4.0 Morocco

BMZ	German Federal Ministry for Economic Cooperation and Development
CBA	Community-Based Adaptation
CCAA	Climate Change Adaptation in Africa
DFID	Department for International Development (UK)
DSM	demand side management
ENFI	Ecole Nationale Forestière d'Ingénieurs
FAO	Food and Agriculture Organization of the United Nations
GEF	Global Environment Facility
GFDRR	Global Facility for Disaster Reduction and Recovery
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (Germany)
ICARDA	International Center for Agricultural Research in Dry Areas
IDRC	International Development Research Centre
SCCF	Special Climate Change Fund
UNDP	United Nations Development Programme

Crossed from south-west to north-east by the Atlas Mountains, the Kingdom of Morocco lies at junction of the Atlantic Ocean and Mediterranean Sea. The majority of its population of nearly 32-million people (CIA, 2011)[89] lives west of the Atlas Mountains, particularly along the Atlantic coast. To the east of the Atlas Mountains lies the Sahara Desert (USDS, 2010).

A significant portion of Moroccans (about 45 per cent of the labor force) work within the agriculture sector, which generates about 17 per cent of the country's GDP (CIA, 2011). Morocco's economy is also based on light manufacturing, tourism and the export of phosphate (of which it is the world's greatest supplier). The country's GDP per capita is estimated to beUS$4,900 (CIA, 2011), which is reflected in Morocco's status as lower middle income developing country (OECD, 2009).

[89] Population estimated as of July 2011. Morocco's population growth rate is 1.067 per cent (2011 estimate) per year (CIA, 2011i).

A. Adaptation Needs and Priorities

The area of Morocco west of the Atlas Mountains has a Mediterranean climate characterized by hot, dry summers and cold, humid winters. The climate becomes more extreme in the interior and southern Saharan part of Morocco, where summers are typically very dry and hot (USDS, 2010n). Scientific and anecdotal evidence suggests that these climatic patterns have begun to change, with rainfall becoming more erratic and drought more frequent since the 1990s (OneWorld, 2010).

Climate change projections suggest that Morocco will experience higher temperatures and rates of evapotranspiration in the future, along with a 10 to 15 per cent decline in precipitation and increasingly erratic rainfall patterns (UNDP, undated; MMATUHE, 2010). In a detailed assessment of the Ouergha watershed, it has been suggested that runoff levels in the period of 2000 to 2020 could decrease by about 10 per cent if mean annual temperatures increased by 1°C and precipitation levels remained constant (Agoumi, 2003; cited in Boko et al., 2007). Other potential changes include lower mountain snowfall, modification of the Canary Current, and coastal erosion due to sea level rise (UNDP, undated).

These changes are expected to exacerbate the country's existing concerns related to chronic water scarcity and desertification. In rural Morocco, factors such as overgrazing and indiscriminate crop rotation are contributing to environmental degradation. In coastal areas, rapid expansion of cities, industry and tourism has overburdened groundwater resources and led to the loss of wetlands (OneWorld, 2010). Climate change could put additional pressure on these resources by potentially causing: disrupted river and stream flows; lower water tables; increased salinity of groundwater in coastal areas; a deterioration of water quality; and a decrease in dam capacity (MMATUHE, 2010).

These impacts naturally have implications for the country's agriculture sector, which is rainfall-dependent (USDS, 2010) with the exception of approximately 14,450 km^2 of irrigated land (CIA, 2011). Projections to 2020 suggest that cereal yields will be reduced by 10 per cent in normal years and by half in dry years. Other projected consequences include: a 7 to 12 per cent increase in water need by some crops; a shift and reduction in growth periods; increased risk of drought; the arrival of new diseases; and the extinction of some crop and tree species. These impacts have implications for the country's livestock production (MMATUHE, 2010).

Other sectors expected to be adversely affected by climate change include (UNDP, undated; MMATUHE, 2010):

- Coastal and marine resources, due in part to coastal erosion and the potential for changing patterns in the Atlantic Ocean's Canary Current to affect fisheries production;

- Forestry, as forest resources could become less resilient, leading to the decline and potential extinction of some tree species and disturbance of forest regeneration patterns; and
- Tourism, with coastal infrastructure, beaches and water resources being of particular concern.

Recognizing these future challenges, Morocco has identified a number of potential actions that it could take to reduce its vulnerability to the impacts of climate change, particularly with respect to its water and agriculture resources. These potential actions are summarized in Table 1 below.

