programme on DWQ management system for all levels <ul style="list-style-type: none"> Undertake training needs assessment for the introduction of the new DWQ management system this would include three levels of professionals namely, decision, managers, and operators. Form concerned stakeholders (MOH, MWI, water companies, water authorities,). Develop and plan the training program. Develop the training modules. Conduct training of trainers programs. Launch training program (at least 9 workshops 3 per sub-region). 	56075	56075	56075	168224
					3925	3925	3925	11776
					60000	60000	60000	180000

	Drinking water quality laboratories network of MOH at central and regional levels are upgraded. WHO	<ul style="list-style-type: none"> WHO/Jordan Country Program 08-09 WHO/CEHA Biennial Prog. 08-09 	MOH	4. Provide critical supplies and equipment for DWQ laboratory networks of the Ministry of Health: <ul style="list-style-type: none"> Assess the current capabilities of network of DWQ labs for the Ministry of Health laboratories at the central and governorate level in view of the requirements of the new system. Identify the critical supplies needed to insure adequate performance according to the new DWQ management system. Procurement of the supplies to the network of MOH labs. 	51402	51402	51402	154206
					3598	3598	3598	10794
					55000	55000	55000	165000
Output 1.2 Sustainable and reliable supply of minimum water requirements for health protection Indicators: % of urban household with reliable access to minimum water requirement for health under water scarcity conditions induced by climate change. No. of inventories conducted to determine access to water requirements. No. of legislative policy instruments developed Baselines: no policy on minimum water requirements for health in 2004 the percent of urban households with reliable access to minimum water	<ul style="list-style-type: none"> Two ecological studies and two epidemiological studies in Amman conducted. An ecological study in 20 rural communities WHO	<ul style="list-style-type: none"> WHO/Jordan Country Program 08-09 WHO/CEHA Biennial Prog. 08-09 	MOH	5. Identify minimum household water security requirements for health protection. <ul style="list-style-type: none"> Review of evidence on water requirement for health both nationally and globally. Develop methodologies for establishing and generating evidence to support recommendations on minimum water requirements for health. Convene expert consultations on the development of methods to identify minimum water requirements for health. Generate evidence on minimum water requirements for health through: <ul style="list-style-type: none"> Conduct two ecological studies, one in Amman another in Ajloun Conduct two epidemiological studies in Amman and Ajloun Conduct ecological studies in at least twenty rural communities Consolidate the evidence on minimum water requirements for health and generate draft document Convene a scientific group consultation to review the recommendations and comment on minimum water requirements for health 	98131	98131	93458	289720
					6869	6869	6542	20280
					100000	100000	95000	295000
	National policy on minimum	<ul style="list-style-type: none"> WHO/Jordan 	MOH	6. Develop national policy and issue	0	18692	32710	51402

<p>requirements for health was 50%.</p> <p>No evidence -based guidance available on minimum water requirement for health</p>	<p>water quality requirements for health is issued and necessary supporting documentation for legislation is developed</p> <p>WHO</p>	<p>Country Program 08-09</p> <ul style="list-style-type: none"> WHO/CEHA Biennial Prog. 08-09 		<p>legislative policy instruments on securing supply of minimum water requirements for health</p> <ul style="list-style-type: none"> Use the scientific evidence on minimum water requirement for health protection to formulate a national policy on minimum water requirement for health protection. Convene three stakeholders consultations and workshop to build consensus around on the national policy on minimum water requirements for health (Develop and implement a programme for awareness raising with regards to the amended policies and legislation; 	<p>0</p> <p>0</p>	<p>1308</p> <p>20000</p>	<p>2290</p> <p>35000</p>	<p>3598</p> <p>55000</p>
Outcome 2: Strengthened adaptive capacity for health protection and food security to climate change under water scarcity conditions								
<p>Output 2.1</p> <p>Improved rural sector adaptive capacity for climate variability and change.</p> <p>Indicators:</p> <p>No. of risk assessment studies to identify the impact climate change and water scarcity on food productivity.</p> <p>No. of adaptive mechanisms for reduce the impact of climate change adopted.</p> <p>No. of on-farm technical approaches developed for safe use of treated wastewater in agriculture.</p>	<p>3 risks from climate change and water scarcity on food productivity assessed. FAO</p>	<p>FAO's programme on Climate change.</p>	<p>MOA</p>	<p>7. Assess the risks from climate change and water scarcity on food productivity.</p> <p>Sub activities:</p> <ul style="list-style-type: none"> Conduct risk assessment inventory. Identify the potential constrains (risks). Suggest mechanisms to overcome or alleviate the effect of these constrains. Training stakeholders on the suggested mechanisms. Implement the suggested mechanisms on the pilot site. Disseminate the information about the most feasible mechanisms 	<p>71500</p>	<p>70000</p>	<p>70000</p>	<p>211500</p>
	<p>3 adaptation plans developed. FAO</p>	<p>FAO's programme on Climate change.</p>	<p>MOA</p>	<p>8. Identify and screen adaptation measures to reduce climate change impacts on food productivity:</p> <ul style="list-style-type: none"> Identify alternative adaptation measures. Conduct adaptation measure test. Select the appropriate measure. Implement the selected measures on farm. Up scale and out scale the most suitable and economically sound mechanisms. 	<p>40000</p>	<p>40000</p>	<p>0</p>	<p>80000</p>

<p>No. of policy options suggested to support the adaptation mechanisms.</p> <p>No. of stakeholders trained on the operational approaches</p> <p>Baselines:</p> <p>No information available on risk of climate change on food production in Jordan</p> <p>Adaptive mechanisms to reduce impact of CC not existed</p> <p>On-farm technical approaches are not existing</p> <p>Policy framework is not available</p> <p>Limited number trained personal on the operational approaches</p>	<p>3 adaptation options tested and operated. FAO</p>	<p>FAO's programme on Climate change.</p>	<p>MOA</p>	<p>9. Identify and test adaptation options and improvements of crop / livestock for increased productivity in irrigating with treated wastewater:</p> <ul style="list-style-type: none"> Suggest the adaptation options for crop / livestock productivity improvement. Test the options on-farm. Select the suitable options. Develop a legal framework, policy and incentive mechanisms to support these options. Implement the selected options and disseminate information about the most suitable options. 	<p>50000</p>	<p>100000</p>	<p>0</p>	<p>150000</p>
	<p>3 awareness campaigns implemented. FAO</p>	<p>FAO's programme on Climate change.</p>	<p>MOA</p>	<p>10. Design and implement community awareness campaign, with focus on women farmers, on climate change adaptation measures.</p> <p>Sub activities:</p> <ul style="list-style-type: none"> Identify the target stakeholders at all levels (from local to decision-making). Identify the stakeholder's information needs by conducting assessment meetings (focus group meetings, personal interviews, etc....). Identify the subjects and prepare the materials to be promoted. Conduct the local community and policy maker awareness campaign. Assess the impact of the awareness campaign. 	<p>70000</p>	<p>60000</p>	<p>70000</p>	<p>200000</p>

	5 model farms established. <i>FAO</i>	FAO's programme on Climate change.	<i>MOA</i>	<p>11. Establish model farms using treated wastewater as adaptation to climate change for capacity building (jointly with WHO).</p> <p>Sub activities:</p> <ul style="list-style-type: none"> • Select a suitable farm (according to certain criteria). • Prepare the infrastructure for the farm. • Train the stakeholders on the most appropriate practices for food production including conserve water, increase food production, health related to food production, impact on soil characteristics and introducing of alternative crops. • Design and conduct the experiments and the tests. • Analyze the results and disseminate information about the successful cases. • Create incentive mechanisms for farmers adopting selected adaptation option. 	70000	50000	50000	170000
<p><u>Output 2.2</u> Improved national institutional and community capacity in integrated water resources management.</p> <p><u>Indicators:</u> No. of training and capacity building courses conducted.</p> <p>No. of institutions participated.</p> <p>No. of resources management concepts introduce in the curriculum.</p>	<p>At least 5 training programs developed.</p> <p><i>UNESCO</i></p>	<ul style="list-style-type: none"> • UNESCO Jordan-Country programming document (UCPD) • UNESCO Programme and Budget 08-09 • Medium-Term strategy 08-13 <p>World water assessment programme</p>	<i>MWI</i>	<p>12. Design and implement a training programme in integrated water resources management for the Ministry of Water and Irrigation, national NGOs, and stakeholders.</p> <ul style="list-style-type: none"> • This activity will include: • Identification of the target groups at all levels (i.e Local community level, technical level, decision making leveletc). • Assess the stakeholder's information needs. • Asses the existing technical capacity of stakeholders and identify the gaps. • Design the training programs and appoint the trainers. • Conduct the training programs. • Assess the impact of the training programs. 	157000	143000	110000	410000

<p>Center organization chart developed and the center established.</p> <p>Baselines:</p> <p>Jordan does not have a well developed IWRM national plan, but has major elements such as a water strategy and policies</p> <p>limited participation of stakeholder institutions in IWRM</p> <p>Weak integration of the concepts of IWRM in curricula</p> <p>No Guidelines and manual on IWRM</p> <p>Center for advocacy education and capacity building is not exist</p>	<p>At least 6 research projects conducted and 1 database designed. <i>UNESCO</i></p>	<ul style="list-style-type: none">• UNESCO Jordan-Country programming document (UCPD)• UNESCO Programme and Budget 08-09• Medium-Term strategy 08-13 <p>World water assessment programme</p>	<p><i>MWI</i></p>	<p>13. Design and implement community-base research projects on climate change adaptation.</p> <ul style="list-style-type: none">• Develop climate change adaptation strategy and action plan through a participatory approach.• Identify the problems facing the local community in implementing the action plan.• Prepare guidelines for community-base pilot projects on climate change adaptation.• Develop the project selection criteria and methodology.• Train the local community institution leaders on project development and management.• Call for proposals and select the eligible proposals.• Develop monitoring and evaluation methodology /plan. <p>14. Improve database in integrated water resources management in arid and semi arid areas.</p> <ul style="list-style-type: none">• Develop data management system (Database) for climate change information that can integrate all available data on different institutions.• Identify mechanisms for information exchange among different institutions.• Identify the role of each institution in monitoring and management of information.• Develop and conduct training on data management for stakeholder institutions and local community leaders.	<p>42000</p>	<p>34000</p>	<p>24328</p>	<p>100328</p>
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	Integrated water resources management introduced in the school curriculum from grade 1-11. UNESCO	<ul style="list-style-type: none">• UNESCO Jordan-Country programming document (UCPD)• UNESCO Programme and Budget 08-09• Medium-Term strategy 08-13 World water assessment programme	MWI, MoE	<p>15. Develop water education and awareness programme focusing in curriculum, resources manuals, training of trainers and teacher-in-service training for the Ministry of Education with the close partnership of the Ministry of Water and Irrigation.</p> <p>This activity will include the followings:</p> <p>At school level:</p> <ul style="list-style-type: none">• Develop curriculum and extra curriculum activities in climate change adaptation on school level.• Involved parents and teachers in the activities related to climate change adaptation specially in the pilot project site. <p>At University level:</p> <ul style="list-style-type: none">• Develop undergraduate courses.• Encourage graduate students to under take post-graduate studies on climate change management and adaptation by providing them with incentives. <p>At local community level:</p> <ul style="list-style-type: none">• Assess the training needs and knowledge level on adaptation to climate change.• Identify the training and knowledge gap and suggest the proper training and public awareness programs.• Consult the local community about these programs.• Conduct the training and public awareness program in cooperation with the local community institutions.	31000	27000	22000	80000
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	One environmental and water resource centre established. UNESCO	<ul style="list-style-type: none"> UNESCO Jordan-Country programming document (UCPD) UNESCO Programme and Budget 08-09 Medium-Term strategy 08-13 World water assessment programme	MWI	16. Design and establish one environmental and water resource centre for advocacy education and capacity building. This activity will include: <ul style="list-style-type: none"> Identify the mission, aim and the strategy of the center. Suggest the organization chart and the job description of the management and technical staff. Conduct consultation meeting and discuss all the above suggested steps. Establish the center. 	42000	42000	0	84000
	One cooperative framework Developed. UNESCO	<ul style="list-style-type: none"> UNESCO Jordan-Country programming document (UCPD) UNESCO Programme and Budget 08-09 Medium-Term strategy 08-13 World water assessment programme	MWI	17. Develop a cooperative framework on the criteria for sustainable management of shared water resources including transboundary water resources. This activity includes: <ul style="list-style-type: none"> Review the current management system frameworks and agreements governing shared water resources. Identify gaps (areas of weaknesses in the management systems) and suggest the needed modifications. Conduct stakeholder meeting to discuss the suggested mechanisms and select the most suitable. Develop a new framework and present it to the decision makers. Develop a legal framework to support the suggested management system. 	10000	8000	7000	25000
Output 2.3 Adaptation measures, by health sector and other sectors, to protect health from climate change are institutionalized <u>Indicators:</u> No. of adaptation measures adopted by each sector. No. of sectors adopted the adaptation measures. No. of projects used the	National document is published on health vulnerability to climate change WHO	<ul style="list-style-type: none"> WHO/Jordan Country Program 08-09 WHO/CEHA Biennial Prog. 08-09 	MOH	18. Conduct an assessment of direct and indirect risks to health from climate change	74766	46729	18692	140187
				This activity will be achieved through: <ul style="list-style-type: none"> Review of health risks from climate change identified worldwide with focus on regions with similar conditions as Jordan Develop protocols, methodologies, and indicators to assess health vulnerability to climate change in Jordan Conduct health vulnerability analysis and prioritize health risks to climate change Dissemination of findings of the health vulnerability assessment to the health sector and other concerned sectors such as water, agriculture, and transport 	5234	3271	1308	9813
					80000	50000	20000	150000

