

Arrangement No:

CIDA Project Number: M-013903-001

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ANNEX III

A

SUMMARY DESCRIPTION OF OVERALL CANADA-UNDP CCA FACILITY AND NATIONAL PROJECTS

Additional Reporting Requirement

~~In accordance with Paragraph III (Administration and Reporting), UNDP will also provide CIDA semi-annual progress reports of the Project detailing major inputs, activities, outputs and results of the Project activities and impact of activities as well as provisional financial data, where possible.~~

~~The semi-annual reporting requirement will be at no additional expense, and will be covered under the GMS costs which charges a fee equal to 10% as stated in Paragraph IV (Administrative and Support Services). The semi-annual report will be submitted six (6) months following the delivery of the annual report.~~

Overall Project Description

The overall strategic objective of the UNDP's work on climate change adaptation is to assist national and sub-national governments to attract and direct public and private investments toward catalyzing and supporting sustainable economic growth. The UNDP supports the development of integrated strategies and concrete, on-the-ground actions that remove market, institutional, and capacity barriers, and encourage scaling-up of climate change adaptation initiatives. This approach recognizes that climate change responses are closely intertwined with development actions involving multiple stakeholders, and enable countries to mobilize and employ diverse financing options.

This Project serves to help local populations build more resilient agricultural practices, strengthen their infrastructure, diversify their sources of livelihood and thus improve their food security. The beneficiaries will be the most poor and vulnerable populations, inclusive of women and children.

This Project builds on the following six UNDP-supported LDCF-financed projects, as well as supports a global component:

- 1. Global, "Canada - UNDP Climate Change Adaptation Facility" (UNDP Atlas Proposal/Project ID: 00072267/00085446)**

The Canada – UNDP Climate Change Adaptation Facility will promote south-south cooperation and enhance understanding about initiatives that address adaptation to climate change, especially the gender dimensions of adaptation. The Facility will support global coordination and knowledge management involving the portfolio of national climate change adaptation projects co-financed by UNDP, CIDA, and partners that are currently being

implemented in Cambodia, Cape Verde, Haiti, Mali, Niger, and Sudan. The Facility will collect and analyze information, experiences, and lessons learned emanating from the projects to produce and disseminate knowledge that can be shared among the project countries and usefully applied in other contexts, as well as broadly inform climate and sustainable development policies at the local, national, and global levels. The Facility will facilitate global exchange of information, experiences, and lessons learned among project countries and more widely; coordinate relevant side events at UNFCCC COPs and other international fora; and elaborate global knowledge products on different themes related to climate change adaptation, including climate resilient food security and water resources management, strengthening women's participation, and other gender elements.

• **Outcomes / expected results**

Expected results

To promote south-south cooperation and enhance understanding about initiatives that address adaptation to climate change, especially the gender dimensions

Outcomes

1. Global coordination of UNDP – CIDA portfolio of climate change adaptation projects is operational and visible
2. Global knowledge management of climate change adaptation experiences and lessons emerging from UNDP – CIDA portfolio of projects is enhanced and effective
3. Gender results from UNDP – CIDA climate change adaptation project portfolio inform broader adaptation processes

• **Activities / Outputs**

Outcome 1: Global coordination of UNDP – CIDA portfolio of climate change adaptation projects is operational and visible	
Output 1.1	Activities
Global coordination mechanism established for cooperation and communication among UNDP – CIDA portfolio of national climate change adaptation projects in Cambodia, Cape Verde, Haiti, Mali, Niger, and Sudan	<ul style="list-style-type: none"> • Enable effective communication among UNDP – CIDA national adaptation projects through virtual conferences and listservs (Years 1-4) • Convene or participate in international climate change adaptation workshops, including UNFCCC side events, to showcase and share UNDP – CIDA climate change adaptation project portfolio experiences and lessons and learn from others (Years 2-4)
Outcome 2: Global knowledge management of climate change adaptation experiences and lessons emerging from UNDP – CIDA portfolio of projects is enhanced and effective	
Output 2.1	Activities
Global knowledge, based on UNDP – CIDA climate change adaptation projects, actively produced and exchanged	<ul style="list-style-type: none"> • Review, analyze, and distil information, good practices, and lessons learned emerging from UNDP – CIDA portfolio of climate change adaptation projects and related initiatives (Years 1-4) • Establish dedicated window within the UNDP-ALM knowledge platform for the Canadian – UNDP Climate Change Adaptation

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	<p>Facility (Year 2)</p> <ul style="list-style-type: none"> • Conduct preliminary assessment of adaptation training needs and audiences (Year 1) • Prepare online training modules on climate change adaptation approaches, practices and measures that are generated by the UNDP – CIDA portfolio of climate change adaptation projects and related initiatives (Year 2 and updated thereafter) • Elaborate global knowledge products on climate change adaptation themes, including resilient food security, agro-pastoralism, and water resources management, based on UNDP – CIDA portfolio (Years 2-4) • Translate as appropriate global online and published knowledge products into French and Spanish for wide dissemination (Years 2-4)
Outcome 3: Gender results from UNDP – CIDA climate change adaptation project portfolio inform broader adaptation processes	
Output 3.1	Activities
Proven gender-based adaptation approaches and practices are compiled and disseminated	<ul style="list-style-type: none"> • Review, analyze, and distil information and lessons regarding women’s participation in UNDP – CIDA portfolio of climate change adaptation projects and related initiatives (Years 1-4) • Prepare online training module on gender-based adaptation approaches and practices (Year 2 and updated thereafter) • Convene international workshop on gender and climate change adaptation to discuss and disseminate findings from UNDP – CIDA portfolio of climate change adaptation projects and related initiatives (Year 3) • Produce global knowledge materials on gender and climate change adaptation (Years 2-4)

• **Overall Budget: USD 1,166,763.00**

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	Outcome:	— \$ Amount
	Outcome 1	—410,000.00
	Outcome 2	—415,000.00
	Outcome 3	—393,450.00
	Monitoring and Evaluation	—15,000.00
	Project Management	—77,981.00
	GMS	—131,143.10
	Total	—1,442,574.10

2. **Cambodia, “Promoting Climate-Resilient Water Management and Agricultural Practices in Rural Cambodia” (UNDP Atlas Award/Project ID: 00056753/00069653)**

• **Brief Description**

70-80% of Cambodians are dependent on agriculture for living. Despite agriculture being the mainstay of livelihoods for most Cambodian, majority of arable lands is rain-fed and thus extremely vulnerable to variations in the arrival and amount of rainfall. Climate change is

likely to have a considerable impact on the monsoonal system and bring additional complexity and challenges to rural farmers in Cambodia. This project will build on an LDCF adaptation project that has been under implementation since 2009 and expand concrete adaptation measures that aim at reducing the vulnerability of agriculture to changing level of freshwater availability. In particular, a suite of adaptation investments that increases the capacity of households to retain rainwater for domestic and agricultural use, enhance/maintain the productivity of agriculture in a changing climate, and assist in diversifying their livelihoods for the landless and land-poor families will be facilitated in at least 50 villages in 32 communes in two provinces. As a follow-on project, a particular emphasis will be placed on cementing good practices gleaned in the last 3 years, incorporating recommendations from MTR, and achieving the overall value-for-money while addressing immediate and urgent adaptation actions identified in the Cambodia NAPA.