Table 1: Potential adaptation actions identified by Morocco in its First and Second National Communications (Bennani, Buret & Senhaji, 2001; MMATUHE, 2010)

Sector	Potential Adaptation Actions
Freshwater Resources	• Improve irrigation by reducing water losses in some distribution networks and optimize consumption to the needs of different crops. • Expand use of treated wastewater in irrigation. • Use brackish water for irrigation of (to be identified) salinity-tolerant plant species in the Low Moulouya; demineralization of brackish water at Bou Areg and Sahel. • Map the major water tables prone to pollution. • Protect potable groundwater from pollution risks to ensure a steady supply to the cities of Tangier, Azilal and Sidi El Mokhtar; and improve enforcement of legal protection. • Install drinking water production plants. • Establish sanitary landfills for household waste, such as in the city of Guelmim. • Introduce appropriate technologies for collecting and storing storm water in arid and semi-arid areas. • Establish desalinization plants to supply drinking water to coastal cities along the Agadir-Tarfaya axis. Options include: (planned) desalinization plants at Laayoune and Agadir; and (desired) desalinization plants in the following zones: Tiznit-Sidi Ifni, Chtouka, Essaouira, Safi, El Jadida, Casablanca, Al Hoceima and Saidia. • Tap into the deep water tables of the western High Atlas Mountains. Introduce economic measures such as a tariff or fee system to reduce water consumption and a tourism tax for water use. • Pursue the construction of 59 large dams by 2030 and approximately 1,000 small dams. • Transfer water across the North-South axis to help alleviate water deficits: 400 million m^3/year from Sebu in phase 1; and 400 million m^3/year from Loukkos-Lau in phase 2.
Agriculture	• Restructure and develop oases to ensure continued agricultural activity by the surrounding populations and restore the date palm heritage. • Expand olive oil plantations as olives are well adapted to marginal zones. • Enable supplemental irrigation, especially in areas growing rain-fed cereal crops.
Cross-sectoral Knowledge	• Undertake in-depth research on the potential impact of climate change on agriculture and water. • Establish a research center on climate change impacts and a climate databank.

Sector	Potential Adaptation Actions
Generation	• Develop the agro-meteorological network. • Improve ability to predict extreme events (floods, heat waves etc.), and related early warning systems.

B. National Level Policies and Strategic Documents

Morocco has prepared both its first and second National Communications to the United Nations Framework Convention on Climate Change. Over and above these efforts, it appears that the government is taking actions that have the potential to reduce its vulnerability to climate change, although the degree to which adaptation is an explicit objective of these actions is unclear. For example, the Department of Environment, the Department of Water and the Ministry of Agriculture are introducing: programs for water recovery; green taxation to encourage water savings; drip irrigation; rehabilitation of irrigation systems; and financial support for the adoption of modern irrigation systems (UNEP, 2010).

As well, Morocco may be integrating climate change adaptation into the following plans:

- *National Initiative for Human Development*. Announced by the King of Morocco in 2005, the objective of this initiative is to improve inclusiveness, accountability and transparency in decision-making and implementation at the local level and it includes four components: (1) alleviate poverty in rural areas; (2) alleviate social exclusion in urban areas; (3) alleviate extreme vulnerability; and (4) mainstream identified governance mechanisms and strengthen institutional capacity (World Bank, 2007).
- *National Action Plan to Combat Desertification*. It is reported that climate change, biodiversity and sustainable agriculture will be integrated to a greater extent into the National Action Plan to Combat Desertification when it is updated—a consequence of the project "Nature Conservation and Desertification Control" (see Table 3).[90]
- *National Plan for Protection against Floods*. The goal of this work is to strengthen Morocco's national plan against flooding by expanding its warning system and contingency plan (UNEP, 2010).

[90] GTZ, http://www.gtz.de/en/weltweit/maghreb-naher-osten/marokko/16088.htm

Table 2: Key Government Policies and Reports reflecting Adaptation Needs, Priorities and Planned Actions

Name of Policy Action		Government Division Responsible	Status	Sector(s) of Focus	Summary description
1.	First National Communication to the UNFCCC[91]	Ministère de l'Aménagement du Territoire, du l'Urbanisme, de l'Habitat et de l'Environnement (Ministry of Territory, Urbanism, Habitat and the Environment)	Released October 2001	Multi-sectoral	Presents understanding of the vulnerability of Morocco to the impacts of climate and of potential adaptation actions, with a focus on water and agriculture.
2.	Second National Communication to the UNFCCC[92]	Ministère de l'Aménagement du Territoire, du l'Urbanisme, de l'Habitat et de l'Environnement	Released November 2010	Multi-sectoral	Provides an update of the current understanding of Morocco's vulnerability to climate change and appropriate adaptation measures related to water resources, agriculture, forests, coastal areas, health, meteorology