<p>adaptation measures.</p> <p>Early warning system to monitor and assess health impacts of climate change established and operated</p> <p>Baseline: no institutionalized adaptation interventions at present</p> <p>There is no national strategy on protecting health from climate change.</p> <p>adaptation projects are not existed</p> <p>There is no national early warning system on health and climate change</p>	<p>A national strategy for health protection from climate change is published WHO</p>	<ul style="list-style-type: none"> • WHO/Jordan Country Program 08-09 • WHO/CEHA Biennial Prog. 08-09 	<p>MOH</p>	19. Screen and prioritize adaptation strategies, by the health sector and others to protect health from climate change	23364	23364	14019	60748
				This activity will be achieved through:	1636	1636	981	4252
				<ul style="list-style-type: none"> • Review of available adaptation strategies to mitigate health risks from climate change • Development of adaptation strategies to protect health from identified health risks from climate change in Jordan • Integration of the adaptation strategies within the overall strategy of the health sector and other concerned sectors such as water, agriculture, and transport • Training of staff on these adaptation strategies • Assembling a national board to coordinate the implementation of the adaptation strategies by the health sector and others • Dissemination of the adaptation strategies widely to the stakeholders at all levels through workshops, media, NGO's, etc. 	25000	25000	15000	65000
	<p>A national strategy for health protection from heatwaves is implemented WHO</p>	<ul style="list-style-type: none"> • WHO/Jordan Country Program 08-09 • WHO/CEHA Biennial Prog. 08-09 	<p>MOH</p>	20. Develop and implement adaptation strategies to protect health from the negative effects of heat waves	14019	46729	46729	107477
					981	3271	3271	7523

				<p>This activity will be achieved through:</p> <ul style="list-style-type: none"> Review of adaptation strategies to protect health from heat waves available worldwide Develop response strategies to heat waves in Jordan which are classified into two categories: <p>a) Health system strategies for curative services: through establishing heat wave treatment facilities in emergency health centers, training of medical staff, and public awareness of first aid procedures for heat waves treatment</p> <p>b) Protective strategies: through working with municipalities to increase shaded areas, and the ministry of labor to alter work schedule for outdoor workers during heat waves. Also work with the Jordan Engineers Association to promote and train engineers on better home design to protect against heat waves, and modification of the code for buildings to cope with the expected heat waves</p> <ul style="list-style-type: none"> Design and construction of a model low cost home as an educational facility for better home design to protect from heat waves Assembly of a meeting for experts the health sector institutions and other concerned parties to review the recommended strategies to protect health from heat waves Development of a work plan for the implementation of these strategies Training of staff in the health sector and other concerned sectors on the implementation of these strategies Dissemination of these adaptation strategies to the public through workshops, media, NGO's, etc. 	15000	50000	50000	115000
	3 projects for adaptations to protect health from climate change are developed and disseminated to donor	<ul style="list-style-type: none"> WHO/Jordan Country Program 08-09 WHO/CEHA Biennial Prog. 08-09 	MOH	21. Design adaptation projects to protect health from identified high risk environmental conditions induced by climate change	9346	37383	14019	60748
					654	2617	981	4252

	agencies. WHO			<p>This will be achieved through</p> <ul style="list-style-type: none"> • Selection of three priority direct or indirect health risks from climate change in Jordan other than heat waves and water scarcity • Design and preparation of project documents, with concerned stakeholders, to protect health from identified risks • Promote these projects to be adopted by the concerned governmental bodies • Arrange and conduct meetings an seminars with donors to raise funds for the implementation of these projects 	10000	40000	15000	65000
	A national early warning system to monitor and assess health impacts of climate change established. WHO	<ul style="list-style-type: none"> • WHO/Jordan Country Program 08-09 • WHO/CEHA Biennial Prog. 08-09 	MOH	<p>22. Establish a national early warning system to monitor and assess health impacts of climate change</p> <p>This will be achieved through:</p> <ul style="list-style-type: none"> • Construction of a database for internationally reported health impacts as a result of climate change and development of trends or patterns of expected health risks from climate change • Use of models to develop a linkage between locally available data from climate monitoring units and data from units for monitoring health indicators • Establishment of a health forecast unit that issues warnings to health sector institutions and other concerned parties 	14019	84112	37383	135514
					981	5888	2617	9486
					15000	90000	40000	145000

<p>Output 2.4 Adaptation capacity of Zarqa River Basin to climate change is piloted and strengthened.</p> <p>Indicators: No. of climate change impact studies on water availability and quality in Zarqa River Basin conducted. No. of opportunities and barriers to adaptation to climate change identified.</p> <p>No. of policy options for adaptation to climate change adopted by policy makers.</p> <p>No. of training courses and workshops conducted.</p> <p>No. of local community members participated.</p> <p>No. of farms adopted the adaptation measures.</p> <p>No. of successful cases documented and upscale or outscale.</p> <p>No. of linkages to regional and global</p>	At least 4 climate change risks to water availability and quality in Zarqa River Basin identified and assessed. (UNDP)	CP: 3.1. National Institutional and community capacities strengthened for more sustainable management of water resources	MOEnv.	23. Assess direct and indirect climate change risks to water availability and quality in Zarqa River Basin. <ul style="list-style-type: none"> Review water availability and quality issues in ZRB Conduct trend analysis for streamflow, groundwater levels, water quality parameters Construct climate change scenarios Develop the water availability and water quality model for ZRB Conduct climate change impact studies on water availability and quality in Zarqa River Basin Suggest adaptation measures for water availability and water quality Integrate the proposed adaptation measures in national policies and action plans 	8839	12000	0	20839
	3 opportunities and 5 barriers to adaptation to climate change risks assessed (UNDP)	CP3.2. Environmental Policies aligned to global conventions and national implementation capacities enhanced	MOEnv.	24. Assess opportunities and barriers to adaptation to climate change risks <ul style="list-style-type: none"> Review opportunities and barriers to adaptation to climate change risks Identify opportunities and barriers to adaptation to climate change risks Assess opportunities and barriers to adaptation to climate change risks Document opportunities and barriers to adaptation to climate change risks 	30000	60000	0	90000
	One strategy for legal and institutional frameworks approaches and tools for adaptation to climate change and IWRM in the Zarqa River basin reviewed. (UNDP)	CP: 3.1. National Institutional and community capacities strengthened for more sustainable management of water resources	MOEnv.	25. Formulate appropriate legal and institutional strategies and the needed interventions (strategy implementation plan) for Zarqa River Basin <ul style="list-style-type: none"> Review legal and institutional framework approaches and tools for adaptation to climate change and IWRM in the Zarqa River basin. Devise a reform strategy for legal and institutional framework approaches and tools for adaptation to climate change and IWRM in the Zarqa River basin. 	25000	100000	25000	150000

<p>experiences established.</p> <p>Baselines:</p> <p>Limited number of cc impact studies on water resources availability and quality in Zarqa River basin</p> <p>studies on adaptation to climate change are not sufficient</p> <p>No policy options for adaptation to climate change</p>	<p>The national water policies and action plans for adaptation to climate change reviewed (UNDP)</p>	<p>CP: 3.1. National Institutional and community capacities strengthened for more sustainable management of water resources</p>	<p>MOEnv.</p>	<p>25. Review ongoing national water policies, strategies, and action plans relevant to climate change and IWRM.</p> <ul style="list-style-type: none"> Review national water policy and action plan as well as other related policies Identify gaps in these policies as related to climate change vulnerability and adaptation Propose policy options for adaptation to climate change to be adopted by policy makers Testing the policy options on all levels (local community to decision maker levels) Conduct national workshop to discuss the proposed policy options for adaptation to climate change Integrate policy options related to climate change vulnerability and adaptation in national policies and strategies 	<p>25000</p>	<p>12000</p>	<p>13000</p>	<p>50000</p>
<p>Limited no. of training courses and workshops</p> <p>Little awareness on CC issues within the community</p> <p>None of the farms in Jordan implementing any adaptation measures to climate change</p> <p>Information on national successful cases is not available</p>	<p>3 local institutions and 100 individuals participating in the capacity building programme (UNDP)</p>	<p>CP3.2. Environmental Policies aligned to global conventions and national implementation capacities enhanced</p>	<p>MOEnv.</p>	<p>26. Upgrade local and national capacities and capabilities to respond adequately to the needs and requirements for adaptation to climate change and IWRM using effective participatory approaches and tools.</p> <ul style="list-style-type: none"> Review local and national capacities for adaptation to climate change and IWRM Identify gaps and weaknesses in the local and national capacities for adaptation to climate change and IWRM Propose solutions and means to enhance the local and national capacities for adaptation to climate change and IWRM using effective participatory approaches and tools 	<p>135000</p>	<p>150000</p>	<p>95000</p>	<p>380000</p>

<p>Knowledge from Zarqa River Basin is not developed. Linkages to regional and global experiences are of non existence</p>			<i>MOEnv.</i>	<p>27. Apply and implement pilot measures and interventions as stipulated in the strategy and implementation plan</p> <ul style="list-style-type: none"> Propose a set of promising pilot measures and interventions Design pilot measures and interventions Select the most economic pilot measure and intervention Implement and apply pilot measure and intervention Evaluate the performance of the pilot measure and intervention Document the gained experiences from implementation of such pilot measure and intervention 				
	<p>3 successful cases are documented and upscale or out scale.</p> <p>2 linkages to regional and global experiences established.</p>	<p>CP: 3.1. National Institutional and community capacities strengthened for more sustainable management of water resources</p>	<i>MOEnv.</i>	<p>28. Document , share and disseminate knowledge and transfer technologies generated from Zarqa River basin on the local and national levels, and establish linkages to regional and global experiences</p> <ul style="list-style-type: none"> Document the knowledge and transfer technologies generated from Zarqa River basin related to climate change and IWRM Share climate change and IWRM knowledge and transfer technologies generated from Zarqa River basin on the local and national levels Conduct training courses on topics related to climate change and IWRM Disseminate climate change and IWRM knowledge and transfer technologies generated from Zarqa River basin on the local and national levels Establish networks and linkages to regional and global experiences related to climate change and IWRM 	100000	100000	100000	300000