- **Outcomes / expected results**

Expected results

To reduce the vulnerability of Cambodia's agricultural sector to climate-induced changes in water resources availability

Outcomes

1. Improved capacity within local institutions to manage agricultural water resources in a changing climate
2. Locally appropriate adaptation options demonstrated to reduce exposure to climate-induced risks
3. Lessons learned in the project target areas replicated in other vulnerable areas of Cambodia

- **Activities / Outputs**

Outcome 1: Improved capacity within local institutions to manage agricultural water resources in a changing climate	
Output 1.1	Activities
Capacity of planners at sub-national level enhanced to integrate climate change and gender concerns into development plans	<ul style="list-style-type: none"> • Trainings of trainers are organized targeting selected members of Commune/Sangkat Support Unit and Commune Planning and Budgeting Council members on the use of the CCAM guideline • Training of trainers events organized targeting sub-national staff in the Ministry of Women's Affairs for undertaking a gender assessment • Undertake the VRA and gender assessment in 32 target communes • An updated VRA report, with gender-disaggregated sources of climate vulnerabilities, published • Facilitate climate risk mainstreaming sessions to integrate the results of VRA and gender assessment into the sub-national planning process • Organize an information exchange workshop inviting representatives from Commune Councils and presenting findings of VRAs and Gender Assessment and extent to which the results from assessment is integrated into the final Commune Investment Programme
Output 1.2	Activities
A community-based climate information system to facilitate	<ul style="list-style-type: none"> • Carry out an inventory of existing list of crop varieties commonly used in the project target region; assessment of soils; analysis and

resilient-agriculture is strengthened	<p>matching of crop varieties in a given soil type</p> <ul style="list-style-type: none"> Organize a technical workshop inviting experts from Meteorology department, Agriculture department, CARDI and other relevant institutions for formulating the content and type of the tailor-made climatic information that will be produced by the project Undertake a follow-up assessment on the use of climatic information by male and female farmers to gauge to what extent it had on farmer's cultivation decision making
Outcome 2: Locally appropriate adaptation options demonstrated to reduce exposure to climate-induced risks	
Output 2.1	Activities
Community-level water supply infrastructure for both domestic and livestock use constructed and managed in 50 villages	<ul style="list-style-type: none"> [Common to Output 2.1, 2.2 and 2.3] Finalize the 50 target villages for the "one-village" approach where a package of adaptation services will be provided [Common to Output 2.1, 2.2 and 2.3] Agree on and establish criteria for selection of target households; share with local stakeholders prior to implementation [Common to Output 2.1, 2.2 and 2.3] Organize community meetings and, based on VRA and gender assessment, identify target households and agree on the suite of adaptation investments. A written record of the target, with gender disaggregation when relevant, will be produced prior to implementation Construct rainwater harvesting systems benefiting at least 1,000 households Record gender-disaggregated list of beneficiaries Organize community-level workshop targeting women on effective use and management of water resources for domestic use
Output 2.2	Activities
Resilient livelihood methods (i.e. resilient or early/medium maturing seed varieties, SRI and diversified livestock production) expanded to 50 villages	<ul style="list-style-type: none"> Organize technical workshops on resilient agriculture (use of resilient rice varieties and SRI), seed purification and resilient livestock breeding Distribute resilient seed varieties based on the VRA, gender assessment, inventory of existing varieties and soil types (Output 1.2) Organize farmer's field school during the harvest season demonstrating results and facilitating information exchange across farmers Construct 10 rice storage facilities Carry out animal vaccination programmes
Output 2.3	Activities
Agricultural areas under irrigation expanded and managed	<ul style="list-style-type: none"> Undertake a feasibility study and land acquisition for construction of irrigation or community water infrastructure for agriculture Construct community-level water infrastructure
Output 2.4	Activities
Women's management capacity for community-water infrastructure strengthened	<ul style="list-style-type: none"> Organize trainings targeting women members of Farmer Water User Committees and women's groups on leadership, decision-making, collection of user fees and management of resilient water infrastructure Organize exchange visits for women members of FWUCs and women's groups to facilitate learning of effective collection of user

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	fees and management of water infrastructure
Outcome 3: Lessons learned in the project target areas replicated in other vulnerable areas of Cambodia	
Output 3.1	Activities
Increased public awareness and environmental education programmes on climate risk reduction designed and implemented	<ul style="list-style-type: none"> • Production of one technical report, one video and one article which focuses on women and resilient farming • Organize a national workshop presenting lessons learned from the project inviting government agencies, academia, research institutions, development agencies and civil society members • Production and publication of technical/communication materials from project on the ALM, the websites of MoE/CCD, NCDDS and MAFF • Participate in one regional/international conference or workshop presenting lessons on gender-sensitive, climate resilient agriculture techniques and water management
Output 3.2	Activities
Improved knowledge among government planners about ongoing adaptation investments and gaps in the area of climate resilient farming	<ul style="list-style-type: none"> • Undertake a national level assessment, with fieldwork to target areas, on adaptation deficits and costing of benefits and investments required to build resilience in the agriculture and/or water sectors
Output 3.3	Activities
An impact assessment study conducted capturing gender-disaggregated benefits of adaptation investments promoted under the project	<ul style="list-style-type: none"> • Agree on the selection of nine villages that will be monitored throughout the project implementation – 3 from non-target villages; 3 from those that receive integrated “one-village” approach; and 3 from target but non “one-village” approach • Within the first 2 months of the project inception, undertake a baseline survey (either through census or stratified random sampling) capturing the following elements of resilience: landholding, number of cropping in the last 12 months, type of crops grown; access to irrigation water (for dry and wet seasons), types of irrigation facility, sources of portable water, income sources other than agriculture, yields from the last harvest, etc. • Organize a training session by an international expert (or the Regional Technical Advisor) targeting national/local project staff and government officers on evidence-based advocacy and results communications and data collection • Undertake periodic monitoring visits based on the pre-agreed framework/format of data collection • Produce at least one study report by the end of the implementation

• **Overall Budget: USD 2,242,425.90**

Outcome:	\$ Amount
Outcome 1	-268,452
Outcome 2	-1,233,986
Outcome 3	-348,431

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Project Management	-187,700
GMS	-203,856.90
Total	2,242,425.90

3. Cape Verde, “Building adaptive capacity and resilience to climate change in the water sector in Cape Verde” (UNDP Atlas Award/Project ID: 00058318/00072399)

• Brief Description

Agriculture still contributes over 10% of the GDP in Cape Verde and constitutes the primary livelihood income source for over 30 of the population across the islands. Although scenarios are quite conflicting, climate trends in Cape Verde tend towards a similar behavior as in the Sahel with increases in temperatures, shortening of wet seasons and more erratic rainfall patterns. This is expected to have a significant impact on water resource availability on the islands and subsequently on agriculture production systems. This project financed with Canadian fast start financing complements an existing LDCF-funded project. With the CIDA funding a strong emphasis will be placed on food security through dedicated assessment and mainstreaming, up-scaling of successful pilots demonstrated with LDCF financing, and targeted research and development.

• Outcomes / expected results

Expected results

To increase resilience and enhance key adaptive capacity to address the additional risks posed by climate change to the water sector in Cape Verde.

Outcomes

1. Climate change risks and adaptation measures integrated into key national policies, plans and programmes for water resource management
2. Small and medium scale climate change adaptation practices for water resource management are demonstrated and implemented in selected hydrographical basins
3. Lessons learned and best practices from pilot activities, capacity development initiatives and policy changes are disseminated

• Activities / Outputs

Outcome 1: Climate change risks and adaptation measures integrated into key national policies, plans and programmes for water resource management

Output 1.1	Activities
Capacity of relevant agencies to assess climate change impacts in food security is reinforced	<ul style="list-style-type: none"> • Training of municipal and sector technical staff (Water & sanitation autonomous services; municipal land-use planning and environment technical staff, line-Ministries and Institutes’ planning, budgeting and analysts’ central and decentralized staff) in “mainstreaming climate change risks and opportunities” approaches and concrete tools for sector and municipal planning and implementation.