C. Current Adaptation Action

As captured in Table 3, Morocco is involved in several adaptation actions at present. A number of these current projects fall under the umbrella of Morocco's participation in the global "Community-Based Adaptation program" financed through the Global Environment Facility (GEF) Trust Fund's Strategic Priority on Adaptation. Morocco is also participating in the Africa Adaptation Program and the regional projects: "Natural Disaster Preparedness for Coastal Cities of North Africa;" "Regional Coordination on Natural Resources Management and Capacity Building;" and "Adapting the Framework of Forestry Policy to Meet the Needs of Climate Change in the MENA Region." A slight majority of projects underway in Morocco, however, have been developed specifically for implementation within its boundaries.

Reflecting its priority needs, most adaptation action underway in Morocco addresses needs in the freshwater and agriculture sectors. The focus of projects by and large remains on capacity building, knowledge communication and research. Morocco, though, is implementing several community-based adaptation and pilot projects that have the potential to concretely increase adaptive capacity.

[91] UNFCCC, http://unfccc.int/essential_background/library/items/3599.php?rec=j&priref=3230#beg
[92] UNFCCC, http://unfccc.int/essential_background/library/items/3599.php?such=j&symbol=MAR/COM/3%20E#beg

Table 3: Current Adaptation Projects and Programs active in Morocco

Name		Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
National Action								
1.	Nature Conservation and Desertification Control[93]	The project seeks to achieve lasting improvements in the management of nature reserves and control of desertification in Morocco. As such, it promotes: coordination between the different ministries involved in park management; capacity building related to cross-sectoral topics such as results-based monitoring, financing the sustainable use of resources and national strategies on eco-tourism, environmental education and participative resource management; and integration of climate change adaptation into policy and planning.	BMZ	High Commission for Water, Forestry and Desertification Control, Morocco	Capacity building; Policy formation and integration	2006–2011	Ecosystem conservation	Morocco
2.	Enabling Stakeholders in Moroccan Coastal Management to Develop Sustainable Climate Change Adaptation Policies and Plans (ACCMA)[94]	The aim of this project is to develop capacity for, and contribute to, policy and decision-making for strategic coastal land use planning and management, to reduce the vulnerability of coastal communities to the impacts of sea level rise, coastal flooding, and extreme weather events. Specific objectives will include the following: (1.) an assessment of the vulnerability and socio-economic impact of climate change-induced sea level rise,	DFID and IDRC through the CCAA program Budget: US$500,000	International Center for Agricultural Research in Dry Areas (ICARDA); Ecole Nationale Forestière d'Ingénieurs (ENFI); others[95]	Capacity building; Policy formation and integration	2007–2010	Agriculture; Coastal zone management	Primarily coastal zones of Nador and Berkane

[93] GTZ, http://www.gtz.de/en/weltweit/maghreb-naher-osten/marokko/16088.htm

[94] ACCMA, http://www.accma.un.ma; CGIAR, http://ongoing-research.cgiar.org/factsheets/enabling-stakeholders-in-moroccan-coastal-management-to-develop-sustainable-climate-change-adaptation-policies-and-plans/; AfricaAdapt, http://www.africa-adapt.net/aa/ProjectOverview.aspx?PID=UnQT3uhFR9c%3D; and Potsdam Institute for Climate Impact Research, http://www.pik-potsdam.de/~kropp/accma/vision.html

[95] Other participation organizations are: Coastal Union; University of Moncton; Potsdam Institute for Climate Impact Research; University Mohamed V Rabat Agdal; Interdepartmental Center of Research in Environmental Science; and the National Meteorological Directorate.