Annex 2

Work plan for Adaptation to Climate Change to Sustain Jordan's MDG Achievements

Period: 2008

Annual targets	Activities	TIME FRAME				UN AGENCY	RESPONSIBLE PARTY	PLANNED BUDGET		
		Q1	Q2	Q3	Q4			Source of Funds	Budget Description	Amount
JP Outcome 1: Strengthened adaptive capacity for health protection and food security to climate change under water scarcity conditions										
JP Output 1.1: Strengthened national drinking water quality management system at central and periphery level.										
5 operational water safety plans.	1.1: Upgrade the national drinking water quality (DWQ) system for comprehensive national coverage.					WHO	MOH	MDG-F	Local Staff	15000
									int. consult	10000
									local contract	15000
									Int. contracts	0
									Training	8000
									Transport	1000
									Equipment	0
									Travel local	1000
									Supplies	900
									-Misc.	502
Support (7%)	3598									
Total									55000	
Output 1.2: Sustainable and reliable supply of minimum water requirements for health protection										
Policy on minimum water requirements for health available No. of training courses conducted.	1.2: Develop and implement 5 demonstration water safety plans (3 urban & 2 rural).					WHO	MOH	MDG-F	Local Staff	20000
									int consult	15000
									local contract	15000
									Int. contracts	0
									Training	10000
									Transport	2000
									Equipment	0
									Travel local	1000
									Supplies	1500
									Misc.	921
	Support (7%)	4579								
	Total									70000
	1.3: Design and implement training programme on DWQ management system for all levels.					WHO	MOH	MDG-F	Local Staff	16800
int consult									0	
local contract									0	

3 technical options developed for safe use of treated wastewater in agriculture.	2.1: Assess the risks from climate change and water scarcity on food productivity					FAO	MOA	MDG-F	<ul style="list-style-type: none"> - Local Staff - Intrnl staff - local contract. - Training - Transportation - Supplies - Equipments - Travel - Misc. - support - Total 	15600 7200 9300 13850 2000 2500 5000 5000 2000 5050 68500
2 persons per stakeholder institution and 1 person per farm to be trained	2.2: Identify and screen adaptation measures to reduce climate change impacts on food productivity.					FAO	MOA	MDG-F	<ul style="list-style-type: none"> - Local Staff - Intrnl staff - local contract. - Training - Transportation - Supplies - Equipments - Travel - Misc. - support - Total 	8000 3000 5200 10000 1000 1600 3200 3200 2000 2800 40000
	2.3: Identify and test adaptation options and improvements of crop / livestock for increased productivity in irrigating with treated wastewater.					FAO	MOA	MDG-F	Local Staff <ul style="list-style-type: none"> - Intrnl staff - local contract. - Training - Transportation - Supplies - Equipments - Travel - Misc. - support - Total 	10000 4000 6000 12500 1500 2500 4000 4000 2000 3500 50000
	2.4: Design and implement community awareness campaign, with focus on women farmers, on climate change adaptation measures.					FAO	MOA	MDG-F	<ul style="list-style-type: none"> - Local Staff - Intrnl staff - local contract. - Training - Transportation - Supplies - Equipments - Travel - Misc. - support - Total 	15600 6200 9800 16500 3500 3500 2000 5000 3000 4900 70000

	2.5: Establish model farms using treated wastewater as adaptation to climate change for capacity building.					FAO	MOA	MDG-F	<ul style="list-style-type: none"> - Local Staff 16000 - Intrnl staff 7000 - local contract. 9500 - Training 17000 - Transportation 2000 - Supplies 2500 - Equipments 5000 - Travel 4000 - Misc. 2100 - support 4900 - Total 70000 	
Output 2.2: Improved national institutional and community capacity in integrated water resources management										
	2.6: Design and implement a training programme in integrated water resources management for the Ministry of Water and Irrigation, national non-governmental organizations (NGOs), and stakeholders.					UNESCO	MOE	MDG-F	<ul style="list-style-type: none"> Local Staff 13000 Training 86000 Int. Consult 18000 Int. Travel 7000 equipment 5000 Misc. 10 Support 7% 10990 M&E 14000 Total 157990 	
	2.7: Design and implement research projects and improve database in integrated water resources management in arid and semi arid areas					UNESCO	MOE	MDG-F	<ul style="list-style-type: none"> local contract 17000 Training 6000 Transport 2000 Supplies 3060 Support 7% 2940 M&E 11000 Total 42000 	
	2.8: Develop water education and awareness programme focusing on curriculum, resource manuals, training of trainers and teacher-in-service training for the Ministry of Education with the close partnership of the Ministry of Water and Irrigation					UNESCO	MOE	MDG-F	<ul style="list-style-type: none"> Local Staff 5000 local contract 9000 Training 7000 Supplies 2830 Support 7% 2170 M&E 5000 Total 31000 	
	2.9: Design and establish one environmental and water resource centre for advocacy education and capacity building.					UNESCO	MOE	MDG-F	<ul style="list-style-type: none"> local contract 5000 Training 5000 Equipment 30000 Supplies 1385 Support7% 3115 M&E 0 Total 44500 	

4 institutional adaptation interventions to protect health available	2.10: Develop a cooperative framework on the criteria for sustainable management of shared water resources including trans-boundary water resources.					UNESCO	MOE	MDG-F	local contract. Misc. Support7% M&E	7000 2300 700 0 10000
National strategy on protecting health from climate change available.	2.11: Conduct an assessment of direct and indirect risks to health from climate change					WHO	MOE	MDG-F	Local Staff	22000
									int consult	11000
									local contract	28000
									Int. contracts	0
									Training/scientific consultation	8000
									Transport	2000
									Equipment	0
									Travel local	1500
									Supplies	1466
									Misc.	800
Support (7%)	5234									
Total	80000									
National early warning system on health and climate change available.	2.12: Screen and prioritize adaptation strategies, by the health sector and others to protect health from climate change					WHO	MOH	MDG-F	Local Staff	7000
									int consult	5000
									local contract	6365
									Int. contracts	0
									Training/scientific consultation	0
									Transport	2000
									Equipment	0
									Travel local	1500
									Supplies	1000
									Misc.	500
Support (7%)	1635									
Total	25000									
	2.13: Develop and implement adaptation strategies to protect health from the negative effects of heat waves					WHO	MOH	MDG-F	Local Staff	4000
									int consult	0
									local contract	8300
									Int. contracts	0
									Training/scientific consultation	0
									Transport	500
									Equipment	0
Travel local	500									
Supplies	500									

									-Misc.	220
									Support (7%)	980
									Total	15000
	2.14: Design adaptation projects to protect health from identified high risk environmental conditions induced by climate change					WHO	MOH	MDG-F	Local Staff	2800
									int consult	0
									local contract	5200
									Int. contracts	0
									Training/scientific consultation	0
									Transport	500
									Equipment	0
									Travel local	0
									Supplies	500
									Misc.	346
									Support (7%)	654
									Total	10000
	2.15: Establish a national early warning system to monitor and assess health impacts of climate change					WHO	MOH	MDG-F	Local Staff	4200
									int consult	5000
									local contract	3000
									Int. contracts	0
									Training/scientific consultation	0
									Transport	700
									Equipment	0
									Travel local	500
									Supplies	300
									Misc.	320
									Support (7%)	980
									Total	15000
Output 2.4: Adaptation capacity of Zarqa River Basin to climate change is piloted and strengthened.										
Integrated water resource management plan for Zarqa River Basin that includes adaptation to climate change is available. plans for water sector includes	2.16: Assess direct and indirect climate change risks to water availability and quality in Zarqa River Basin.					UNDP	MOEnv	MDG-F	Local contract	7000
									support	1220.27
									7 % GMS	618.73
									Total	8839
	2.17: Assess opportunities and barriers to adaptation to climate change risks					UNDP	MOEnv	MDG-F	Local Staff	6000
									Local contract	17000
									Travel local	1000
									Supplies	2000
									Support	1900
									7 % GMS	2100
									Total	30000
	2.18: Review and devise a reform strategy for legal and institutional framework approaches					UNDP	MOEnv	MDG-F	Local Staff	7000
									local contract	10000

TOTAL		1,427,339
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Work plan for Adaptation to Climate Change to Sustain Jordan's MDG Achievements

Period: 2009

Annual targets	Activities	TIME FRAME				UN AGENCY	RESPONSIBLE PARTY	PLANNED BUDGET		
		Q1	Q2	Q3	Q4			Source of Funds	Budget Description	Amount
JP Outcome 1: Strengthened adaptive capacity for health protection and food security to climate change under water scarcity conditions										
JP Output 1.1: Strengthened national drinking water quality management system at central and periphery level.										
5 operational water safety plans.	1.1: Upgrade the national drinking water quality (DWQ) system for comprehensive national coverage.					WHO	MOH	MDG-F	Local Staff	8400
									int. consult	0
									local contract	10000
									Int. contracts	0
									Training	6500
									Transport	1290
									Equipment	0
									Travel local	300
									Supplies	1200
									Misc.	347
Support (7%)	1963									
	Total	30000								
Output 1.2: Sustainable and reliable supply of minimum water requirements for health protection										
Policy on minimum water requirements for health available No. of training courses conducted.	1.2: Develop and implement 5 demonstration water safety plans (3 urban & 2 rural).					WHO	MOH	MDG-F	Local Staff	19600
									int. consult	15000
									local contract	18000
									Int. contracts	0
									Training	6000
									Transport	3000
									Equipment	0
									Travel local	700
									Supplies	2500
									Misc.	621
									Support (7%)	4579
										Total
		1.3: Design and implement training programme on DWQ management system for all levels.					WHO	MOH	MDG-F	Local Staff
int. consult										5000
local contract										8000

									Int. contracts	0
									Training	10000
									Transport	2600
									Equipment	0
									Travel local	600
									Supplies	2100
									Misc.	975
									Support (7%)	3925
									Total	60000
	1.4: Provide critical supplies and equipment for DWQ laboratory networks of the					WHO	MOH	MDG-F	Local Staff	19600
									int. consult	0
									local contract	0
									Int. contracts	0
									Training	0
									Transport	3000
									Equipment	25000
									Travel local	700
									Supplies	2500
									Misc.	602
									Support (7%)	3598
	Total	55000								
	1.5: Identify minimum household water security requirements for health protection.					WHO	MOH	MDG-F	Local Staff	29400
									int. consult	10000
									local contract	44000
									Int. contracts	0
									Training	0
									Transport	4500
									Equipment	0
									Travel local	1000
									Supplies	3500
									Misc.	731
									Support (7%)	6869
Total	100000									
1.6: Develop national policy and issue legislative policy instruments on securing supply of minimum water requirements for health.					WHO	MOH	MDG-F	Local Staff	5600	
								int. consult	0	
								local contract	7600	
								Int. contracts	0	
								Training	3500	
								Transport	1200	
								Equipment	0	
								Travel local	0	
								Supplies	500	
Misc.	292									

									Support (7%)	1308
									Total	20000
Outcome 2: Strengthened adaptive capacity for health protection and food security to climate change under water scarcity conditions										
Output 2.1: Improved rural sector adaptive capacity for climate variability and change.										
3 technical options developed for safe use of treated wastewater in agriculture.	2.1: Assess the risks from climate change and water scarcity on food productivity					FAO	MOA	MDG-F	- Local Staff - Intrnl staff - local contract. - Training -Transportation - Supplies - Equipments - Travel - Misc. - support - Total	15600 6200 9800 16500 3500 3500 2000 5000 3000 4900 70000
2 persons per stakeholder institution and 1 person per farm to be trained	2.2: Identify and screen adaptation measures to reduce climate change impacts on food productivity.					FAO	MOA	MDG-F	- Local Staff - Intrnl staff - local contract. - Training -Transportation - Supplies - Equipments - Travel - Misc. - support - Total	8000 3000 5200 7000 1000 1600 3200 3200 2000 2800 37000
	2.3: Identify and test adaptation options and improvements of crop / livestock for increased productivity in irrigating with treated wastewater.					FAO	MOA	MDG-F	Local Staff - Intrnl staff - local contract. - Training -Transportation - Supplies - Equipments - Travel - Misc. - support - Total	20000 8000 12000 25000 3000 5000 8000 8000 4000 7000 100000
	2.4: Design and implement community awareness campaign, with focus on women farmers, on climate change adaptation measures.					FAO	MOA	MDG-F	Local Staff - Intrnl staff - local contract. - Training -Transportation	10000 4000 6000 12500 1500

