



GEF-6 REQUEST FOR PROJECT ENDORSEMENT/APPROVAL

PROJECT TYPE: FULL SIZE PROJECT

TYPE OF TRUST FUND: LEAST DEVELOPED COUNTRIES FUND

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PART I: PROJECT INFORMATION

Project Title: Strengthening Comoros resilience against climate change and variability related disaster			
Country(ies):	Union of Comoros	GEF Project ID: ¹	6912
GEF Agency(ies):	UNDP	GEF Agency Project ID:	5445
Other Executing Partner(s):	DGSC	Submission Date:	16 Aug 2017
		Resubmission Date:	10 Oct 2017
GEF Focal Area (s):	Climate Change	Project Duration (Months)	60
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>	Corporate Program: SGP	<input type="checkbox"/>
Name of Parent Program		Agency Fee (\$)	848,579

A. FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES²

Focal Area Objectives/Programs	Focal Area Outcomes	Trust Fund	(in \$)	
			GEF Project Financing	Co-financing
CCA-1	Outcome 1.2: Reduced vulnerability in development sectors	LDCF	4,228,321	31,869,547
CCA-2	Outcome 2.1: Increased knowledge and understanding of climate variability and change-induced threats at country level and in targeted vulnerable areas.	LDCF	1,700,000	6,611,361
CCA-3	Outcome 3.2: Enhanced enabling environment to support adaptation-related technology transfer.	LDCF	3,004,100	
Total project costs			8,932,421	38,480,908

B. PROJECT DESCRIPTION SUMMARY

Project Objective: Strengthening the adaptive capacity and resilience of the most vulnerable communities to climate change and climate-related disaster risks in the Comoros.						
Project Components/Programs	Financing Type ³	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Confirmed Co-financing
<u>Component 1:</u> Strengthening institutional, policy and regulatory framework of integrated climate risks and disasters	TA	<u>Outcome 1:</u> Systemic and institutional capacity for the long-term management and adaptation planning of disaster risks caused by CC are strengthened at local, provincial and national levels	<u>Output 1.1:</u> Proposed revisions to integrate CC and DRR into policies, strategies and other development initiatives at local, sub-national and national levels in the civil security sector and other priority sectors. <u>Output 1.2:</u> Technical and operational capacity building	LDCF	2,391,500	6,503,220

¹ Project ID number remains the same as the assigned PIF number.

² When completing Table A, refer to the excerpts on [GEF 6 Results Frameworks for GETF, LDCF and SCCF](#) and [CBIT programming directions](#).

³ Financing type can be either investment or technical assistance.

			<p>programme for DGSC, TDM, OVK, Directorates of agriculture, environment, forestry, ports and maritime authorities, and other key national institutions focusing on emergency preparedness and response to climate-related disasters.</p> <p><u>Output 1.3:</u> Efficient system for transmission of early warnings for climate-related disasters implemented on the three islands.</p> <p><u>Output 1.4:</u> Operational emergency fund for climate-related disasters.</p>			
<p><u>Component 2:</u> Improving and strengthening knowledge and understanding of key climate drivers of natural disasters and their medium to long-term influence on disasters frequency and intensity and local communities' vulnerability to disasters</p>	Inv	<p><u>Outcome 2:</u> Knowledge and understanding of medium to long-term climate-related disaster risks and vulnerability improved.</p>	<p><u>Output 2.1:</u> Upgrade risk and vulnerability assessments and maps of local communities; and socio-economic infrastructure to integrate more accurate weather, water and climate information.</p> <p><u>Output 2.2:</u> Climate disaster modelling and scenarios – including hydro meteorological and geological hazards.</p> <p><u>Output 2.3:</u> Improved TDM monitoring network and capacity.</p> <p><u>Output 2.4:</u> Partnership with research organisations for undertaking research projects on climate risk.</p> <p><u>Output 2.5:</u> National strategy for sustainable financing of climate disaster monitoring system and information dissemination.</p>	LDCF	1,476,984	3,322,929
<p><u>Component 3:</u> Sustainable strengthening of community resilience to climate induced disaster risks</p>	Inv	<p><u>Outcome 3:</u> The long-term resilience of the livelihoods and assets of vulnerable local communities against</p>	<p><u>Output 3.1:</u> Development of village adaptation investment and action plans informed by the risk and vulnerability assessment and maps</p>	LDCF	3,727,368	25,066,327

		climate disaster risks is strengthened	<p>developed under Output 2.1.</p> <p><u>Output 3.2:</u> Reforestation programmes on degraded hillside land areas exposed to landslides and heavy rains.</p> <p><u>Output 3.3:</u> Community and individual rain water collection and redistribution systems to reduce vulnerability to droughts.</p> <p><u>Output 3.4:</u> Flood prevention measures and climate-resilient, low-cost interventions for the protection of populations and socio-economic infrastructure.</p> <p><u>Output 3.5:</u> IGAs in the selected interventions sites to sustain the reforestation interventions.</p> <p><u>Output 3.6:</u> Proposed revisions to existing legislation including penalty provisions and training of civil security (including police units and forest guards) for protection of natural resources especially forests.</p> <p><u>Output 3.7:</u> Measures to promote ecologically sound housing and settlements that are resilient to climate disasters..</p>			
<u>Component 4:</u> Knowledge management, monitoring and evaluation	Inv	<u>Outcome 4:</u> Increased monitoring knowledge sharing and awareness at local, regional and national levels on: i) CC; and ii) natural disaster risk management	<p><u>Output 4.1:</u> Public awareness-raising campaigns and information programmes conducted in the Grande Comore, Anjouan and Moheli using various forms of media (including print, radio etc)</p> <p><u>Output 4.2:</u> Long-term monitoring and evaluation programme including the</p>	LDCF	936,569	3,588,432

			codification and dissemination of lessons learned and best practices from the project and other similar ones. <u>Output 4.3:</u> Environmental education programmes – with a particular focus on CC and DRR – at primary schools and the University of Comoros. <u>Output 4.4:</u> A gender strategy developed and implemented, which includes capacity-building and enhancing the participation of women in planning, selecting and implementing CC and DRR measures.			
			Subtotal		8,532,421	38,480,908
			Project Management Cost (PMC) ⁴		400,000	
			Total project costs		8,932,421	38,480,908

C. CONFIRMED SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE

Please include evidence for co-financing for the project with this form.

Sources of Co-financing	Name of Co-financier	Type of Cofinancing	Amount (\$)
Donor Agency	UNDP	Grant	550,000
Recipient Government	National Directorate for Infrastructure	In kind	36,816,327
Recipient Government	Director General Security Civil	In kind	503,220
Recipient Government	Technical Directorate of Meteorology	In kind	262,929
	Karthala Volcanological Observatory	In kind	260,000
	University of Comoros	Grant	88,432
Total Co-financing			38,480,908

D. TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES), FOCAL AREA AND THE PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country Name/Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee ^{a)} (b) ²	Total (c)=a+b
UNDP	LDCF	Union of Comoros	Climate Change		8,932,421	848,579	9,781,000
Total Grant Resources					8,932,421	848,579	9,781,000

a) Refer to the Fee Policy for GEF Partner Agencies

⁴ For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

E. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS⁵

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	<i>hectares</i>
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	<i>hectares</i>
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	<i>Number of freshwater basins</i>
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	<i>Percent of fisheries, by volume</i>
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO _{2e} mitigated (include both direct and indirect)	metric tons
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	<i>metric tons</i>
	Reduction of 1000 tons of Mercury	<i>metric tons</i>
	Phase-out of 303.44 tons of ODP (HCFC)	<i>ODP tons</i>
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	<i>Number of Countries:</i>
	Functional environmental information systems are established to support decision-making in at least 10 countries	<i>Number of Countries:</i>

F. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT?N/A

(If non-grant instruments are used, provide an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF/CBIT Trust Fund) in Annex D.

PART II: PROJECT JUSTIFICATION

A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN WITH THE ORIGINAL PIF⁶

A.1. *Project Description*. Elaborate on: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; 2) the baseline scenario or any associated baseline projects, 3) the proposed alternative scenario, GEF focal area⁷ strategies, with a brief description of expected outcomes and components of the project, 4) [incremental/additional cost reasoning](#) and expected contributions from the baseline, the GEFTF, LDCF, SCCF, CBIT and [co-financing](#); 5) [global environmental benefits](#) (GEFTF) and/or [adaptation benefits](#) (LDCF/SCCF); and 6) innovativeness, sustainability and potential for scaling up.

There have been no changes in terms of the GEF/LDCF strategic focus or eligibility since the original PIF. The LDCF-financed project remains consistent with the LDCF Objectives CCA-1 “*Reduce vulnerability to the adverse impacts of*

⁵ Update the applicable indicators provided at PIF stage. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the [GEF-6 Programming Directions](#), will be aggregated and reported during mid-term and at the conclusion of the replenishment period.

⁶ For questions A.1 –A.7 in Part II, if there are no changes since PIF, no need to respond, please enter “NA” after the respective question.

⁷ For biodiversity projects, in addition to explaining the project’s consistency with the biodiversity focal area strategy, objectives and programs, please also describe which [Aichi Target\(s\)](#) the project will directly contribute to achieving..

climate change, including variability at local, regional and global level” and CCA-2 “Increasing adaptive capacity to respond to the impacts of climate change, including variability at local, national, regional and global level.”

An additional component has been added to the project document because of the need for knowledge management, information sharing and awareness-raising. The revisions to the outcomes are detailed in the table below.

Project Identification Form	Project Document	Project Document /CEO Endorsement Request
Project component/expected outcomes	Project component/expected outcomes	Justification of the change to the PIF
	<p>Component 4: Knowledge management, monitoring and evaluation Outcome 4: Increased monitoring knowledge sharing and awareness at local, regional and national levels on: i) CC; and ii) natural disaster risk management</p>	<p>An additional Component and outcome have been added to support knowledge management, information sharing and awareness-raising activities in the Comoros. The activities under this component will promote education and awareness of climate change adaptation and the associated benefits in building the resilience of local communities to the effects of climate change while simultaneously improving their emergency preparedness and response to climate-related and natural disasters as well as improving community livelihoods.</p>

Adaptation problem: The Union of the Comoros (after referred to as the Comoros) is a small island developing state (SID) which is characterised by *inter alia*: i) geographical isolation; ii) a rapidly expanding population; iii) limited natural resources; iv) poor economic resilience; and v) vulnerability to sea level rise and natural disasters. Because of its geographical position and poor economic development baseline, the Comoros is vulnerable to several meteorological and geological hazards, including tropical storms, floods, drought, rising sea level, volcanic eruptions, earthquakes and landslides. Over the past thirty years there has been an increase in the frequency and intensity of storms, floods and landslides in particular. An increase in extreme weather events in 2009, 2012 and 2013 directly affected over 10% of the population. Climate forecasts and observations of current trends indicate an extension of the dry season and reduction in precipitation which will result in the: i) drying up of rivers and decrease in groundwater levels; ii) decreasing quality and quantity of water accessible to communities; iii) increasing soil erosion and degradation leading to increased rockfalls and landslides; and iv) decreasing agricultural productivity leading to an increase in the price of local food crops. Furthermore, higher air temperatures increase the rate of evapotranspiration which reduces the supply of groundwater. Rising sea level also threatens to salinize groundwaters. Climate change will exacerbate the inherent vulnerability of the Comoros to the above climate-related natural disasters and non-climatic disasters such as volcanic eruptions and earthquakes. It is important to note that while geological hazards such as earthquakes and volcanoes are not climatic hazards, they do contribute towards communities’ increased vulnerabilities to climate change and *vice versa* climate change contributes to increased community vulnerability to geological hazards.

Notwithstanding the effects of climate change, the inherent vulnerability of the Comorian population is exacerbated by an insufficient capacity to prepare, prevent and respond appropriately to climate change and climate-related disasters. Furthermore, the vulnerability of Comoros’ population to the impacts of climate change is exacerbated by inadequate early warning systems for climate-related and other natural disasters. Communities are unable to plan for and respond appropriately to climate change hazards – including cyclones, floods or droughts – as well as geological hazards – including volcanic eruptions or earthquakes. In addition, local communities are unable to adapt their land use practices and livelihoods by for example adjusting planting time, selecting appropriate climate-resilient crop varieties or adopting alternative income-generating activities. Moreover, communities often do not have the capacity to respond appropriately to early warnings in the event that one is received.

The Comoros seeks to address the threat posed by natural disasters through strengthening the capacity for natural disaster preparedness and response. Steps to date have included the: i) development of the Climate Change and Natural Disaster Risk Reduction Strategic Programming Framework (CSP), National Strategy for Reduction of Risks and Disasters (SNRRC) and a National Contingency Plan; and ii) establishment of an Analytical and Information Processing Centre

(CATI) as well as the Directorate General of Civil Security (DGSC) and its regional branches (DRSC) – and the Centre of Relief Operations and Civil Protection (COSEP) – which will be instrumental in assessing the vulnerability of communities to climate hazards and improving emergency responses to such disasters. The LDCF-financed project will contribute towards assessing the vulnerability of the Comoros to climate-related risks and disasters through aligning with the objectives of the National Adaptation Programme of Action (NAPA). Specifically, the project will address Priority 12 entitled “*Setting up an early warning and surveillance system on situations of climatic risks*” through :i) enhancing the preparedness of authorities in reducing the negative effects of climate change; ii) providing early warnings and real-time information to the population to reduce human and material losses; and iii) undertaking capacity-building in terms of the monitoring and management of climate risks and disaster management thereby improving the undertaking thereof. Such activities are also in alignment with Sustainable Development Goal (SDG) 13: “*Take urgent action to combat climate change and its impacts*”.

Root causes and barriers: There are multiple institutional, technical and financial barriers in the Comoros to the planning, development and implementation of integrated DRR and CCA interventions. The project will implement a suite of complementary measures to address the following barriers:

- *Limited technical, financial and operational capacity to plan, budget and implement DRR measures:* the limited technical capacity, skills and infrastructure restricts the ability of the Technical Directorate of Meteorology (TDM), Karthala Volcanological Observatory (OVK) and DGSC/DRSC to assist local communities in increasing their adaptive capacity and enhancing their disaster risk preparedness. In addition, this limited capacity has – in conjunction with limited political will and orientation – contributed towards the poor integration of climate change and DRR into urban planning, development and management. Gaps in the technical capacity of government departments and institutions – such as DGSC/DRSC, TDM and OVK – are partially attributable to insufficient training of staff employed in relevant development. For example, the TDM has limited technical training in data management and analysis. Thus, the ability to undertake climate modelling for the Comoros, prepare seasonal forecasts and issue early warnings is restricted. Technical and operational capacity is also hindered by inadequate equipment. The TDM currently uses Excel for data management as opposed to climate specific software. In addition, there are problems with sending and receiving data which undermines the effective dissemination of timely early warnings. With regards to the operational capacity of the DGSC to respond to disasters, the communication system is incapable of handling several incoming calls at once. In the event of an emergency, the telephone line is quickly swamped which makes the dissemination of information and early warnings difficult. Furthermore, local communities are often isolated during climate-related and natural disasters. This can be attributed to roads being rendered impassable – through storm surges and coastal erosions or rockfalls and landslides – and the lack of emergency vehicles. The delivery of emergency supplies – including food, water and medical equipment – is therefore delayed which increases the vulnerability of the local communities to illnesses and diseases post-disaster. Another contributory factor to the limited technical skills is the restricted financial resources available to reduce the impacts of disasters. Although national government needs to invest in DRR and CCA interventions, there are budget constraints and therefore these measures – including the development of appropriate policies and legislation integrating CCA– are often beyond the government’s financial ability.
- *Limited access to information and knowledge on climate change and climate-related risks and disasters:* because of the lack of institutional framework for systematic data collection and documentation with regards to climate, meteorological and geological hazards there is limited data available. Accordingly, the provision of knowledge-based advice from TDM, OVK and the DGSC/DRSC is limited by the quantity and quality of information available to them. In addition, there is limited transfer of knowledge or data sharing and the coordination between institutions is insufficient. For example, climate information has not been made available to CATI for inclusion in vulnerability maps. The mapping process has therefore been based on historical data and topography. Consequently, the credibility of such maps and predictions based thereon is undermined. A further challenge to maintaining accurate and up-to-date data is the variable development of Comoros’ infrastructure which hinders the collection and transfer of data. The difficulties in collecting and transferring data therefore constitutes a barrier to the comprehensive and effective monitoring and use of meteorological and geological information. In turn, the dissemination of early warnings on the islands is hampered which restricts local communities from responding timeously to climate-related and natural disasters.

- *Weak adaptive capacity and community engagement in the prevention of climate-related disasters and the impacts thereof on their livelihoods and economy:* local communities have limited knowledge of climate change. This is a result of *inter alia* institutional weaknesses and policy gaps, poor communication between government and local communities, limited financial resources and access to such resources (please see Section IV of the Project document for further details). The Comoros has a relatively high incidence of poverty and consequently local communities are frequently unable to invest in adaptation practices and technologies – such as rainwater harvesting infrastructure – to cope with the effects of climate change. Moreover, local communities’ unsustainable management of land resources results in ecosystem degradation which affects both food security and their livelihoods through the reduction of agricultural productivity, increase deforestation and reduced groundwater infiltration. These effects render local communities more susceptible to the predicted impacts of climate change. Furthermore, local communities are risk averse and their immediate concern is meeting their daily needs rather than long-term planning for changes in climatic conditions. The vulnerability of local communities is further compounded by the difficulties in transferring information to local communities because of the remote location of certain communities as well as the low levels of education.

Baseline: Environmental concerns have historically been given a low priority in the Comoros in terms of research, policy and strategic plans. To date, the focus of international funding has been dominated by humanitarian assistance. Moreover, limited funding for research and training – combined with inadequate equipment and facilities for research on climate change and disaster risks – have affected the capacity of relevant institutions to research, develop and implement integrated DRR and CCA interventions. The Second National Communication recognises that there is a shortage of skilled personnel in data processing and analysis within relevant government departments and institutions. The majority of technical staff do not have the skills or knowledge necessary to support and advise local communities on coping with the impacts of climate change. And at present, there are no systematic programmes or plans for updating the skills of such staff to keep them apprised on new developments in the science and practice of CCA. The shortage of human resources within relevant institutions as well as research institutions is compounded by the limited availability of information, basic facilities and equipment. Technical tools such as software for data analysis and management are limited within the Comoros. These constraints limit the extent to which DGSC, OVK and TDM can provide up-to-date data and information on climate-related and natural disasters and risks that can reduce the Comoros’ vulnerabilities – particularly in respect of extreme weather events. Furthermore, such constraints limit the opportunities for relevant stakeholders to improve DRR and CCA interventions and resilience to climate change.

There are a limited number of trained staff and units – particularly emergency response units – within the DGSC and DRSC. In the event of a climate-related disaster, local communities are often cut off from the main towns and consequently emergency assistance due to flooding, landslides, rockfalls and roads being eroded or washed away. They are therefore unable to access medical and emergency supplies, which contributes towards the spread of illness and diseases post disaster. With the predicted increase in frequency and severity of extreme weather events, the insufficient number of emergency responders and restricted access of such responders will increase the vulnerability of local communities to climate change. In addition to the inadequate human resources in disaster preparedness, there is limited access to climate information for development planning, forecasting and early warnings. Consequently, weather forecasts are not disseminated with alerts about expected heavy rains, dry spells or cyclones. Local communities therefore do not receive adequate early warnings enabling them to take measures to protect their households and assets or relocate to less vulnerable areas. Furthermore, TDM is currently unable to produce and disseminate seasonal climate forecasts – which would benefit long-term development planning and ensure that communities do not settle in the areas most vulnerable to the long-term effects of changing climatic conditions.

Disaster risk management and preparedness in the Comoros also fails to properly integrate climate change into its disaster relief plans which provide details regarding emergency services and public assistance to be provided during and after a disaster. For example, the Cyclone Plan does not include provisions regarding forewarning the public of an impending disaster. The failure to consider the effects of climate change – particularly the increase in frequency and severity of such events – renders the plans ineffective in the long-term as emergency responses will be inadequate and inappropriate in the face of changing climatic conditions. In addition, early warning systems are limited and do not allow for the effective transfer of information between stakeholders and to the public in the event of a climate-related or natural disaster. The

inability to access and disseminate information regarding climate hazards – and geological hazards – swiftly is a result of inadequate equipment and skilled staff which are both responsible for the monitoring and analysis of data generated. Inadequate access to information does not enable informed decision-making and the issuing of timely early warnings. Consequently, local communities will remain vulnerable to climate-related and natural disasters.

Knowledge and awareness of CCA and the associated benefits of building the resilience of local communities – and ecosystems – thereby improving communities' livelihoods is likely to remain limited if information on CCA interventions is not shared at all levels. There is a low level of understanding within local communities regarding the predicted impacts of climate change in the Comoros and potential benefits of integrated DRR and CCA interventions in reducing those negative impacts. The scarcity of awareness materials and poor integration of climate change into formal education programmes and curricula limits public understanding of climate change and results in a weak civil society. Currently, there are no communication or outreach strategies providing information to stakeholders such as local mayors and their communities. In addition, CCA is not adequately integrated into new and existing national policies and strategies, nor are the potential benefits of adopting sustainable measures appreciated by government and local communities. This is exacerbated by the low capacity of national and local authorities – such as the recently elected mayors – to facilitate the implementation of such interventions, which will limit the replication and upscaling of CCA interventions – such as those demonstrated through this LDCF project – throughout the Comoros.