	<ul style="list-style-type: none"> • Technical support to the Ministry of Rural Development to climate-proof the National Strategy of Food Security and to develop climate screening tools for programmes and plans of action. • Assessment of climate-smart agriculture potential in high vulnerable areas identified through the Food (in)-security analysis and cartography. • Gender-sensitive socio-economic assessment of livelihoods and land tenure schemes that determine food insecurity (availability, accessibility and nutritional dimensions), is conducted in order to better target pilot interventions to improve resilience of the most vulnerable groups to climate change and food insecurity. • Project intervention sites-specific detail and update of food security assessment and mapping • Technical assistance to sector-specific and national statistics departments to reinforce design and monitoring of food security and nutritional indicators.
Output 1.2	Activities
Awareness of climate change impacts on food security is raised among rural development and health sector decision-makers, technical officers and stakeholders, community associations, farmers, NGO players and the media.	<ul style="list-style-type: none"> • Technical training to rural development decision-makers and technical officers and key stakeholders (farmer associations, cooperatives, agro-products business)) on “climate change risk, vulnerability & adaptation and food security interlinks”. • Community Radio and local TV programmes on climate change adaptation strategies addressing water use efficiency, climate-smart agriculture and food insecurity. • Nutritional assessment of communities’ consumption practices, diet and locally produced crops and locally available food • School community and public health stakeholder’s awareness raising campaign on food utilization and nutrition value of agriculture products locally available.
Output 1.3	Activities
Establishment of climate change early warning system for the water sector to support national and municipal development planning and implementation	<ul style="list-style-type: none"> • Technical assistance for capacity reinforcement on climate data analysis (downscale and forecasting) • Analysis of pest prevalence in the context of climate change, review of IPM (Integrated pest management) practices’ and proposal of adjustments • Development of crowd-sourcing applications for pest early detection and warning system.
Outcome 2: Small and medium scale climate change adaptation practices for water resource management are demonstrated and implemented in selected hydrographical basins.	
Output 2.1	Activities
Measures and practices to improve water availability are demonstrated in areas highly vulnerable to food insecurity.	<ul style="list-style-type: none"> • Replication of water use efficiency measures and practices and associated with high nutritional value and climate-resilient crops production. • Demonstration projects on water recycling and safe use of treated wastewater for agriculture production • Implementation of renewable energy-based water mobilisation projects demonstrated in targeted areas. • Demonstration project of cloud water harvesting for agricultural production and domestic consumption on mountain areas

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Output 2.2	Activities
Enabling conditions for replication and sustainability (social, environmental and economic) of targeted interventions are created	<ul style="list-style-type: none"> Detailed costing and feasibility analysis of site-level activities and assessment of potential impacts on food availability dimensions of demonstration project Capacity development for participatory project' identification and formulation in support of customized technologies and development of social technologies
Outcome 3: Lessons learned and best practices from pilot activities, capacity development initiatives and policy changes are disseminated	
Output 3.1	Activities
Applied research programme on climate-smart agriculture and food security is strengthened :	<ul style="list-style-type: none"> Research programme on wastewater reuse in agriculture from a public health perspective and agro-production system sustainability perspective. Technical assistance for regulations and safeguards design for wastewater reuse in agriculture sector (review of suitable crops and planting methods) Identification of traditional knowledge on climate-resilience agriculture practices and integration into Agriculture extension/awareness/training programmes and deployment in pilot areas Review of policy and financial incentives and financing systems than hinder successful adoption, replication and scale-up and/or local appropriation of water use efficiency measures Review of materials and technologies adequacy and development of technological packages and how-to guides targeted to farmers, extension workers, etc. Development of a water monitoring system to measure water savings at local level and to control and monitor water pumping according to water balance

● **Overall Budget: USD 1,980,000.00**

Outcome:	\$ Amount
Total Outcome 1	360,000
Total Outcome 2	800,000
Total Outcome 3	460,000
Project Management	180,000
GMS	180,000
Total	1,980,000

4. **Haiti**, *“Strengthening adaptive capacities to address climate change threats on sustainable development strategies for coastal communities in Haiti”* (UNDP Atlas Award/Project ID: 00058845/00073302)

- **Brief Description**

The proposed project follows from the findings and recommendations of Haiti's NAPA, which has identified the coastal development sector as a top national priority for climate change adaptation. In line with guidance for the LDCF (GEF/C.28/18, May 12, 2006), this proposal seeks LDCF funding for a programmatic approach to support climate risks management (CRM) in the most vulnerable Low-Elevation Coastal Zones (LECZ) of Haiti. LDCF resources will be used specifically to meet the additional cost of building national and local adaptive capacities, enhancing the resilience of current coastal development policies and plans to climate change risks, as well as implementing an urgent set of pilot adaptation measures in response to the most pressing threats posed by climate change on coastal populations and economy.

Ranking 155th in the HDR list, Haiti belongs to the poorest LDCs group and has long been vulnerable to climate related disasters. Haiti has long been vulnerable to tropical storms and hurricanes. The country lies on the primary pathway of tropical storms that originate in the Atlantic and strike Caribbean islands every hurricane season.¹ However, in recent years, the country has been afflicted by a significant increase in the occurrence of severe natural disasters. Haiti has recently been identified as one of the country's most vulnerable to the impacts of climate change.

The main climate change-induced problem facing most vulnerable Low-Elevation Coastal Zones (LECZ) of Haiti to be addressed by the project is that climate change is likely to further increase. The local and national governments presently lack the technical capacity, management capacity, physical resources and financial resources to overcome or cope with the anticipated changes. The coastal population in particular lacks the capacity, resources and financial assistance to adapt to and overcome worsening climatic conditions.

The present proposal addresses climate change adaptation needs which constitute a national development priority identified in the current UN and UNDP cooperation frameworks in Haiti. In particular, the United Nations Development Assistance Framework (UNDAF) 2006-2010 and the UNDP Country Programme Action Plan (CPAP) identifies climate change as a major threat to development and UNDP Haiti is committed to invest core resources to support the project. This project, being the first of its kind, with support from the LDCF, and other national and international partners, will try to help raise awareness on vulnerability of coastal areas in the context of CC, and in particular address the relationship between CC and food security. The project through a systemic approach will focus on advocating for better planning and investment policies in coastal areas where there is a high concentration of vulnerable communities. It will also put a strong focus on building technical capacities and improving better decision frameworks on issues related to climate risk management, water management, and food security. While this initiative will look at broader impacts of climate change in coastal zones, it will in particular analyze the effects of CC on key sectors which are integral to the overall development goals set forth in the NAPA, namely water and food security.

- **Outcomes / expected results**

¹ "Environmental Vulnerability in Haiti: Findings and Recommendations", USAID/HAITI, 2007.

Expected Results

Strengthened Haiti's capacity to mainstream climate change adaptation policies into local and national development plans.

The Objective of the project is to strengthen adaptive capacities of populations and productive sectors in coastal areas to address increasing climate change risks.

Outcomes

1. Institutional capacity to plan for and respond to climate induced impacts in coastal areas improved.
2. Climate risks management is fully mainstreamed into humanitarian and development investment frameworks.
3. Resilience of low-elevation coastal zones to emerging climate change threats enhanced.
4. Models of best practices and lessons learned from the project activities captured and institutionalized.