									- Supplies - Equipments - Travel - Misc. - support - Total	2500 4000 4000 2000 3500 50000
	2.5: Establish model farms using treated wastewater as adaptation to climate change for capacity building.					FAO	MOA	MDG-F	Local Staff - Intrnl staff - local contract. - Training -Transportation - Supplies - Equipments - Travel - Misc. - support - Total	10000 4000 6000 12500 1500 2500 4000 4000 2000 3500 50000
Output 2.2: Improved national institutional and community capacity in integrated water resources management										
	2.6: Design and implement a training programme in integrated water resources management for the Ministry of Water and Irrigation, national non-governmental organizations (NGOs), and stakeholders.					UNESCO	MOE	MDG-F	- Local Staff -local contract -Training -Int. Staff -Int. Travel -support 7% -M&E	15000 85000 9000 5990 4000 10010 11000
	2.7: Design and implement research projects and improve database in integrated water resources management in arid and semi arid areas					UNESCO	MOE	MDG-F	-local contract -Training -Transport -Travel local -support 7% M&E	17000 6000 1000 1925 2403 6000
	2.8: Develop water education and awareness programme focusing on curriculum, resource manuals, training of trainers and teacher-in-service training for the Ministry of Education with the close partnership of the Ministry of Water and Irrigation					UNESCO	MOE	MDG-F	- Local Staff -INT. staff -local contract -Training -Transport -Travel local -Int. Travel -Supplies -Misc. -support 7% -M&E	3000 3110 10000 2000 2000 1890 5000
	2.9: Design and establish one environmental and water resource centre for advocacy					UNESCO	MOE	MDG-F	-local contract -Training	15000 5000

	education and capacity building.								-Transport -Equipment -support 7% -M&E	5000 1735 2765 10000
Output 2.3: Adaptation measures, by health sector and other sectors, to protect health from climate change are institutionalized.										
4 institutional adaptation interventions to protect health available	2.10: Develop a cooperative framework on the criteria for sustainable management of shared water resources including trans-boundary water resources.					UNESCO	MOE	MDG-F	-local contract. -Supplies -support 7% M&E	5000 1440 560 1000
National strategy on protecting health from climate change available.	2.11: Conduct an assessment of direct and indirect risks to health from climate change					WHO	MOH	MDG-F	Local Staff	14000
									int. consult	10000
									local contract	14000
									Int. contracts	0
									Training	4000
									Transport	2150
									Equipment	0
									Travel local	500
									Supplies	1579
									Misc.	500
Support (7%)	3271									
Total	50000									
National early warning system on health and climate change available.	2.12: Screen and prioritize adaptation strategies, by the health sector and others to protect health from climate change					WHO	MOH	MDG-F	Local Staff	7000
									int. consult	0
									local contract	13500
									Int. contracts	0
									Training	0
									Transport	1075
									Equipment	0
									Travel local	500
									Supplies	800
									Misc.	489
Support (7%)	1636									
Total	25000									
	2.13: Develop and implement adaptation strategies to protect health from the negative effects of heat waves					WHO	MOH	MDG-F	Local Staff	14000
									int. consult	0
									local contract	27900
									Int. contracts	0
									Training	0
									Transport	2150
									Equipment	0
									Travel local	500
Supplies	1700									

									Misc.	479
									Support (7%)	3271
									Total	50000
	2.14: Design adaptation projects to protect health from identified high risk environmental conditions induced by climate change					WHO	MOH	MDG-F	Local Staff	11200
									int. consult	10000
									local contract	12200
									Int. contracts	0
									Training	0
									Transport	1733
									Equipment	0
									Travel local	400
									Supplies	1430
									Misc.	420
									Support (7%)	2617
									Total	40000
	2.15: Establish a national early warning system to monitor and assess health impacts of climate change					WHO	MOH	MDG-F	Local Staff	25200
									int. consult	14000
									local contract	13000
									Int. contracts	0
									Training	5000
									Transport	3214
									Equipment	20000
									Travel local	1519
									Supplies	1280
									Misc.	899
									Support (7%)	5888
									Total	90000
Output 2.4: Adaptation capacity of Zarqa River Basin to climate change is piloted and strengthened.										
Integrated water resource management plan for Zarqa River Basin that includes adaptation to climate change is available. plans for water sector includes adaptation to	2.16: Assess direct and indirect climate change risks to water availability and quality in Zarqa River Basin.					UNDP	MOEnv	MDG-F	Local contract	8500
									support	2660
									7 % GMS	840
									Total	8839
	2.17: Assess opportunities and barriers to adaptation to climate change risks					UNDP	MOEnv	MDG-F	Local Staff	12700
									Local contract	29000
									Travel local	5000
									Supplies	2600
									Support	3500
									7 % GMS	4200
	Total	57000								
	2.18: Review and devise a reform strategy for legal and institutional framework approaches and tools for adaptation to climate change and					UNDP	MOEnv	MDG-F	Local Staff	18000
local contract									35000	
Training									25000	
Transport									5000	

climate change.	IWRM in the Zarqa River basin.								Travel local	2000
									Misc.	5000
									Support	3000
									7% GMS	7000
									Total	100000
									Local Staff	18000
	2.19: Review national water policies and action plans for adaptation to climate change.					UNDP	MOEnv	MDG-F	Local Staff	8500
									Support	2660
									7 % GMS	840
									Total	12000
	2.20: Develop local and national capacities for adaptation to climate change and IWRM using effective participatory approaches and tools					UNDP	MOEnv	MDG-F	Local Staff	15000
									Intrnl staff	25000
									Local contract	34000
									Training	25000
									Transport	5000
									Travel Intrnl	2000
									Supplies	5000
									Equipment	25000
									Misc.	3500
									support	0
									7 % GMS	10500
									Total	150000
	2.21: Develop, document, and share knowledge generated from Zarqa River basin on the local and national levels, and establish linkages to regional and global experiences.					UNDP	MOEnv	MDG-F	Local Staff	15000
									Intl. Staff	25000
									local contract	15000
									Training	20000
									Transport	1000
									Travel local	1000
									Travel Intrnl	3000
									Supplies	3000
									Support	0
									7 % GMS	7000
									Total	100000
	Joint Programme Monitoring									15000
	Joint Programme Management									12,000
TOTAL									1,593,000	

Work plan for Adaptation to Climate Change to Sustain Jordan's MDG Achievements

Period: 2010

Annual targets	Activities	TIME FRAME				UN AGENCY	RESPONSIBLE PARTY	PLANNED BUDGET		
		Q1	Q2	Q3	Q4			Source of Funds	Budget Description	Amount
JP Outcome 1: Strengthened adaptive capacity for health protection and food security to climate change under water scarcity conditions										
JP Output 1.1: Strengthened national drinking water quality management system at central and periphery level.										
5 operational water safety plans.	1.1: Upgrade the national drinking water quality (DWQ) system for comprehensive national coverage.					WHO	MOH	MDG-F	Local Staff	5600
									int. consult	0
									local contract	5000
									Int. contracts	0
									Training	6300
									Transport	800
									Equipment	0
									Travel local	300
									Supplies	500
									Misc.	192
									Support (7%)	1308
Total	20000									
Output 1.2: Sustainable and reliable supply of minimum water requirements for health protection										
Policy on minimum water requirements for health available No. of training courses conducted.	1.2: Develop and implement 5 demonstration water safety plans (3 urban & 2 rural).					WHO	MOH	MDG-F	Local Staff	19600
									int. consult	10000
									local contract	9000
									Int. contracts	0
									Training	8000
									Transport	3000
									Equipment	0
									Travel local	1700
									Supplies	2500
									Misc.	1621
									Support (7%)	4579
									Total	70000
	1.3: Design and implement training programme on DWQ management system for all levels.					WHO	MOH	MDG-F	Local Staff	16800
									int. consult	8000
									local contract	5000

									Int. contracts	0
									Training	20000
									Transport	2600
									Equipment	0
									Travel local	975
									Supplies	2100
									Misc.	600
									Support (7%)	3925
									Total	60000
	1.4: Provide critical supplies and equipment for DWQ laboratory networks of the					WHO	MOH	MDG-F	Local Staff	15100
									int. consult	0
									local contract	0
									Int. contracts	0
									Training	0
									Transport	3000
									Equipment	28000
									Travel local	1700
									Supplies	2500
									Misc.	1102
									Support (7%)	3598
									Total	55000
	1.5: Identify minimum household water security requirements for health protection.					WHO	MOH	MDG-F	Local Staff	28000
									int. consult	0
									local contract	5000
									Int. contracts	0
									Training/consultation	46000
									Transport	4300
									Equipment	0
									Travel local	1000
									Supplies	3250
									Misc.	908
									Support (7%)	6542
Total									95000	
1.6: Develop national policy and issue legislative policy instruments on securing supply of minimum water requirements for health.					WHO	MOH	MDG-F	Local Staff	9800	
								int. consult	7000	
								local contract	5460	
								Int. contracts	0	
								Training	7000	
								Transport	1500	
								Equipment	0	
								Travel local	400	
Supplies	1250									

									Misc.	300
									Support (7%)	2290
									Total	35000
Outcome 2: Strengthened adaptive capacity for health protection and food security to climate change under water scarcity conditions										
Output 2.1: Improved rural sector adaptive capacity for climate variability and change.										
3 technical options developed for safe use of treated wastewater in agriculture.	2.1: Assess the risks from climate change and water scarcity on food productivity					FAO	MOA	MDG-F	- Local Staff - Intrnl staff - local contract. - Training - Transportation - Supplies - Equipments - Travel - Misc. - support - Total	15600 6200 9800 16500 3500 3500 2000 5000 3000 4900 70000
2 persons per stakeholder institution and 1 person per farm to be trained	2.2: Identify and screen adaptation measures to reduce climate change impacts on food productivity.					FAO	MOA	MDG-F	- Local Staff -Intrnl staff -local contract. -Travel locl -Travel Intrnl -support	0
	2.3: Identify and test adaptation options and improvements of crop / livestock for increased productivity in irrigating with treated wastewater.					FAO	MOA	MDG-F	- Local Staff -local cntct. -Training -Transport -Travel locl -Misc. -support	0
	2.4: Design and implement community awareness campaign, with focus on women farmers, on climate change adaptation measures.					FAO	MOA	MDG-F	- Local Staff - Intrnl staff - local contract. - Training - Transportation - Supplies - Equipments - Travel - Misc. - support - Total	12000 4500 7800 12000 1500 2400 4800 4800 3000 4200 57000
	2.5: Establish model farms using treated wastewater as adaptation to climate change for					FAO	MOA	MDG-F	Local Staff - Intrnl staff	10000 4000

	capacity building.								- local contract. - Training - Transportation - Supplies - Equipments - Travel - Misc. - support - Total	6000 12500 1500 2500 4000 4000 2000 3500 50000
Output 2.2: Improved national institutional and community capacity in integrated water resources management										
	2.6: Design and implement a training programme in integrated water resources management for the Ministry of Water and Irrigation, national non-governmental organizations (NGOs), and stakeholders.					UNESCO	MOE	MDG-F	- Local Staff -local contract -Training -Int. Staff -Int. Travel -Supplies -support 7% M&E	16000 69000 9000 300 - - 7700 5000
	2.7: Design and implement research projects and improve database in integrated water resources management in arid and semi arid areas					UNESCO	MOE	MDG-F	-local contract -Training -Transport -Travel local -Supplies -support 7% M&E	15320 4000 - - - 1680 3000
	2.8: Develop water education and awareness programme focusing on curriculum, resource manuals, training of trainers and teacher-in-service training for the Ministry of Education with the close partnership of the Ministry of Water and Irrigation					UNESCO	MOE	MDG-F	- Local Staff -INT. staff -local contract -Training -Transport -Travel local -Int. Travel -Supplies -Misc. -support 7% M&E	2000 6460 7000 - - - - - 1540 5000
	2.9: Design and establish one environmental and water resource centre for advocacy education and capacity building.					UNESCO	MOE	MDG-F	-local contract -Training -Transport -Equipment -Travel local -Supplies -support	0
Output 2.3: Adaptation measures, by health sector and other sectors, to protect health from climate change are institutionalized.										