There are a few GEF and non-GEF-funded projects that focus on adaptation to climate change or DRR which are currently being implemented in the Comoros. These projects are described in the table annexed hereto as Annex E: Baseline and Aligned Projects.

Proposed alternative scenario: The objective of the LDCF-financed project is to strengthen the adaptive capacities and resilience of the most vulnerable local communities to climate change and climate-related disasters risks in the Comoros. For countries such as the Comoros which are highly vulnerable to climate-related disasters, it is essential to strengthen the coordination of climate change and disaster risk management measures. The project will therefore focus on: i) ensuring that disaster risk management and climate change adaptation interventions are mutually beneficial; ii) assessing how disaster risks – including the non-climate induced risk – could impact on the vulnerability to climate change and integrated appropriate responses in the local, regional and national climate change strategies; and iii) ensuring to the extent possible that current disaster risk management strategies and investments will not increase future vulnerability and/or constrain future CCA activities. Furthermore, the preferred solution would see strengthened local and community capacity for managing climate change and climate-related disaster risks. Such capacity would be strengthened through intensive training and capacity-building as well as the involvement of the recently elected local mayors and community members in the implementation of project activities – including DRR and CCA activities. This would not only generate community ownership of such interventions, but would also ensure the long-term sustainability thereof.

To achieve the project objective, the LDCF-financed project will enhance development planning and implementation of DRR measures as well as increase the understanding and knowledge of medium to long-term climate change risks. In promoting a participatory approach and supporting decentralized planning for climate-related DRR and management, the project will be ensuring that both men and women are involved in the assessment, planning and implementation of on-the-ground interventions and decision-making. The project will also reduce the vulnerability of local communities on Grand Comore, Anjouan and Moheli to climate-related disasters and risks through the implementation of CCA interventions including climate-smart ecosystem rehabilitation and management measures. Through baseline surveys, the environmental and socio-economic concerns of local communities were assessed and on-the-ground project activities developed to address such concerns as well as the needs expressed by the respondents. Consequently, public awareness and effective communication of project information will be undertaken to encourage the maximum participation and cooperation of all stakeholders. Such activities will also ensure the sustainability of the project activities.

The LDCF-financed project objective will be achieved through four integrated and complementary outcomes. A brief description of the components, expected outcomes and outputs, as well as indicative activities is provided below.

Component 1: Strengthening institutional, policy and regulatory framework of integrated climate risks and disaster.

Outcome 1: Systemic and institutional capacities for the long-term management and adaptation planning for disaster risks caused by climate change are strengthened at local, provincial and national levels. (LDCF project grant requested: \$2,391,500 and co-financing \$6,503,220)

Without LDCF-finances (baseline situation): To date, the Comoros has taken a number of steps to strengthen their capacity for disaster risk preparedness and response, including: i) developing a National Contingency Plan; ii) establishing the DGSC which incorporates COSEP and CATI; iii) undertaking a series of vulnerability studies related to climate hazards and their impacts; iv) undertaking outreach and information dissemination at community levels; and v) establishing an EWS as well as strengthening communication systems for risk reduction, disaster management and disaster response between actors at national, island and local levels. However, climate change is not integrated into development planning. Legal and regulatory frameworks – for example the SNRRC – do not integrate climate change considerations into long-term planning. As a result, responses and management strategies are not comprehensive and tend to be rendered ineffective under changing climate conditions.

Notwithstanding the above actions, the DGSC and other relevant stakeholders do not have the requisite capacity nor access to relevant climate information to enable them to integrate climate drivers of disaster risks into the legal and regulatory framework. As per consultations with various stakeholders, the requisite financial resources – and regional budgets – for integrating climate change and disaster risk management into development planning at a local level are insufficient. In addition, the DGSC have insufficient technical capacity to integrate such climate drivers into the implementation of on-the-ground activities. For example, CATI does not integrate climate change information into the decision-making support tools it currently provides to the DGSC.

The technical capacity of DGSC, DSRC, relevant line ministries and local authorities to communicate effectively between themselves and with the public is also restricted. As a result, early warnings and the dispatch of emergency responders is undermined. At present calls from the public requesting emergency assistance or informing the DGSC of an impending disaster are received by DGSC via telephone. As they only have one telephone line, the communication system is easily overwhelmed during disasters which means that the flow of information is restricted and therefore decision-making is hampered.

With LDCF-financed intervention (adaptation alternative): Despite the abovementioned efforts at improving disaster risk management in the Comoros, several logistical challenges were experienced during the April 2012 floods. These included damage and disruption to infrastructure and support structures in society which hindered emergency relief efforts⁸. Both observed trends and climate models indicate an increase in such natural and climate-related disasters which will result in an increased need for effective emergency relief. Under Outcome 1, the project will therefore build local and national capacities for increased climate resilience, risk management and sustainable development. To do so, the project will revise the institutional framework for DRR and CCA and strengthen coordination between various stakeholders, including DGSC, DSRC, DoE and other relevant line ministries by reactivating the Risk Management Platform. Regular meetings will be held and simulations undertaken to improve coordination between the various stakeholders. In addition, policies, plans and programmes will be revised to integrate DRR and CCA and a legal framework for integrated natural and climate-related disaster response established. This will be complemented by activities under Outcome 2 which will increase the knowledge of risks and inform disaster risk management and planning.

Outcome 1 of the LDCF-financed project will focus on building the technical and operational capacity of various institutions as well as the recently elected local authorities (mayors). This will include strengthening local capacities for planning, conducting risk mapping, developing/strengthening the EWS and training. Furthermore, capacity building for local authorities will focus on integrating climate change into communal development plans. At present, contingency plans are only available at regional level. The project will consequently focus on strengthening decentralisation measures,

⁸ International Federation of Red Cross and Red Crescent Societies. 2013. *Emergency Appeal Final Report: Comoros: Flash Floods*. Available at: <http://reliefweb.int/report/comoros/comoros-flash-floods-emergency-appeal-n-mdrkm004-final-report>. Accessed on 27 July 2016.

including: i) coordination and organisation of emergency preparedness and relief efforts at the local level; ii) sustainable management of natural resources; and iii) implementation of CCA measures – from regional to community/village level. In so doing, local authorities will be better prepared to support the resilience building of communities to cope with climate-related disasters. In addition, civil security units – local facilities including office space for the DGSC/DSRC – will be established in high risk areas on each of the islands for increased preparedness for a crisis. These units are essential to the goals of the LDCF-financed project to build the capacity of the DGSC/DRSC to enable them to provide effective disaster risk preparedness and response, as well as emergency relief to local communities in the event of a climate-related natural disaster. First aid and emergency supplies will be stockpiled at these units which will enable the provision of assistance during or immediately after a climate-related disaster to meet the immediate and/or short-term life preservation and basic subsistence needs of those people affected. These supplies will consequently reduce the risk of death, illness or diseases through the provision of preventative measures at community level and subsequently increase the resilience of vulnerable communities to climate change – and extreme weather events in particular. Access to information and the provision of early warnings will also be promoted through improving communication systems and technologies for the transmission of such information between stakeholders, to and from the public.

Under Outcome 1, the LDCF-financed project will also support the identification of the climate risks that could impact or influence the efficiency of the relief actions. In so doing the project will propose adaptation strategies to prevent the impacts of these risks whilst making sure that the relief initiatives will not reinforce communities' vulnerabilities. The project will therefore integrate climate change into the national disaster management and preparedness plans – for both climate and non-climate related disasters. These activities will be considered as part of a package of actions supported by this project for the strengthening of the integration of disaster risk management and climate change in the Comoros. Decisions and actions taken after a climate-related disaster will therefore seek to restore or improve the pre-disaster living conditions of the affected communities, while encouraging and facilitating the necessary adjustments to reduce disaster risk. Relevant stakeholders will have the capacity to plan for, implement, monitor and evaluate CCA. The project will achieve the sustainable impact by supporting and working directly with these stakeholders to build their capacity for assessment, planning, implementation, monitoring and evaluation of integrated DRR and CCA initiatives and systems. Furthermore, the project will place a strong emphasis on ensuring that project activities work to build capacity and systems that can be sustained in the long -term by Comorian institutions. An operational emergency fund will also be established which will only be accessible for climate-related disaster relief efforts and rebuilding of infrastructure etc, once such an event has occurred. This emergency fund will be financed at the outset by UNDP with co-financing from the government. GEF resources will be used to provide technical assistance, supporting the functioning and financial sustainability of such fund, including the development of procedures for accessing and disbursing funds as well as the identification of management mechanisms and sources of supplementary funding.

Output 1.1: Proposed revisions to integrate climate change and DRR into policies, strategies and other development initiatives at local, sub-national and national levels in the civil security sector and other priority sectors.

Indicative activities under Output 1.1 include:

- 1.1.1: Training provided to authorities from priority sectors (including civil safety, environment, planning, education health, gender and infrastructure) on the integration of CC and DRR into policies and strategies at regional and national level.
- 1.1.2: Integrate CC and DRR into strategies, plans and legislation in the civil security sector (including SNRRC, contingency plans, specific risks and POLMAR plans) and infrastructure sectors (other than the road network already targeted by AMCC).
- 1.1.3: Promote the integration of CC and DRR into the SCADD and its plan of action.
- 1.1.4: Integrate CC and DRR into land-use plans for the Grande Comore, Anjouan and Mohéli.
- 1.1.5: Develop a legislative and regulatory framework for Disaster Risk Management in the Comore, and submit it to the government for adoption.

Output 1.2: Technical and operational capacity building programme for the General Directorate for Civil Security(DGSC), Technical Directorate of Meteorology (TDM), Karthala Volcano Observatory (OVK), Directorates of

agriculture, environment, forestry, Ports and maritime authorities, and other key national institutions focusing on emergency preparedness and response to climate-related disasters.

Indicative activities under Output 1.2 include:

- 1.2.1: Undertake a capacity assessment of DGSC, CATI and CTA for DRR and prepare relevant institutional and individual capacity development plans for disaster preparedness and response to climate emergencies..
- 1.2.2: Implementation of the capacity development and training plan for CATI and CTA developed under Activity 1.2.1.
- 1.2.3: Contribute towards the establishment of stores for first-aid equipment at 4 sites in Grande Comore (Moroni, Diboini, Mitsamiouli and Fombouni), 2 in Anjouan (Sima, Domoni or Mutsamudu) and 1 in Moheli (Fomboni or Nioumachoua).
- 1.2.4: Contribute towards the establishment of civil security units at 4 sites in Grande Comore, 2 in Moheli and 2 in Anjouan.
- 1.2.5: Provide emergency response equipment to the DGSC (and DRSCs) to improve first responders' response to climate emergencies.
- 1.2.6: Train local authorities and community groups on disaster risk management, and implement a joint management system of village ambulances to facilitate coordinated responses to disasters.
- 1.2.7: Update and reactivate the Risk Management Platform (PNPRRC) including regular meetings and simulations for better coordination of the various sectors to respond to climate disasters.

Output 1.3: Efficient system for transmission of early warnings for climate-related disasters implemented in the three islands.

Indicative activities under Output 1.3 include:

- 1.3.1: Develop a modern communication system for the transfer of information between OVK, TDM and the DGSC/DRSC.
- 1.3.2: Develop a telecommunications system (including a telephone switchboard) to increase the capacity to receive and manage emergency calls, and radio communication system for the transmission of early warnings and alerts locally and nationally by DGSC.

Output 1.4: Operational emergency fund for climate-related disasters (to be co-financed by government and the project).

Indicative activities under Output 1.4 include:

- 1.4.1: Investigate options and develop a mechanisms for sustainable funding and management of emergency fund.
- 1.4.2: Develop and implement procedures to access and disburse the funds.
- 1.4.3: Identify sources of supplementary funding at the local, regional and national level and pilot the allocation process.

Component 2: Improving and strengthening knowledge and understanding of key climate drivers of natural disasters and their medium to long term influence on disaster frequency and intensity and communities' vulnerability to disasters

Outcome 2: Knowledge and understanding of medium to long-term climate-related disaster risks and vulnerability are improved (LDCF project grant requested: \$1,476,984 and co-financing \$3,322,929)

Without LDCF-finances (baseline situation): The Comoros has undertaken several vulnerability studies as well as mapping of coastal areas, including those undertaken during the development of the Initial National Communication and NAPA. Climate change vulnerabilities and priority issues were also reviewed and updated whilst preparing the Second National Communication (SNC). Pursuant to these studies, risk vulnerability maps have been produced for volcanoes, floods and landslides. These vulnerability maps are, however, based on historic data and topography rather than advanced climate models and are therefore not able to take future climate change risks into account. Furthermore, the vulnerability maps exclude socio-economic data. These factors subsequently undermine the accuracy and effectiveness of such maps under changing climatic conditions.

Various disaster relief plans, including the Karthala Volcanic Plan, the Tsunami Relief Plan and Cyclone Relief Plan have also been developed. These plans are focused on the provision of emergency services and public assistance during and immediately after a disaster. However, regional warning bulletins – which the disaster relief plans rely upon for information – fail to integrate current and future climate change data. For example, the Cyclone Plan has not been designed to forewarn of impending disasters for the purpose of DRR. These plans are therefore unable to identify the climate risks that affect the efficiency of the response to the disaster and appropriate mitigation measures. Consequently, the plans are inadequate in the face of changing climate conditions and will render emergency responses ineffective against future climate-related disasters. For more efficient management of natural disasters (including climate and non-climate related disasters), it is necessary to: i) plan in advance the relief actions to be taken in case of a disaster; ii) mitigate the climate risks that can affect the efficiency of the relief actions; and iii) ensure that these relief actions will not contribute to worsen vulnerability to future climate-related disasters and/or constrain future adaptation.

Three-day weather forecasts are provided by the Regional Integrated Multi-Hazard Early Warning System for the Afro-Asian Region (RIMES). This information is broadcast by national and community radios as well as by local radio stations on each of the islands. Weather forecast bulletins are disseminated daily which includes the weather forecast for the next 24 hours. However, seasonal climate outlooks are not produced. The institutional and technical capacity of various institutions to gather and analyse climate data for seasonal forecasting is restricted by inadequate software and information technology equipment. There is also no specific climate information management system set up. For example, the TDM currently utilises Microsoft Excel software to store their data rather than climate-specific software. In addition, some of the data is only available in hard copy and has not yet been digitized. The effectiveness (and potential application) of such data is therefore limited and greater storage capacity and functionality is required. Although climate-related software (such as MAGICC/SCENGEN) has been used to derive climate change scenarios for the SNC, this software has not been used since then and is now outdated. In addition, relevant institutions have limited skills for analysing climate information. For example, the TDM has insufficient trained staff. Training is therefore required for the operation and maintenance of equipment, software, analysis of data for seasonal forecasting and climate change predictions. The TDM is consequently unable at present to prepare long-term climate scenarios. Additionally, the GEF LDCF ID 4974, is implementing a plan for installing 9 automatic weather stations. However, these AWS combined with the 6 already installed by the GEF LDCF ID 3857 don't give to the national hydrometeorology sector the required density allowing for the monitoring of key weather parameters throughout the entire country. Consequently, certain critical areas of the country are not covered.

Disaster relief plans and early warnings as well as vulnerability maps are traditionally informed by research. However, there are few research activities in the Comoros which are focused upon climate change and DRR and management. Furthermore, the specific Karthala Volcanic Management Plan does not identify and integrate climate risks that could negatively affect the efficiency of the response to the disaster and appropriate mitigation measures. In light of scientific discussions indicating that an increase in temperature and consequent sea level rise may result in an increase in tectonic and seismic activity, the frequency of volcanic eruptions from Mount Karthala is likely to increase⁹. By excluding climate risks from the specific management plans, the population will be increasingly vulnerable to climate-related disasters as the responses will be rendered ineffective by the changing climatic conditions. DRR efforts for geological hazards will therefore be rendered ineffectual under future climate change scenarios.

With LDCF-financed intervention (adaptation alternative): The LDCF-financed project will improve and strengthen the knowledge of meteorological and geological hazards by focusing on scientific research and strengthening institutions' – such as TDM and OVK – technical capacity for observing and monitoring of such hazards. In so doing, the project will align with the recommendations in the Technology Needs Assessment to develop the scientific and technical knowledge of the requisite institutions for gathering, analysing and reporting on climate, hydrological, ocean and geological hazards¹⁰. This will include enhancing the network of measurement stations for TDM. In addition, the project will build the capacity of institutions such as TDM and OVK on how to combine weather, water, climate and volcano monitoring data to provide tailored decision-making information to reduce communities' vulnerability to climate change. For example, the integration of volcanic information in the risk and vulnerability maps is important as ash fallout from volcanic eruptions contaminates already scarce water sources and raises health concerns for both people and livestock

⁹ <http://www.yalescientific.org/2015/11/icelands-volcanic-activity-to-increase-from-climate-change/> Accessed on 27 July 2016.

¹⁰ Union of the Comoros.2006. *Technologies needs assessment in the priority areas.*

along with adverse effects on agriculture¹¹. Furthermore, rainfall is unable to percolate because of the ash deposits which waterproof the soil. Consequently, an increase in runoff due to changing climatic conditions combined with the ash deposits forms lahars – a form of landslide which can destroy houses and buildings. Infrastructure is also rendered unsafe because of ash induced collapses and may result in the displacement of local communities. The limited availability of arable land and fertile volcanic soils means that people are continuously settling in areas more vulnerable to volcanic eruptions and the abovementioned consequences thereof which will be exacerbated by climate change. For efficient management of climate change in Comoros, it is therefore important to integrate information on geological hazards – such as volcanic activities – into the risk and vulnerability maps. Training will be provided on timely gathering and transmission of data, data quality control and management, data analysis and use as well as broadcasting information. Technicians will also receive training on the operation and maintenance of the relevant equipment to ensure the longevity of such systems and the long-term sustainability of project interventions. Furthermore, a national strategy will be developed which will review policies and identify opportunities for strengthening policy and budgetary support for the financing of equipment. The strategy will also identify supplementary sources of funding for the purchase, installation, ongoing operation and maintenance of such equipment for institutions such as TDM and OVK.

The limited skills base of CATI, TDM and OVK gives rise to difficulties with statistical analysis and gaps in information which results in inaccuracies with predictions. Training of technical staff will therefore be a priority and will focus on data analysis and management for seasonal forecasting. Access will also be provided to long-term historical data and climate-specific software systems which will facilitate the development of seasonal forecasts and predictions of climate-related disasters and the impacts of non-climate related disasters – including the climate change influence on the vulnerability to these disasters. Increased access to climate information and analysis of will inform the mapping of the most vulnerable areas to natural and climate-related disasters at the local level.

Under Outcome 2, hydrological and climate events will be monitored to inform future climate modelling as well as the development of vulnerability maps for each of the islands to climate-related disasters. These vulnerability maps will be more accurate – being based on actual climate data and advanced climate modelling – and will inform future development planning through mainstreaming under Outcome 1. By including climate change information in the development of vulnerability maps, the project will increase the credibility of such maps. Risk and vulnerability maps will be updated in collaboration with relevant local authorities, CBOS and CSOS in Bngui, Mvouni, Bndamadji-Mbadjini, Vouvouni-Kafouni, Noumadzaha, Salimani, Moroni, Mitsoudje (Grande Comore); Mirontsi, Mutsamudu, Mahala, Sima, Vassy, Koni Djodjo, Domoni (Anjouan); Hoani, Fomboni, Djoezi, Nioumachoua, Mlabanda, Kangani, Itsamia, and Hagnamoida (Moheli). The relevant authorities, CBOs and CSOs will receive the necessary training to develop such maps.

Research plays an important role in the ongoing quest to find solutions to climate-related risks and the challenges faced. The project will therefore build on institutions’ – such as TDM, OVK and the University of Comoros – existing research capacities to strengthen their involvement in and support for research and analysis linked to CCA. In addition, the project will pursue partnerships with international research institutions and organisations to enhance the technical capacity of staff in the Comoros and facilitate the flow of information, including lessons learned and best practices between these parties. Furthermore, the LDCF-financed project will under Outcome 4 introduce opportunities for postgraduate studies in environmental science, climate change and disaster risk management which will enhance institutional capacities. In promoting and building the capacity for CCA research and training within the Comoros, the project will improve the understanding of climate risks and enhance the management thereof.

Output 2.1: Risk and vulnerability assessments and maps of local communities and socio-economic infrastructure are upgraded to integrate more accurate weather, water and climate information.

Indicative activities under Output 2.1 include:

2.1.1: Provide equipment to the DGSC for the purposes of data collection (by means of aerial surveys) to inform the development of risk and vulnerability maps.

¹¹ During the eruption of Karthala in 2005, the ash fallout covered ~75% of the island affecting ~245,000 people. Morin, J. et al. 2009. Institutional and Social Responses to Hazards Related to Karthala Volcano, Comoros. Part I. *Shima: The International Journal of Research into Island Cultures*: 3(1). Available at <http://www.shimajournal.org/issues/v3n1/f.-Morin-et-al.-Shima-v3n1-33-53.pdf>. Accessed on 27 July 2016.