• Activities / Outputs

Outcome 1: Institutional capacity to plan for and respond to climate induced impacts in coastal areas improved	
Output 1.1	Activities
Develop the management skills of the National System for Risk and Disaster Management (SNGRD) in coordination with key sectoral agencies (agriculture, CIAT, etc.), such as developing effective early warning systems, mapping vulnerable areas and effective evacuation strategies and implementing improved post disaster recovery methods to facilitate a shift from a reactive approach to managing climate disasters to a proactive approach.	<ul style="list-style-type: none"> • Analyzing and adapting existing legislation, policies and programmes in the agriculture and water sector to make sure they take into account mitigation of climate changes impacts • Implement gender sensitive training programmes on climate change, and adaptive measures in the fields of risk and disaster management, food security and water distribution at the level of municipalities and local committees; • Develop planning tools to adapt the agriculture sector to increased frequency of extreme climatic events including early warning systems, adapted agriculture campaigns, alternative crop patterns, and rainwater conservation schemes. • Develop planning and training tools for the SNGRD to strengthen local development planning exercise and review risk and disaster management practices at municipal level taking into account climate change • Strengthen the capacities of the Ministry of Agriculture in coordination with the SNGRD to install efficient water storage and distribution systems adapted to a context of increased climate risks • Strengthen the capacities of DINEPA and its coordination mechanisms with the SNGRD to plan and install drinking water storage and distribution facilities. • Implement training programmes on climate change, and adaptive measures in the fields of risk and disaster management, food

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	security and water distribution at the level of municipalities and for local committees for disaster and risk management.
Output 1.2	Activities
Integrate cost-effective standards into official Haitian guidelines for emergency fund utilization regarding climate change adaptation.	<ul style="list-style-type: none"> Analyze the existing financial mechanisms to support the reconstruction of Haiti as well as previous experiences on emergency fund mobilization in order to identify all the gaps and barriers that constitute an obstacle for efficient climate proofing of development investments in Haiti Review and adjust the current national investment policies and review criteria for funding proposals submitted to the interim committee for the reconstruction of Haiti. Support key national institutions including sectoral ministries involved in recovery and reconstruction plans to integrate cost-effective standards for adaptation to climate change into their internal guidelines. Identify vulnerable coastal sites where debris from the earthquake could be used for protection of coastal settlements (in particular slum areas).
Output 1.3	Activities
Strengthening the CIAT to integrate climate change adaptation into watershed planning of coastal municipalities.	<ul style="list-style-type: none"> Systematize climate change mainstreaming into CIAT ongoing efforts to produce national watershed management models and train CIAT staff in climate risk assessment and adaptation. The project will review carefully all the ongoing watershed management plans under development and propose climate proofing strategies. Particular attention will be given to the plans being developed for La Quinte; Jacmel and Grande Riveiere, Develop recommendations and guidelines for local authorities on watershed management and climate change adaptation with minimum standards established for the inclusion of women on the local committees. Develop and provide to the key national institutions collaborating with CIAT the necessary technical tools for decision making including database systems, and computer software, Develop recommendations and guidelines for local authorities on watershed management and climate change.
Output 1.4	Activities
Establish a data sharing network to provide processed and accurate climate information to the producers of the raw data and to the end users.	<ul style="list-style-type: none"> Develop technical partnerships through formal agreements with key strategic institutions such as CNM, , CNSA, CNIGS, UNIQ, DINEPA MARNDR and ONEV Develop a common data sharing network system among these institutions Strengthen regional partnerships to support capacity building of these institutions. Formal agreements will be sought with CATHALAC and CATIE in particular Support the Vulnerability Reduction unit of the CIAT and the SNGRD, to create common and coordinated approaches to collect, process and disseminate climate data to vulnerable communities and adapt existing early warning systems. Support the Vulnerability Reduction unit of the CIAT and the

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	<p>SNGRD to analyze climate change risks</p> <ul style="list-style-type: none"> Elaborate and implement training programmes for government experts on regional and national climate simulation models to forecast climate-based events at the national level.
Output 1.5	Activities
<p>Strengthening the CNSA/MARNDR technical and management capacities to integrate climate change adaptation into the development of national food security policies and early warning food security system.</p>	<ul style="list-style-type: none"> Develop and include, in the national database, climate change indicators for agriculture production and food security; Develop and disseminate weather forecast at national and local spatial/temporal scales suitable to the needs of farmers associations and local government institutions; Support the technical departments of CNSA/MARNDR to develop food security policies that are climate proofed; Develop and provide to CNSA/MARNDR the technical tools for decision making including database systems, computer software, statistical packages, and policy guidelines; Early warning systems designed for the agriculture sector and installation of equipment to generate agrometeorological data Develop recommendations and guidelines for local CNSA/MARNDR authorities on food security and climate change; Elaborate and implement training programmes for CNSA/MARNDR experts on regional and national climate simulation models to forecast climate-based food security hazards at the national level.
<p>Outcome 3: Enhance the resilience of low-elevation coastal zones to emerging climate change threats through targeted pilot sites with co-financing support.</p>	
Output 3.1	Activities
<p>Enabling conditions established to build the climate resilience of the water and agriculture sector in the Coastal Areas of the South-East Department (DINEPA)</p>	<ul style="list-style-type: none"> Systematization of hydro-climatic information. Planning and implementation of climate change adaptation measures to protect and conserve identified water sources based on climate simulation and model analysis Economic valuation of the investment needed to climate proof the water storage and distribution systems in the south East Department. Testing of small scale rainwater harvesting and artificial recharge techniques Development and dissemination of accurate tools (manuals, guidelines) for replication and up-scaling of the pilot project approach.
Output 3.2	Activities
<p>Enabling climate change adaption conditions established to improve watershed resilience and tolerance to climate change-related drought in the coastal areas of the Southern Department (CNIGS/CNSA).</p>	<ul style="list-style-type: none"> Monitoring system to analyse drought effects and impact on rural livelihoods in the watersheds of the Southern Departments where UNDP is leading several watershed management programmes . Establishment of an climatic observation network for the Southern Department Economic valuation of the impact of climate change on the agriculture sector in coastal areas and development of an investment plan to climate proof the sector Development and dissemination of accurate tools (manuals, guidelines) for replication and up-scaling of the pilot project

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	approach
Output 3.3	Activities
Design and implement concrete food and water security adaptation measures identified through community adaptation planning that aim to diversify and strengthen the livelihoods of the most vulnerable population groups in the Southern Department (MARNDR/CNSA).	<ul style="list-style-type: none"> • Co-assessment of main agri-food systems vulnerability to climate variability and change with a focus on the most vulnerable groups (women and children); • Promotion of neglected and traditional crops with high nutritional value and resilient to anticipated climate conditions; • Testing of small scale rainwater harvesting and groundwater recharging schemes • Improvement of rural drainage systems in pilot areas • Implementation of insurance-scheme pilot projects related to estimated climate change effects; • Improving women's ownership of livestock and other income-generating activities; • Construction of post-harvest storage and food transformation facilities as climate change adaptation strategies. • Adjustments of natural resource management practices (including rainwater conservation techniques) likely to reduce the negative impacts of climate change on agricultural productivity
Outcome 4: Capture and institutionalize models of best practices and lessons learned from the project activities.	
Output 4.1	Activities
Dissemination of toolkits, knowledge products and guidance materials on climate-resilient coastal development to key agencies, municipalities and local communities.	<ul style="list-style-type: none"> • Systematic documentation of project related activities • Design useful knowledge products and toolkits. • Design gender-based climate change adaptation toolkits. • Translation and publication of the products and toolkits. • Systematic and targeted dissemination of hard and soft copies.
Output 4.2	Activities
Thematic programme on climate risk data management developed within the CNIGS, ONEV, CIAT.	<ul style="list-style-type: none"> • Identify competent local and international partners to collaborative entities to gather information on climate change risks, and climate change and gender relationship. • Thematic capacity building programmes to strengthen their capacity to systematically manage climate risk relevant data. • Gender-based climate change adaptation programmes developed for different institutions; • Gender-based database on climate change risks developed and managed by relevant institutions
Output 4.3	Activities
Project website developed as a knowledge platform.	<ul style="list-style-type: none"> • Consult the stakeholders to establish the content that will be published in the website. • Regularly update content project related activities and topic related information. • Regularly update content regarding gender climate change adaptation activities and their impacts
Output 4.4	Activities