Name		Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
		coastal flooding, and extreme weather events; (2) the development of adaptation strategies and coastal policy land use guidelines that reduce coastal population vulnerability and optimize the socio-economic and political trade-offs for different stakeholders; and (3) capacity development for local stakeholders.						
3.	Adaptation to Climate Change in the Agriculture Sector[96]	The detailed study covers fifty crops, major agroecological zones, and several climate change scenarios. The basic questions asked include: • How will yields change—over the 2030, 2050, 2080 time horizons—for a selected number of priority crops, both on average, and in years with poor climatic conditions? • How much additional water will be needed in irrigated areas to offset the yield impacts of climate change? • Among the large array of crops, which ones will suffer, and which ones may benefit?	World Bank, Kingdom of Morocco	FAO World Bank, Morocco Ministry of Agriculture and Maritime Fisheries, and several other national institutions	Research	[2008–present]	Agriculture	Morocco
4.	Integrating Climate Change in Development Planning and Disaster Prevention to Increase Resilience of Agricultural and Water Sector[97]	To assist the Government of Morocco in mainstreaming climate change in the national development planning process. The specific objectives are to a) improve the understanding of climate change implications for high level strategic development planning; and b) enhance	SCCF; co-financing *Budget:* USD 104,345,454	World Bank	Knowledge communicatio n; Policy formation and integration; Field implementati	2010–2014	Freshwater supply; Agriculture	Morocco

[96] FAO, http://www.fao.org/climatechange/67130/en/
[97] ALM, http://www.adaptationlearning.net/project/integrating-climate-change-development-planning-and-disaster-prevention-increase-resilience-

Name		Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
		resilience to climate change of key development sectors—water and agriculture—through strengthened institutional capacity, knowledge management, and piloting innovative climate change adaptation and disaster management options to reduce rural poor's vulnerability.			on			
5.	Integrated Eco-Systemic Approach for Optimization of Small Dams in Morocco[98]	This participatory action research project uses an ecosystem approach and will identify options relevant to the management of small dams to improve health, well-being and the ability of rural communities to adapt to climate change.	DFID and IDRC through CCAA program and IDRC's Ecohealth program	Institut National de la Recherche Agronomique (INRA)	Field implementation	[2008]–2010	Freshwater supply; Human health	Souss watershed in Chtouka Ait Baha province
6.	Using Demand Side Management to Adapt to Water Scarcity and Climate Change in the Saiss Basin[99]	Examine whether demand side management (DSM) for water can protect the basin's future in the context of growth and climate change. With a focus on agriculture, the project aims in part to improve information sharing and dialogue between commercial and subsistence farmers, water managers and researchers. Researchers will test technical options for DSM in large-scale irrigation systems; demonstrate the value of DSM to smallholders through pilot projects; create two operational water-users associations supported by training and capacity building; and promote better policy making,	DFID and IDRC through the CCAA program *Budget:* CND 402,600	Al Akhawayn University	Research; Knowledge communication; Policy formation and integration	2009–2011	Freshwater supply; Agriculture	Saiss Basin

[98] IDRC, http://www.idrc.ca/cp/ev-148997-201-1-DO_TOPIC.html and L'Espace, http://www.espace-associatif.ma/Nouvel-article,207?lang=en&calendrier_mois=2&calendrier_annee=2007

[99] IDRC, http://idrc.ca/minga/ev-154599-201_105439-1-IDRC_ADM_INFO.html and http://www.idrc.ca/uploads/user-S/12888142041Saiss_story.pdf

Name		Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
		enforcement and management on the part of local authorities and the relevant ministries.						
7.	Integrating Climate Change in the Implementation of the Plan Maroc Vert[100]	The project has two components: 1) development of the capacities of public and private institutions to integrate climate change adaptations in projects directed to small farmers in five target regions; and 2) dissemination of climate change adaptations among small farmers in five target regions.	World Bank *Budget:* US$31,300,000	Agence de Developpement Agricole	Capacity building	2011–?	Agriculture	
Participation in Regional and Global Actions								
8.	Community-based Adaptation (CBA) Programme[101]	The objective of the program is to enhance the capacity of communities in the pilot countries to adapt to climate change including variability. Planned outcomes are: Enhanced adaptive capacity allows communities to reduce their vulnerability to adverse impacts of future climate hazards; National policies and programs include community-based adaptation priorities to promote replication, up-scaling and integration of best practices derived from community-based adaptation projects; and Cooperation among member countries promotes global innovation in adaptation to climate change including variability.	GEF (Strategic Priority on Adaptation), co-financing *Budget:* US$6.7 million	UNDP	Knowledge communication; Capacity Building; Community-based adaptation	2009–2011	Multi-sectoral	*Global:* Bangladesh, Bolivia, Guatemala, Jamaica, Kazakhstan, Morocco, Namibia, Niger, Samoa, Viet Nam
			In Morocco: Three projects are being implemented in Morocco though this initiative: [102] • "Strengthening the Tarmguiste Oasis Ecosystem's Resiliency to the Impacts of Climate Change and Improving the Local Community's Capacity to Adapt to Reduced Water Resources and Soil Degradation." The project aims to increase the Tarmguiste oasis ecosystem's resiliency toward the impacts of climate change, particularly in regard to scarce water resources and accelerated soil degradation.					