- 2.1.2: Train local authorities, CBOs and CSOs in the intervention sites on the design of local risk and vulnerability maps. The targeted communities include: Bnguoi, Mvouni, Bndamadji-Mbadjini, Vouvouni-Kafouni, Noumadzaha, Salimani, Moroni, Mitsoudje (Grande Comore); Mirontsi, Mutsamudu, Mahala, Sima, Vassy, Koni Djodjo, Domoni (Anjouan); Hoani, Fomboni, Djoezi, Nioumachoua, Mlabanda, Kangani, Itsamia, and Hagnamoida (Moheli).
- 2.1.3: Support the trained local authorities, CBOs and CSOs to develop risk and vulnerability maps of the medium- and long-term volcanic risks, flooding, and landslides based on the climate scenarios developed under Output 2.2.
- 2.1.4: Support the trained local authorities, CBOs and CSOs to undertake self-capacity assessments to respond to the identified climate risks.

Output 2.2: Climate disasters modelling and scenarios – including hydro meteorological and geological hazards

Indicative activities under Output 2.2 include:

- 2.2.1: Develop a range of climate scenarios of multiple timescales (up to 2050, and 2100) using international and national databases.
- 2.2.2: Develop a model of the future hydro-meteorological and geological hazards based on the climate-change scenario (including floods, landslides, and volcanic eruptions).

Output 2.3: Improved TDM meteorological monitoring network and capacity

Indicative activities under Output 2.3 include:

- 2.3.1: Undertake an assessment of the institutional and technical needs of TDM.
- 2.3.2: Provide equipment to the TDM including *inter alia* climate appropriate software, based on the resource needs assessment undertake under activity 2.3.1.
- 2.3.3: Train TDM officers and senior staff on information processing related to disaster forecasts received from the prediction centres of severe climate phenomenon (SAWS and others), and production of seasonal forecasts, climate scenarios and risks models.

Output 2.4: Partnership with research organisations for undertaking research projects on priority climate risks.

Indicative activities under Output 2.4 include:

- 2.4.1: Identify opportunities for partnerships between research organisations and institutions involved in the monitoring and management of climate risks to fill in the knowledge gaps on the links between climate change, climate risks and their effects on local communities.
- 2.4.2: Develop partnerships between OVK and other research institutions researching priority hazards.
- 2.4.3: Identify and implement priority research projects on climate change and climate risks.

Output 2.5: National strategy for sustainable financing of the climate disaster monitoring system and information dissemination

Indicative activities under Output 2.5 include:

- 2.5.1: Review policies and identify opportunities for strengthening policy support for financing of equipment for institutions such as DGSC, TDM and OVK.
- 2.5.2: Develop a strategy for the integration of equipment expenses (including purchase, installation and maintenance costs) into appropriate policies and budgeting processes.
- 2.5.3: Support the government to develop a public private partnership involving international private companies specialized in weather, water and climate data processing (potential buyers of monitoring data that will be collected by the NHMS) and the end users groups of the industry (potential buyers of climate services).
- 2.5.4: Identify sources of supplementary funding at the local, regional and national level.

Component 3: Sustainable strengthening of community resilience to climate induced disaster risks

Outcome 3: The long-term resilience of the livelihoods and assets of vulnerable local communities against climate disaster risks is strengthened (LDCF project grant requested: \$3,727,368 and co-financing \$25,066,327)

Without LDCF-finances (baseline situation): The majority of households in the Comoros are reliant upon traditional crops and natural resources for their livelihoods. Few efforts have been made in the rural areas to diversify their livelihoods. Sources of income include agriculture and cash crops such as ylang-ylang and vanilla. Traditional practices including the use of plants and agroforestry are gradually being abandoned in favour of monoculture, slash and burn as well as agriculture expansion which leads to deforestation. These practices have an adverse effect on the sustainability of natural resources and as a result exacerbate land and ecosystem degradation. Furthermore, current land use and water management practices do not take climate change considerations into account and are not adapted to emerging climate conditions. Local communities have little technical knowledge, low levels of inputs, insufficient financial resources and limited access to infrastructure and markets. These are all barriers to the adoption and implementation of climate-resilient measures. As a consequence of local communities' low adaptive capacity and the adverse effect that climate change will have upon long-term agricultural productivity, they are particularly vulnerable to the effects of climate change.

One of the major environmental problems that the Comoros faces is that of deforestation. The predominant cause of deforestation is the conversion of forests for agricultural expansion, which is also linked to a decrease in agricultural productivity and land degradation. Ylang-ylang distilleries also contribute to deforestation because the primary source of energy is fuelwood. Illegal logging is a problem – particularly in Anjouan – and is exacerbated by the limited enforcement of regulations and penalties at the local level. The removal of vegetation and deforestation have resulted in extensive degradation of slopes and the watersheds. In combination with a decrease in rainfall, these factors have resulted in a prolonged dry season in some areas – particularly on the Grand Comore. Moreover, rivers on Anjouan have dried up and their flow regime modified, leading to an increase in runoff which contributes towards flooding and has had a negative effect upon the generation of hydroelectric power on the island. Irregular heavy downpours, decreased infiltration and increased runoff lead to an increase in flooding. Because of the geological characteristics of the islands – having steep slopes – the above factors result in soaked slopes becoming unstable and consequently landslides and rock falls occur. These are becoming increasingly common on Anjouan and Mohéli. Floods and landslides have resulted in damage to and destruction of roads and houses, as well as public infrastructure – such as the Mitsudjé District Health Care Centre on Grand Comore which was completely flooded during April 2012 – and schools – such as those in Fomboni on Mohéli. Recent evidence of such destruction can be viewed at Mirontsi – where the road and several households were destroyed – and other local communities on the islands.

Key socio-economic infrastructure – such as health care centres and schools – is frequently located in the coastal zones and is thus exposed to extreme weather events such as cyclones, coastal flooding and erosion. In addition, coastal roads are threatened by coastal erosion with many roads having already been destroyed. This increases the vulnerability of local communities who are cut off during climate-related disasters and are not able to evacuate during such times or receive emergency relief. Households are also at risk of damage or destruction due to the increasing frequency and severity of such events and many local communities have already observed the effects thereof. Artificial structures have been built along the coast as well as riverbeds to support or protect human settlements and infrastructure from flooding – these include sea walls, dykes and gabion walls. However, these structures have failed to consider climate risks – such as increasing frequency and intensity of extreme weather events, as well as increased tidal action and sea level rise – and therefore are often breached or damaged rendering them ineffective against future disasters.

Poverty, the lack of alternative income-generating activities and limited knowledge of climate change all contribute towards the local communities' vulnerability to climate-related disasters. From the surveys conducted, it is evident that many of the respondents are unaware of the effects of climate change (The results of the surveys are contained in Annex R to the Project Document). Furthermore, there has been little or no awareness raising and training in many of the local communities assessed. The respondents have limited technical knowledge and inputs as well as a general lack of diversification options. As a result of the above factors, these local communities have limited adaptive capacity. Local

communities will therefore continue to pursue unsustainable livelihood patterns that are maladapted to future climate change conditions.

With LDCF-financed intervention (adaptation alternative): The LDCF project will build on the capacity building activities and lessons learned from a range of projects and programmes that have been or are currently being implemented. These projects have demonstrated that empowerment of communities at all stages of the project cycle is beneficial to achieving lasting results at the local level. In this context, in addition to the research components under Outcomes 2 and 4, the project will incorporate a “training the trainers” approach within various institutions and particularly within the local authorities and civil servant units. The project will thereby ensure that these institutions are able to continue to train staff and other members of CBOs and maintain a strong capacity to support CCA and climate-smart DRR and management after the project has terminated. NGOs and CBOs will also be directly involved in: i) identifying solutions to climate-related risks and impacts; ii) implementing adaptation solutions; and iii) monitoring the effectiveness of those solutions towards achieving positive socio-economic and environmental outcomes. The project will assist targeted communities in developing Village Action Plans, which will identify site-specific priorities for adaptation. In addition, training and capacity-building programmes will be implemented to assist local authorities in integrating such Village Action Plans into local development planning processes. In addition, the project will provide support to communities and local authorities on developing and mainstreaming climate investment plans and resource mobilisation for the implementation of Village Action Plans. The targeted communities include: Plateau trelezini, Kiombani-bahani, Vouvouni-Kafouni (Grande Comore), Dimani; Jimlime, Mahale, Vassy and Koni Djodjo (Anjouan); Mlabanda, Kangani, Itsamia, Hagnamoida, Djoezi-Siziroudani, Mirngoni-Wallai, Hamba-Mirongoni (Mohéli). Where possible, the project will build on and partner with baseline initiatives being implemented by NGOs and CBOs at each of the interventions site to strengthen their awareness of climate change risks and opportunities to address climate-related impacts.

In order to address the environmental and socio-economic issues faced by the local communities, the project will promote the diversification of income-generating activities among vulnerable communities. Sustainable, climate-resilient and diversified livelihood options will be identified and implemented in target communities that will: i) alleviate poverty, ii) increase food security; iii) promote more resilient ecosystems that can provide protective and productive ecosystem services that will buffer local communities against floods and droughts; and iv) reduce vulnerability to the effects of climate change. To do so, the project will first address the environmental issue of natural resource use and management with a particular focus on water and deforestation.

In areas affected by persistent droughts in the Grand Comore, rainwater collection and redistribution systems will be implemented to reduce the vulnerability of the local communities in Dimani, Oichili and Hamanvou. A combination of hard and soft infrastructure will be required to capture and store water including *inter alia* check dams and retention ponds which will create water reserves. In areas prone to flooding¹² climate-resilient, low-cost flood prevention measures will be implemented to protect populations and socio-economic infrastructure including schools and health care facilities in Fomboni as well as the Mitsudje District Health Centre which are located in flood-prone areas and along riverbanks. Studies will be undertaken to map flood prone areas and identify appropriate low-cost flood prevention measures. Examples of such measures include *inter alia*: i) dredging targeted rivers to promote water flow; and ii) strengthening the riverbanks using both hard and soft infrastructure to reduce damage from flooding. The proposed flood-reduction measures will be complemented by reforestation interventions in Bambao, Hambou, Domba and Hamahamet (Grand Comore); Vassi, Bambao, Koni Djojo and Mirontsi Ouani (Anjouan); and Mlanbada, Itsamia, Kangani, Hagniomoida, Sambiya, Ndremani, Mirongoni and Wallah (Mohéli). By rehabilitating degraded slopes, the project will reduce the vulnerability of forest ecosystems to the effects of climate change.

Outcome 3 of the LDCF-financed project will provide local communities with skills, knowledge and the inputs necessary to implement DRR practices that will protect their land and households from floods and landslides. For example, the reforestation activities – including the planting of climate-resilient and multi-purpose trees – and the revegetation of slopes will assist in stabilising the slope and preventing landslides. By introducing valuable and local species of trees that provide non-timber forest products – such as vanilla and fruit trees including peaches, oranges and avocados – the project will

¹² These areas include Nioumadzaha, Mitsoudje-Salimani, Kafouni, Vouvouni (in Grand Comore), Chironi, Page, Mirontsi, Ntsabamwe, Mutsamudu (in Anjouan); and Msoutrouni, Dewa, Hoani and Nyoubegni (in Mohéli).

reduce the risk of encroachment into planted areas for agricultural purposes¹³. Indigenous tree species that are particularly effective at stabilising soils on the banks of rivers – such as *Ficus* species – will be planted upstream from and along the riverbanks at the selected interventions sites. Lessons learned from previous projects will be utilised wherever possible to inform the selection of tree species and reforestation activities¹⁴. Technical guidance will be provided to local communities regarding the value of forests and the benefits of Sustainable Natural Resource Management (SNRM). In addition, the project will strengthen existing and/or establish new community associations who will be responsible for SNRM and monitoring of activities. To address the effects of deforestation, alternative energy solutions will be piloted for ylang-ylang distilleries which will reduce the pressure on wood as a source of fuel. In addition, existing laws will be revised and recommendations will be provided for stricter penalties for contraventions of legislation. Police/enforcement officers and local authorities will be provided training at the local level on the revised measures and penalties. The project will also promote the establishment of a community surveillance system – this will be undertaken in conjunction with the awareness raising activities under Outcome 4. In this context, technical support and training will be provided to farmers in exchange for them acting as forest guards to protect natural resources in a participatory manner.

The LDCF-financed project will also explore and support the development of public private partnerships in the financial, housing, infrastructure and planning sectors to support the relocation of settlements from areas vulnerable to flooding and other natural and climate-related disasters. Mechanisms for subsidising low-income housing and incentive schemes will be developed and sources of supplementary funding identified. The proposed incentive scheme will be piloted in selected vulnerable areas.

Output 3.1: Development of village adaptation investment and action plans informed by the risk and vulnerability assessments and maps developed under Output 2.1.

Indicative activities under Output 3.1 include:

3.1.1: Implement awareness raising activities for the communities' members and leaders on climate related disasters and adaptation strategies, in coordination with Component 4. The selected communities include: Plateau trelezini, Kiombani-bahani, Vouvouni-Kafouni (Grande Comore), Dimani; Jimlime, Mahale, Vassy and Koni Djodjo (Anjouan); Mlabanda, Kangani, Itsamia, Hagnamoida, Djoezi-Siziroudani, Mirngoni-Wallai, Hamba-Mirongoni (Mohéli).

3.1.2: Organize consultations with communities for identification of priorities for Village Action Plan and Investment Plans.

3.1.3: Support the communities to develop budgeted climate investment plans.

3.1.4: Implement capacity building program for the local authorities for the mainstreaming of the Village Action Plans in the local development plans and investment frameworks.

3.1.5: Implement training programs on climate finance for building local authorities capacity on resources mobilization for the implementation of the Village Action Plans.

Output 3.2: Reforestation programmes on degraded hillside land areas exposed to landslides and heavy rains.

Indicative activities under Output 3.2 include:

3.2.1: Develop and implement reforestation interventions (including the implementation of nurseries) in selected prefectures in Grande Comore (Oichili Dimani and Hamahamet Mboinkou prefectures), Anjouan (Domoni and Sima prefectures) and Mohéli (Djandro prefecture) to protect communities and selected roads against floods and landslides in collaboration with CRDEs, General Directorate for Environment and Forests and the National Directorate of Infrastructure. An array of local tree species will be used including beneficial tree species which will provide sources of income under Output 3.4 (refer to Annex O for details regarding target sites and maps).

3.2.2: Strengthen existing and/or establish new community associations for the sustainable management of natural resources in the selected sites.

¹³ Indigenous species will be used wherever possible.

¹⁴ For example, the LDCF-financed project will consult with the UNDP project “*Adapting water resource management in the Comoros to expected climate change*”. Particular attention will be paid to the restoration protocols developed by the project for different tree species and the success rates for different tree species planted.

- 3.2.3: Support communities to revive and improve traditional and communities' rules and bylaws for preventing the deforestation of critical areas.

Output 3.3: Community and individual rainwater collection and redistribution systems to reduce vulnerability to droughts.

Indicative activities under Output 3.3 include:

- 3.3.1: Undertake an assessment of the efficiency and sustainability of prior interventions implemented by the communities for increasing water availability.
- 3.3.2: Undertake a design study and implement rainwater reservoirs in collaboration with local communities in Grande Comore (Moroni Bambao, Oichili Dimani and Hamanvou prefectures) and Anjouan (Nimakele prefecture) to reduce vulnerability to droughts (refer to Annex O for details regarding target sites and maps).
- 3.3.3: Develop community-based water management systems in targeted communities.

Output 3.4: Flood prevention measures and climate-resilient, low-cost interventions for the protection of populations and socio-economic infrastructure (including health care facilities, schools and markets in flood prone areas)

Indicative activities under Output 3.4 include:

- 3.4.1: Undertake a national analysis of flood risks based on the models developed under Output 2.2.
- 3.4.2: Identify the most sustainable flood prevention interventions based on international experience including both hard and soft infrastructure to reduce vulnerability in Grande Comore, Anjouan and Moheli.
- 3.4.3: Select the flood prevention interventions to be undertaken based on the Village Action Plans developed under Output 2.2 and the analysis undertaken in Activity 3.3.1.
- 3.4.4: Undertake EIAs (where required) for the selected flood prevention interventions.
- 3.4.5: Implement the selected flood prevention interventions identified including both hard and soft infrastructure under Activity 3.3.2 in Grande Comore (Moroni Bambao prefecture), Anjouan (Mutsamudu and Domoni prefectures) and Moheli (Fomboni prefecture) (refer to Annex O for details regarding target sites and maps).
- 3.4.6: Implement the selected flood prevention activities at selected health care facilities, schools and markets in the targeted flood-prone areas.
- 3.4.7: Complement the flood prevention measures with the establishment of emergency response plans for the selected health care facilities, schools and markets in the targeted flood-prone areas.

Output 3.5: IGAs in the selected intervention sites to sustain the reforestation interventions.

Indicative activities under Output 3.5 include:

- 3.5.1: Undertake a cost-benefit analysis for the development of IGAs in the intervention sites based on the areas reforested under Output 3.1 and Moroni Bamboa prefecture in Grande Comore (refer to Annex O for details regarding target sites and maps).
- 3.5.2: Select the priority interventions based on the results of the cost-benefit analysis (Activity 3.4.1), the Village Action Plans (developed under Output 2.1) and the interventions of partner projects in collaboration with Community Associations and DGEF.
- 3.5.3: Provide equipment and training to local communities to support the implementation and sustainability of IGAs including *inter alia* forest based IGAs such as: i) apiculture; ii) sustainable harvesting of vanilla; iii) improved agriculture; iv) establishment of nurseries for fruit and other beneficial tree species; and v) agroforestry. The implementation of forest-based IGAs by communities located on degraded hillside land areas will mitigate the expansion of agricultural areas.
- 3.5.4: Pilot the use of alternative sources of energy to fuelwood in ylang-ylang distilleries in selected sites.

Output 3.6: Proposed revisions to existing legislation – including penalty provisions – and training of civil security personnel – including police and forest guards – for protection of natural resources especially forests.

Indicative activities under Output 3.6 include:

- 3.6.1: Raise public awareness about the existence of legislation and penalty provisions regulating natural resource use and management (including *inter alia* the cutting of trees, bush fires and discharge of waste into rivers) in the intervention sites.
- 3.6.2: Develop and implement training programmes for local authorities including DGSC/DSRC and police on law enforcement measures and penalties.
- 3.6.3: Propose revisions to legislation including stricter penalty provisions in the event of non-compliance with legislation regarding the protection of natural resources.
- 3.6.4: Promote the establishment of a community surveillance system for monitoring of illegal activities (including *inter alia* cutting of trees, slash and burn cultivation and bush fires).

Output 3.7: Measures to promote ecologically sound housing and settlements that are resilient to climate disasters.

Indicative activities under Output 3.7 include:

- 3.7.1: Promote the establishment of Public Private Partnerships in the financial, housing, infrastructure and development planning sectors.
- 3.7.2: Identify mechanisms for subsidising low-income housing in areas less vulnerable to climate-related disasters (such as flooding).
- 3.7.3: Demonstrate affordable and ecologically sound housing and settlements that are resilient to climate disasters..
- 3.7.4: Assess the barriers for the upscaling of the houses, provide government with appropriate solutions and identify sources of supplementary funding at the local, regional and national level and pilot the process at selected intervention sites most vulnerable to climate-related disasters.

Component 4: Knowledge management, monitoring and evaluation

Outcome 4: Increased monitoring, knowledge-sharing and awareness at local, regional and national levels on: i) climate change; and ii) natural disaster risk management (LDCF project grant requested: \$936,569 and co-financing \$3,588,432)

Without LDCF-finances (baseline situation): From the surveys conducted, it is evident that local communities have limited understanding and knowledge of climate change (The results of the surveys are contained in Annex R to the Project Document). Furthermore, few of the respondents interviewed have received training thereon. Moreover, stakeholder awareness of existing tools for DRR including early warning systems is weak and the low level of awareness on climate change amongst local communities therefore exacerbates their vulnerability to climate-related disasters. The UNEP evaluation of Comoros' implementation of the NAPA found that awareness-raising faces several challenges – including low levels of literacy and dispersion of the population across the islands – which make printed materials an unsuitable option¹⁵. Other challenges to awareness raising and the dissemination of information include limited access to data and information as well as the media and public sources of information.

Environmental education and materials have been introduced at primary schools to counteract the low levels of awareness. One of the knock-on effects thereof is that children are passing on and sharing their knowledge on environmental issues with family members which has indirectly increased the level of awareness of some households. However, this indirect method is not a sufficient means of information dissemination. The current curriculum also does not include climate change. Furthermore, there is no academic curriculum at a higher level for studies on the environment, climate change and DRR. In order to pursue tertiary studies in these fields, students are required to travel abroad and often do not return to the Comoros but find work elsewhere. The limited expertise and number of specialists in climate change and DRR therefore undermines the climate variability assessments and mapping that has been undertaken to date. Without proper information generation and analysis by trained specialists, the accuracy of certain predictions and forecasts is uncertain.