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Project lessons prepared for dissemination through the Adaptation Learning Mechanism (ALM).	<ul style="list-style-type: none"> • Develop a project communication strategy. • Prepare news briefs, hold workshops and round tables etc., in order to share lessons throughout the vulnerable regions. • Prepare briefs and workshops regarding gender-based climate change risks and effects; • Make regular contribution to the UN's ALM.
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- **Overall Budget: USD 2,970,000.00**

Outcome:	\$ Amount
OUTCOME 1	400,000
OUTCOME 2	-
OUTCOME 3:	1,900,000
OUTCOME 4:	-100,000
Project Management	-300,000
GMS	-270,000
TOTAL	2,970,000

5. **Mali, “*Enhancing Adaptive Capacity and Resilience to Climate Change in the Agriculture Sector*” (UNDP Atlas Award/Project ID: 00058696/00073048)**

• **Brief Description**

According to the UNDP Climate Change Country Profiles², the mean annual temperature is projected to increase by 1.2 to 3.6°C by the 2060s, and 1.8 to 5.9°C by the 2090s and the mean annual rainfall averaged over the country project a range changes in rainfall from -22 to +25% by the 2090s, with grouping means between 0 and -11%.

As Mali’s agricultural sector is highly dependent on these climatic factors, it is generally agreed upon that climate change will produce great impacts in this sector. Women who represent more than 60% of the population of the municipalities of Sandare, Massantola, Mpeessoba and Cinzana present higher vulnerability to these climate change impacts. The main women income generating activities (IGAs) are highly related to agriculture including market gardening, commercialization and processing of non-timber-forest products (NTFP) such as Shea tree fruits, *Parkia biglobosa* grains, Ziziphus jujube fruits and other products. The above mentioned impacts will, in turn, have direct impacts on food security in Mali and more particularly in the municipalities of Sandare, Massantola, Mpeessoba and Cinzana. Indeed, the main source of food in these communes is the home consumption agriculture. Furthermore, the main sources of incomes being the unproductive agriculture and the exploiting of NTFP and other natural resources, the households in these communes do not have the required financial means to complete their diet up to the normal standards. The projected increase of the intensity and recurrence of these climatic risks could negatively impact the food security and livelihood options in the municipalities of Sandare, Mpeessoba, Massantola and Cinzana and in Mali in General. This project will build on an LDCF

² <http://country-profiles.geog.ox.ac.uk/>

adaptation project that has been under implementation since 2010 and expand concrete adaptation measures that aim at reducing the vulnerability of communities with a strong focus on food security and women. In particular, a suite of adaptation measures and investments that increases the capacity of households to enhance/maintain the productivity of agriculture in a changing climate, and assist in diversifying the livelihoods for the women of the communities will be facilitated in the four (4) municipalities. As an add-on project, a particular emphasis will be placed on up-scaling adaptation strategies successfully piloted thanks to the LDCF project and incorporating recommendations from the beneficiary communities and the project national technical partners.

- **Outcomes / expected results**

Expected results

To strengthen adaptive capacities of the communities' of Sandaré, Massantola, Cinzana and M'Pessoba, to the climate induced risks for livelihoods options and food security.

Outcomes

1. Capacities to prevent and manage the impacts of climate change on agricultural production and food security are improved
2. Climate resilience of agricultural production systems and the most vulnerable agro-pastoral communities strengthened

- **Activities / Outputs**

Outcome 1. Capacities to prevent and manage the impacts of climate change on agricultural production and food security are improved

Outputs	Activities
1.1. A training program is designed and implemented for 200 technical staff from the Sandaré, Massantola, Cinzana and M'pessoba local authorities, NGOs and CBOs technical staffs on mainstreaming climate change in PDSEC and key sectorial policies	1.1.1. Undertake Climate change adaptation capacity assessment in the 4 municipalities local authorities, NGOs and CBOs and the capacity gap identified 1.1.2. Elaborate Training program, modules and strategies based on the capacity assessment and the revised guidelines 1.1.3. Carry out training for the identified technical actors of the local authorities, NGOs and community representatives 1.1.4. Undertake awareness raising activities about women vulnerability and the potential impacts of these vulnerability on the household vulnerability towards the communities members, local authorities, and NGOs
1.2. 50 local authorities officials and NGOs and CBOs staffs of the 4 municipalities are able to mentor and train their colleagues at the national regional and local levels on economics of climate change	1.2.1. Identify the adaptation economics information and analysis tool needed for the decision making process 1.2.2. Undertake economics of climate change adaptation capacity assessment in the 4 municipalities local authorities, CBOs and NGOs and identify the capacity gap 1.2.3. Based on the results of the activities 1.2.1 and 1.2.2, develop the training modules 1.2.4. Carry out the training activities

adaptation	1.2.5 based on the experience of the training activities and the economic valuation of the adaptation options under the activity 1.3.3 below, revise the training modules put them at the disposal of the agricultural training institute for future training and the integration of economic of adaptation in its curriculum
1.3. The PDSEC (Social, Economic and Cultural Development Plans) and related budgets of the municipalities of Sandaré, Massantola, Cinzana and M'pessoba are revised to integrate climate changes	1.3.1. Update the vulnerability and risks assessment to improve the analysis of gender related vulnerabilities 1.3.2. Revise the guideline for mainstreaming climate change in the PDSEC (developed by the LDCF), based on the results of the capacity gap assessment of the activities 1.1.1 and 1.2.1 and the update of the risk and vulnerability assessment under the activity 1.3.1 1.3.3. Assess anticipated costs and benefits of each measure based on state-of-the-art methods and wide stakeholder consultations and identify the most cost-effective and gender balanced measures. 1.3.4 Analyze the PDSEC of the 4 municipalities to identify the entry points for mainstreaming climate change and addressing the gender related vulnerability 1.3.5. Revise the PDSEC and related budgets of the 4 municipalities to integrate climate change with strong arrangements to reduce women vulnerabilities and develop a plan of implementation of the revised PDSEC by the municipalities representatives 1.2.6. Based on the revised PDSEC, analyze the national level agriculture- (including livestock and fisheries) and food security-related laws, policies, plans and programmes in order to identify the entry point for integration of gender balanced adaptation considerations
Outcome 2: Climate resilience of agricultural production systems and the most vulnerable agro-pastoral communities strengthened	
Output	Activities
2.1. Climate resilient agricultural technologies are implemented by 500 households in the 4 communes	2.1.1. Based on the updated vulnerability and risk assessment, select the implemented areas for the climate resilient technologies and the beneficiary of the training 2.1.2. Develop climate resilient agricultural technologic package and Training modules 2.1.3. Provide producers and extension agents within the targeted municipalities and from the local multidisciplinary group established by the LDCF with necessary materials, and skills to train farmers and provide them advisory support 2.1.4 750 men and 750 women are trained by local authorities, NGOs and CBOs technical staff, the extension agents on the climate resilient agricultural technologies through demonstration activities ; 2.1.3. 250 women and 250 men members of 500 households are supported financially by the revolving fund and technically by the extension agents, local authorities, NGOs and CBOs staff to