4 institutional adaptation interventions to protect health available	2.10: Develop a cooperative framework on the criteria for sustainable management of shared water resources including trans-boundary water resources.					UNESCO	MOE	MDG-F	-local contract. -Supplies -support 7% M&E	4000 1010 490 1500
National strategy on protecting health from climate change available.	2.11: Conduct an assessment of direct and indirect risks to health from climate change					WHO	MOH	MDG-F	Local Staff	5600
									int. consult	0
									local contract	5000
									Int. contracts	0
									Training	6300
									Transport	800
									Equipment	0
									Travel local	300
									Supplies	500
									Misc.	192
National early warning system on health and climate change available.	2.12: Screen and prioritize adaptation strategies, by the health sector and others to protect health from climate change					WHO	MOH	MDG-F	Support (7%)	1308
									Total	20000
									Local Staff	4200
									int. consult	5000
									local contract	3375
									Int. contracts	0
									Training	0
									Transport	600
									Equipment	0
									Travel local	250
	2.13: Develop and implement adaptation strategies to protect health from the negative effects of heat waves					WHO	MOH	MDG-F	Supplies	400
									Misc.	194
									Support (7%)	981
									Total	15000
									Local Staff	14000
									int. consult	0
									local contract	23000
									Int. contracts	0
									Training	5000
									Transport	2150
	2.14: Design adaptation projects to protect health from identified high risk environmental conditions induced by climate change					WHO	MOH	MDG-F	Equipment	0
									Travel local	500
									Supplies	1500
									Misc.	579
								MDG-F	Support (7%)	3271
									Total	50000
									Local Staff	4200
									int. consult	0
									local contract	4875

									Total	25000
	2.19: Review national water policies and action plans for adaptation to climate change.					UNDP	MOEnv	MDG-F	Local Staff	10000
									Support	2090
									7 % GMS	910
									Total	13000
	2.20: Develop local and national capacities for adaptation to climate change and IWRM using effective participatory approaches and tools					UNDP	MOEnv	MDG-F	Local Staff	15000
									Intrnl staff	22000
									Local contract	17500
									Training	15000
									Transport	4850
									Travel Intrnl	2000
									Supplies	2000
									Equipment	5000
									Misc.	2000
									support	0
									7 % GMS	6650
									Total	93000
	2.21: Develop, document, and share knowledge generated from Zarqa River basin on the local and national levels, and establish linkages to regional and global experiences.					UNDP	MOEnv	MDG-F	Local Staff	15000
									Intl. Staff	25000
									local contract	15000
									Training	30000
									Transport	1000
									Travel local	1000
									Travel Intrnl	3000
									Supplies	3000
									Support	0
									7 % GMS	7000
									Total	10000
									0	
	Final Evaluation								International Consultant	15000
	Joint Programme Management									12,000
TOTAL									1,066,328	

Annex 3

Terms of Reference

Terms of Reference and Rules of Procedure for MDG-F National Steering Committee (NSC)
in Jordan for programmes funded by
UNDP-Spain Millennium Development Goals Achievement Fund

Part I: Terms of Reference

1. Introduction

The National Steering Committee in Jordan (the "NSC") is established to oversee and coordinate the operations of the Adaptation to Climate Change to Sustain Jordan's MDG Achievements (the "Programme") in accordance with the Terms of Reference of the Fund, dated September 2007.

2. Role of the NSC

The NSC will have overall responsibility for Programme activities. It will provide strategic guidance and oversight and approve the Programme Document including subsequent revisions and Annual Work Plans and Budgets. The NSC will be co-chaired by the UN Resident Representative and a Government Representative. To the extent possible, the NSC will use existing coordination mechanisms in Jordan to undertake the process of planning and stakeholder consultation that the programme operations will require.

3. Structure and Composition

- ✓ **Membership:** The members of the NSC will include:
 - A representative of the Government of Jordan, as co-chair: **Mr. Nasser Shraideh, Secretary General, Ministry of Planning and International Cooperation.**
 - The United Nations Resident Coordinator (RC), as Co-chairperson: Mr. Luc Stevens.
 - A local representative from Government of Spain: Mr. Gregorio Marañón Garrido
- ✓ **Frequency of meetings:** The NSC will normally meet semi-annually. Additional meetings based on the requirements of the Programme may be convened exceptionally. The meetings will be convened by the Chairperson. For emergency issues the NSC may conduct its business electronically.
- ✓ **Agenda:** The agenda and supporting documentation will be prepared and disseminated by the Resident Coordinator's office. NSC members may make requests for items to be included on the agenda.
- ✓ **Quorum:** A quorum of the NSC will consist of all the committee members.
- ✓ **Observers:** Non-governmental, civil society and other organisations may be invited to participate in NSC meetings as observers, based on the following two primary criteria: (a) Involvement of the organisation in projects financed or to be financed from the Programme; and (b) Impact of projects financed from the Programme on the activities of the organisation. Decisions to invite observers or representatives of the relevant Participating UN Organisation will be made by the Co-chairs.

4. Responsibilities of the NSC

The primary responsibilities of the NSC will be to:

- Review and approve these Terms of Reference (TOR) and Rules of Procedure, based on the generic TOR, and amend them, as necessary, in consultation with the AA.
- Review and endorse the Programme Document and Annual Work Plan and Budget submitted by Participating UN Organisations; ensure their conformity with the requirements of the Fund and in particular decisions of the MDG-F Steering Committee; ensure the quality of programme documents to receive funding from the Fund.
- Discuss the Programme requirements and priorities concerning, *inter alia*:
 - programme management, including consistent and common approaches to project costing, cost recovery, implementation modalities, results-based reporting and impact assessment,
 - information management, including appropriate Fund and donor visibility.
- Ensure that appropriate consultative processes take place with key stakeholders at the country level in order to avoid duplication or overlap between the Fund and other funding mechanisms.
- Approve the reporting mechanism for the programme.
- Review findings of the summary audit reports consolidated by the Administrative Agent; highlight lessons learned and periodically discuss follow-up by Participating UN Organisations on recommended actions with Programme -wide impact.

5. Decisions

The NSC should make decisions by consensus. The decisions of the NSC will be duly recorded.

Prior to presenting a position on an issue to the NSC, the Participating UN Organisation will ensure that this is in line with their regulatory requirements. Any decision by the NSC which deviates from a previously endorsed position has to be referred back to the Participating UN Organisation for endorsement in order to be binding.

Decisions on programme documents, including revisions and Annual Workplans and Budgets will only be taken upon completion of a review by the Programme Management Committees (PMC).

6. Support to the NSC

The NSC will establish a support function, which reports to the Chairpersons of the NSC. The support function will facilitate the work of the NSC. The RC's office will provide the primary support to the NSC.

Under the direct supervision of the Chairpersons of the NSC, the NSC Support Office will be responsible for, *inter alia*:

- Periodically reviewing the Rules of Procedure of the NSC, and in consultation with the Co-chairs, recommend changes or revisions to the NSC.
- Liaising with the PMC on programme review and analysis.
- Calling and organising meetings of the NSC.
- Developing and circulating meeting agendas and minutes.
- Documenting, communicating and ensuring follow-up of the NSC's decisions particularly ensuring the submission – no later than one business day after the NSC meeting – of appropriately signed and complete documentation on approved programme related documents to the Administrative Agent (the UNDP Multi-Donor Trust Fund Office in New York).

8. Programme Management Committee

The NSC shall ensure that Programme Management Committee (PMC) is established to assume responsibility for the operational coordination of the Joint Programme. The PMC's membership will consist of relevant implementing parties such as Participating UN organizations, Government representatives and civil society representatives as appropriate. The NSC will oversee that the PMC:

- Appoints a Programme Manager or equivalent thereof;
- Manages programme resources to achieve the outcomes and output defined in the programme;

- Aligns MDG-F funded activities with the UN Strategic Framework or UNDAF approved strategic priorities;
- Establishes programme baselines to enable sound monitoring and evaluation;
- Establishes adequate reporting mechanisms in the programme;
- Integrates work plans, budgets, reports and other programme related documents; and ensures that budget overlaps or gaps are addressed;
- Provides technical and substantive leadership regarding the activities envisaged in the Annual Work Plan and provides technical advice to the NSC;
- Establishes a communication and public information plans;
- Makes recommendation on re-allocations and budget revisions to the NSC;
- Addresses emerging management and implementation problems; and
- Identifies emerging lessons learned.

The RC or his/her representative will chair. Experts can be invited as observers to the PMC meetings when needed. The PMC will normally meet quarterly.

9. Public Disclosure

The NSC will ensure that decisions regarding programme approvals, periodic reports on the progress of implementation of the programme and associated external evaluations are made available for public information. Such reports and documents may include: records of decisions, summary sheets of approved Joint Programmes, annual financial and progress reports, summary of internal and external programmatic evaluation reports.

The NSC will take all reasonable steps to ensure the accuracy of such documents and that confidential materials are not disclosed.

The Participating UN Organisations will also take reasonable steps to ensure the accuracy of their postings on their respective websites regarding their Programme operations and activities, in consultation with the NSC.

Part II: Rules of Procedure

1. Review of Strategy

The NSC will review the progress of the Programme(s) to ensure coherence and collaboration with Programme and other national programmes, maintaining close collaboration with national authorities to ensure flexible adaptation of MDG-F funded activities.

2. Funding release

- Based on the approval of the NSC and the receipt of duly signed Submission Form and relevant Project Document, the Administrative Agent will transfer approved funds to the particular Participating UN Organisation(s), after ensuring consistency with programme document signed by the Participating UN organizations.
- The first instalment of funds will be transferred within three to four business days from receipt of documentation from the NSC. Instalments are annual and the first release will be made in accordance with the budget of year one.
- Subsequent instalments will be in accordance with Annual Work Plans approved by the NSC. The release of funds is subject to meeting a minimum expenditure threshold of 70% of the previous fund release to the Participating UN Agencies combined.
- If the 70% expenditure threshold is not met funds will not be released to any agency, regardless of the threshold being met by an individual Participating UN Organization.
- If the overall expenditure of the programme reaches 70% before the end of the twelve-month period, the participating agencies may upon endorsement by the NSC request the MDTF Office to release the next instalment ahead of schedule.