The gender aspect of climate change is also not well understood nor comprehensively considered in development planning. Although many of the respondents recognise women as being more vulnerable to climate change than men, there are few gender-responsive provisions in the legal and regulatory frameworks which take into consideration the

¹⁵ UNEP.2007. *Final Evaluation of the National Adaptation Programme of Action: Country Report: Comoros.*

effects of climate change on women. Traditionally, women are excluded from decision-making processes, including those that have a direct effect upon their livelihoods – such as emergency responses and relief plans in local communities. The exclusion of women from such decisions undermines their effectiveness in disaster situations and increases their vulnerability. Furthermore, such exclusion overlooks a valuable source of traditional knowledge and coping strategies as women are usually the ones responsible for making sure that the household has sufficient water and food, even in crisis situations.

With LDCF-financed intervention (adaptation alternative): Under Outcome 4, the project will focus on knowledge development including *inter alia* education, training, research and information dissemination. In this context, the environmental education materials will be revised to include integrated DRR and CCA and distributed to all primary schools. At the tertiary level, a two-year Master's programme on DRR and CCA will be developed in conjunction with partner academic institutions in the region¹⁶ and piloted at the University of Comoros. The main focus of the programme will be on improving knowledge on DRR taking into account the long-term impacts of climate change. In addition, the programme will develop the skills necessary to use and generate climate information to define and respond to complex climate-induced disasters. Furthermore, the programme will promote knowledge transfer and the dissemination of information between research institutions throughout Africa, as well as between research institutions and civil society. Public awareness-raising through education and knowledge dissemination will be undertaken to improve the population's participation in preparedness programmes. A focus of Outcome 4 will be understanding the information needs of vulnerable communities. It is therefore important to identify effective mechanisms for the dissemination of information to local communities where members of the community are illiterate. Oral transmission of information is consequently a very important means of raising awareness and communication in Comoros. Examples of such means may include radio and television programmes, drama and discussion groups¹⁷.

Outcome 4 will focus on developing a community-based approach to climate-related disaster risk management. Appropriate governance structures will be promoted and encouraged to ensure the full participation of men and more particularly women in decision-making that affects them. Furthermore, the implementation approach for achieving climate change resilient income-generating activities at the selected project intervention sites (under Outcome 3) strongly encourages and supports partnerships between the public and privates. The project will therefore identify and support the establishment/strengthening of community associations. These grassroots organisations will therefore be integral to the success of CCA measures and will be included in the training activities under Outcome 3. The training will therefore include local authorities, village and religious leaders, NGOs and CBOs such as environmental, youth and women's associations. In addition, community mechanisms will be identified to engage women's participation and involve local women's organisations in the mobilisation of women. Community workshops and training sessions will also be gender responsive and will be held at a time suitable for women so as not to disrupt livelihood patterns. Gender sensitivity training will also be undertaken and information dissemination will take place using visual and oral communication tools. Workshop facilitators should also encourage women to share experiences and ideas. In so doing, the project will ensure that the role of women in communities and households will be taken into consideration in long-term development planning.

The LDCF-financed project's Outcome 4 also includes the development and implementation of a long-term monitoring and evaluation programme which will take place throughout the duration of the project. The purpose of such monitoring is to ensure that the intended objectives are being met. Where intended goals are not being met, the activities can then be modified. Long-term monitoring and evaluation also provides an opportunity for feedback on whether the project design was appropriate and provide lessons learned as well as best practices which will inform future projects and programmes for the Comoros – and other SIDS. Monitoring activities will also ensure that there is gender-balanced participation in the design and implementation of the project's activities and that gender equality is achieved within each outcome.

Output 4.1: Public awareness-raising campaigns and information programmes conducted in the Grande Comore, Anjouan and Moheli using various forms of media (including print, radio etc.)

¹⁶ The Masters' Programme will be implemented in collaboration with the University of Reunion and the Technical Centre for Disaster Risk Management, Sustainability and Urban Resilience in Southern Africa (DIMSUR) in Maputo.

¹⁷ The use of discussion groups in the Disaster Preparedness and Risk Reduction Programme proved to be rather successful as an awareness-raising tool.

Indicative activities under Output 4.1 include:

- 4.1.1: Develop and implement a national communication strategy and action plan for the communication of project information.
- 4.1.2: Develop and implement a project specific communication strategy and action plan to inform consultations with local communities regarding the project.
- 4.1.3: Develop and implement awareness-raising campaigns using national and local media and training programmes for local communities and relevant stakeholders (including hospital staff, teachers, pupils as well as community associations) on: i) the effects of CC and DRR based on the action plan; ii) the sustainable management of reforested and planted areas; iii) the long-term effects of slash-and-burn agriculture and forest fires; iv) lessons learned and best practices based on the action plan; v) legal provisions (including penalties) regarding deforestation and the discharge of waste into rivers.

Output 4.2: Long-term monitoring and evaluation programme including the codification and dissemination of lessons learned and best practices from the project (and other similar ones).

Indicative activities under Output 4.2 include:

- 4.2.1: Develop and implement a system for monitoring and evaluation of interventions for the management of long-term climate risks.
- 4.2.2: Monitoring and evaluation of economic impacts of project activities.
- 4.2.3: Identify and synthesise lessons learned and best practices resulting from the implementation of the project activities.
- 4.2.4: Disseminate lessons learned using existing national and international platforms.
- 4.2.4: Develop a strategy for scaling up and replicating successful project activities throughout Grande Comore, Anjouan and Mohéli.

Output 4.3: Environmental education programmes – with a particular focus on CC and DRR – at primary schools and the University of Comore.

Indicative activities under Output 4.3 include:

- 4.3.1: Revise the existing environmental education manual developed for and piloted at primary schools (financed by UNDP and other partners) to integrate CC and DRR. Initial steps include assessing the effects of the first manual in schools.
- 4.3.2: Distribute the revised environmental education manual to all primary schools.
- 4.3.3: Provide training on the revised environmental education manual to all teachers at primary school level.
- 4.3.4: Evaluate effectiveness of environmental education programmes on the behaviour of pupils (and parents).
- 4.3.5: Develop, validate and pilot a Master's Programme on the environment, CC and DRR at the University of Comore in collaboration with regional partner institutions.

Output 4.4: A gender strategy developed and implemented, which includes capacity-building and enhancing the participation of women in planning, selecting and implementing CC and DRR measures.

Indicative activities under Output 4.4 include:

- 4.4.1: Collaborate with the National and Regional Directorates of Gender and Social Protection to develop a gender strategy which will ensure that women's needs and interests are represented in the design and implementation of on-the-ground interventions, particularly IGAs to be implemented under Outcome 3.
- 4.4.2: Create a discussion forum to facilitate dialogue on gender issues between the village associations, local authorities, regional and national administration.
- 4.4.3: Undertake gender appropriate training on good business and management practices and innovative leadership in decision-making.
- 4.4.4: Undertake targeted awareness-raising and outreach campaigns to increase women's participation in the design and implementation of project activities as well as decision-making processes.

- 4.4.5: Propose revisions to the National Policy on Gender Equality (to be used during the next revision process) addressing the vulnerability of women to climate-related natural disasters and promoting interventions to increase their adaptive capacity to the effects of climate change.
- 4.4.6: Document lessons learned on the experiences and coping strategies of women and men to climate change and the implications for future project and program design.

Incremental/additional cost reasoning: The LDCF-financed project will enhance the effectiveness of measures currently being implemented by the Union of Comoros in regards to DRR and CCA. It will do this through mainstreaming climate change considerations into national and sub-national development planning. Furthermore, activities will be implemented that increase the disaster risk preparedness and response as well as the adaptive capacity of authorities and local communities to future climate-related and natural disasters.

In the development of the Comoros' NAPA, multi-criteria analyses were undertaken as part of the NAPA process in order to prioritise actions according to their potential for positive effects on economic development, social capital and environmental management. As such, the actions proposed by the NAPA are not only the most urgent and pressing but have also been assessed to be cost-effective. The LDCF-financed project aligns with the priorities of the NAPA (see Section II Development Challenge of the Project Document for further details) in order to implement necessary actions that have already been identified as cost-effective.

During the PPG phase, the following cost-effective measures were identified for the project: i) strengthening the capacity of institutions and on the ground centres to respond to climate disasters; ii) providing equipment and necessary training to better respond to climate disasters; and iii) supporting climate resilient development planning in the target communities. These measures were identified as no-regret, tangible and cost effective as they: i) prioritise the needs of local communities in the project design; ii) optimize the spending of project funds on meeting the needs of the local communities; and iii) ensure that the project is well understood by beneficiaries to promote project success and efficient use of finances. The costs of integrated DRR and CCA interventions were determined through consultations undertaken at national level as well as at regional level with the involvement of regional administrators. Additionally, vulnerable groups – including women – were consulted during the PPG phase to ensure maximum benefits to all project beneficiaries.

In order to reduce costs by avoiding duplication, the LDCF-financed project will pursue active partnerships with other ongoing initiatives, including both GEF-financed projects and non-GEF projects. The project will build on the lessons learned and best practices gathered from past and current projects. The design of the LDCF-financed project ensures that the challenges experienced in baseline and aligned projects will be avoided. Cost effectiveness will also be an integral factor when designing CCA interventions within each of the communities' Village Action Plans under Outcome 2. To ensure cost effectiveness DRR and CCA interventions will be selected that: i) maximize climate benefits; ii) require mostly local resources for development; and iii) are inexpensive and simple to maintain. Moreover, cost effectiveness will be measured as part of the monitoring and evaluation of project activities.

The LDCF-financed project will enhance existing institutional structures, both nationally and regionally, where possible. Project implementation will be undertaken by government and local authorities, as well as established organisations – such as Croissant Rouge. This approach is believed to be particularly cost effective, as it reduces costs that would need to be spent on consultant driven implementation. Furthermore, it builds the capacity of the government system for ongoing and more widespread implementation of similar climate-sensitive development. For example, the DGSC will continue to coordinate data collection and analyses through CATI under Outcome 1. Additionally, the project activities will build the capacity of the DGSC for ongoing and more widespread implementation of similar CCA projects. Increasing the capacity of existing agencies will reduce project costs, strengthen institutional support and increase the potential for project approaches and newly capacitated staff to be integrated into departments, ministries and institutions beyond project termination. This will contribute to an enabling environment for integrating CCA into long-term planning. Moreover, the size of the Project Management Unit (PMU) has been given careful consideration by stakeholders during the PPG phase – to avoid overstaffing whilst still ensuring effective management of the project – to keep costs down. The selection of existing government staff for the PMU will also ensure that finances spent on capacity development through the course

of the project are a long-term investment into the functioning of the government of the Comoros – should the staff be retained within government institutions.

The LDCF-financed project will also pursue an active partnership with current initiatives in the Comoros, including various GEF-funded projects (refer to Section IV Partner projects for further details of these projects). Through these partnerships, the project will build on lessons learned from past and current projects. The collaboration will also ensure that cost effectiveness is included as selection criteria for appropriate adaptation interventions. Furthermore, to provide an efficient overall adaptation strategy that integrates DRR into CCA measures, both “hard” and “soft” adaptation interventions are required. Examples of the benefits of this complementary approach are well documented in international literature¹⁸. Under Outcome 3, the project will implement “hard” adaptation interventions such as the dredging of rivers to promote the flow of rivers and establish gabion walls in riverbeds to protect/strengthen the riverbanks. These interventions will be complemented by “soft” interventions– such as reforestation of degraded slopes and riverbanks as well as the establishment of nurseries in the target areas – also under Outcome 3. Further “soft” interventions – such as technical and institutional capacity building of national, regional and local stakeholders under Outcome 1 – will enhance the sustainability of the project.

Under Outcome 3, a cost benefit analysis will be undertaken to evaluate the effectiveness of the reforested areas (Output 3.1) for the development of IGAs in the intervention sites. Furthermore, a national communication strategy and action plan will be developed under Outcome 4 (Output 4.1) along with a system for the M&E as well as upscaling of project interventions (Output 4.2). In this way, the LDCF-financed project provides for the long-term management of climate risks and the potential to replicate successful project activities and interventions throughout Grande Comore, Anjouan and Mohéli.

Benefits of the LDCF-financed project will be enhanced through training of both local communities and authorities as well as other stakeholders on implementing, maintaining and monitoring project interventions. The project therefore includes technical training within the local communities in conjunction with the adoption of a participatory “learning by doing approach” will enhance community ownership, promote sustainability and the upscaling of the interventions beyond the lifespan of the project. Furthermore, by adopting a “training-the-trainers” approach, the project will be able to reach a larger proportion of the population as those that have received training will be able to pass their knowledge on and train members of their local communities. By adopting these approaches, the project reduces the costs of monitoring and maintenance.

Innovativeness, sustainability and potential for scaling up: The concept of sustainability has been a central tenet in the design and development of this LDCF-financed project. Measures have been taken to ensure that project activities continue beyond the duration of project implementation, with long-term benefits to all stakeholders, including the DGSC and local communities. Further details are described below.

Emphasis was placed on fostering a consultative partnership-based approach to CCA and DRR between the project team, government ministries and departments, organisations, academic institutions and local communities, at the national and regional levels. A consultative approach supports the sustainability of DRR and CCA interventions beyond the duration of the project by ensuring that the long-term needs of vulnerable communities are prioritised. Local stakeholders were consulted extensively during the PPG phase and similar consultations will be ongoing as part of the project implementation phase (see Table 3 under Section IV of the Project Document for further details on project stakeholders). By involving local communities, this will lead to greater ownership and participation by such communities. In turn this will lead to the integration of resilient practices in village activities. Furthermore, the project design team engaged with relevant national stakeholders and experts to align activities with national priorities and development goals (see Annex L of the Project Document for further details). Close involvement of numerous institutions and departments in the project’s

¹⁸ A shift to integrate both hard and natural infrastructure in the Yangtze River in China has resulted in the seasonal opening of embankment sluice gates. This has restored the connections between the Yangtze River, three major lakes and their associated wetlands. Whereas dams and dykes on the Yangtze River provided water for agriculture, they also caused flooding, blocked animal migrations and degraded water-purifying vegetation, leading to eutrophication and loss of water quality. The integrated approach, including ecosystem-based interventions to adaptation, has increased floodwater retention, water purification and agricultural opportunities, and has restored migration routes for spawning fish. See: Jones et al. 2012. Harnessing nature to help people adapt to climate change. Nature. Published online: 26 June 2012 | doi: 10.1038/nclimate1463.

implementation will support country ownership of the project thereby promoting the maintenance of the project outputs, as well as promote the future incorporation of the project's approaches into ongoing planning and strategies.

The focus on integrated DRR and climate change adaptation planning and implementation in this LDCF-financed project will strengthen the capacity of national and local government authorities to plan, design and implement integrated DRR and CCA interventions in the short, medium and long-term. These interventions will strengthen the institutional environment for planning and implementing integrated DRR and CCA interventions both during and after the project implementation period. Planning tools such as vulnerability and risk maps developed by this project will improve the decision-making capacity of government authorities by enabling them to prioritise integrated DRR and CCA interventions in the most vulnerable communities. The project interventions therefore include a strong emphasis on capacity-building, training and institutional strengthening, as well as coordination between DRR and CCA activities. This will support long-term political and financial commitment of policy- and decision-makers to the project interventions.

Training and capacity building support to key stakeholder groups and institutions will be essential to establish CCA skills, tools and systems. Given the low national capacity for climate change adaptation, technical assistance will be provided both by international and national experts and through training for staff members of key institutions. Strengthened capacity and an improved knowledge base will enable appropriate and timely responses to natural and climate-related disasters and implementation of appropriate DRR and CCA interventions within pilot communities. These communities will also be trained on planning, implementing and maintaining DRR and CCA interventions. As a result, local stakeholders will have the capacity to sustain project interventions after LDCF resources are terminated. Moreover, the ecological interventions implemented will provide livelihood benefits for local communities, thereby promoting continued ownership amongst these stakeholders. Furthermore, it is anticipated that the LDCF investments in strengthening the capacity of these stakeholders will support the sustainability and effectiveness of similar ongoing and future projects in the Comoros.

The strengthened capacity of ministries, departments and institutions will result in: i) improved generation and collation of information on vulnerability to climate risks and natural disasters; and ii) climate-resilient land-use planning, which will support technical staff within the DGSC and other stakeholders to apply the project approach on an ongoing basis. By providing support to DGSC and local authorities, as well as implementing community-based participatory planning and vulnerability mapping, the project will improve and strengthen knowledge and understanding of medium to long-term climate-related disaster risks to communities, infrastructure and road networks. Furthermore, the development of Village Action Plans will foster and support community and household ownership of project interventions, resulting in greater support from the project beneficiaries. Hard and soft infrastructure, including ecological interventions such as reforestation of degraded slopes, catchment-harvesting and stabilisation of riverbanks through revegetation – will be implemented at the community and household level. The maintenance of such interventions is relatively low cost and does not require technical skills, enabling ongoing operation and maintenance by local communities beyond project implementation.

The project's interventions will increase the availability of information and planning tools to support future integrated DRR and CCA initiatives in the Comoros. A participatory approach will be adopted through LDCF resources. By adopting a "learning by doing" approach, the project will: i) build technical capacity for DRR and climate change adaptation; ii) address climate change priorities at local and regional level while simultaneously informing national development plans and policies; and iii) promote ownership of DRR and CCA interventions amongst local and national stakeholders. For example, the involvement of local authorities and communities – including village associations – in the development of Village Action Plans will ensure ownership of the project initiatives as well as on the job skills development for all technical staff involved. Furthermore, the direct involvement of government institutions will demonstrate the potential for integration of approaches and strategies – proposed under this project – into on-going planning processes. Whilst the promotion of ownership will support the integration of cost effective adaptation interventions into local land use and development planning as well as sectoral strategies, budgets and plans.

Importantly, the project design is also aligned with national policies, strategies and legislation for the Comoros, which will further facilitate replication and scaling up. The components of the project therefore have the potential to be scaled

up in order to ensure greater aggregate impact at the regional and national level. Furthermore, the design, implementation and testing of tools at the local level – aligned with national and regional level policy processes – will ensure that lessons learned at the local level will be up-scaled and replicated elsewhere.

Knowledge and awareness-raising activities will also be undertaken to improve the understanding of climate change among academia, NGOs and the public. In doing so, the project will strengthen the research capacities of OVK, TDM and other institutions. The knowledge that is generated through this research will inform and strengthen the evidence base for an integrated response to natural disasters and climate risks in the Comoros and consequently the design of future integrated disaster risk reductions and CCA interventions in Comoros. Furthermore, the knowledge products will promote the sustainability of project interventions. By strengthening the capacity of institutions to provide knowledge-based advice to the DGSC, the project will also increase the Comoros adaptive capacity to climate change and response to natural and climate-related disasters.

The LDCF interventions – and the benefits derived from these interventions – have been designed to be replicable in other areas of Grand Comore, Anjouan and Mohéli, as well as other SIDs and LDCs within the region. The M&E will serve as a fundamental tool in promoting sustainability and scaling up of project activities, as well as demonstrate a link between sustainable natural resource management and increased livelihoods. Furthermore, during project implementation and at the end of the project duration, the benefits of the CCA interventions in the Comoros will be assessed. Lessons learned from this process will be collated and disseminated to support replication of DRR and CCA in other regions within the Comoros. In particular, pilot sites will generate evidence of the cost-effectiveness of CCA interventions, including hard and soft interventions, which will facilitate policy and budgetary adjustments. The cost-effectiveness of DRR and CCA interventions will also promote replication of these interventions amongst vulnerable local communities who do not have access to financial capital. Furthermore, best practices and lessons learned from the project will be collated and disseminated nationally to inform future programming. This will facilitate the effective replication of DRR and CCA interventions by stakeholders, such as the DGSC and DRSC, who can apply the expertise gleaned from this project, adapt it and expand it. These best practices and lessons learned will inform the scaling-up strategy that will be developed under Ouput 4.2 of this project.

A.2. *Child Project?* If this is a child project under a program, describe how the components contribute to the overall program impact. N/A

A.3. *Stakeholders:* Identify key stakeholders and elaborate on how the key stakeholders engagement is incorporated in the preparation and implementation of the project. Do they include civil society organizations (yes /no)? and indigenous peoples (yes /no)?¹⁹

The implementation strategy for the LDCF-financed project includes extensive stakeholder participation. Details of the stakeholder participation during the PPG phase are provided in Annex M to the Project Document. During project implementation, the project team will support broad participation from all relevant stakeholders to ensure that implementation approaches are well targeted to meet ‘end users’ needs and to establish strong ownership of project outcomes by national partners and beneficiaries. A stakeholder engagement plan for the implementation phase will be developed during the project inception workshop. Stakeholders will be consulted throughout the project implementation phase to: i) promote community understanding of the project’s outcomes; ii) promote local community ownership of the project through engaging in planning, implementing and monitoring of the DRR and CCA interventions; iii) communicate to the public in a consistent, supportive and effective manner; and iv) maximise synergy with other ongoing projects. The participatory decentralised approach to project implementation will help to ensure that each island, and region within that island has ownership of the adaptation process. The detail of those stakeholders and their roles and responsibilities are detailed in the table below.

¹⁹ As per the GEF-6 Corporate Results Framework in the GEF Programming Directions and GEF-6 Gender Core Indicators in the Gender Equality Action Plan, provide information on these specific indicators on stakeholders (including civil society organization and indigenous peoples) and gender.