	implement the climate resilient agricultural technologies
2.2. Small-scale community infrastructures including 7 erosion control infrastructures, 3 Zai sites, 8 villages woods of 1 ha, 2 compost heap pit in 80 villages, 4 micro-dams, 4 community market-gardening wells, 2 improved watering-hole using solar water-pumping system are installed to support the efficiency of the climate resilient agricultural practices	2.2.1. Based on the updated VRA, identify the location of each small scale infrastructure to make sure that women activities will equally benefit from these infrastructures 2.2.2. Carry out environmental and social impacts assessments (ESIA) of the projected infrastructure and identify mitigation measures 2.2.3. Based on the ESIA and the mitigation responses identified, design and built climate proofed infrastructures. 2.2.4. An operation and maintenance plan for the infrastructure is developed and adopted by the beneficiary community members
2.3. Resilient income-generating activities are adopted by vulnerable groups and individuals	2.3.1. implement awareness-raising activities regarding the importance of resilient alternative income-generating activities in the communities of the targeted sites 2.3.2. Beneficiary of the resilient alternatives IGAs are identified and trained on the IGAs and business management 2.3.3. Install the equipment supporting the women IGAs (agricultural processing units, multifunctional platforms) and develop a management plan for the equipment 2.3.4. With the support of local microfinance institutions up in each of the targeted municipalities, set a small revolving fund that will micro-finance resilient income-generating activities. 2.3.5. Develop an eligibility screening tool for assessing fund requests and ensuring that only additional needs due to projected climate changes are funded; 2.3.6. Demonstrations of the alternative resilient livelihoods are conducted within the targeted municipalities, with the support from the revolving fund managed by pilot municipalities' administrations
2.4. 4 cereal banks are installed in the 4 communes	2.4.1 Carry out the Environment impacts assessments of the projected cereal banks and identify mitigation measures 2.4.2 Design and built climate proofed cereal banks in taking in account the mitigation measures identified in the activity 2.4.2 2.4.3 Develop a management plans of the cereal bank 2.4.4. identify and train the members of the management team of the cereal banks on how to manage the cereal banks

Outcome 1. Capacities to prevent and manage the impacts of climate change on agricultural production and food security are improved

Output 1.1	Activities
A training programme is designed and implemented for 200 technical staff from the Sandaré, Massantola, Cinzana and M'pessoba local authorities, regional and national	<ul style="list-style-type: none"> Climate change adaptation capacity assessment is undertaken in the 4 municipalities local authorities, and local and regional representations of the line ministries and the ministry of planning and finance and the capacity gap identified

technical staffs of the line ministries on mainstreaming climate change in PDSEC and key sectorial policies	<ul style="list-style-type: none"> • Training programme, modules and strategies are elaborated based on the capacity assessment and the revised guidelines • Training carried out for the identified technical actors of the local authorities, local and regional representatives of the key ministries and community representatives • Awareness raising activities about women vulnerability and the potential impacts of these vulnerability on the household are carried out towards the communities members, local authorities, representative of the local, regional and national divisions of the key ministries
The PDSEC (Social, Economic and Cultural Development Plans) and related budgets of the municipalities of Sandaré, Massantola, Cinzana and M'pessoba are revised to integrate climate changes	<ul style="list-style-type: none"> • The vulnerability and risks assessment are updated to improve the analysis of gender related vulnerabilities • Based on the results of the capacity gap assessment of the activity 1.1.1, the update of the risk and vulnerability assessment under the activity 1.2.1, the guideline for mainstreaming climate change in the PDSEC (developed by the LDCE) are revised • Anticipated costs and benefits of each measure are assessed based on state-of-the-art methods and wide stakeholder consultations and the most cost-effective and gender balanced measures are identified. • PDSEC of the 4 municipalities are assessed to identify the entry points for mainstreaming climate change and addressing the gender related vulnerability • PDSEC and related budgets of the 4 municipalities are revised to integrate climate change with a strong arrangements to reduce women vulnerabilities and a plan of implementation of the revised PDSEC is developed and adopted by the municipalities representatives • Based on the revised PDSEC, national level agriculture- (including livestock and fisheries) and food security-related laws, policies, plans and programmes are analyzed in order to identify the entry point for integration of adaptation considerations
Outcome 2: Climate resilience of agricultural production systems and the most vulnerable agro-pastoral communities strengthened	
Output 2.1	Activities
Climate resilient agricultural technologies are implemented by 500 households in the 4 communes	<ul style="list-style-type: none"> • Based on the updated vulnerability and risk assessment, the implemented areas for the climate resilient technologies and the beneficiary of the training are selected. • Climate resilient agricultural technologic package and Training modules are developed • Producers and extension agents within the targeted

	<p>municipalities and from the local multidisciplinary group established by the LDCF are equipped with necessary materials, and trained to train farmers and provide them advisory support</p> <ul style="list-style-type: none"> • 750 men and 750 women are trained by the extension agents on the climate resilient agricultural technologies through demonstration activities ; • 250 women and 250 men members of 500 households are supported financially by the revolving fund and technically by the extension agents to implement the climate resilient agricultural technologies
Small-scale community infrastructures including 7 erosion control infrastructures, 3 Zai sites, 8 villages woods of 1 ha, 2 compost heap pit in 80 villages, 4 micro-dams, 4 community market-gardening wells, 2 improved watering-hole using solar water-pumping system are installed to support the efficiency of the climate resilient agricultural practices	<ul style="list-style-type: none"> • Based on the updated VRA, the location of each small scale infrastructure is identified to make sure that women activities could equally benefit from these infrastructures • Environmental and social and impacts assessments (ESIA) of the projected infrastructure is done, mitigation measures identified • 2. based on the ESIA and the mitigation responses identified, the infrastructures are designed and climate-proofed • the infrastructures are built • An operation and maintenance plan for the infrastructure is developed and adopted by the beneficiary community members
Resilient income-generating activities are adopted by vulnerable groups and individuals	<ul style="list-style-type: none"> • Awareness-raising activities regarding the importance of resilient alternative income-generating activities in the communities of the targeted sites are carried out; • Beneficiary of the resilient alternatives IGAs are identified and trained on the IGAs and business management • The equipment for supporting the women IGAs (agricultural processing units, multifunctional platforms) are installed and a management plan for the equipment developed • A small revolving fund that will micro-finance resilient income-generating activities is set with the support of local microfinance institutions up in each of the targeted municipalities; • An eligibility screening tool is developed for assessing fund requests and ensuring that only additional needs due to projected climate changes are funded; • With the support from the revolving fund managed by pilot municipalities' administrations, demonstrations of the alternative resilient livelihoods are conducted within the targeted municipalities.
4 cereal banks are installed in the 4 communes	<ul style="list-style-type: none"> • The Environment impacts assessments of the projected cereal banks is carried out and mitigation measures identified • The cereal banks are designed built in taking in account the mitigation measures identified in the activity 2.4.2 and to be climate resilient • A management plans of the cereal bank is developed • The members of the management team identified and trained

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	how to manage the cereal banks
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- Overall Budget: **USD 2,145,000.00**

6. Niger, *“Implementing NAPA priority interventions to build resilience and adaptive capacity of the agriculture sector to climate change in Niger”* (UNDP Atlas Award/Project ID: 00058080/00072003)

- **Brief Description**

Niger’s endemic poverty, dry climate and economic dependence on agriculture make it exceptionally vulnerable to climate change. The project will focus on key adaptation interventions that were identified in the NAPA process as being of high priority by stakeholders at national, departmental, communal and village levels. CIDA intervention is built on an on-going LDCF adaptation project implemented since 2009 and aiming to enhance the adaptive capacity to climate change in the agriculture and water sectors. Additional funds from CIDA will help to strengthen the availability of agriculture inputs and water in order to increase the resilience of communities to a warmer, drier and more variable climate. Practical climate information, knowledge and tools will be provided to farmers, regional technical services to guide the process of integrating climate change risks and adaptation into relevant agricultural and water management plans. As women are the principal agents of food security and household welfare in targets communes, means and capacities will be provided to sustain their income generating activities and well-establish means of social and economic empowerment. Local communities and children will better benefit the sharing of Knowledge and lessons learned to foster greater ownership and enable replication local communities.