4. Reporting

- In line with the Memorandum of Understanding (MOU) between the Administrative Agent and Participating UN Organisations, the latter will submit, on an annual basis, financial and progress reports to the Administrative Agent. The Administrative Agent is responsible for consolidated reporting to the NSC at the country and the Fund Steering Committee at the global level, respectively.
- The PMC will sign off on the Narrative Joint Programme Progress Report before it is submitted to the Administrative Agent.
- The Office of the Resident Coordinator will ensure that the AA's Consolidated Joint Programme Progress Reports are distributed to NSC members and other relevant parties.
- Decisions and comments by the NSC will be shared with all stakeholders in order to ensure the full coordination and coherence of MDG-F efforts.
- The MDTF Office will issue an annual AA Management Brief for each programme, which contains analysis of fiduciary requirements and key management achievements and challenges as well as recommendations for improvements or corrective action as required. The assessment, takes into account latest policy direction from the Secretariat and Steering Committee; best practices observed throughout Fund activities; audit recommendations; MTR observations; and adherence to Rules and regulations. The AA Management Briefs will be written in English.
- At the Fund-wide level, the MDTF Office designs reporting systems and mechanisms to facilitate that fiduciary requirement can be met by the Participating UN Agencies. The MDTF office will provide the Consolidated Joint Programme Progress Report for each programme and other reports as appropriate to the Fund Steering Committee through the Secretariat.
- Participating UN Organizations will be encouraged to provide Quarterly Updates. The Quarterly Updates would be provided at the outcome level. The Quarterly Update is designed to satisfy basic information requirements to serve as a high level management tool for the Fund, while still being easy for the Country Teams to comply with. The MDTF Office will design and role out an online system to capture the Quarterly Updates.

- Consolidated annual reports should include a section on the activity of the NSC.
- Timeline for submission of reports is shown in the chart below.

Report Name	Coordinating Author /Consolidator	Approving Authority	Dead-Line (reporting period: 1 Jan - 31 Dec)	Required Language
Consolidated Joint Programme Progress Report (including AA Management Brief, JP Narrative Report and Financial Reports)	MDTF Office	MDTF Executive Coordinator	31 May	AA Management Brief in English
Narrative Joint Programme Report	Participating UN Organizations jointly at Country Level	PMC	28 February	Working Language of CO
Financial Progress Reports	Participating UN Organizations HQ Level	Financial Officer/ Comptroller	31 March	English

The Programme Management Committee (PMC) Tasks:

- Ensuring operational coordination
- Appointing a Programme Coordinator or equivalent thereof;
- Management programme resources to achieve outcomes and output defined in the programme;
- Aligning MDG–F funded activities with the UN Strategic Framework or UNDAF approved strategic priorities;
- Establishing programme baselines to enable sound monitoring and evaluation;
- Establishing adequate reporting mechanisms in the programme;
- Integrating work plans, budgets, reports and other programme related documents; and ensures that budget overlaps or gaps are addressed;
- Providing technical and substantive leadership regarding the activities envisaged in the Annual Work Plan;
- Agreeing on re-allocations and budget revisions and make recommendations to the RC as appropriate;
- Addressing management and implementation problems;
- Identifying emerging lessons learned;
- Establishing communication and public information plans.
- Make management decisions on a consensus basis for the JP when guidance is required
- Facilitate through appropriate channels to overcome bottlenecks and minimize risks
- Advocate for climate change mainstreaming into national development policies and strategies
- Review and recommend appropriate actions after mid-term and final evaluations

Joint Programme Coordinator:

A programme coordinator will be appointed by and based at UNDP. The JP coordinator will be accountable to UNDP and the UNCT and report to the Steering Committee. He or she will have the following responsibilities:

- Draw up the detailed annual project work plans with success indicators and implementation mechanisms in coordination with Agency Output Managers (AOM) (described below) and prepare a coherent consolidated annual work plan
- Develop annual budget and oversee resource allocations and disbursement
- Keep financial and monitoring records for required project reporting
- Prepare programme reports for submission to the UNDP Country Office
- Overall planning and management of the implementation of project's activities including the workshops, fairs, meetings, training courses. etc.
- Formulate job descriptions and define the scope of work for project staff and consultants, and participate in the selection process under UNDP guidelines as well as monitor and assess their performance
- Liaise with organizations participating in the programme and ongoing programmes relevant to the project and local community leaders in the project sites through the development of clear communication strategy
- Ensure that data arising from the activities of the project conform with agreed programme wide methodologies and formats
- Call and act as the secretary to the Programme Steering Committee and technical meetings, preparing the agenda and other required documentation
- Supervise and initiate mid-term and final evaluations
- Prepare and submit a Terminal Report with management adaptation plans
- Ensure that the recommendations and policy decisions of the Steering Committee are adopted and implemented
- Assist in developing the capacity of the programme counterparts
- Assume the responsibility of coordination with and between Agency Output Managers through establishing clear coordination mechanisms, meetings, communication channels, networking, etc. The overall aim is to ensure that similar and complementing activities are cost effectively implemented such as awareness campaigns, workshops, capacity development activities, etc.
- In addition to the above duties the joint programme coordinator will be responsible to implement the UNDP outputs and should resume the same tasks below as the others agency output managers.

Agency Output Managers:

Three agency output managers (AOM) for FAO, WHO and UNESCO will be recruited and based at each corresponding agency. The manager will be accountable to the corresponding agency and report to the agency head and the JP coordinator. He or she will be responsible for the followings:

- Day-to- day implementation of project activities;
- Draw up the detailed Annual Project Work Plans and budget according to requirements set by the coordinator and UN system;
- Keep financial and monitoring records for required project reporting;
- Prepare Quarterly and Annual reports for submission to the UNDP Country Office;
- Help in establishing small enterprises for adding value and find alternative sources of income for local community;
- Recruit in accordance with the pertinent rules project staff and consultants and supervise their performance;
- Follow up with Ministries and legislative bodies regarding the consideration of agricultural and economic policies proposed by the programme for adoption and implementation; and
- Develop public awareness campaigns for introduction and promotion of adaptation to climate change concepts to concerned stakeholders including the local community.

Annex 4

Programme Monitoring Framework (PMF)

Expected Results (Outcomes & outputs)	Indicators (with baselines & indicative timeframe)			Means of verification	Collection methods (with indicative time frame & frequency)	Responsibilities	Risks & assumptions
	Indicator	Baseline	Target				
Outcome 1: Sustained access to improved water supply sources despite increased water scarcity induced by climate change							
Output 1.1 Strengthened national drinking water quality management system at central and periphery level	No. of operational water safety plans resilient to climate change	there are no operational water safety plans	5 operational water safety plans for different sources developed	No. of plans adopted by government agencies	Minuets of meetings. Interviews. Visits to government agencies	WHO	Commitment of governmental agencies Availability of experts in water quality management
	No. of drinking water quality (DWQ) systems upgraded.	the current DWQ system is not responsive to expected climate change impacts	one Operational DWQ system upgraded MOH network of DWQ laboratories are upgraded	DWQ system documents Equipment and supplies are in place	Frequent visits to existing labs Conduct survey	WHO	Availability of financial resources Willingness of government to develop legislation and policy
	No. of training courses conducted	Limited and weak capacity	three local institutions staff per target area trained	Training materials Feed back report on training courses	Development of the training material and writing the feed back report	WHO	Weak cooperation or willingness to participate by key stakeholders
Output 1.2 Sustainable and reliable supply of minimum water requirements for health protection	Legislative instruments for the national policy on minimum water requirements for health, taking into account current climate change and variability	no policy on minimum water requirements for health	Policy on minimum water requirements for health adopted	Policy document that determines the minimum water requirement	Visits to government agencies	WHO	Conflict of interest among implementing agencies Finance is not allocated as planned Suggested policies, laws and procedures are not adopted
	% of urban	in 2004 the	Increase % of	Survey result	Conduct	WHO	

	households with reliable access to minimum water requirements for health under water scarcity conditions induced by climate change	percent of urban households with reliable access to minimum water requirements for health was 50%.	urban households with reliable access to minimum water requirements for health to 75% in the pilot sites	report	survey.		
	No. of inventories conducted to determine minimum water requirement	No evidence - based guidance available on minimum water requirement for health	3 comprehensive inventories conducted	Inventories reports			
Outcome 2: Strengthened adaptive capacity for health protection and food security to climate change under water scarcity conditions							
	Policy options for adaptation to Climate Change developed	No policy on adaptation to climate change	Policy option to be provided	Policy options document	Review/ Project Evaluation	Project Assurance – UNDP	
	Number of successful cases on pilot integrated water resources management documented and disseminated	0	5	Case studies	Review	Project Assurance – UNDP	
	Number of men and women from academia, local communities, CSOs and local municipalities trained in integrated water resource management and its	0	100 Individuals including farmers 3 local institutions	Training Reports	Review	Project Assurance – UNDP	

	adaptation to climate change in target areas						
	Number of completed climate change impact studies on water availability and quality in Zarqa River Basin	0	5	Impact Studies	Review	Project Assurance – UNDP	
Output 2.1 Improved rural sector adaptive capacity for climate variability and change	No. of risk assessment studies to identify the impact of CC and water scarcity on food production.	No information available on risk of climate change on food production in Jordan	3 risks from climate change and water scarcity on food productivity assessed	Risk assessment reports	Survey Modelling	FAO	Acceptance of the stakeholder institutions to adopt the mechanisms
	No. of adaptive mechanisms to reduce the impact of CC adopted	Adaptive mechanisms to reduce impact of CC not existed	3 adaptation plans developed	Adaptation plans documents	Review plans	FAO	Commitment of the health and other sectors to institutionalize the adaptation measures.
	No. of on-farm technical approaches developed for safe use of treated wastewater in agriculture	On-farm technical approaches are not existing	3 technical options developed for safe use of treated wastewater in agriculture	Document including the adaptive mechanisms Assessment report	Visits to the target area. Inventory	FAO	Willingness of the stakeholders and local community in Zarqa River to participate effectively.
	No. of policy options suggested to support the adaptation mechanisms	Policy framework is not available	Policy framework in place	List of policy options suggested	Attending the policy meetings	FAO	

	No. of stakeholders trained on the operational approaches	Limited number trained personal on the operational approaches	2 persons per stakeholder institution and 1 person per pilot farm to be trained	Feed back report on training programs Training material manuals	Conduct training	FAO	
Output 2.2 Improved national institutional and community capacity in integrated water resources management (IWRM)	No. of training courses conducted	Jordan does not have a well developed IWRM national plan, but has major elements such as a water strategy and policies	7- 10 stakeholder institution are trained 1000 person from the stakeholder are trained	Training materials Training course feedback report List of institutions trained on IWMR No. of brochures printed database website develop assessment report	Visits. Writing the report. List the brochures.	UNESCO	Willingness and commitment of the stakeholder institutions to participate Commitment of governmental agencies
	No. of institutions participated	limited participation of stakeholder institutions in IWRM	7- 10 stakeholder institutions are trained 1000 person from the stakeholder are trained	List of the participating institutions	Attending the training course.	UNESCO	
	No. of concepts of IWRM introduced in the curricula	Weak integration of the concepts of IWRM in curricula	Integration of the concepts of IWRM in Curricula One guideline	Documents that include IWRM concepts Guidelines and Manual of		UNESCO	

		No Guidelines and manual on IWRM	and one manual on IWRM	IWRM			
	Establish environment and water resources center for advocacy education and capacity building.	Center for advocacy education and capacity building is not exist	One centre established and operating	Document on center mandate		UNESCO	
Output 2.3 Adaptation measures, by health sector and other sectors, to protect health from climate change are institutionalized	No. of adaptation measures adopted by each sector.	no institutionalized adaptation interventions at present	All related sectors implement adaptation interventions to protect human health from climate change One adaptation strategy to protect health from negative effects of heat waves developed	List of adopted mechanisms List of the measures adopted and the sectors participated.		WHO	
	No. of sectors adopted the adaptation measures	There is no national strategy on protecting health from climate change.	national strategy on protecting health from climate change available	List of adopted mechanisms by sectors		WHO	
	No. of projects used the adaptation measures.	adaptation projects are not existed	At least 3 adaptation projects designed	National strategy document		WHO	

