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Project Document

Project title: Ensuring climate resilient water supplies in the Comoros Islands	
Country: Comoros	
Implementing Partner: Executing Entity: Government of Comoros acting through the Ministry of Agriculture, Fisheries, Environment, (MAFE)	Management Arrangements : National Implementation Modality (NIM)
UNDAF/Country Programme Outcome:	
UNDAF Outcome No. 4 – Result 4: The most vulnerable people strengthen their resilience to climate change and crisis.	
Output 7. Country has capacities, tools and adaptation technologies to reduce agricultural vulnerabilities to climate change	
Output 8. State and non-State institutions have mechanisms, tools and means to manage risks of natural disasters and strengthen resilience	
UNDP Strategic Plan Output: 1.4. Scaled up action on climate change adaptation and mitigation across sectors which is funded and implemented	
UNDP Social and Environmental Screening Category: <i>Category B: moderate.</i>	UNDP Gender Marker for the project output: 2
Atlas Project ID (formerly Award ID): 00102496	Atlas Output ID (formerly Project ID): 00104532
UNDP-GEF PIMS ID number: 5740	GCF ID number: FP094
Planned start date: 25 June 2019	Planned end date: 24 June 2027
PAC meeting date: 22 February 2019	

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Brief project description:

The proposed project supports Comoros, one of only two LDC, African Small Island Developing State (SIDS), to adapt to increasing **extreme climate risks** (including droughts, flooding and water quality impacts from landslides/erosion) **that impact the country's drinking and irrigation water supply.**

Comoros has a very small national land area of only 2,612 km² consisting of steep volcanic terrain, with no land further than 7 km from the coast. It therefore has very small watersheds and aquifers which have little natural water storage capacity, and consequently are highly vulnerable to climate change magnified rainfall variability - as is the rural population reliant on only rainwater harvesting - resulting in predicted increases in water scarcity due to drought, flood and salinization impacts on the nations' water supplies.

In conjunction with national and state governments, water service providers, water user associations and communities, and their development partners (China, Arab Fund for Economic and Social Development and UNDP) who provide the co-financing for this project, GCF resources will be used to address critical technical, institutional and financial barriers impeding the improvement of climate resilience of the country's water resources and water supplies.

The project will achieve a national paradigm shift in strengthening the climate resilience of water supply by mainstreaming systematic climate risk reduction approaches into the governance and delivery of water resources, watersheds, water supply infrastructure and water user management, including in planning, investment, design, operation & maintenance.

Specifically, the project will invest in:

- Reinforcing the management of climate resilient water supply by strengthening the water sector enabling environments, for medium to long-term climate adaptation planning. This will be achieved by integration of climate information into the recently revised national water legislation reforms, training on risk-based water management practices, and upgrading tariff reforms to include the additional costs of climate risk reduction;
- Protecting water quality and moderating extreme high and low water resource flows using integrated watershed management improvements in 32 watersheds (informed by water resources monitoring); and using water resources monitoring to provide early warnings and forecasts of climate risks to improve water supply resilience; and
- Increasing the climate resilience of water supply infrastructure through diversifying the water supply sources for 450,000 people (rainwater, surface water and groundwater); and designing and constructing climate-change risk informed infrastructure to protect from flood risks and sized to withstand drought periods.

The project is consistent with the priorities identified in the NAPA and has a no objection letter from the NDA.

FINANCING PLAN		
GCF grant	USD 41,919,808	
UNDP TRAC resources	USD 2,000,000	
(1) Total Budget administered by UNDP	USD 43,919,808	
PARALLEL CO-FINANCING (all other co-financing (cash and in-kind) administered by other entities, non-cash co-financing administered by UNDP)		
Government of Comoros Grant	USD 3,819,270	
Government of Comoros In-Kind	USD 9,381,165	
Government of Comoros In-Kind	USD 1,397,033	
China Geo-Engineering Corporation In-Kind	USD 1,940,856	
FADES (Arab Fund for Economic and Social Development) Grant	USD 293,363	
(2) Total co-financing	USD 16,831,687	
(3) Grand-Total Project Financing (1)+(2)	USD 60,751,495	
SIGNATURES		
Signature:  Dr Takiddine Youssouf Secretary of State in charge of Cooperation, acting as interim Minister of Foreign Affairs and International Cooperation in charge of Diaspora	Agreed by Government 	Date/Month/Year: Le 17 Septembre 2019.
Signature:  Moustadroine Abdou Boina Minister of Agriculture, Fisheries and Environment, (MAFE)	Agreed by Implementing Partner 	Date/Month/Year: le 17/09/2019
Signature:  Fenella Frost UNDP Resident Representative	Agreed by UNDP 	Date/Month/Year: 17/9/19.

Disbursement: Government is aware of the conditions of disbursement ascribed to the first and subsequent tranches of the GCF funding as specified in the FAA (and in particular Clause 8 and 9.02 of the FAA). To the extent that these obligations reflect actions of the Government, the Government must ensure that the conditions are met and there is continuing compliance and understands that availability of GCF funding is contingent on meeting such requirements and such compliance.