- **Outcomes / expected results**

Expected results

To enhance the adaptive capacity of the agriculture and water sectors to address the additional risks posed by climate change.

Outcomes

1. Resilience of food production systems and/or food insecure communities enhanced in the face of climate change
2. Institutional capacity of the agricultural and water sector enhanced, including information and extension services to respond to climate change, including variability
3. Lessons learned and knowledge management component established.

- **Activities / Outputs**

Outcome 1: Resilience of food production systems and/or food insecure communities enhanced in the face of climate change.	
Output 1.1	Activities

Outcome 1: Resilience of food production systems and/or food insecure communities enhanced in the face of climate change.	
Output 1.1	Activities
Sustainable conserving farming practices and agriculture supply system developed in Issari, Edouk and Tamalolo	<ul style="list-style-type: none"> • Test the introduction of organic fertilizers and integrated pest management, including <ul style="list-style-type: none"> ○ The study the potential of sustainable agriculture systems, their operations and dynamic inter-relationships with existing framing systems, their problems and solutions; ○ The experimentation and test sustainable of agriculture farms and demonstration farms; ○ The evaluation and sharing experience for potential diffusion. • Facilitate the establishment of fertilizer/pesticide shops under the supervision of CAIMA, with: <ul style="list-style-type: none"> ○ needs analysis and priorities of vulnerable communities and the interest of local entrepreneurs to invest in target communes; ○ construction of fertilizer/pesticide shops, where necessary, and the supply start-up stock provided; ○ establishment of an environmental impact assessment to reduce the risks of environmental degradation caused by this activity; ○ dialogues with the CAIMA, local entrepreneurship and communities to ensure that (i) price are aligned with vulnerable communities capacities, (ii) unfair competition is not created (iii) and shop running costs are recovered; ○ establishment and training of shops management committees with at least 5 members, participation of women ensured; ○ training of farmers on the use of fertilizers and pesticides; ○ supervision of fertilizer/pesticide shops by the regional direction of vegetal protection to ensure that shops facilities comply with international norms on storage, safety and disposal of pesticides.
Output 1.2	Activities
Drinking water supplies for both human and livestock use constructed and managed in Roumbou, Kao and Tanout	<ul style="list-style-type: none"> • Conduct relevant assessments to determine feasibility, cost-effectiveness and due-diligence with respect to environmental and other standards. Drinking water supply system/technologies will be Technologies assessed according to their climate change resilience, taking account of both vulnerability to climate changes (determined by engineering and environment) and adaptive capacity (ability to be adjusted or managed so as to cope in response to different climate conditions). Women's participation in the design water systems will be ensure to integrate their needs and address their constraints; • Construct multipurpose drilling system to supply humans and livestock, supplying pumps, solar kit and establishing drinking water supply networks; • Contract a service provider for the maintenance and management of the system. The Ministry of Water resources will supervise the implementation of the contract and ensure the sustainability.
Output 1.3	Activities
Area under irrigation at a village level expanded	<ul style="list-style-type: none"> • Construct of 12 irrigation wells to supply water to small-scale vegetable gardens. Relevant feasibility and other due-diligence assessments with respect to environmental and other standards will be used in key decisions during the implementation phase;

Outcome 1: Resilience of food production systems and/or food insecure communities enhanced in the face of climate change.	
Output 1.1	Activities
	<ul style="list-style-type: none"> • Fence newly irrigated lands with wire fences and tree/shrub hedges; • Committees run by women will be given the responsibility of the irrigated land. The committees will be provided with training to ensure that the produce and finances of this community initiative are managed sustainably. The municipalities, which oversee the committees, ensure the legitimacy of the committees and that their authority is respected.
Output 1.4	Activities
Erosion control measures constructed in Roubou to protect infrastructure and agricultural land from erosion	<ul style="list-style-type: none"> • Complementary assessments undertaken to finalise the cost-effectiveness and due-diligence with respect to socio-environmental and other standards. Identification of measures will be based on current and future vulnerability using different climate scenarios through the downscaling of available climate data and coupling with matching socio-economic information; • Construct gabions and weirs to stabilise riverbanks; • Establish and train management committees of at least 5 members, participation of women ensured, to supervise protection activities and maintain site after construction.
Outcome 2: Institutional capacity of the agricultural and water sector enhanced, including information and extension services to respond to climate change, including variability	
Output 2.1	Activities
Institutional capacity to support climate risk management in pastoral and agricultural land management at the national, district and village level developed	<ul style="list-style-type: none"> • Assess requisite Information Technology (IT) needs including management systems to support development and dissemination of climate change information to producers and households; • The provision of the equipment accompanied by a contract that ensures the delivery of the appropriate data for assessing the efficacy of each demonstration project at each site; • Training radio staffs in maintenance and development of sustainable financing strategy to sustain their activities.
Output 2.2	Activities
Institutional capacity to incorporate climate change risks into water supply and management developed	<ul style="list-style-type: none"> • Identify and prepare required tools; • Develop training programmes on how to apply the tools; • Train water managers and extension services, ensuring participation of women; • Evaluation and monitoring to ensure that training is applied to water planning and management.
Output 2.3	Activities
Institutional capacity to create alternative climate-resilient livelihoods for young and women developed	<ul style="list-style-type: none"> • Train women and young groups on entrepreneurship, value chain management, processing of agro-pastoral production and rural finance based on needs assessment; • Grant women and young on solar multifunctional platforms, food processing materials (e.g. oil presses, husking and millers machines, etc.), transportation material (e.g. donkey cars); • Assess performance and impacts of IGA and share lessons learned on gender and adaptation.

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Outcome 1: Resilience of food production systems and/or food insecure communities enhanced in the face of climate change.	
Output 1.1	Activities
Outcome 3: Lessons learned and knowledge management component established	
Output 3.1	Activities
Knowledge and lessons learned to support implementation of adaptation measures compiled and disseminated	<ul style="list-style-type: none"> • Translate key lessons learned, project communication products in five national languages and broad dissemination into target communes; • Package Information translated in appropriate format for transmission via community radio broadcasts or national television local language channels; • Organise regional forums to share lessons learned and experiences from the project for replication in other municipalities not covered. Depending on the target groups involved, suitable mode of communication will be developed (e.g. local knowledge forum, product exhibition during weekly markets, etc.); • Assess needs, develop school manuals including testing and print; • Training of target schools Director and teachers on how to use these modules and guides; • Make available Educational booklet to educational institutions in 8 sites of the project intervention; • Evaluation and sharing experiences to enable replication • Grant PMU with human resources and relevant communication equipment.