Stakeholders	Role and responsibilities in project implementation
Ministries and related agencies	
National Platform for Disaster Risk Prevention and Reduction – Ministry of Home Affairs	Elaboration of the policy, strategy, action plan and law related to PGRC-CC. Coordination of RRC-related activities
CATI/	Implementation of a national database on disaster. Participate in the elaboration of vulnerability maps.
General Directorate for the Environment and Forests (DGEF) / MPEEIA	Provide technical support to the project. Special partner for reforestation activities on the degraded slopes in the areas most exposed to landslides and heavy rainfalls. Implement activities related to information, education, and sensitization on climate change impacts. Provide support to the implementation of IGAs. Member of the Project Steering Committee.
OVK	Provide technical support and advise on the implementation of activities that are relevant to OVK. Provide technical support and advise on activities related to geological events. Assist with data collection to support the development of climate scenario and modelling of geological event risks. Contribute to activities related to building knowledge on climate change impacts, frequency and intensity of climate disasters for mid to long term, and community vulnerability. Member of the Project Steering Committee.
TDM	Provide technical support and advise on climate modelling activities for hydro meteorological events. Support data collection to develop climate scenario for 2050 and 2100, and on modelling future hydro meteorological and geological risks; Implementation of activities related to capacity building for surveillance, forecasts and alert system for climate change related hydro meteorological events. Member of the Project Steering Committee;
CRCO	Implementation of awareness-raising activities within the communities. Member of the Project Steering Committee
Directorate for urbanism and land management / Ministry of Land Management, Infrastructures, Habitat and Urbanism	Provide technical support and advise on flood mitigation activities and low-cost interventions to protect socio-economic infrastructures. Implementation of structural mitigation activities. Member of the Project Steering Committee.
Research and training Institutions	
University of Comoros - Faculty of Science	Implementation of activities related to the Masters programme on Environment, Climate Change and Disaster Risk Management. Participate in training and knowledge building activities on the impacts of climate change. Member of the Project Steering Committee.
National Centre of Ocean Data and Information in the Comoros	Provide technical support and advice. Implementation of activities related to strengthening capacities to monitor climate change related oceanographic events.
Rural Centre for Economic Development (CRDE) (Mibani, Mledjele, Fomboni in Mwali, Bamba and Bougweni in Ndzواني, Simboussa, Serehini, Sembeno in Ngazidja	Implementation of reforestation activities. Provide technical support for IGAs. Contribute to awareness campaigns for reforestation in the project intervention sectors
General Commissioner for Planning	Supervise the mainstreaming of CC into development policies and plans Partner in mobilising financial partners for emergency fund Partner to define a management mechanism for the emergency fund. Member of the Project Steering Committee.
National Directorate for Gender	Provide technical support and advice for activities related to gender promotion and equity. Implementation partner of the strategy to support gender integration into the project activities. Member of the Project Steering Committee.
Associations, CBOs, NGOs	
In Ngazidja : associations ULANGA, AIDE, Comoflora, Groupe d'Intervention pour le Développement Durable, Association pour les Amis du Karthala, la Jeune Chambre Internationale, et autres	Provide technical support and advice. Implementation of community sensitization and awareness-raising activities on climate change impacts. Assist in the implementation of reforestation activities on the degraded slopes in the areas most exposed to landslides and heavy rainfalls.

In Mwali: associations ULANGA, Association d'Innovation et de Recherche pour le Développement, la Maison de l'écotourisme, Moidjio, et autres In Ndzuani : Action Comoros Anjouan, Organisation pour la Gestion Intégrée des Ressources Naturelles à Ndzuani, Dahari, etc.	Contribution to the awareness-raising, training and mobilisation of local communities during the project's lifetime. Participate in the capacity building activities for community actors on reforestation and IGAs. Sharing and dissemination of best practices for reforestation and IGAs.
SCOOT movement	Provide support to local communities for the implementation of activities.
Media	
National and local radio and television channels broadcasting in the targeted regions, including electronic newspapers. Printed press includes: Ulanga Ngazidja, Al-Watwan, la Gazette, Archipel, Journal La Tribune, Bulletin Mavouna (CEFADER), Albalade, l'Observateur	Contribute to awareness-raising and information campaigns on the project's main issues, e.g. climate change impacts and disaster risks for the country. Dissemination of the project's main interventions for climate risk reduction. Dissemination of information related to the project's progress and key outcomes, dissemination of job offers, incentives for the public to participate in the project's large-scale activities, e.g. reforestation of the drainage basin. Broadcasting of programmes, environmental and climate shows and thematic articles
Village communities in the project intervention sites	
Community actors	Key actors and beneficiaries of the project's activities. Participate in information and awareness-raising activities in the project intervention areas. Participate in the identification, development and implementation of IGAs. Participate in the identification and participatory assessment of the threats on community activities (including deforestation) and the establishment of surveillance stations in Karthala
Community thought leaders: Grand dignitaries, religious chiefs (Iman, Hatubes), women leading female associations and groups	Dissemination of information to the population, including legislative provisions, penalties for cutting trees and the disposal of solid waste in rivers. Participate in the development of an Early warning system and dissemination of early warnings.
Mayors of the municipalities in the project's intervention sites	Provide support for the establishment of civil service units. Facilitate land allocation for the civil service units and emergency relief storage units. Participate in water management activities. Participate in community awareness-raising activities, particularly on early warnings.
EDA (Electricity of Anjouan / hydroelectricity producer) MAMWE (Madji Na Mwedje Ya Comoros) Water and Electricity in the Comoros	Contribute to reforestation activities and the establishment of community and individual systems for rainfall water harvesting.
The Directorates responsible for the Environment on each island: the Directorate of Environment and Forest on Mwali, the Directorate of Environment on Ndzuani, the Regional Directorate of Environment and Forest on Ngazidja	Planning and implementation of the project's interventions at the local level, including the selection of intervention sites at the local and community levels.
Commissioners: Commissioner responsible for Civil Security on each island	Participate in the elaboration of the policy, strategy, action plan and law related to the PGRC-CC on the islands; Participate in the coordination of activities related to RRC on the islands

A.4. Gender Equality and Women's Empowerment. Elaborate on how gender equality and women's empowerment issues are mainstreamed into the project implementation and monitoring, taking into account the differences, needs, roles and priorities of women and men. In addition, 1) did the project conduct a gender analysis during project preparation (yes X /no)?; 2) did the project incorporate a gender responsive project results framework, including sex-disaggregated indicators (yes X /no)?; and 3) what is the share of women and men direct beneficiaries (women 65%, men 35%)? ²⁰

The effects of natural and climate-related disasters as well the social impacts thereof – which includes post-disaster recovery and reconstruction, policy formulation and lessons learned – are gender biased. Climate change is expected to have a disproportionate impact on women²¹. The Comoros's commitment to gender equality is incorporated in the Poverty Reduction and Growth Strategy Paper (PRGSP) and the Gender Policy Frameworks as well as within the United Nations Development Assistance Framework (UNDAF). The design of the LDCF-financed project has therefore placed a strong

²⁰ Same as footnote 8 above.

²¹ Denton F. 2002. Climate change vulnerability, impacts, and adaptation: Why does gender matter? *Gender & Development* 10(2): 10–20.

emphasis on ensuring effective consultation with men and women and on understanding the different climate change issues and concerns of both men and women. In this context, consultations were held at both national level with the Department of Gender and Social Protection²² and at the local level with female members of local communities to properly identify women's needs and concerns under changing climate conditions.

Disasters exacerbate poverty and result in the previously poor being pushed into destitution. Loss of housing, income generating assets, livestock, crops and cropland, safe water supplies and sanitation facilities are all gendered impacts following a disaster. Resource loss following a disaster affects men and women differently²³. From the results of the surveys undertaken, it is evident that the involvement of women in decision-making is limited. Their activities and influence are predominantly limited to taking care of the household, which increases their vulnerability to climate change and extreme weather events. Women are generally not involved in community decision-making which includes evacuation planning and because they are responsible for the safety of the children, sick and elderly their ability to evacuate timeously is hampered. In addition, they are not involved in the decision as to when to evacuate and therefore are reliant upon the effective transfer and dissemination of such information. This reliance upon the communication and transfer of early warnings and evacuations therefore hampers their ability to ensure their own safety.

Other issues raised by the women which will be exacerbated by the effects of climate change include insufficient access to food, water and electricity as well as financial resources. The lack of money and income-generating activities means that women are unable to buy food. A decrease in the availability of food at the market results in an increase in food prices and many women complained about the lack of variety in their diets due to limited access to proteins such as meat. In addition to a decline in the availability of food, women indicated that access to water is also decreasing with many households reliant upon retention ponds and wells. With the predicted effects of climate change women will be required to travel increasing distances to find accessible water. As temperatures increase and rainfall patterns change – drying up many sources of water – these distances will increase. This physical labour becomes increasingly difficult for the women in the communities and represents an opportunity cost in terms of time and labour. Furthermore, fuelwood which is the main source of energy for households is also becoming increasingly scarce due to deforestation. It is evident from the surveys conducted that Comorian households are already experiencing the effects of climate change. Gender integration into national policies is central to DRR and CCA. Although the Comoros has demonstrated its commitment to gender equality²⁴, it has become evident through consultations during the PPG phase that woman's organisations and gender appropriate actions are not represented in the national disaster planning processes in the Comoros. At present, the Comorian Government has reported little progress on the integration of gender sensitive vulnerability assessments into planning and development decisions. Moreover, the gender surveys indicate that women are generally not involved in community decision-making, including evacuation plans and decisions. The project will therefore seek to formalise the role of women by encouraging and promoting their participation in community-based natural resource and water management systems. Participation mechanisms will ensure that communities actively involved in decision-making processes incorporate a gender perspective, i.e. gender balanced community groups are established for the implementation of DRR and CCA interventions as well as other project interventions. Furthermore, income generating activities (IGAs) will be gender sensitive, locally appropriate, socially acceptable, technically viable and increase the resilience of local communities. Gender aspects will play an important role in the design of such IGAs, considering the economic role of women in the household. The design and timing of project activities will also take into consideration the daily and overall yearly workload of women so that they have the time to participate in project activities. CCA interventions and IGA that will promote and empower women include *alia*: i) establishing and maintaining nurseries of fruit and other beneficial tree species - which will supply the reforestation programme; ii) revegetation of steep slopes and riverbanks; iii) apiculture; iv) sustainable harvesting of vanilla; v) improved agriculture; and vi) agroforestry.

Through Component 4 of the LDCF-financed project, a gender strategy will be developed and implemented. This strategy will include gender sensitive capacity building and will enhance women's participation in the planning, selecting and implementing of DRR and CCA measures. Furthermore, under Output 4.4, recommendations will be made for the revision of the National Policy on Gender Equality to include gender sensitive adaptation responses to natural and climate-related

²² Within the Ministry of Health, Solidarity, Social Cohesion and Gender

²⁴ Indicated in the PRGS and Gender Policy Frameworks, as mentioned above.

disasters. The project will provide support to women to carry out their responsibilities in their traditional areas of authority, such as managing the household, taking care of the children and their education. In addition, the development of the gender strategy will encourage both women and men to take on non-traditional gender roles, for example sharing labour in the domestic sphere. In so doing, the project will seek to secure male support for the project activities that uphold women's rights and promote empowerment. This will allow women more time to take on more strategic roles and get involved in decision-making processes. Furthermore, mechanisms will be established that enable both men and women to provide feedback on all project activities and the appropriateness and success thereof.

The LDCF-financed project's implementation approach will therefore place a strong emphasis on: i) contributing towards gender equality; ii) ensuring effective participation by women in project activities under Outcomes 3 and 4; iii) effective consideration of women's development needs and concerns as identified through the vulnerability assessments (Annex P to the Project Document) and surveys undertaken (Annex R to the Project Document); and iv) ongoing assessment of the different vulnerability of women and men to climate change through monitoring and evaluation (M&E) under Outcome 4.

A.5 Risk. Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

While the wording of the project risks has been altered since the original PIF to make them more specific, they remain based on the same underlying principles. These risks are summarised in Table 4 of the Project Document (Please see Annex F for the Risk Management Table).

A.6. Institutional Arrangement and Coordination. Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

The **Project Board** (also called Project Steering Committee) is responsible for making by consensus, management decisions when guidance is required by the Project Coordinator (PC), including recommendation for UNDP/Implementing Partner approval of project plans and revisions. In order to ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition. In case a consensus cannot be reached within the Board, final decision shall rest with the UNDP Programme Manager. The terms of reference for the Project Board are contained in Annex E to the Project Document.

The Project Board is comprised of the following individuals:

- Executive: individual representing the project ownerhips to chair the group, e.g. representative of the DGSC.
- Senior Supplier: individual or group representing the interests of the parties concerned which provide funding for specific cost sharing projects and/or technical expertise to the project. The Senior Supplier's primary function within the Project Board is to provide guidance regarding the technical feasibility of the project, e.g. representatives of UNDP.
- Senior Beneficiary: individual or group of individuals representing the interests of those who will ultimately benefit from the project. The Senior Beneficiary's primary function within the Project Board is to ensure the realization of project results from the perspective of project beneficiaries, e.g. local mayors of target interventions sites.
- The Project assurance role support the Project Board's Executive by carrying out objective and independent project oversight and monitoring functions. The PC and Project Assurance roles should never be held by the same individual for the same project.

The **Project Coordinator** will run the project on a day-to-day basis on behalf of the Implementing Partner within the constraints laid down by the Board. The PC function will end when the final project terminal evaluation report and corresponding management response, and other documentation required by the GEF and UNDP, has been completed and

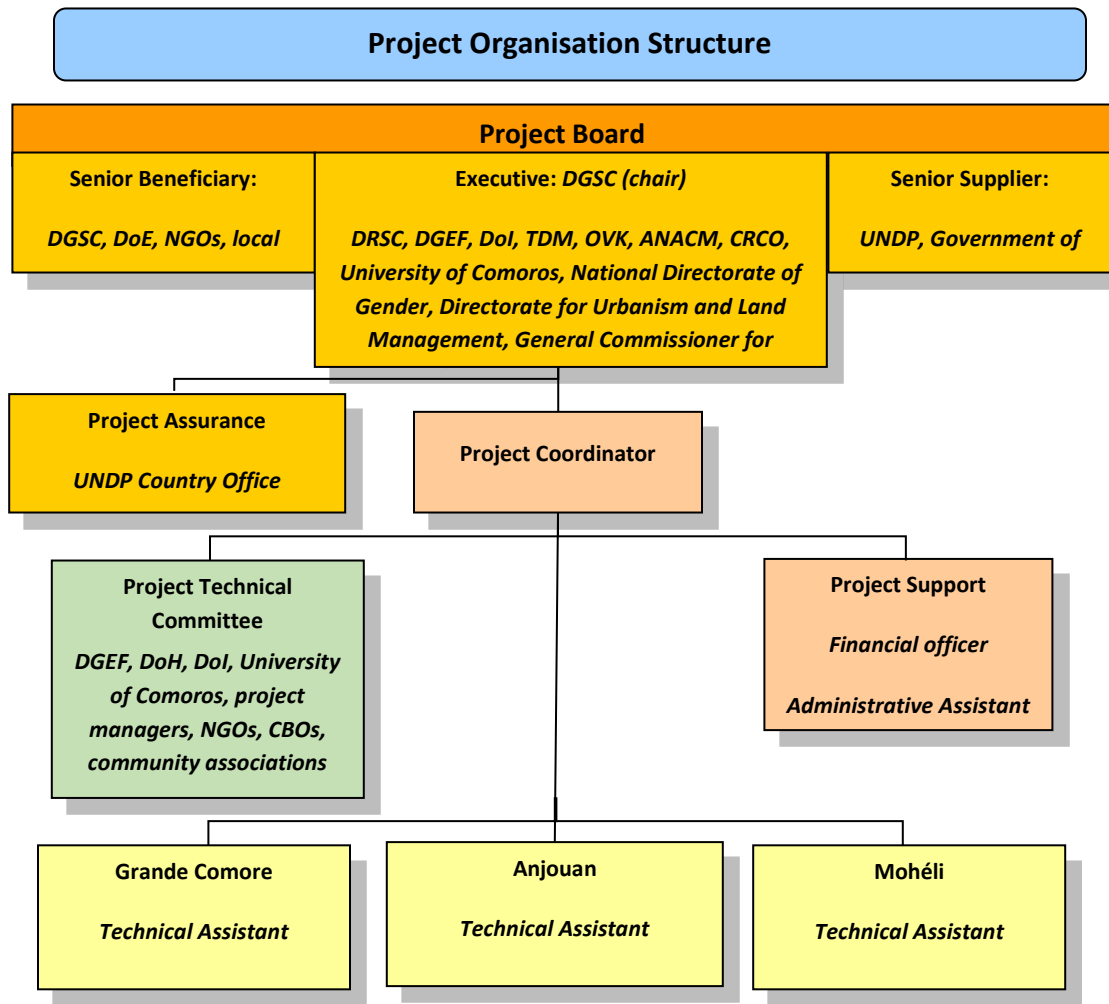
submitted to UNDP (including operational closure of the project). Responsibilities of the PC will include daily project management, on-going monitoring and reporting of the extent to which project activities and Outputs are being implemented according to agreed time frames and budget – towards achieving intended Outcomes. The PC will divide their time equally between the islands of the Union of Comoros and will be responsible for ensuring the smooth running of project capacity building and support activities on each island. The PC will co-ordinate the Project Management Unit (PMU) which will also include support staff whose role is to provide project administration, management and technical support to the PC and broader project team and consultants. A secretary/accountant will also be hired by the project to support the PC. Funds have been allocated within the project management budget for the purchase of vehicles for project activities. In addition, they will work closely with the CTA as well as with all other project staff and project partners and will be supported by technical assistants (TA) on each island. Meetings with the technical committee, including baseline and partner projects and agencies will be held quarterly to ensure effective coordination and partnership building. The PC will also ensure that all interventions are designed and implemented using gender-sensitive tools and approaches.

Technical Assistants (TAs) will be allocated to each island and will be contracted under the project to support the PC and Implementing Partners in the effective implementation of the project on each of the islands. They will be based within the DRSC on each island but will travel regularly to project sites supporting the implementation of initiatives at project sites. The TAs will be responsible for: i) ensuring effective liaison between the PC, CTA, DGSC/DRSC, DoE and NGOs at project sites, as well as with all key stakeholder organisations and baseline/partner initiatives at project sites; ii) supporting logistical arrangements for island workshops and meetings; and iii) ensuring effective arrangements are in place to enable consultants and project staff to undertake their work effectively on the island, especially at project sites.

An International **Chief Technical Advisor (CTA)** will be recruited. He/she will be hired for: i) two years full time; and ii) one year part time (six months split over three years). The CTA will be strongly involved during the first year to provide strategic overall advice and technical support to the PC, helping to guide project implementation, to ensure that it follows the key principles laid out in this project document and supporting the effective delivery of project outputs and outcomes in line with the ToRs. In addition, the CTA will assist the PC in the establishment of efficient project management, monitoring and evaluation systems. The CTA will also provide capacity building and advisory support to key implementing organisations and beneficiary/target groups and will divide time equally between the three islands of Grande Comore, Mohéli and Anjouan. Furthermore, the CTA will provide advice on and input to progress reports, presentations, work plans, budgets and bid evaluations.

The **project assurance** roll will be provided by the UNDP Country Office. He/she will have the responsibility for overseeing the implementation of the project, and will be responsible for monitoring the implementation and achievement of the project outputs, and ensuring the proper use of UNDP/GEF funds. The UNDP CO will ensure that project activities are being conducted in partnership with key stakeholders, in line with the approach outlined in this Project Document and in adherence with annual work plans/budgets. In addition, the UNDP CO will ensure that the project complies with UNDP and GEF monitoring, evaluation and reporting requirements. UNDP CO will be responsible for: i) providing financial and audit services to the project; ii) recruitment and contracting of project staff; iii) overseeing financial expenditures against project budgets approved by the Project Board; iv) appointment of independent financial auditors; and v) ensuring that all activities, including procurement and financial services, are carried out in strict compliance with UNDP and GEF procedures. Additional quality assurance will be provided by the UNDP Regional Technical Advisor as needed.

The project Organisation Structure is set out in the diagram below.



Additional Information not well elaborated at PIF Stage:

A.7 Benefits. Describe the socioeconomic benefits to be delivered by the project at the national and local levels. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

The LDCF-financed project will contribute to broader national objectives, such as water scarcity, food security, land degradation, poverty and vulnerability of Comorians to climate change. Importantly, LDCF resources will also contribute towards the achievement of Sustainable Development Goals 1,2, 5, 6, 13 and 15. The specific focus of the project will however be on addressing the goals of SDG 13: *Take urgent action to combat climate change and its impacts* which includes *inter alia* : i) strengthening the resilience and adaptive capacity of the local communities to climate-related and natural disasters; ii) integrating climate change measures into national policies, strategies and planning; iii) improving education, awareness-raising, human and institutional capacity on CCA, DRR and early warnings; and iv) promoting mechanisms for increasing the capacity for effective climate change-related planning and management in the Comoros, including a focus on women, youth and marginalised communities. In particular, Component 3 of the LDCF-financed project will produce direct socio-economic benefits for vulnerable communities in selected interventions sites in Grande Comore, Anjouan and Mohéli.