[100] http://web.worldbank.org/external/projects/main?pagePK=64283627&piPK=73230&theSitePK=40941&menuPK=228424&Projectid=P117081
[101] UNDP, http://www.undp-adaptation.org/projects/websites/index.php?option=com_content&task=view&id=203
[102] UNDP, http://www.undp-adaptation.org/projects/websites/index.php?option=com_content&task=view&id=258&sub=1

Name		Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
			Implementing agency: Association de Développement Espace Rural de l'Oasis Tarmguiste - Espace Rural *Budget:* US$47,586 *Duration:* 2010–2011 • "Strengthening the Resiliency of the Iguiwaz Oasis Ecosystem to the Impacts of Climate Change and Improving the Local Community's Capacity to Adapt to Reduced Water Resources and Soil Degradation." Improving the Iguiwaz oasis ecosystem's resiliency toward the risks of climate change, including variability (in particular reduced water resources caused by increasing temperatures and reduced and unstable rainfall), through reasoned water management and the institution of a local participative dialogue policy. *Implementing agency:* Association Tiflit pour les exploiteurs des eaux d'agriculture *Budget:* US$47,137 *Duration:* 2010–2011 • "Strengthening the resilience of the Sidi Majbeur mountain ecosystem and reinforcing the community's adaptive capacities to increasingly erratic rainstorms and diminishing overall rainfall, through erosion control, conservation farming and income diversification, based on pilot vetiver application." To reinforce the resilience of the local ecosystem and strengthen the adaptive capacities of the Sidi Majbeur community in the face of increasingly severe rainstorms and decreasing overall rainfall. The project is based on the pilot application of vetiver, in combination with fruit trees, and on the establishment of better practices to retain top soil, rehabilitate farmable lands, and diversify and increase income. The adaptive capacities of the community will be strengthened through training and income diversification. *Implementing agency:* Association for the Environment and Development of Sidi Majbeur *Budget:* US$67,925 *Duration:* 2010–2012					
9.	Natural Disaster Preparedness for Coastal Cities of North Africa[103]	The objectives are to: assist the national and local governments of Egypt, Tunisia and Morocco in assessing and valuing the vulnerability of the coastal cities Alexandria, Tunis and Casablanca respectively to natural disasters while addressing their underlying	Global Facility for Disaster Reduction and Recovery *Budget:*		Assessment; Policy formation and integration	2009–2011	Disaster risk management; Urban areas; Coastal zone management	*Regional:* Egypt Morocco Tunisia

[103] GFDRR, http://www.gfdrr.org/docs/Snapshots_MENA_Cities.pdf

Name		Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
		the synergies with climate change vulnerability; and develop prioritized preparedness comprehensive action plans that will address urban coastal vulnerability and infrastructure for the three cities.	US$250,000					
			In Morocco: To be identified					
10.	Supporting Integrated and Comprehensive Approaches to Climate Change Adaptation in Africa (or Africa Adaptation Program –AAP)[104]	Under this program, UNDP is assisting 20 African countries in implementing integrated and comprehensive adaptation actions and resilience plans. The projects will ensure that national development processes incorporate climate change risks and opportunities to secure development gains under a changing climate. UNDP will help countries establish an enabling environment and develop the capacity required to design, finance, implement, and monitor long-term and cost-effective adaptation policies and plans.	Japan International Cooperation Agency Budget: US$92.1 million	UNDP	Capacity building; Policy formation and integration; Knowledge communication	2008–2011	Government	*African:* 20 African countries[105] including: Morocco and Tunisia
			In Morocco: Adaptation aux changement climatique au Maroc: pour des Oasis resilientes[106] • *Objectives:* This project will adopt an integrated and multi-sectoral approach based on local and regional dimensions to strengthen adaptation capacity • *Budget:*US$2.975 million					
11.	Support to Policy Consultation and Actions to boost Sustainable Use of Water and Energy Resources for Agricultural Production and Livelihood Improvement in the Near East and North Africa	The project will assist in building the capacity of governments and civil society to prepare national reviews, analyze the current national policies for water development, examine cooperation on transboundary water management, and identify the investment needs and investment strategies for food, water and	FAO Budget: US$436,000	FAO; Organisation of the Islamic Conference	Capacity building; Policy formation and integration; Research	2010–2011	Freshwater supply; Energy; Agriculture	*Global:* 30 countries including: Afghanistan, Algeria, Djibouti, Egypt, Kazakhstan, Kyrgyzstan,