	Early warning system to monitor and assess health impacts of climate change established and operated	There is no national early warning system on health and climate change	At least one National early warning system on health and climate change established	National early warning system on health and climate change in place and operational		WHO	
Output 2.4 Adaptation capacity of Zarqa River Basin to climate change is piloted and strengthened	No. of climate change impact studies on water availability and quality on Zarqa River basin conducted	Limited number of cc impact studies on water resources availability and quality in Zarqa River basin	At least four climate change risks to water resources availability and quality in Zarqa River basin	Reports of CC change impact studies	Document including the adaptive mechanisms	UNDP	Commitment of governmental agencies Availability of experts in climate change adaptations
	No. of opportunities and barriers to adaptation to climate change identified	studies on adaptation to climate change are not sufficient	At least 3 opportunities and 5 barriers to adaptation to climate change risks assessed	Document on opportunities and barriers to adaptation to climate change		UNDP	Availability of financial resources
	No. of policy options for adaptation to CC adopted by policy makers	No policy options for adaptation to CC	At least one strategy for legal and institutional frameworks approaches and tools for IWRM in the Zarqa River basin reviewed Adaptation to climate change mainstreamed into national action plans and policies	Policy options to adaptation to CC adopted by policy makers	Assessment report	UNDP	Willingness of government to develop legislation and policy
	No. of training courses and workshops conducted	Limited no. of training courses and workshops	At least 3 local institutions and 100 individuals participating in the capacity building programme	Training courses manuals Workshops feed back reports		UNDP	Finance is not allocated as planned

	No. Community member participated	Little awareness on CC issues within the community	At least 3 local institutions and 100 individuals participating in the capacity building programme	List of participants		UNDP	Weak cooperation or willingness to participate by key stakeholders Conflict of interest among implementing agencies
	No. of farms implementing the adaptation measures	None of the farms in Jordan implementing any adaptation measures to CC	5 farms implementing the adaptation measures	Documentation on farms adaptation		UNDP	
	No. of successful cases documented and upscale or out-scale	Information on national successful cases is not available	At least 3 successful cases are documented and upscale or out-scale	Reports successful cases		UNDP	
	No. of linkages to regional and global experiences established IWRM plan for Zarqa River basin including adaptation measures.	Knowledge from Zarqa River Basin is not developed. Linkages to regional and global experiences are of non existence	At least 2 linkages to regional and global experiences established Knowledge from Zarqa River Basin developed, documented and shared on local and	Documents on knowledge generated and shared. Reports and feedback from regional and global entities		UNDP	Availability of experts in IWRM

			national levels. Linkages to regional and global experiences exist				
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Annex 5. Joint Programme Results

Baseline

Jordan is characterized with semi-arid climate, high dependence on rainfall and scarcity of water resources. It is one of the countries to be highly affected with climate change impacts. Although Jordan's emissions of greenhouse gases are very low, climate change is a big threat to Jordan since the ecosystem productivity and water resources are highly dependent on the hydrological cycle.

Jordan has signed the United Nations Framework Convention on Climate Change (UNFCCC) in 1992 and ratified it in 1994 and committed itself to the success of the global environmental management system. The Ministry of Environment (MoEnv) became the national focal point for climate change issues and UNFCCC. Jordan started its efforts within the framework of the UNFCCC in 1996 with a GEF-UNDP supported programme for national capacity building in documenting national emissions of greenhouse gases and preparing Jordan's national communication to the UNFCCC. The first national communication was submitted in 1998. It was the first national communication to be prepared by a developing country party to UNFCCC. The national communication included an inventory of greenhouse gases' emissions from all sectors including energy, industry, transport, agriculture, institutional and residential. The programme included developing national scenarios for greenhouse emissions for the upcoming 30 years based on various modeling systems. It has also included developing national mitigation measures for reducing the effects of climate change and a national action plan to reduce greenhouse emissions and turning into sustainable energy resources.

Based on this programme, a comprehensive assessment study was conducted in 1999 to anticipate the impacts of climate change on water resources in Jordan within the framework of vulnerability and adaptation to climate change. The study included four sectoral assessments on surface water, groundwater and wastewater in Zarqa basin and marine hydrological systems in the Gulf of Aqaba.

The MoEnv implemented between 2004 and 2006 the second phase of the capacity building programme under the title of "enabling activity" which included an inventory of current technologies. In 2006 the Ministry of Environment started preparing the Second National Communication (SNC) on greenhouse emissions that will also include suggested adaptation and mitigation measures for the first time in Jordan. The SNC project will develop and enhance national capacities to fulfill Jordan's commitments to the Convention on a continuous basis; 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; and mobilize additional resources for projects related to climate change and mitigation of Greenhouse Gases (GHG). Such projects may also be eligible also for further funding or co-funding by GEF or other multilateral or bilateral organizations.

Jordan and Kyoto protocol:

Jordan ratified the Kyoto protocol in 2003 to become the third Arab country party to the protocol. A national committee was formed to develop project proposals and initiatives for the Clean Development Mechanism (CDM) of the Kyoto protocol. The Protocol came into force in February 2005.

The legislative framework does not, at present, incorporate adaptation to climate change, and awareness of climate change risks is limited within the MoEnv. Until now, no national policy for climate change was prepared. Efforts are, however, being made to rectify this situation. During the last decade or so, thousands of Jordanians were engaged in hands-on initiatives, policy- dialogues, and enabling activities to meet their obligations and ethical commitments to UNFCCC. Remarkable success was achieved in some cases, but some results were below expectations. In a process of trial and error the knowledge and lessons learned do accumulate and result in better approaches.

However, developing countries such as Jordan cannot stand the consequences of not reaping the real benefits from the UNFCCC. Thus a process of national prioritization should be used to place the high emphasis on direct and stressing constraints facing the national capacity at individual, organizational and systemic levels to respond to the challenges and opportunities embedded in the proper implementation of the UNFCCC. In order for adaptation to climate change to become part of the national policy and decision-making routine, the key prevailing gaps and capacities need to be addressed. This Joint programme will help Jordan address some of these gaps and capacities through achieving the following strategic issues:

- 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.

These outcomes address identified barriers to adaptation and provide support to Jordan's national strategies and action plans for sustainable management of its natural resources; reducing poverty; and enhancing health indicators. Barriers to adaptation include:

- a) climate change risks not sufficiently taken into account within sectoral policies and investment frameworks;
- b) existing climate information, knowledge and tools are not directly relevant for supporting adaptation decisions and actions; and
- c) weak national capacity to develop sectoral adaptation responses.

A part of this Joint Program's activities will be piloted in Zarqa River Basin (ZRB), the second main tributary to River Jordan after Yarmouk River, and one of the most significant basins in the country with respect to its economical, social and agricultural importance. About 40% of the country populations live in ZRB. In addition it covers all agricultural activities and land use types including forested area and has high climatic gradient.

Alternative scenario with MDG-F funding

The Joint Programme will work with relevant national and UN agencies to enhance the country adaptation capacity to climate change. Through this Programme direct and indirect climate change risks to water availability and quality in the country will be assessed. Also, opportunities and barriers to adaptation to climate change risks will be identified. Moreover, the program will help in reforming strategy for legal and institutional framework approaches and tools for adaptation to climate change and IWRM. Moreover, a review of national water policies and action plans for adaptation to climate change will be conducted. The program will develop local and national capacities for adaptation to climate change and IWRM using effective participatory approaches and tools. Furthermore, document, and knowledge generated from will be shared on the national and international levels. Also, linkages to regional and global experiences will be established.

Outcomes, outputs, and the needed activities needed to achieve them are listed below:

Outcome 1: Sustained access to improved water supply sources despite increased water scarcity induced by climate change.

- Output 1.1: Strengthened national drinking water quality management system at central and periphery level
- Output 1.2: Sustainable and reliable supply of minimum water requirements for health protection

The Ministries of Health and Water and Irrigation, as well as the Water Authority of Jordan, water supply companies, and the parliament, with assistance from the WHO, will work to implement the following activities:

- **Activity 1.1: Upgrade the national drinking water quality (DWQ) system for comprehensive national coverage.**
 - Review and assess current national DWQ system including standards, and management practices at both the national and sub regional level and Suggest needed upgrading on the DWQ systems
 - Conduct a stakeholders (decision makers from MOH, MWI, WAJ, legislators, Jordan Institute for Meteorology, water companies, consumer protection associations experts (water treatment and distribution, environmental, hydrologists, etc), research institutions, and NGO's) consultations to map their feedback on the recommended modification on the DWQ systems.
 - Revise the national DWQ standards and management practices (including intensive consultation with different stakeholders).
 - Commission revision of the national DWQ management system based on preventive management and water safety planning.
 - Develop legislation tools governing the management of DWQ system.
 - Introduce the revised DWQ management system
- **Activity 1.2: Develop and implement 5 demonstration water safety plans (3 urban & 2 rural).**
 - Develop technical guidance and manuals on the development of Water Safety Planning.
 - Develop training program packages on WSP.
 - select the 5 demonstration sites for the implementation of the water safety plans (3 urban and 2 rural)
 - Select technical service providers (consultants) to develop the demonstration WSP
 - Conduct stakeholder's workshop.
 - Develop protocols for the implementation of WSP at the selected demonstration sites.
 - Commission technical service providers to develop the WSPs for the demonstration systems.
 - Train the owners of the five water systems on the implementation of the WSPs.
 - Undertake monitoring of the implementation of the WSP at different sites.
 - Revise the water safety protocols manuals, implementation procedures.
 - Disseminate and introduce the revised WSP protocols, manuals, and procedures to all stakeholders.
- **Activity 1.3: Design and implement training programme on DWQ management system for all levels.**
 - Undertake training needs assessment for the introduction of the new DWQ management system this would include three levels of professionals namely, decision, managers, and operators. Form concerned stakeholders (MOH, MWI, water companies, water authorities,).
 - Develop and plan the training program.
 - Develop the training modules.
 - Conduct training of trainers programs.
 - Launch training program (at least 9 workshops 3 per sub-region).

- **Activity 1.4: Provide critical supplies and equipment for DWQ laboratory networks of the Ministry of Health.**
 - Assess the current capabilities of network of DWQ labs for the Ministry of Health laboratories at the central and governorate level in view of the requirements of the new system.
 - Identify the critical supplies needed to insure adequate performance according to the new DWQ management system.
 - Procurement of the supplies to the network of MOH labs.

- **Activity 1.5: Identify minimum household water security requirements for health protection.**
 - Review of evidence on water requirement for health both nationally and globally.
 - Develop methodologies for establishing and generating evidence to support recommendations on minimum water requirements for health.
 - Convene national expert consultations on the development of methods to identify minimum water requirements for health.
 - Generate evidence on minimum water requirements for health through:
 - Conduct two ecological studies, one in Amman another in Ajloun
 - Conduct two epidemiological studies in Amman and Ajloun
 - Conduct ecological studies in at least twenty rural communities
 - Consolidate the evidence on minimum water requirements for health and generate draft document.
 - Convene a scientific group consultation to review the recommendations and document on minimum water requirements for health

- **Activity 1.6: Develop national policy and issue legislative policy instruments on securing supply of minimum water requirements for health.**
 - Use the scientific evidence on minimum water requirement for health protection to formulate a national policies on minimum water requirement for health protection.
 - Convene three stakeholders consultations and workshops to build consensus around the national policy on minimum water requirement for health protection.
 - Develop and implement a programme for the appropriate capacity building and awareness raising with regards with regards to the amended policies and legislation;

Outcome 2: Strengthened adaptive capacity for health protection and food security to climate change under water scarcity conditions

- Output 2.1: Improved rural sector adaptive capacity for climate variability and change: The activities include the risk assessment of climate change and water scarcity and identification of the adaptation measures to reduce climate change impacts on food productivity. In addition to a public awareness campaigns for local community to promote these measures on the target areas.

Ministry of Agriculture and the National Center for Agricultural Research and Extension (NCARE) in cooperation with FAO and WHO, will implement the following activities:

Activity 2.1: Assess the risks from climate change and water scarcity on food productivity.

Sub activities:

- Conduct risk assessment inventory.
- Identify the potential constraints (risks).
 - Suggest mechanisms to overcome or alleviate the effect of these constraints.
- Training stakeholders on the suggested mechanisms.
- Implement the suggested mechanisms on the pilot site.
- Disseminate the information about the most feasible mechanisms

Activity 2.2: Identify and screen adaptation measures to reduce climate change impacts on food productivity.