Vulnerability to climate-related disasters will be reduced through the promotion of more resilient ecosystems that can provide protective and productive services, including against floods during severe rainfall events and droughts. This will be undertaken through the restoration and improved management of ~700 hectares of degraded hillside land areas (under Component 3). Because local communities depend on natural resources for their livelihoods, improved environmental management will reduce poverty and increase food security – thereby contributing to both SDGs and Millennium Development Goals. Additionally, training communities to rehabilitate and manage ecosystems in a climate-smart manner will increase their resilience to climate shocks as well as improve their livelihoods through greater income-generating opportunities. The LDCF-financed project will therefore contribute to reducing poverty in the Comoros. By strengthening and developing sustainable natural resource use and management practices, as well as reforesting the selected intervention sites, the project will contribute to: i) proactive adaptation and resilience to the impacts of climate change; and ii) enhance conservation of natural resources and the ecosystems they provide, which will contribute to generating diversified and resilient livelihoods, increasing revenue and reducing poverty. The project will provide local government and communities with practical tools, technologies and capacities for an integrated approach to DRR and CCA. Households will be trained to implement relevant DRR and CCA interventions. This will include the reforestation of ~700 hectares to reduce vulnerability to floods and improve the resilience of livelihoods and assets of vulnerable communities to climate disaster risks. Approximately 600 households in Grande Comore, Anjouan and Mohéli will directly benefit from LDCF resources. It is envisioned that these community members will participate directly in the implementation of the project's activities, particularly those related to flood-prevention, reforestation and alternative income-generating activities.

Additional national and local benefits are the enhanced capacities in planning and executing projects, undertaking M&E and empowering communities to take charge of their own livelihoods. The immediate benefits of the project will be that government institutions, NGOs and vulnerable communities have increased adaptive capacity as they: i) have improved understanding and are more aware of the linkages between disaster preparedness and response and climate resilience; and ii) acquire the necessary skills to apply an integrated DRR and CCA approach. Training and capacity building will strengthen the technical capacity of government staff at national and local levels to analyse, predict and respond to climate change effects, access policy-relevant data and deliver relevant information to local communities. Furthermore, a climate information and monitoring system will be developed which will inform climate-related research, land-use and development planning, DRR and CCA interventions. This increased capacity will also support long-term benefits by promoting CCA beyond the project implementation period. The improvement of the knowledge base applicable will result in better decision-making and innovation in terms of disaster preparedness and emergency response as well as early warnings. In addition, improved knowledge and access to technologies will result in *inter alia*: i) an improvement in food security; ii) a reduction in local communities' vulnerability to floods and droughts through more resilient ecosystems and production systems; iii) enhanced adaptive capacity of local communities; and iv) improved service delivery by government and non-government institutions through improved skills and knowledge. Without the project, local communities and the ecosystems upon which they depend will be increasingly at risk from the impacts of climate change. Progress towards poverty reduction and socio-economic development will therefore be hampered.

The adaptation benefits of this project will include: i) reduced loss of forests (~700 hectares of degraded hillside areas including riverbanks which will be restored); ii) reduced loss of infrastructure and livelihoods; iii) increased water availability because of the development of water harvesting and storage infrastructure as well as increased groundwater recharge; and iv) increased livelihoods and income in selected project intervention sites in Grand Comore, Anjouan and Mohéli and at least 600 households who will adopt new livelihood strategies. Within the surrounding areas, the project will generate indirect benefits to an estimated ~15,000 people through *inter alia*: i) reduced vulnerability to extreme weather events such as flooding; ii) improved agricultural productivity through reduced erosion and loss of fertility of soil; and iii) improved quantity and quality of water as a result of both hard and soft infrastructure as well as ecological interventions. Additionally, improved EWS will improve the capacity of local communities to respond to climate-related and natural disasters. A functional EWS will help to prevent loss of life, injuries and damage to property by warning people timeously of impending extreme weather events. Furthermore, the project has the potential to be upscaled and replicated elsewhere in the Comoros. As a result, the project will consequently enhance the disaster preparedness and adaptive capacity of vulnerable communities to both climate-related and natural disasters throughout the country.

A.8 Knowledge Management. Elaborate on the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives (e.g. participate in trainings, conferences, stakeholder exchanges, virtual networks, project twinning) and plans for the project to assess and document in a user-friendly form (e.g. lessons learned briefs, engaging websites, guidebooks based on experience) and share these experiences and expertise (e.g. participate in community of practices, organize seminars, trainings and conferences) with relevant stakeholders.

The project will apply on-site planning and the development of appropriate and integrated DRR and CCA interventions. Therefore, knowledge will be generated together with local communities and community-based organisations in the selected intervention sites on Grande Comore, Anjouan and Mohéli. Moreover, accessibility to knowledge and technology will be more effective. Local knowledge and experiences will be documented and packaged in a manner that will be accessible for use by other users elsewhere. The project will also strengthen technical capacity at the local level. In addition, the project will improve knowledge management among targeted institutions and communities by:

- developing Village Action Plans – through a participatory approach – for use by local communities;
- providing training to government, CBOs and local communities on appropriate DRR and CCA interventions;
- developing education manuals targeting primary schools;
- developing awareness-raising materials – and disseminating these materials – on integrated DRR and CCA in selected intervention sites on Grande Comore, Anjouan and Mohéli and elsewhere in the Comoros;
- implementing a public awareness-raising campaign under Outcome 4. to increase local communities’ knowledge on climate change; and
- developing a participatory monitoring and evaluation system for DRR and CCA interventions that are implemented.

B. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:

B.1 Consistency with National Priorities. Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions such as NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.:

The LDCF project is in alignment with several national strategies, plans and legislation including the following:

The **National Environmental Policy (NEP)** was adopted in 1993. Its overarching aim is to support the sustainable management of natural resources and strengthen sectoral policies – particularly land use regulation, management of water resources and waste management. Core objectives of the NEP to which the LDCF-financed project will be in direct alignment include: i) promoting forest conservation and reforestation; and ii) supporting the sound management of natural resources.

The **Initial National Communication (INC, 2002)** was based on findings of a study undertaken by the Intergovernmental Panel on Climate Change (IPCC). This document detailed the likely climate change impacts on the Comoros, including *inter alia* increasing vulnerability to soil erosion, damage or destruction of houses and infrastructure due to flooding and an increase in frequency and intensity of storms.

The **Second National Communication (SNC, 2013)** highlights the fact that climate change adaptation is currently not effectively integrated into sectoral policies. Furthermore, there is a need for technology transfer, capacity-building, research, education, training and public awareness at all levels. The SNC also recognises that there are limited regulations defining mandates, roles and responsibilities of institutions involved in supporting climate change adaptation. Opportunities to strengthen strategic capacity for CCA were identified and include: i) increasing awareness at all levels; ii) improving information systems and resources available to decision-makers; iii) improving the integration of climate change into national research and education programmes; iv) undertaking capacity building of technical officers in key sectors; and v) strengthening of climate change considerations in relevant regions and by ensuring integration of climate change into key development strategies.

The **National Adaptation Programme of Action (NAPA, 2006)** identifies the urgent and immediate needs of adaptation to climate change and associated priority activities. In addition, the NAPA identifies various sources of vulnerability, including *inter alia*: i) a fragile natural environment; ii) difficult social and economic conditions characterised by high unemployment and poverty rates; iii) inadequate institutional capabilities; iv) limited economic diversification; and v) problems relating to access to water and drinking water. Moreover, through a consultative process across all three islands the NAPA showed that the priority concern is potential climate change impacts on agriculture and water. Various options are identified in the NAPA to reduce vulnerability to climate change. Those which are of direct relevance to this project is *Priority 12: Setting up an early warning and surveillance system on situations of climatic risks*.

The **Climate Change and Natural Disasters Risk Reduction Strategic Framework (2011-2016)** is the main policy document and strategic planning tool of the government. The CSP has three thematic pillars, one of which is climate change and adaptation. Within the thematic pillar on CCA there are five key principles: i) improve ecosystem resilience and adaptability to climate change at all levels; ii) support sustainable natural resource management and the development of alternative development approaches which increase resilience to climate change; iii) assure the safety of people, goods and infrastructure against natural disasters and prepare effective response strategies; iv) support integrated governance and decentralised natural resource management and the renovation of degraded lands and reforestation; and v) establish effective synergies and partnerships at local, national and regional level.

Poverty Reduction and Growth Strategy (PRGS) seeks to guide poverty alleviation and sustainable development in the Comoros. The PRGS seeks to increase economic growth and decrease poverty with an emphasis on sustainable development and the protection of the environment. The project is in alignment with *Objective 5: Promoting environmental sustainability and civilian security* as well as *PRGS Core Strategy 6: Promote Environmental Sustainability and Civil Security*, which pertains directly to climate change. Of the six priority programs under Core Strategy 6, Program 3.6 of the PRGS is of direct relevance to this project as it addresses the impacts of climate change on health, food security, economic activity, water resources and physical infrastructure. This program seeks to build capacities to address climate change and its impacts. The LDCF-financed project is strongly aligned with the objectives of the PRGS and will contribute towards achieving the objectives by increasing the percentage of degraded areas under restoration as well as reduce risks in connection with climate disturbances.

The **Strategy for Accelerated Growth and Sustainable Development (SCA2D, 2015-2019)** reaffirms the commitment of the authorities to pursue the achievement of the Millennium Development Goals (MDGs) in general. This new strategy lays the foundations for the government's visions of Comoros an emerging country by 2040, respectful of human rights, the gender equality and promoting the rule of law. The SCA2D focuses on four major areas: i) economic growth acceleration, diversification and sustainability; ii) development of infrastructure to support growth; iii) improved access to basic social services and increased resilience of households; and iv) strengthening governance, institutional and human resilience.

Outcome four of the **United Nations Framework Plan for Development Assistance Framework (UNDAF, 2015-2019)** seeks to ensure that the most vulnerable populations strengthen their resilience to climate change and crises. In addition thereto, Output 8 of the **Country Programme Document (2015-2019)** is in alignment therewith and seeks to ensure that state and non-state institutions have mechanisms, tools and means to manage risks of natural disasters and strengthen resilience. In this context, the LDCF-financed project will contribute to the above objectives by providing an emergency fund, technical assistance for the establishment of emergency response plans and enhancing the capacity of state and non-state institutions in the planning and implementation of integrated DRR and CCA interventions.

In addition to the above strategies, plans and policies, the following documents are also of direct relevance to the LDCF-financed project:

- The **Emergency Relief Plan on Cyclones (2011)** defines the mandates and responsibilities of stakeholders in responding to cyclones, explains the process to be followed in the event of a cyclone and assists decision-makers before and during the emergency event.
- **Response Plan to Eruptions of Karthala Volcano (Karthala Plan)**

- **National Preparedness and Response Plan (2007)** seeks to improve to the preparedness to manage interventions during an emergency situation. This plan was revised and replaced by the **National Contingency Plan (2011)**, which is a management tool for emergency situations.

C. DESCRIBE THE BUDGETED M & E PLAN:

Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the [UNDP POPP and UNDP Evaluation Policy](#). While these UNDP requirements are not outlined in this project document, the UNDP Country Office will work with the relevant project stakeholders to ensure UNDP M&E requirements are met in a timely fashion and to high quality standards. Additional mandatory GEF-specific M&E requirements (as outlined below) will be undertaken in accordance with the [GEF M&E policy](#) and other relevant GEF policies²⁵.

In addition to these mandatory UNDP and GEF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Report. This will include the exact role of project target groups and other stakeholders in project M&E activities including the GEF Operational Focal Point and national/regional institutes assigned to undertake project monitoring. The GEF Operational Focal Point will strive to ensure consistency in the approach taken to the GEF-specific M&E requirements (notably the GEF Tracking Tools) across all GEF-financed projects in the country. This could be achieved for example by using one national institute to complete the GEF Tracking Tools for all GEF-financed projects in the country, including projects supported by other GEF Agencies.²⁶

M&E Oversight and monitoring responsibilities:

Project Coordinator: The Project Coordinator is responsible for day-to-day project management and regular monitoring of project results and risks, including social and environmental risks. The Project Coordinator will ensure that all project staff maintain a high level of transparency, responsibility and accountability in M&E and reporting of project results. The Project Coordinator will inform the Project Board, the UNDP Country Office and the UNDP-GEF RTA of any delays or difficulties as they arise during implementation so that appropriate support and corrective measures can be adopted.

The Project Coordinator will develop annual work plans based on the multi-year work plan included in Annex A, including annual output targets to support the efficient implementation of the project. The Project Coordinator will ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality. This includes, but is not limited to, ensuring the results framework indicators are monitored annually in time for evidence-based reporting in the GEF PIR, and that the monitoring of risks and the various plans/strategies developed to support project implementation (e.g. gender strategy, KM strategy etc.) occur on a regular basis.

Project Board: The Project Board will take corrective action as needed to ensure the project achieves the desired results. The Project Board will hold project reviews to assess the performance of the project and appraise the Annual Work Plan for the following year. In the project's final year, the Project Board will hold an end-of-project review to capture lessons learned and discuss opportunities for scaling up and to highlight project results and lessons learned with relevant audiences. This final review meeting will also discuss the findings outlined in the project terminal evaluation report and the management response.

Project Implementing Partner: The Implementing Partner is responsible for providing any and all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary and appropriate. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes, and is aligned with national systems so that the data used by and generated by the project supports national systems.

UNDP Country Office: The UNDP Country Office will support the Project Coordinator as needed, including through annual supervision missions. The annual supervision missions will take place according to the schedule outlined in the

²⁵ See https://www.thegef.org/gef/policies_guidelines

²⁶ See https://www.thegef.org/gef/gef_agencies

annual work plan. Supervision mission reports will be circulated to the project team and Project Board within one month of the mission. The UNDP Country Office will initiate and organize key GEF M&E activities including the annual GEF PIR, the independent mid-term review and the independent terminal evaluation. The UNDP Country Office will also ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality.

The UNDP Country Office is responsible for complying with all UNDP project-level M&E requirements as outlined in the UNDP POPP. This includes ensuring the UNDP Quality Assurance Assessment during implementation is undertaken annually; that annual targets at the output level are developed, and monitored and reported using UNDP corporate systems; the regular updating of the ATLAS risk log; and the updating of the UNDP gender markers on an annual basis based on gender mainstreaming progress reported in the GEF PIR and the UNDP ROAR. Any quality concerns flagged during these M&E activities (e.g. annual GEF PIR quality assessment ratings) must be addressed by the UNDP Country Office and the Project Coordinator.

The UNDP Country Office will retain all M&E records for this project for up to seven years after project financial closure in order to support ex-post evaluations undertaken by the UNDP Independent Evaluation Office (IEO) and/or the GEF Independent Evaluation Office (IEO).

UNDP-GEF Unit: Additional M&E and implementation quality assurance and troubleshooting support will be provided by the UNDP-GEF Regional Technical Advisor and the UNDP-GEF Directorate as needed.

Audit: The project will be audited according to UNDP Financial Regulations and Rules and applicable audit policies on NIM implemented projects.²⁷

Additional GEF monitoring and reporting requirements:

Inception Workshop and Report: A project inception workshop will be held within two months after the project document has been signed by all relevant parties to, amongst others:

- a) Re-orient project stakeholders to the project strategy and discuss any changes in the overall context that influence project strategy and implementation;
- b) Discuss the roles and responsibilities of the project team, including reporting and communication lines and conflict resolution mechanisms;
- c) Review the results framework and finalize the indicators, means of verification and monitoring plan;
- d) Discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&E budget; identify national/regional institutes to be involved in project-level M&E; discuss the role of the GEF OFF in M&E;
- e) Update and review responsibilities for monitoring the various project plans and strategies, including the risk log; Environmental and Social Management Plan and other safeguard requirements; the gender strategy; the knowledge management strategy, and other relevant strategies;
- f) Review financial reporting procedures and mandatory requirements, and agree on the arrangements for the annual audit; and
- g) Plan and schedule Project Board meetings and finalize the first-year annual work plan.

The Project Coordinator will prepare the inception report no later than one month after the inception workshop. The inception report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and will be approved by the Project Board.

GEF Project Implementation Report (PIR): The Project Coordinator, the UNDP Country Office, and the UNDP-GEF Regional Technical Advisor will provide objective input to the annual GEF PIR covering the reporting period July (previous year) to June (current year) for each year of project implementation. The Project Coordinator will ensure that the indicators included in the project results framework are monitored annually in advance of the PIR submission deadline so that progress can be reported in the PIR. Any environmental and social risks and related management plans will be monitored regularly, and progress will be reported in the PIR.

²⁷ See guidance here: <https://info.undp.org/global/popp/frm/pages/financial-management-and-execution-modalities.aspx>

The PIR submitted to the GEF will be shared with the Project Board. The UNDP Country Office will coordinate the input of the GEF Operational Focal Point and other stakeholders to the PIR as appropriate. The quality rating of the previous year's PIR will be used to inform the preparation of the subsequent PIR.

Lessons learned and knowledge generation: Results from the project will be disseminated within and beyond the project intervention area through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to the project. The project will identify, analyse and share lessons learned that might be beneficial to the design and implementation of similar projects and disseminate these lessons widely. There will be continuous information exchange between this project and other projects of similar focus in the same country, region and globally.

GEF Focal Area Tracking Tools: The following GEF Tracking Tool(s) will be used to monitor global environmental benefit results: LDCF Adaption Monitoring and Assessment Tool (AMAT). The baseline/CEO Endorsement GEF Focal Area Tracking Tool(s) – submitted as Annex D to this project document – will be updated by the Project Coordinator and the Monitoring and Evaluation Expert (not the evaluation consultants hired to undertake the MTR or the TE) and shared with the mid-term review consultants and terminal evaluation consultants before the required review/evaluation missions take place. The updated GEF Tracking Tool(s) will be submitted to the GEF along with the completed Mid-term Review report and Terminal Evaluation report.

Independent Mid-term Review (MTR): An independent mid-term review process will begin after the second PIR has been submitted to the GEF, and the MTR report will be submitted to the GEF in the same year as the 3rd PIR. The MTR findings and responses outlined in the management response will be incorporated as recommendations for enhanced implementation during the final half of the project's duration. The terms of reference, the review process and the MTR report will follow the standard templates and guidance prepared by the UNDP IEO for GEF-financed projects available on the UNDP Evaluation Resource Centre (ERC). As noted in this guidance, the evaluation will be 'independent, impartial and rigorous'. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final MTR report will be available in English and will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and approved by the Project Board.

Terminal Evaluation (TE): An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The terminal evaluation process will begin three months before operational closure of the project allowing the evaluation mission to proceed while the project team is still in place, yet ensuring the project is close enough to completion for the evaluation team to reach conclusions on key aspects such as project sustainability. The Project Coordinator will remain on contract until the TE report and management response have been finalized. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance prepared by the UNDP IEO for GEF-financed projects available on the UNDP Evaluation Resource Center. As noted in this guidance, the evaluation will be 'independent, impartial and rigorous'. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final TE report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and will be approved by the Project Board. The TE report will be publicly available in English on the UNDP ERC.

The UNDP Country Office will include the planned project terminal evaluation in the UNDP Country Office evaluation plan, and will upload the final terminal evaluation report in English and the corresponding management response to the UNDP Evaluation Resource Centre (ERC). Once uploaded to the ERC, the UNDP IEO will undertake a quality assessment and validate the findings and ratings in the TE report, and rate the quality of the TE report. The UNDP IEO assessment report will be sent to the GEF IEO along with the project terminal evaluation report.

Final Report: The project's terminal PIR along with the terminal evaluation (TE) report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the Project Board during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.

The M&E budget is provided in the table below:

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget ²⁸ (US\$)		Time frame
		GEF grant	Co-financing	
Inception Workshop	UNDP Country Office	USD 10,000		Within two months of project document signature
Inception Report	Project Manager	None	None	Within two weeks of inception workshop
Standard UNDP monitoring and reporting requirements as outlined in the UNDP POPP	UNDP Country Office	None	None	Quarterly, annually
Monitoring of indicators in project results framework	Project Manager	Per year: USD 4,000		Annually
GEF Project Implementation Report (PIR)	Project Manager and UNDP Country Office and UNDP-GEF team	None	None	Annually
NIM Audit as per UNDP audit policies	UNDP Country Office	Per year: USD 4,000		Annually or other frequency as per UNDP Audit policies
Lessons learned and knowledge generation	Project Manager	None		Annually
Monitoring of environmental and social risks, and corresponding management plans as relevant	Project Manager UNDP CO	None		On-going
Addressing environmental and social grievances	Project Manager UNDP Country Office BPPS as needed	<i>None for time of project manager, and UNDP CO</i>		<i>Costs associated with missions, workshops, BPPS expertise etc. can be charged to the project budget.</i>
Project Board meetings	Project Board UNDP Country Office Project Manager	Per year: USD 4,000		At minimum annually
Supervision missions	UNDP Country Office	None ²⁹		Annually
Oversight missions	UNDP-GEF team	None		Troubleshooting as needed
Knowledge management as outlined in Outcome 4	Project Manager	1% of GEF grant		On-going
GEF Secretariat learning missions/site visits	UNDP Country Office and Project Manager and UNDP-GEF team	None		To be determined.
Mid-term GEF Tracking Tool to be updated	Project Manager	USD 10,000		Before mid-term review mission takes place.
Independent Mid-term Review (MTR) and management response	UNDP Country Office and Project team and UNDP-GEF team	USD 35,000		Between 2 nd and 3 rd PIR.
Terminal GEF Tracking Tool to be updated	Project Manager	USD 10,000		Before terminal evaluation mission takes place
Independent Terminal Evaluation (TE) included in UNDP evaluation plan, and management response	UNDP Country Office and Project team and UNDP-GEF team	USD 35,000		At least three months before operational closure
Translation of MTR and TE reports into English	UNDP Country Office	<i>USD 10,000</i>		<i>As required. GEF will only accept reports in English.</i>

²⁸ Excluding project team staff time and UNDP staff time and travel expenses.