[104] ALM, http://www.adaptationlearning.net/program/africa-adaptation-programme and UNDP-APP, http://www.undp-aap.org/

[105] These countries are: Burkina Faso, Cameroon, Congo, Ethiopia, Gabon, Ghana, Kenya, Lesotho, Malawi, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome et Principe, Senegal, Tanzania and Tunisia.

[106] UNDP, http://www.undp-adaptation.org/portfolio/projectR.php?id=128

Name		Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
	Region in the context of Climate Change[107]	energy security to be adopted on a national and regional basis in the context of climate change. Its main objectives are: • Carry out studies and workshops to increase awareness of water-energy-food interrelation and their sustainable use. • Address food and energy security in the Near East and North Africa region through a convergent approach which integrates four critical resource factors - water, energy, technology, and knowledge under the stress of climate change. • Carry out studies on the use of water resources, on the management strategies and on the investment needs at national level. • Capacity building of governments and civil societies for optimal natural resource management.						Libya, Mauritania, Morocco, Pakistan, Somalia, Sudan, Tajikistan, Tunisia, Turkmenistan Uzbekistan, Yemen
			In Morocco: To be identified					
12.	Regional Coordination on Natural Resources Management and Capacity Building[108]	To help resource managers in the Arab region better understand the status of regional natural resources and make learned decisions on their use and management, including water/ international water, land and vegetation, especially in the context of climate change impacts. Such decisions will in the end help resources managers to optimize resource utilization and reduce environmental degradation, including desertification and land degradation, and also help the society to	GEF Trust Fund, national government, bilateral aid Budget: US$87,679,545	Arab Water Council (AWC), Arab Water Academy, and relevant agencies of AWC member countries	Capacity building; Research; Assessment; Knowledge communication	2009–2014	Ecosystem conservation; Freshwater supply	*African:* Algeria, Egypt, Lebanon, Libya, Mauritania, Morocco, Tunisia
			In Morocco: To be identified					

[107] ALM, http://www.adaptationlearning.net/program/support-policy-consultation-and-actions-boost-sustainable-use-water-and-energy-resources-agr and SESRIC, http://www.sesric.org/activities-oicfao.php

[108] IW-LEARN, http://iwlearn.net/iw-projects/iwproject.2009-08-05.7974636515

Name		Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
		adapt to impacts of climate change and variability.						
13.	Adapting the Framework of Forestry Policy to Meet the Needs of Climate Change in the MENA region[109]	The objective of the project is to improve conditions for the sustainable management of forest ecosystems and for the maintenance of their environmental services in the face of climate change in the Middle East and North Africa (MENA) region.	BMZ implemented under the Collaborative Partnership on Mediterranean Forests[110]	High Commission for Waters, Forests and Combating Desertification, Morocco	Policy formation and integration; Research; Knowledge communication	2010–2014	Forestry; Ecosystem conservation	*Regional:* Algeria, Lebanon, Morocco, Syria, Tunisia, Turkey
			In Morocco: To be identified					

D. Proposed Adaptation Action

Although Morocco's National Communications suggest possible actions that could be taken to reduce its vulnerability to the impacts of climate change (as presented in Table 1), fully developed proposals for these ideas are not presented. Additional projects being prepared for implementation in Morocco have not yet been identified.

E. Assessment

The already overburdened water and agricultural resources of Morocco face additional risks due to climate change. Action is being taken in response to this threat both through targeted adaptation actions and through complementary policies and measures that address immediate needs and concerns. Less action appears to be underway in other vulnerable sectors such as coastal zone management, tourism, fisheries and health; nor do projects explicitly address gender concerns related to climate change. Greater attention could be given to these areas. As well, detailed planning at the national level of appropriate adaptation action appears to be limited, as represented by the content of the country's National Communications. More detailed strategic planning may be required.

[109] GTZ, http://www.gtz.de/en/weltweit/maghreb-naher-osten/tunesien/32875.htm
[110] FAO, http://www.fao.org/forestry/65365/en/

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