• **Overall Budget: USD 2,640,000.00**

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Outcome:	\$ Amount
Outcome 1	-1,079,750
Outcome 2	-872,280
Outcome 3	-333,864
Management Costs	-114,106
GMS	-240,000
Total	-2,640,000

7. **Sudan, "Implementing NAPA priority interventions to build resilience in the agriculture and water sectors to the adverse impacts of climate change in Sudan" (UNDP Atlas Award/Project ID: 00057783/00071514)**

• **Brief Description**

The project targets four critical agro-ecological zones in Sudan in order to encompass complexity of productive systems and modify current coping strategies that are being undermined by increasing climate variability and reoccurring hazards, especially droughts. Project will introduce, concrete innovative adaptation measures, such as watershed-based water harvesting techniques, ground-water based small scale seasonal irrigation, in-situ re-introduction of more stress resistant breeds and crop varieties, sand stabilisation and other

land management and agronomic techniques. These will help increase robustness and resilience of highly vulnerable rainfed farming and pastoralist systems to climate change risks and especially women headed households that are the most resource deficient and vulnerable. By demonstrating viable and cost-effective adaptation options and generating essential knowledge on good practices, the project will also assist the government of Sudan to improve its food security policies and address critical social vulnerabilities that often underpin resource-based conflicts, aggravating human security conditions.

- **Outcomes / expected results**

Expected Results

To implement an urgent set of measures that will minimize and reverse the food insecurity and enhance adaptive capacity of small-scale farmers and pastoralists resulting from climate change, including variabilities in 4 vulnerable regions

Outcomes

1. Resilience of food production systems and food insecure communities improved in the face of climate change
2. A better understanding of lessons learned and emerging best practices captured and up-scaled at the national level

- **Activities / Outputs**

Outcome 1: Resilience of food production systems and food insecure communities improved in the face of climate change	
Output 1.1	Activities
Based on rainfall-run-off models the surface water harvesting techniques in South Darfur and Gedarif and small scale irrigation methods in North Kordofan and River Nile states delivered to benefit 1000 farmers and pastoralists households	<ul style="list-style-type: none"> • detailed baseline studies in the target regions to identify climate risk and vulnerability conditions, including the household incomes and document the starting point prior to the project intervention; • generate rainfall and run-off models, drainage, terrain, soil permeability mapping, including delineation of watershed, wadis and small streams delivered for the identification of locations and techniques of water harvesting; • detailed inventory and technical studies on water harvesting techniques and technologies; • based on models and technical data, participatory community water harvesting plans formulated applying integrated watershed management approaches and include both contour systems and storage infrastructure, specifically considering the women's role in water mobilisation and directly engaging women in design and implementation of water harvesting plans; • at least 4 rain and flow gauge stations installed at sub basins and catchments of the main wadis; • community mobilisation for implementation of water harvesting techniques and construction of water harvesting infrastructure; • series of targeted trainings on water harvesting methods that take watershed management approaches; includes trainings for

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	<p>communities, technical staff of the Ministries of Water and Environment and specialised engineers;</p> <ul style="list-style-type: none">• technical studies on shallow groundwater-based irrigation schemes for small farming plots;• rehabilitation of 5 groundwater wells and installation of at least 15 solar powered pumping station for a small scale seasonal irrigation schemes;• training in groundwater management and guidance to the maintenance of the irrigation infrastructure, including solar pumping stations;• farm demonstrations to showcase the results of the project intervention against the indicators and baseline data.
Output 1.2	Activities
Diversified, drought resistant varieties of crops and animal breeds introduced and delivered on shelterbelt protected farm plots to improve food security situation in all targeted communities	<ul style="list-style-type: none">• community mobilisation and organisation of works for the introduction of local drought resistant vegetable and fodder varieties; includes the introduction of local varieties from locally available seed pools (extension and research services) and training through a farm-based demonstrations;• community mobilisation for establishing shelterbelt plantations to protect the target farm plots for sand encroachment;• training of the extension service personnel in the target states to design new extension products and services on farming methods and drought resistant varieties;• organise farm demonstrations to showcase the agronomic measures and yield results from drought resistant crops with direct engagement and participation if women.
Output 1.3	Activities
Climate resilient rangeland management methods such as reseeded, fencing, biomass production and management introduced	<ul style="list-style-type: none">• technical studies on pastoral mobility and seasonal grazing routs in the target regions and impacts of climate variability and change on fodder availability and production;• technical review and inventory to identify feasible options for sustainable biomass production for thermal energy in order to reduce the rate of deforestation and remove the current pressures from forests around the rangelands negatively impacting the land productivity.• inventory of target rangelands and productivity in the past ten years to establish a baseline trend;• community mobilisation for rangeland rehabilitation works through reseeded and re-plantation;• training of extension service personnel and pastoral communities on climate resilient rangeland management options in the context of 4 target agro-ecological zones;• implementation of rangeland rehabilitation works through reseeded and re-plantation activities;• Based on the findings of the study organise a pilot-based training for thermal energy production from the use of solid agricultural biomass residues.
Output 1.4	Activities
Women's associations have the relevant capacities, skills and	<ul style="list-style-type: none">• consultations with women in the target regions through series of stocktaking exercise and risk identification workshops;• mobilisation of women headed households and women associations to

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knowledge to undertake farm and household level adaptation measures	engage in the adaptation measures of relevance to farm productivity and household incomes; <ul style="list-style-type: none"> training for women to implement a range of climate resilient agronomic measures (e.g. establishment of nurseries around shelterbelts, intercropping and adoption of drought resistant crop varieties, contour-based water harvesting etc.).
Outcome 2: A better understanding of lessons learned and emerging best practices captured and up-scaled at the national level	
Output 2.1	Activities
Project knowledge incorporated into the national and state level budgets, programmes and policies	<ul style="list-style-type: none"> perception-based stakeholder survey such as Vulnerability Reduction Assessment conducted to establish the change in vulnerability, especially that of women, as a result of project interventions; comprehensive report documenting lessons learned and successfully tested adaptation measures, including those that address climate change risks to livelihoods that women are predominantly involved (farming, especially vegetable shelterbelt nurseries, sustainable energy sources for cooking and water capture/harvesting methods); series of trainings for target community groups of farmers and pastoralists on farm and rangeland methods as to how increase resiliency and productivity; technical personnel of the ministries of agriculture, water, environment, meteorological department on climate risk assessment methods as part of the sectorial planning; stakeholder workshops to widely disseminate the results of adaptation measures implemented by the project, including workshops for women's groups and associations to document and advocate for the measures that benefited and empowered the rural women the most; preparation of a package of adaptation measures and accompanied guidance for the integration into the agriculture and food security related programmes and policies, including national and state level programme budgets for further up-scaling; lessons codified and disseminated through the Adaptation Learning Mechanism and other knowledge networks.

• **Overall Budget: USD 3,080,000.00**

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	Outcome:	\$ Amount
	Outcome 1	2,228,400
	Outcome 2	-301,600
	Project Management	-270,000
	GMS	-280,000
	Total	3,080,000

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Total Budget:

Country	Amount (USD)
Global	1,166,763.00 1,442,574.10
Cambodia	2,242,425.90
Cape Verde	1,980,000.00
Haiti	2,970,000.00
Mali	2,145,000.00
Niger	2,640,000.00
Sudan	3,080,000.00
Total*:	16,500,000.00 16,224,189.00

*inclusive of 10% fee