²⁹ The costs of UNDP Country Office and UNDP-GEF Unit's participation and time are charged to the GEF Agency Fee.

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget ²⁸ (US\$)		Time frame
		GEF grant	Co-financing	
TOTAL indicative COST Excluding project team staff time, and UNDP staff and travel expenses		USD 170,000		

PART III: CERTIFICATION BY GEF PARTNER AGENCY(IES)

A. GEF Agency(ies) certification

This request has been prepared in accordance with GEF policies³⁰ and procedures and meets the GEF criteria for CEO endorsement under GEF-6.

Agency Coordinator, Agency Name	Signature	Date (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
Adriana Dinu Executive Coordinator UNDP-GEF		10/10/2017	Henry Rene Diouf	+251 912 50 33 21	henry.rene.diouf@undp.org

³⁰ GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, SCCF and CBIT
GEF6 CEO Endorsement /Approval Template-August2016

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

This project will contribute to the following Sustainable Development Goal (s): SDG 13 – Take urgent action to combat climate change and its impacts					
This project will contribute to the following country outcome included in the UNDAF/Country Programme Document: UNDAF Outcome 4: by 2019, the most vulnerable populations ensure their resilience to climate change and crises					
This project will be linked to the following output of the UNDP Strategic Plan: Output 1.4: Scaled up action on climate change adaptation and mitigation cross sectors which is funded and implemented.					
	Objective and Outcome Indicators (no more than a total of 15 - 16 indicators)	Baseline³¹	Mid-term Target³²	End of Project Target	Assumptions³³
Project objective: Strengthening the adaptation and resilience capacities of most vulnerable communities in climate change and variability related disaster risks in the Comoros.	<i>Indicator 1:</i> # of direct project beneficiaries (disaggregated by gender). (AMAT Indicator 1)	To be validated during year one of project implementation.	5,000 of which at least 3,000 are female.	15,000 of which at least 10,000 are female.	All households in the target area are committed to participating in the project activities and taking up adopting climate resilient income-generating activities.
Outcome³⁴ 1: Systemic and institutional capacities for the long-term management and adaptation planning for disaster risks caused by CC are strengthened at local,	<i>Indicator 2:</i> Technical and institutional capacity of local, provincial and national authorities (including DGSC/DRSC, TDM, OVK and local mayors) to effectively manage climate-related and natural disasters. Capacity scorecard assessment of the technical officials	Currently, there is low capacity within local, provincial and national authorities to assess climate risks as well as develop integrated DRR and CCA interventions. Score = 2	LDCF-financed interventions are implemented to increase the technical and institutional capacity of local, provincial and national authorities to plan and manage climate-related and natural disasters. Score = 3 or higher	Local, provincial and national authorities have the technical and institutional capacity to assess climate risks as well as implement risk management and reduction interventions to decrease the	Government and public institutions have sufficient financing and human resource capacity to support the continuation of successful project interventions.

³¹ Baseline, mid-term and end of project target levels must be expressed in the same neutral unit of analysis as the corresponding indicator. Baseline is the current/original status or condition and need to be quantified. The baseline must be established before the project document is submitted to the GEF for final approval. The baseline values will be used to measure the success of the project through implementation monitoring and evaluation.

³² Target is the change in the baseline value that will be achieved by the mid-term review and then again by the terminal evaluation.

³³ Risks must be outlined in the Feasibility section of this project document.

³⁴ Outcomes are short to medium term results that the project makes a contribution towards, and that are designed to help achieve the longer term objective. Achievement of outcomes will be influenced both by project outputs and additional factors that may be outside the direct control of the project.

<p>provincial and national levels.</p>	<p>within local, provincial and national level. The following criteria will be used:</p> <ol style="list-style-type: none"> 1) Ability to analyse data (from weather stations, regional bulletins, research institutions etc.) and disseminate early warnings to vulnerable local communities timely. 2) Capacity to assess climate risks under the predicted conditions of climate change (given the necessary tools such as climate models and scenarios). 3) Capacity to develop and effectively implement integrated DRR and CCA interventions to decrease the vulnerability of local communities in the intervention sites. <p>The scorecard rating is as follows:</p> <ol style="list-style-type: none"> 1) No capacity or very limited capacity at the individual level and within the respective government institution. 2) Partially developed capacity at the individual level. 3) Partially developed capacity at the individual level and within the respective government institution. 4) Fully developed and demonstrated capacity at the individual level. 			<p>vulnerability of local communities at the intervention sites. Score = 4 or higher</p>	<p>Trainees leave training with improved capacity. Recommendations for policies, plans and strategies will be accepted and mainstreamed.</p>
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	5) Fully developed and demonstrated capacity at the individual level and within the respected government institutions.				
Outcome 2: Knowledge and understanding of medium to long-term climate-related disaster risks and vulnerability are improved	<i>Indicator 3:</i> Risk and Vulnerability maps developed for local communities at project intervention sites	0 risk and vulnerability maps for local communities at project intervention sites (to be verified during year one of project implementation)	10 risk and vulnerability maps to be developed for local communities at project intervention sites (target to be verified during year one of project implementation)	20 risk and vulnerability maps to be developed for local communities at project intervention sites (target to be verified during year one of project implementation)	Public institutions, NGOs and resource users will be willing to adopt a partnership approach and work collaboratively to plan and implement risk and vulnerability maps and climate change adaptation interventions at the project intervention sites.
Outcome 3: The long term resilience of the livelihoods and assets of vulnerable local communities against climate disaster risks is strengthened.	<i>Indicator 4:</i> Type and extent of assets strengthened and/or better managed to withstand the effects of climate change (ha of land/km of coast/km of roads/other) (AMAT Indicator 2)	0	<ul style="list-style-type: none"> • 300 ha of land reforested; • 6km of roads protected from landslides in Anjouan and Mohéli at project intervention sites including (targets to be verified during year one of project implementation) • 1000m of flood prevention measures (such as river dredging, gabion walls or restoration) implemented along river banks in Grande Comore and Anjouan at project 	<ul style="list-style-type: none"> • 700 ha of land reforested; • 20 km of roads protected from landslides in Anjouan and Mohéli at project intervention sites including (targets to be verified during year one of project implementation) • 2500m of flood prevention measures (such as river dredging, gabion walls or restoration) implemented along river banks in Grande Comore and Anjouan at 	Both government (and local communities) are committed to adopting climate-resilient technologies and practices. Resilient technologies and practices will include reforestation activities in various sites on all three islands. A multi-stakeholder approach will be used to guide climate-smart ecosystem restoration.

			interventions sites (targets to be verified during year one of project implementation)	project interventions sites (targets to be verified during year one of project implementation)	
	<i>Indicator 5: Population benefiting from the adoption of diversified, climate-resilient livelihood options (number of people/% female) (AMAT Indicator 2)</i>	0	250 households of which 100 are female-headed households (target to be verified during year one of project implementation)	600 households of which 300 are female-headed households (target to be verified during year one of project implementation)	Trainees leave with training capacity. Staff will apply outcomes of climate-related research.
Outcome 4: Increased monitoring, knowledge-sharing and awareness at national and sub-national levels on: i) climate change; and ii) natural disaster risk management.	<i>Indicator 6: Public awareness activities carried out and population reached. (Yes/no/percentage of population/% female) (adapted from AMAT Indicator 5)</i>	0	40% of population of which 25% are female (target to be verified during year one of project implementation)	70% of population of which 45% are female (target to be verified during year one of project implementation)	Involvement in the design and implementation of project interventions and ongoing communication in the expected benefits of income-generating activities will result in long-term support of the project and adoption of new knowledge, skills and practices.

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

Scientific and Technical Advisory Panel

The Scientific and Technical Advisory Panel, administered by UNEP, advises the Global Environment Facility

(Version 5)

STAP Scientific and Technical screening of the Project Identification Form (PIF)

Date of screening: January 12, 2015
Screener: Veronique Morin
Panel member validation by: Anand Patwardhan
7Consultant(s):

I. PIF Information (*Copied from the PIF*)

FULL SIZE PROJECT	LEAST DEVELOPED COUNTRIES FUND
GEF PROJECT ID:	6912
PROJECT DURATION:	5
COUNTRIES:	Comoros
PROJECT TITLE:	Strengthening Comoros Resilience Against Climate Change and Variability Related Disaster
GEF AGENCIES:	UNDP
OTHER EXECUTING PARTNERS:	DGSC
GEF FOCAL AREA:	Climate Change

II. STAP Advisory Response (*see table below for explanation*)

Based on this PIF screening, STAP's advisory response to the GEF Secretariat and GEF Agency(ies): **Major issues to be considered during project design**

III. Further guidance from STAP

STAP welcomes the UNDP proposal "Strengthening Comoros resilience against climate change and variability related disaster". The proposed project aims to strengthen the adaptive capacity and build resilience of communities vulnerable to climate related disaster risks, through implementation of the following three main project components: (1) building institutional capacity, (2) building knowledge on climate related disaster risks and vulnerability and (3) strengthening the resilience of livelihoods and assets of vulnerable communities. STAP is pleased to see this proposal, which seeks to reduce the vulnerability of the archipelago small island nation of Comoros to the many climate-induced natural hazards that face the country.

The main reason for recommending this proposal as a "Major Revision" is the lack of clarity regarding the inclusion of tsunami and volcanic hazards as climate change induced hazards. Regarding this, STAP has the following concerns, and requests the UNDP to further elaborate and focus the proposal on climate induced hazards during the development of the project.

Comment 1- On Page 4, tsunamis are referred to as "weather and climate extreme events, which are expected to increase in frequency and intensity in the future" Tsunamis are triggered by earthquake and not a climatic phenomenon. There is no scientific data to support that they are expected to increase in frequency and intensity in the future. STAP understands that sea level rise may exacerbate tsunami impacts, but that the relative impact of SLR compared to the scale of tsunami events is rather small.

Response 1: We did not intend to refer to Tsunamis as weather and climate extreme events given that we know that Tsunamis are triggered by earthquake. In fact, we have mentioned in the Outcome 1 section (page 7) that Tsunami is not a climate change induced disaster.

However, even if we don't consider tsunamis and volcanic eruptions as climate change related disasters, there are critical disasters occurring in Comoros with strong potential to contribute to increased communities' vulnerability to climate change.

Island vulnerability is often a function of four key stressors: physical, socioeconomic, socio-ecological, and climate-induced, whose reinforcing mechanisms are important in determining the magnitude of impacts (IPPC 5). For instance extensive flooding from tsunamis will impact soil quality and freshwater resources making agriculture related livelihoods and water supply more vulnerable to the impacts of climate related events such as drought and heavy precipitation. Also the last Karthala eruptions in 2005 and 2006 have released ashes that have polluted the wells and drinking water reservoirs and have rendered the land located on the flanks of the volcano more impermeable to rainwater infiltration. This is considered as one of the main factors of the recurrent floods that have occurred in recent years in the downhill regions of Dimani, and Hambou Bambao. Additionally, climate change can contribute to increasing the damages from non-climate related extreme events and/or reduce the efficiency of the response to these disasters. For example, climate change can contribute to coastal mangrove forests degradation, making the Comoros more vulnerable to moderate Tsunami waves. Likewise supporting livelihoods recovery options without mainstreaming the climate risks for these livelihoods is not sustainable. But most importantly, in the perspective of disaster risks management, it is important to also take in consideration how risk management decisions and adjustment could constrain future vulnerability and adaptation.

Consequently, we think that for countries highly vulnerable to disasters like Comoros, it is essential to strengthen the coordination of Disaster Risks Management (DRM) and climate change. This means that one should not solely focus on the climate related disaster but also: i) make sure that the DRM and CC-A action can benefit mutually, ii) assess how disasters risks (including the non-climate induced one) could impact on the vulnerability to climate change and integrate appropriate response in the national, regional and local CC-A strategies, iii) make sure to the extent possible that current DRM strategies and investments will not increase future vulnerability and and/or constraint future adaptation.

To strip away the ambiguity between climate and non-climate related disasters, we have decided to move the discussion related to the non-climate induced disasters to the section dealing with the cause of Comoros vulnerability to climate related disasters.

Comment 2- Similarly on page 5 under point (iii) in Baseline Conditions, it is unclear how the project will or could integrate climate concerns into the tsunami relief plan.

Response 2: The relief plans for the non-climate induced disasters (tsunamis, Karthala) developed in the framework of the UNDP baseline projects are currently focusing only on the provision of emergency services and public assistance during and immediately after the disasters. However we think that the efficiency of the emergency services can be negatively impacted by the climate related disasters. For a more efficient management of the natural disasters (including the non-climate ones), it is necessary: i) to plan in advance the relief actions to be taken in case of disaster, ii) mitigate the climate risks that can affect the efficiency of the relief actions, iii) ensure that these relief actions will not contribute to worsen vulnerability to future climate related disasters and / or constraint, future adaptation. The UNISDR and UNDP/BCPR baseline projects will support the elaboration of the country multi-hazards profile, the disasters risks assessment, mapping and the development of the specific disasters (Tsunami, Cyclone, Karthala volcano,) management, reduction and preparedness plans. The disaster management plans will identify the key relief actions to be implemented in case of disasters. This LDCF proposal will support the identification of the climate risks that could impact or influence the efficiency of the relief actions and propose adaptation strategies to prevent the impacts of these risks, but also make sure that the relief initiatives will not reinforce communities' vulnerabilities. This is why in the outcome 1, the proposal aims to integrate climate change in the management and preparedness plans of the climate and non-climate induced disasters. These activities should be considered as being part of a package of actions supported by this proposal for the strengthening of the integration of DRM and climate change in Comoros.

Comment 3 - On page 5 under point (ii) in Baseline Conditions, it is unclear how integrating a system for long term monitoring of volcano activities relates to climate change concerns, or how climate change risks may affect the efficiency of response to volcanic hazards.

Response 3: As per above, this LDCF proposal will support the identification of the climate risks that could impact or influence the efficiency of the relief actions and propose adaptation strategies to prevent the impacts of these risks, but also make sure that the relief initiatives will not reinforce communities' vulnerabilities. This is why in outcome 1, the proposal aims to integrate climate change in the management and preparedness plans of the climate and non-climate induced disasters.

Comment 4- Under the Alternative Scenario in Outcome # 1(iii), the PIF indicates that long term climate induced disaster risks will be integrated into the UNDP baseline project, which include the Karthala Volcano Plan and the tsunami relief plan. It is unclear how climate change risks are relevant to these disaster plans.

Response 4: As explained above, it is important to anticipate the climate risks that can affect the efficiency of the actions identified in the relief plans, but also the risks that the relief actions increase the vulnerability and/or make difficult future adaptation and develop adequate solution to these risks. This will be done by the coordination of the management of climate change related disasters and the disaster management and preparedness plans of the tsunami and Karthala volcano supported by the UNISDR and Indian Ocean Commission baselines projects. This is why, the PIF recommends the integration of medium and long term disaster risks and climate drivers within the management plans of the cyclone, surge storms, flooding and the POLMAR plan as well as adaptations options within the disaster management and preparedness plans (including the relief plans) of the non-climate related disasters (Tsunami, Khartala,). I would like to clarify that these activities should be considered as being part of a package of actions supported by this proposal for the necessary improvement of the coordination of DRM and climate change in Comoros. All this will be further clarified during the project preparation phase.

Comment 5 - Under the Alternative Scenario in Outcome # 2, the PIF states that LDCF resources will be used to finance "seven modern seismological stations, three GPS/GNSS permanent stations, two surveillance cameras and CO2 station", as well as provide training of five OVK technical staff on how to integrate climate projections into volcanic monitoring activity. It is unclear how the volcanic hazards are related to climate change concerns.

Response 5: We are not saying that the volcanic hazards are related to climate change, but as per the above, we think that the volcanic eruption can contribute to worsening communities' vulnerability to climate change. And, for efficient management of climate change in Comoros, it is important to monitor the volcano activities, forecast the eruptions and their impacts on the communities' vulnerability to climate related disasters. The seven seismological stations and other equipment listed in this proposal as well as the other actions planned are destined to strengthening the Comoros' capacity for: i) the monitoring the volcano activities and predict the eruptions; ii) assess the impacts of the eruptions on the communities vulnerability to climate change impacts and identify strategies to mitigate these impacts and, iii) anticipate and address the climate risks that threaten the efficiency of the volcano disaster management plan and strategies. This is why the LDCF will support the integration of the drivers of vulnerability to climate change for the communities' livelihoods and assets, the ecosystems and the infrastructures in the monitoring system of Karthala magmatic activities and the Khartala eruptions management plan. And vice versa, the LDCF resources will assess how the eruption will increase communities vulnerability and integrate this information in the management of climate risks. And again these activities under this output are part of the bigger package of action aiming at better integrating DRM and climate change in Comoros. This will be made clearer during the project preparation.

In addition to the above, STAP recommends that the following points be addressed during the development of the proposal to further strengthen the scientific and technical underpinnings:

Comment 6- Page 4, under Baseline Conditions, climate projections could be updated by using the newest information from IPCC's WG II AR5, chapter 29. http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap29_FINAL.pdf

Response 6: The climate projection have been updated using the newest information from IPCC

Comment 7- On page 7, Outcome 2 speaks to risk mapping and modelling. Risk is the product of hazard and vulnerability. The output appears to describe hazard (rather than risk) mapping and modelling. The type of modelling should be clarified and elaborated. If the output is to include vulnerability and describe risk, then the components of vulnerability that are being examined should be clearly described.

Response 7: The expected output is to describe the risk as being the product of the hazard, exposure and the vulnerability. And the elements of vulnerability considered here are the environmental (changes in landscape use, structure and quality, river networks, modification of riverbeds, structure of the floodplain land cover and use, presence of flood obstructions in the flood plain and riverbeds) and socioeconomic vulnerabilities (state of private, public and community buildings, infrastructures including the flood control structures, energy and water supply and communication systems, hazard communication and risk management organization, level of preparedness and understanding of risks....)

Comment 8- Under Outcome 2, the STAP welcomes the initiative to build the human capacity of the DGM through training and recommends that collaboration and coordination with the Regional Specialized Monitoring Centre (RSMC) in Reunion be strengthened. It would be helpful for the full proposal to more fully describe the training components of the proposed project. STAP also suggests that the human capacity building activity consider methods to ensure sustainability of the training activities, such that new officials can gain expertise from trained DGM staff.

Response 8: The training component will be detailed during the project preparation after an assessment of the capacity gap and consultations with the DGM and the RSMC. In the same way, a sustainability plan for the training activities will be considered during the project preparation phase.

Comment 9- Under Outcome 3, one of the LDCF project activities proposes to dredge approximately 10 rivers for flood mitigation purposes. Given the potentially high sedimentation rates, it is recommended that the design life of such dredging activities be fully considered. Additionally, the environmental risks associated with dredging, which has the potential to negatively impact habitats and aquatic ecosystems, should be included in the full proposal, as well as methods for safeguarding.

Response 9: The full proposal will include an environmental and social screening process that will allow a pre-assessment of the potential social and environmental impacts of the project investments. If needed, it will propose measures to mitigate these impacts including doing an environmental and social impact assessment prior to any investments presenting environmental and social risks. Additionally, the full proposal wilfully considers the design life of the dredging activities.

Comment 10 - STAP appreciates the mention of activities targeted for vulnerable women and the young, and encourages UNDP to integrate gender aspects throughout the project. Specifically, gender considerations should also be built in within Component One of the Project, which aims to build capacity of officials working at national agencies/institutions.

Response 10: The full proposal will ensure that gender considerations will be built within each of the components of the project, with a particular emphasis on Component four of the project.