Sub activities:

- Identify alternative adaptation measures.
- Conduct adaptation measure test.
- Select the appropriate measure.
- Implement the selected measures on farm.
- Up scale and out scale the most suitable and economically sound mechanisms.

Activity 2.3: Identify and test adaptation options and improvements of crop / livestock for increased productivity in irrigating with treated wastewater.

Sub activities:

- Suggest the adaptation options for crop / livestock productivity improvement.
- Test the options on-farm.
- Select the suitable options.
- Develop a legal framework, policy and incentive mechanisms to support these options.
- Implement the selected options and disseminate information about the most suitable options.

Activity 2.4: Design and implement community awareness campaign, with focus on women farmers, on climate change adaptation measures.

Sub activities:

- Identify the target stakeholders at all levels (from local to decision-making).
- Identify the stakeholder's information needs by conducting assessment meetings (focus group meetings, personal interviews, etc....).
- Identify the subjects and prepare the materials to be promoted.
- Conduct the local community and policy maker awareness campaign.
- Assess the impact of the awareness campaign.

Activity 2.5: Establish model farms using treated wastewater as adaptation to climate change for capacity building (jointly with WHO).

Sub activities:

- Select a suitable farm (according to certain criteria).
- Prepare the infrastructure for the farm.
- Train the stakeholders on the most appropriate practices for food production including conserve water, increase food production, health related to food production, impact on soil characteristics and introducing of alternative crops.
- Design and conduct the experiments and the tests.
- Analyze the results and disseminate information about the successful cases.

- Create incentive mechanisms for farmers adopting selected adaptation option.
- Output 2.2: Improved national institutional and community capacity in integrated water resources management: The activities will concentrate on the capabilities of the local community institutions and the introduction of water resource management concepts into the school and University curriculum.

Ministry of Water and Irrigation (MWI) and Ministry of Education (MOE) will achieve this output through the following activities in cooperation with UNESCO and FAO:

Activity 2.6: Design and implement a training programme in integrated water resources management for the Ministry of Water and Irrigation, national NGOs, and stakeholders.

This activity will include:

- Identification of the target groups at all levels (i.e Local community level, technical level, decision making leveletc).
- Assess the stakeholder's information needs.
- Assess the existing technical capacity of stakeholders and identify the gaps.
- Design the training programs and appoint the trainers.
- Conduct the training programs.
- Assess the impact of the training programs.

Activity 2.7:

A. Design and implement community-base research projects on climate change adaptation.

This activity includes:

- Develop climate change adaptation strategy and action plan through a participatory approach.
- Identify the problems facing the local community in implementing the action plan.
- Prepare guidelines for community-base pilot projects on climate change adaptation.
- Develop the project selection criteria and methodology.
- Train the local community institution leaders on project development and management.
- Call for proposals and select the eligible proposals.
- Develop monitoring and evaluation methodology /plan.

B. Improve database in integrated water resources management in arid and semi arid areas.

This activity includes:

- Develop data management system (Database) for climate change information that can integrate all available data on different institutions.
- Identify mechanisms for information exchange among different institutions.
- Identify the role of each institution in monitoring and management of information.
- Develop and conduct training on data management for stakeholder institutions and local community leaders.

Activity 2.8: Develop water education and awareness programme focusing in curriculum, resources manuals, training of trainers and teacher-in-service training for the Ministry of Education with the close partnership of the Ministry of Water and Irrigation.

This activity will include the followings:

At school level:

- Develop curriculum and extra curriculum activities in climate change adaptation on school level.
- Involved parents and teachers in the activities related to climate change adaptation specially in the pilot project site.

At University level:

- Develop undergraduate courses.
- Encourage graduate students to under take post-graduate studies on climate change management and adaptation by providing them with incentives.

At local community level:

- Assess the training needs and knowledge level on adaptation to climate change.
- Identify the training and knowledge gap and suggest the proper training and public awareness programs.
- Consult the local community about these programs.
- Conduct the training and public awareness program in cooperation with the local community institutions.

Activity 2.9: Design and establish one environmental and water resource centre for advocacy education and capacity building.

This activity will include:

- Identify the mission, aim and the strategy of the center.
- Suggest the organization chart and the job description of the management and technical staff.
- Conduct consultation meeting and discuss all the above suggested steps.
- Establish the center.

Activity 2.10: Develop a cooperative framework on the criteria for sustainable management of shared water resources including transboundary water resources.

This activity includes:

- Review the current management system frameworks and agreements governing shared water resources.
- Identify gaps (areas of weaknesses in the management systems) and suggest the needed modifications.
- Conduct stakeholder meeting to discuss the suggested mechanisms and select the most suitable.
- Develop a new framework and present it to the decision makers.
- Develop a legal framework to support the suggested management system.
- Output 2.3: Adaptation measures, by health sector and other sectors, to protect health from climate change are institutionalized: Activities to achieve this output will focus on assessing the direct and indirect risks of climate change on health sector. Adaptation strategies will be developed and early warning system will be established to protect health from the negative effect of climate change.

Ministry of Health, Water Authority of Jordan (WAJ), Ministry of Water and Irrigation, and local municipalities will achieve this output through the following activities in cooperation with WHO:

Activity 2.11: Conduct an assessment of direct and indirect risks to health from climate change

- Review of health risks from climate change identified worldwide with focus on regions with similar conditions as Jordan
- Develop protocols, methodologies, and indicators to assess health vulnerability to climate change in Jordan

- Conduct health vulnerability analysis and prioritize health risks to climate change
- Dissemination of findings of the health vulnerability assessment to the health sector and other concerned sectors such as water, agriculture, and transport

Activity 2.12: Screen and prioritize adaptation strategies, by the health sector and others to protect health from climate change.

- Review of available adaptation strategies to mitigate health risks from climate change
- Development of adaptation strategies to protect health from identified health risks from climate change in Jordan
- Integration of the adaptation strategies within the overall strategy of the health sector and other concerned parties
- Training of staff on these adaptation strategies
- Assembling a national board to coordinate the implementation of the adaptation strategies by the health sector and others
- Dissemination of the adaptation strategies to the public through workshops, media, NGO's, etc.

Activity 2.13: Develop and implement adaptation strategies to protect health from the negative effects of heat waves.

- Review of adaptation strategies to protect health from heat waves available worldwide
- Develop response strategies to heat waves in Jordan which are classified into two categories:
 - a) Curative strategies: through establishing heat wave treatment facilities in emergency health centers, training of medical staff, and public awareness of first aid procedures for heat waves treatment
 - b) Protective strategies: through working with municipalities to increase shaded areas, and the ministry of labor to alter work schedule for outdoor workers during heat waves. Also work with the Jordan Engineers Association to promote and train engineers on better home design to protect against heat waves, and modification of the code for buildings to cope with the expected heat waves
- Design and construction of a model low cost home as an educational facility for better home design to protect from heat waves
- Assembly of a meeting for experts the health sector institutions and other concerned parties to review the recommended strategies to protect health from heat waves
- Development of a work plan for the implementation of these strategies
- Training of staff in the health sector and other concerned sectors on the implementation of these strategies
- Dissemination of these adaptation strategies to the public through workshops, media, NGO's, etc.

Activity 2.14: Design adaptation projects to protect health from identified high risk environmental conditions induced by climate change.

- Selection of three priority direct or indirect health risks from climate change in Jordan other than heat waves and water scarcity
- Design and preparation of project documents to mitigate these health risks
- Promotion of these projects to be adopted by the concerned governmental bodies
- Arrange and conduct meetings and seminars with donors to raise funds for the implementation of these projects

Activity 2.15: Establish a national early warning system to monitor and assess health impacts of climate change

- Construction of a database for internationally reported health impacts as a result of climate change and development of trends or patterns of expected health risks from climate change
 - Use of models to develop a linkage between locally available data from climate monitoring units and data from units for monitoring health indicators
 - Establishment of a health forecast unit that issues warnings to health sector institutions and other concerned parties
- **Output 2.4: Adaptation capacity of Zarqa River Basin to climate change is piloted and strengthened:** The activities will include the assessment of direct and indirect effects of climate change on water availability and quality in Zarqa River Basin; identify opportunities and barriers to adaptation to climate change; review and deliver reform strategies for legal and institutional frameworks and national water policies and action plans; build local and national capacities for adaptation to climate change using participatory approach; and document and share knowledge generated from the Zarqa River Basin and establish linkages to regional and global experiences.

Ministry of Environment (MOEnv), Ministry of Water and Irrigation, Zarqa Governorate, the World Conservation Union (IUCN), and local municipalities and communities with assistance from the UNDP, will achieve this output through the following activities:

Activity 2.16: Assess direct and indirect climate change risks to water availability and quality in Zarqa River Basin.

Sub-activities

- Review water availability and quality issues in ZRB
- Conduct trend analysis for streamflow, groundwater levels, water quality parameters
- Construct climate change scenarios
- Develop the water availability and water quality model for ZRB
- Conduct climate change impact studies on water availability and quality in Zarqa River Basin
- Suggest adaptation measures for water availability and water quality
- Integrate the proposed adaptation measures in national policies and action plans

Activity 2.17: Assess opportunities and barriers to adaptation to climate change risks

Sub-activities

- Review opportunities and barriers to adaptation to climate change risks
- Identify opportunities and barriers to adaptation to climate change risks
- Assess opportunities and barriers to adaptation to climate change risks
- Document opportunities and barriers to adaptation to climate change risks

Activity 2.18: Formulate appropriate legal and institutional strategies and the needed interventions (strategy implementation plan) for Zarqa River Basin

Sub-activities:

- Review legal and institutional framework approaches and tools for adaptation to climate change and IWRM in the Zarqa River basin.
- Devise a reform strategy for legal and institutional framework approaches and tools for adaptation to climate change and IWRM in the Zarqa River basin.

Activity 2.19: Review ongoing national water policies, strategies, and action plans relevant to climate change and IWRM.

Sub-activities:

- Review national water policy and action plan as well as other related policies
- Identify gaps in these policies as related to climate change vulnerability and adaptation
- Propose policy options for adaptation to climate change to be adopted by policy makers
- Testing the policy options on all levels (local community to decision maker levels)
- Conduct national workshop to discuss the proposed policy options for adaptation to climate change
- Integrate policy options related to climate change vulnerability and adaptation in national policies and strategies

Activity 2.20: Upgrade local and national capacities and capabilities to respond adequately to the needs and requirements for adaptation to climate change and IWRM using effective participatory approaches and tools.

Sub-activities

- Review local and national capacities for adaptation to climate change and IWRM
- Identify gaps and weaknesses in the local and national capacities for adaptation to climate change and IWRM
- Propose solutions and means to enhance the local and national capacities for adaptation to climate change and IWRM using effective participatory approaches and tools

Apply and implement pilot measures and interventions as stipulated in the strategy and implementation plan

Sub-activities:

- Propose a set of promising pilot measures and interventions
- Design pilot measures and interventions
- Select the most economic pilot measure and intervention
- Implement and apply pilot measure and intervention
- Evaluate the performance of the pilot measure and intervention
- Document the gained experiences from implementation of such pilot measure and intervention

Activity 2.21: Develop, document , share and disseminate knowledge and transfer technologies generated from Zarqa River basin on the local and national levels, and establish linkages to regional and global experiences

Sub-activities:

- Document the knowledge and transfer technologies generated from Zarqa River basin related to climate change and IWRM
- Share climate change and IWRM knowledge and transfer technologies generated from Zarqa River basin on the local and national levels
- Conduct training courses on topics related to climate change and IWRM
- Disseminate climate change and IWRM knowledge and transfer technologies generated from Zarqa River basin on the local and national levels
- Establish networks and linkages to regional and global experiences related to climate change and IWRM