<i>STAP advisory response</i>	<i>Brief explanation of advisory response and action proposed</i>
1. Concur	In cases where STAP is satisfied with the scientific and technical quality of the proposal, a simple “Concur” response will be provided; the STAP may flag specific issues that should be pursued rigorously as the proposal is developed into a full project document. At any time during the development of the project, the proponent is invited to approach STAP to consult on the design prior to submission for CEO endorsement.
2. Minor issues to be considered during project design	STAP has identified specific scientific /technical suggestions or opportunities that should be discussed with the project proponent as early as possible during development of the project brief. The proponent may wish to: (i) Open a dialogue with STAP regarding the technical and/or scientific issues raised. (ii) Set a review point at an early stage during project development, and possibly agreeing to terms of reference for an independent expert to be appointed to conduct this review. The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.
3. Major issues to be considered during project design	STAP proposes significant improvements or has concerns on the grounds of specified major scientific/technical methodological issues, barriers, or omissions in the project concept. If STAP provides this advisory response, a full explanation would also be provided. The proponent is strongly encouraged to:

	<p>(i) Open a dialogue with STAP regarding the technical and/or scientific issues raised; (ii) Set a review point at an early stage during project development including an independent expert as required.</p> <p>The GEF Secretariat may, based on this screening outcome, delay the proposal and refer the proposal back to the proponents with STAP's concerns.</p> <p>The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.</p>
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ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS³⁵

A. Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: 200,000			
<i>Project Preparation Activities Implemented</i>	<i>GETF/LDCF/SCCF/CBIT Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>
The following PPG activities are successfully completed: <ul style="list-style-type: none"> ▪ <i>A comprehensive baseline assessment;</i> ▪ <i>Preliminary climate change vulnerability;</i> ▪ <i>Identification of communities;</i> ▪ <i>Definition of indicators and targets;</i> ▪ <i>Stakeholders engagement plan;</i> ▪ <i>Design of project activities and results framework;</i> ▪ <i>Assessment of identified risks.</i> 	200,000.00	165,487.84	34,512.16
Total	200,000.00	165,487.84	34,512.16

³⁵ If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue to undertake the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for the activities. Agencies should also report closing of PPG to Trustee in its Quarterly Report.

ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/CBIT Trust Funds or to your Agency (and/or revolving fund that will be set up)

ANNEX E: BASELINE AND ALIGNED PROJECTS

Table 1: Baseline projects

Implementing and executing agency	Project title	Budget (USD)	Funds	Period	Main components	Link with the LDCF project
National Directorate for Infrastructure	Project from the 11 th FED	36 816 327	BAD BEI ³⁶	2014 - 2020	<ul style="list-style-type: none"> • <i>Rehabilitation of 48 km of road (RN2, Moroni to Fombouni)</i> • <i>Rehabilitation of 23 km of road (RN23, Sima to Moya)</i> 	The LDCF-financed project is aligned with the Directorate of Infrastructures' objectives to strengthen the durability of roads in the areas of Bambo and Hambou (Grande Comore); and in Sima (Anjouan). In these municipalities, the project also plans reforestation activities to reduce landslides and floods.
University of Comoros	Masters' Programme ^{e37}	88 435	UDC	2 years	Training of agents to start a professional career in institutions working on disaster risk management, climate change adaptation, resilience and sustainable development.	The LDCF-financed project plans to create a Master's Programme on Climate Change and Disaster Risk Management that will be co-financed by the University of the Comoros and the LDCF-financed project
OVK	Technical support to monitor Karthala volcano	130 000	USGS	1 year	Acquisition of monitoring stations for Karthala volcano	The LDCF-financed project will provide additional equipment for monitoring the activities of the Karthala volcano to support the USGS and IPGP. The technical and operational support of the project will enable OVK to better monitor the activities and predict the impacts of the Khartala volcano in communities vulnerable to climate related disasters and other climate change impacts
		130 000	IPGP	2016 - 2019	Technical support missions to monitor Karthala volcano	
DGSC	Operational support	503 220	DGSC	2017 - 2018	Operational support	The LDCF-financed project is aligned with the objectives of the DGSC, the mandate of which is to coordinate <i>inter alia</i> : i) the development and implementation of national policy on disaster risk management; ii) the disaster preparedness strategies and plans; iii) the development and dissemination of early warnings; and iv) relief operations in cases of natural disasters. In particular, Component 1 of the project will contribute towards capacity building and institutional strengthening which will facilitate the integration of climate change and disaster risk reduction into long-term development planning. In addition, Component 2 of the LDCF-financed project will build on the early warning systems currently in place through increasing access to climate data and models which will enhance the DGSC's decision-making abilities. Component 4 of the project will also build on the DGSC's current training and

³⁶ European Bank of Investment

³⁷ Master's Programme in Disaster Risk Management, Climate Change, Environment and Sustainable Development

						awareness programmes and will ensure that information on climate change risks, disaster risk reduction measures and early warnings are widely disseminated amongst local communities on the three islands.
TDM	Operational support	262 929	Meteorology	2017 - 2018	Operational support and training	The LDCF-financed project is aligned with the TDM's objectives to monitor hydrometeorological events and provide communities and decision makers tailored climate information and early warnings for the management of climate related disasters. Component 2 of the project, which focuses on improving and strengthening knowledge of climate change and vulnerability of the communities, will benefit the TDM.
TOTAL		\$37,930,929				

Table 2: Partner projects

Implementing Partner	Title	Budget (US\$)	Period	Project description	How the proposed project will align
GEF/UNEP	Building Climate Resilience through Rehabilitated Watersheds, Forests and Adaptive Livelihoods	5,140,000	2017-2020	The objective of this UNEP project is to build the resilience of local communities in the Comoros to climate change through the rehabilitation of degraded watersheds. Climate-resilient species will be used to reforest degraded watersheds and ant-erosion measures will also be implemented. The project will also establish community conservation zones and develop technical and institutional capacity for sustainable forest and watershed management. Alternative and sustainable livelihoods will be introduced in rural areas to contribute towards ensuring diversified and resilient livelihoods with minimal impact on ecosystem services, as well as to ensure the long-term sustainability of the watershed rehabilitation.	The UNEP project will generate evidence on climate change risks on the functioning of watersheds and will develop experience in management strategies and adaptation solutions. The LDCF project is in alignment with the objectives of the UNEP project and will build on the activities of the project which are limited to one site per island. In sharing lessons learned, the LDCF and UNEP projects can both benefit from knowledge and experiences gained thereby proving cost-effective. There will also be an overlap between the projects in terms of resilience-building activities within some of the watersheds. Coordination of reforestation activities particularly in these watersheds is important to ensure that there is no duplication of activities. Formal coordination processes will be established at project inception so that complementarity between the projects and their activities is ensured and that lessons learned and experiences are shared by all parties.
GEF/UNDP	Development of a national network of terrestrial and marine protected areas representative of the Comoros'	4,746,000	2014–2019	The objective of the PA project is to establish an expanded and functional system of protected areas in the Union of Comoros to conserve the country's marine and terrestrial biodiversity. Comoros' biodiversity is highly impacted by human activities and consequently terrestrial ecosystems are under a considerable degree of pressure. The PA project is a UNDP/GEF-funded initiative and	The LDCF-financed project is in alignment with the PA project and its first component that aims to strengthen the PA system through expansion and capacity building at all levels. Component 1 of the proposed project specifically addresses capacity building and strengthening of existing institutions. By implementing reforestation programmes, the LDCF

	unique natural heritage and co-managed with local village communities (PA project)			implemented through the Ministry of Production, Energy, Environment, Industry and Handicraft. The two components of the PA project are: i) strengthening the PA system through expansion and capacity building at all levels, including a legal framework and enabling investment environment for PAs; and ii) site-level PA operationalisation.	project will contribute towards decreasing deforestation and consequently protecting natural resources and ecosystems from further degradation. In addition, the activities under Component 3 of the LDCF project including capacity building, training, awareness-raising and educational activities will build on the activities already undertaken by the PA project and expand upon the dissemination of such activities.
GEF/UNDP	Enhancing adaptive capacity for increased reliance to climate change in the agriculture sector in the Union of the Comoros (CRCCA)	8,990,490	2014–2018	The CRCCA is implemented under the UNDP and funded through GEF/LDCF. The objective of the CRCCA is to strengthen the capacity, tools and technology of the Union of Comoros to reduce the vulnerability of agricultural production systems to climate change and climate variability on Grande Comoro, Anjouan and Mohéli. The three outcomes of the CRCCA focus on: i) strengthening the strategic framework and adaptive capacity for agricultural support and management institutions; ii) strengthening the existing national meteorological service to improve data being recorded at selected sites; and iii) improving climate change resilient agricultural approaches and partnerships between agricultural support organisations.	Cooperation with this project will occur through the Implementing Agency (UNDP), in particular coordination between Steering Committees and Project Management Unit meetings. Linkages will be developed to ensure synergy and cooperation, as well as the sharing of methods and lessons learned. These synergies will enable the LDCF project to build on this project's outcomes – mainly the strengthening of existing national meteorological services – to enhance early warning systems.
UNOPS	Implementation of integrated management of water resources and sewage in the Small Island Developing States of the Atlantic and Indian Ocean (GIRE PEID AOI)			The Global Environmental Facility (GEF) has funded a full sized project to support 6 participating SIDS of which Comoros is one. The UNOPS project seeks to accelerate progress on integrated water resources management, water use efficiency plans, water supply and sanitation development goals for the protection and utilisation of groundwater and surface water in the participating countries. It will specifically support the implementation of demonstration activities on integrated water resources management (IWRM) and water use efficiency (WUE) to address priority issues at the national level with potential for replication across the region and in other SIDS regions. The four components of the project are: i) development and implementation of targeted demonstrations in IWRM and WUE; ii) IWRM and WUE monitoring and indicators framework; iii) policy, legislative and institutional reforms and capacity building	The LDCF-financed project is in alignment with the objectives of the UNOPS project. In particular, the LDCF project will build on several on the components and outcomes of the UNOPS project. For example, water shed management as well as water supply, use and efficiency demonstrations (under Component 1 of the UNOPS) will inform both reforestation activities and the sustainable use of natural resources under Component 3. Furthermore, groundwater assessments will inform the rainwater harvesting interventions. Component 4 of the UNOPS project will identify best practices and lessons learned in water management and use technologies and include strategies to deal with droughts. The LDCF project will build on these lessons learned to ensure that there is no duplication of efforts and that the most cost effective interventions are implemented. In addition, the gender audits, analysis and training

				for IWRM and WUE; and iv) knowledge exchange, best practices, replication and stakeholder involvement.	undertaken by the UNOPs will inform Component 4 of the LDCF project thereby enhancing gender mainstreaming and the equitable access of men and women to water, food security and environmental sustainability. Formal coordination processes will be established at project inception so that complementarity between the projects and their activities is ensured and that lessons learned and experiences are shared by all parties. The LDCF project will benefit the UNOPs project as well as other SIDS by providing additional sites at which demonstration activities can be facilitated as well as generating and disseminating additional knowledge products.
AMCC	Support Programme for the Union of the Comoros strengthening resilience to climate change	3,000,000	2015-2019	The AMCC project contributes towards mainstreaming climate change in plans, projects and strategies for planning, coordination and monitoring. In so doing, the project will strengthen the resilience of the country to climate change, with a particular focus on the transport sector. The project has three components: i) increased dissemination and data sharing of information on climate change; ii) increased capacity of key stakeholders and integration of climate change into strategies, plans and policies; and iii) enhanced resilience of vulnerable populations to climate change through the implementation of local pilot actions	The LDCF-financed project is in alignment with the objectives of the AMCC project. Component 1 of the LDCF-financed project will contribute towards the mainstreaming of climate change into development policies and planning, as well as improving information databases and coordination between stakeholders. In so doing, the project will also contribute towards enhancing the technical capacity of stakeholders. Components 2 and 3 of the LDCF-financed project will contribute towards enhancing the resilience of vulnerable populations through the development of risk and vulnerability maps as well as implementing on-the-ground interventions (including reforestation, rainwater collection and harvesting, flood prevention and income-generating activities).
National Directorate of Infrastructure	Periodic road maintenance work in Anjouan (PADDST2)	11 602 721	2017 - 2018	Periodic maintenance of 57 km of road: <ul style="list-style-type: none"> • <i>Panda to Nioumadzaha;</i> • <i>Ivani to Mbeni;</i> • <i>Koimbani to Chomoni and</i> Chomoni to Dimani. Maintenance of 37 km of road: <ul style="list-style-type: none"> • Domoni to Maramani; and 	The LDCF-financed project is aligned with the Directorate of Infrastructures' objectives to strengthen the durability of the roads in the areas of Koimbani and Fombouni (Grande Comore); Vassy, Koni Djodjo, Domoni, and Sima (Anjouan); Hoani, Fomboni Hamba, and Mirongoni (Mohéli). The climate related disasters, particularly landslides and floods, are among the key risks that threaten the sustainability of the roads in these areas. In these municipalities, the project plans reforestation activities to reduce landslides and floods.

				<ul style="list-style-type: none"> Maramani Moya Chikoni to Sima <p>Maintenance of 27 km of road in Mohéli:</p> <ul style="list-style-type: none"> Fomboni to Miringoni 	
Community Development Support Fund (FADC)	Social Security Network project (PFSS)	6 000 000	4 years (July 2015 – June 2019)	FADC's overall objective is to provide technical and financial support to communities in the socio-economic development of the Comoros. The purpose of the PFSS project is to increase access to social services' safety nets and nutrition in the poorest communities. The project has three components. The first component relates to productive safety nets and responses to natural disasters, which will be executed by the FADC. Agricultural support and anti-erosion activities (including reforestation and composting) will be implemented to increase productivity. Cash for work programmes including high intensity labour will be used to re-establish a situation after a disaster and improve the productive environment of the poorest communities. Component 2 of the project will be implemented by UNICEF and is a community nutrition program. The third component of the project focuses on economic productivity safety nets and infrastructure including agricultural infrastructure. Small agricultural work is currently being implemented in Anjouan and Mohéli. In addition, income generating activities will also be implemented.	The LDCF-financed project is aligned with the objectives of the FADC project and will provide further support to the socio-economic development of local communities in the Comoros. Under Component 1 of the LDCF-financed project, the regulatory framework for integrated climate change and DRR will inform long-term management and adaptation planning for climate-related and natural disasters. In so doing, the project will inform and enhance responses to natural disasters, specifically productive safety nets. Furthermore, on-the-ground interventions under Component 3 of the LDCF-financed project will further support the activities undertaken by the FADC. Specifically, the income-generating activities will contribute towards socio-economic development (including <i>inter alia</i> poverty reduction and nutrition) in the municipalities of Trelezini, Diboini and Dimani (Grande Comoros); Koni and Djodjo (Anjouan) and Kangani, Hagnamoida, Mlabanda, and Hamba (Mohéli).
UNICEF (Educate a Child)	Formal Education for Out-Of-School Children (OOSC) in Comoros	3 274 045	2014 - 2017	<ul style="list-style-type: none"> <i>School construction and rehabilitation</i> <i>Procurement and delivery of primary school supplies</i> <i>Teacher training</i> <i>Social mobilization campaigns</i> 	The objective of the OOSC project is to increase access to primary education for children in marginalised communities. Component four of the project – in particular the public awareness raising and training programmes and the environmental education programmes – will provide support to the OOSC project in raising community-awareness, capacity building and the mobilisation of communities to educate children in the project intervention sites. Furthermore, the LDCF-financed project will build on the activities of the OOSC by providing training and educational materials on environmental education with a particular focus on climate change and disaster risk reduction. These activities will contribute towards increasing the awareness and understanding of climate change and

					disaster risk reduction and thereby decrease the vulnerability of local communities towards natural and climate-related disasters.
French Development Agency (AFD)	Formal Education for Out-Of-School Children (OOSC) in Comoros	5 700 000	2016 - 2017	The AFD project seeks to improve access to drinking water for the local community in Domoni by: i) establishing a drinking water supply network (identify and capture a source of water and treat the raw water for drinking purposes); and ii) implementing a public water service. Projects implemented by the AFD have not only enabled people to access drinking water but have also established network management bodies.	The objectives of the AFD project are to enhance the availability of drinking water in the Domoni region through the identification of sources of water. The LDCF-financed project is therefore aligned with the objectives of the AFD project and will build on the AFD project's activities through implementing reforestation activities in the Domoni region under Component 3. By reforesting degraded areas, the project will enhance water infiltration – consequently improving groundwater supplies – and the availability of water. As a result, the LDCF project's activities will directly benefit the AFD project.
General Directorate for Environment and Forests / IFAD	New subsistence means for food security in five island states of the Indian Ocean off the East and South-East coasts of Africa	172 385	2015 – 2017 (Phase 1) 2017 – 2019 (Phase 2)	<ol style="list-style-type: none"> 1. <i>Technology transfer for improved beekeeping and pollination services</i> 2. <i>Implementation of techniques to improve added value, biological certification and market access</i> 3. <i>Capacity building for partner institutions to improve legal frameworks for a sustainable development of beekeeping activities</i> 	The LDCF-financed project is aligned with the objectives of the Social Security Network, New Subsistence means and income security project in four island states of the Indian Ocean (Mauritius, Madagascar, Comoros and Seychelles) and in Zanzibar (United Republic of Tanzania) from IFAD's portfolio, 'Beekeeping'. IFAD's project plans to implement technology transfer and techniques for improved added value, and strengthening of institutional capacities in the municipalities of Mlabanda, Kangani, Sirziroudani, Wallah (Mohéli); Mironsty (Anjouan); and Moroni (Grande Comore). Component 3 of the LDCF-financed project will support the IFAD project through the implementation of long-term measures to support climate-resilient livelihoods and assist vulnerable communities in adapting to climate change and the increase in climate-related disasters. By implementing restoration programmes, the LDCF-financed project will benefit the "Beekeeping" initiatives of the IFAD project. In addition, the introduction of income-generating activities in conjunction with public awareness activities will support the objectives of the IFAD project.

ANNEX F: TABLE OF RISKS

PROJECT RISKS					
Description	Type	Impact & probability	Mitigation measures	Owner	Status
The interest of the local communities in disaster risk reduction is not maintained beyond the project intervention.	Social	Lack of commitment and/or buy-in from local communities may result in limited adoption and long-term sustainability of project interventions. P= 2 I= 4	A stakeholder engagement plan will ensure that local communities are sufficiently consulted during planning and implementation. Capacity building and training of local communities will be undertaken to communicate the benefits of adaptation interventions and involve them in implementation as well as monitoring and evaluation. Awareness raising campaigns will also be undertaken to promote DRR and adaptation interventions. These campaigns will highlight the importance of the LDCF-financed project interventions. Furthermore, there will be continued stakeholder consultation in accordance with the project specific communication strategy and action plan.	Project Management Unit	No change
Local communities exposed to risk are not willing to change their behaviour to further prevent natural and climate-related disasters.	Social	Intervention measures are not properly implemented. P=2 I=4	A stakeholder engagement plan will ensure that local communities are sufficiently consulted during planning and implementation. Capacity building and training of local communities will be undertaken to communicate the benefits of adaptation interventions and involve them in implementation as well as monitoring and evaluation. Awareness raising campaigns will also be undertaken to promote adaptation interventions. These campaigns will highlight the importance of the LDCF-financed project interventions. Furthermore, the project will adopt an ongoing learning-by-doing approach that will allow for iterative and adaptive management to prepare for dealing with natural and climate-related disasters. Lessons learned will be captured and disseminated to encourage sustainability and to reduce risks through future interventions in the Comoros. Furthermore, there will be continued stakeholder consultation in accordance with the project specific communication strategy and action plan.	Project Management Unit	No change
Slash and burn agriculture increases the potential for bushfires which destroy forests.	Environmental	Bush fires result in extensive damage to crops and forests. P=4 I=4	Civil security units will be established and training and capacity building will be undertaken to ensure that emergency response personnel and equipment are available to contain bush fires and minimise the risk posed to forest ecosystems.	DGSC/DRSC	Increasing
Extreme climatic events and climate variability.	Environmental	Current climate and seasonal variability and/or hazard events result in disruption to implementation of adaptation interventions. P=4 I=3	Updated and improved site-specific climate information, forecasting and projections will be developed. This weather forecasting will be taken into consideration when planning climate-sensitive implementation activities. Institutional capacity development and training programmes will take place focusing on changing behaviour and increasing preparedness to climate change amongst stakeholders including local authorities and communities. Furthermore, the project will adopt an ongoing learning-by-doing approach that will allow for iterative and adaptive management to prepare for dealing with extreme weather events. Lessons learned will be captured and disseminated to encourage sustainability and to reduce risks through future interventions in the Comoros.	TDM DGSC Project Management Unit	Increasing

Insufficient competent and available human resources within national structures and disaster management on islands to support project initiatives and perpetuate these assets beyond the project.	Organisation	Planned project interventions may not be implemented effectively. Climate change may not be mainstreamed into policies and plans etc. P=2 I=3	A capacity needs assessment will be undertaken for certain stakeholders to determine: i) the existing linkages between government departments; and ii) the involvement of project stakeholders in decision-making. The results will inform training and capacity-building measures to ensure the effectiveness and efficiency of such institutions in DRR and CCA interventions. Institutional and technical capacity will be developed to support coordination between stakeholders, planning and implementation of DRR and CCA activities in the Comoros. The project will also seek linkages with ongoing projects and initiatives so as to encourage synergies which will reinforce the significance of the LDCF-financed project and ensure there is no overlap with other people's activities. Training and capacity building will be provided and the project will also promote active participation at the local level of government officials (mayors) encouraging improved civic relations.	Project Management Unit Technical committee	No change
Lack of inter-institutional data sharing or collaboration.	Organisational	Limited transfer of relevant project information amongst role players and end-users resulting in delayed or ineffective implementation of interventions. P=2 I=3	Representation of a range of stakeholders on the Technical Committee will promote collaboration and cooperation between government and other institutions. Informal knowledge sharing opportunities will be supported, such as networking events between relevant government departments/units.	Technical Committee	No change
Implemented interventions are not cost-effective.	Financial/ economic	Economic loss occurs and budget allocation to other activities is reduced. P=2 I=3	An analysis of project interventions will be undertaken before implementation to establish their cost-effectiveness and sustainability.	Project Management Unit	Increasing