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II. DEVELOPMENT CHALLENGE

Climate change predictions for Comoros include an increase in rainfall variability, lengthening of droughts and increasing frequency and intensity of storm floods and resulting erosion.

The main island of Grand Comore has no surface water, requiring coastal towns to exploit marginally fresh groundwater resources, whilst the rural upland communities, making up 50% of the island's population, have to rely solely on rainwater harvesting. On the two more remote and poorer islands of Anjouan and Moheli there are no proven groundwater resources and therefore are completely reliant on the seasonally variable streams.

One of the most urgent needs in Comoros, as stated by the NAPA, is to build the resilience of their water supply to the impacts of climate change. More specifically Comoros needs to increase the resilience of its limited water resources and watersheds, protect its water supply infrastructure and strengthen the adaptation capacity of its institutions and communities to plan and operate in increasing climatic extremes.

Climate Change Impacts and Vulnerabilities

Climate Change Projections for Comoros

The IPCC AR5¹ indicates that for the southern Indian Ocean (including the Comoros Islands) there will be:

- a decline in rainfall - that will cause a reduction in surface water flows and groundwater recharge and an increase in pollution due to reduced dilution potential;
- an increase in mean temperatures - that will reduce water supplies via evapotranspiration and increase water demand;
- continued sea level rise that will contribute to further saltwater intrusion into coastal aquifers; and
- an increase in the frequency and intensity of natural hazards such as cyclones, landslides and droughts.

The UNDP Climate Change Country Profile for Comoros² developed by the University of Oxford used refined Global Climate Models to evaluate climate change predictions for the country. This work identified up to 47% reduction in rainfall during the dry season by 2090, with up to a 45% increase in rainfall during the wet season and a further 14% increase of rainfall in extreme events. This does not include the potential increase in cyclone activity – Comoros is in the Indian Ocean cyclone path – which may not be captured by GCM projections. This work also identified a rise in sea levels of up to 0.56m by 2090.

Impact of Climate Change on Rainfall in Comoros

A ranking analysis using monthly data has revealed a clear downward trend of annual rainfall over the last 60 years, with the **four driest years in the last 60 years to have been 1999, 2003, 2007 and 2013**, with the most extreme driest (1%) periods to all be in the last 1-2 decades. This is clear evidence of an increasing trend of extended low rainfall periods.

The daily rainfall analysis revealed the **longest consecutive sequence of dry days** (<1mm/d) currently **averages 34 days** per year across the country, with an increased frequency of the occurrence of 10 consecutive dry days over the last decade alone.

¹ Commission de L'Océan Indien. 2012. Synthèse des travaux du projet Acclimate.

² Comoros UNDP Country Profile. 2006. University of Oxford.

The above analysis was repeated for Effective Dry Days *i.e.* when rainfall minus evapotranspiration is less than 0 mm/d, which is a more useful indicator for agriculture. In this analysis the longest consecutive effective dry period in the country averaged across the three islands was 92 days – almost 3 months.

Daily rainfall analysis also revealed maximum daily rainfall to have exceeded more than 100mm/d in 8 of the last 9 years, with the most extreme rainfall event on record being in April 2012 (718 mm) where more than 1, 942mm fell over 6 days. When considered alongside GCM predictions of 100% increases in wet season monthly rainfall, this demonstrates an increasing likelihood of extreme flood events.

Climate Change Rainfall Impacts On Water Resources and Water Supply

Impact of Reduced Rainfall on Rainwater Harvesting Supply Security (primarily Grand Comore)

More than 50% of the population in Grand Comore currently relies on rainwater harvesting. Rainwater harvesting analysis³ of average household rainwater tanks⁴ shows they currently go dry for as long as 35 days (using a government rural demand estimate⁵ of 35 lpd for a household of 8 persons), although the analysis shows this can be reduced to 15 days with household rainwater rationing to 20 lpd, if adequate drought forecasting was available.

However, the predicted increase in the length of **dry periods by up to 48 days due to climate change** will therefore have **catastrophic impacts on rural community water supplies** right across Grand Comore, due to the island wide failure of the rainwater harvesting systems.

Impact of Reduced Rainfall on Surface Water Flows and Water Supplies (primarily Anjouan and Mohéli)

The small and steep nature of watershed catchments in Comoros and lack of lakes and other natural reservoirs means the stream flows are very variable and many watersheds dry out entirely during dry periods, limiting those which can be used for year-round water supply. Limited hydrological information indicates dry season flows in perennial streams are only sustained by groundwater and are typically 10% of average wet season flows.

Reduced annual and seasonal rainfall will result in lower average river flows as well as less groundwater recharge and therefore reduced dry season groundwater fed base flows. This is consistent with reports that although permanent rivers exist on two of the islands, Anjouan and Mohéli, these rivers are becoming increasingly ephemeral; the number of permanent rivers on Anjouan is reported to have declined from 45 in 1950 to 12 today.⁶

These surface water supply systems are highly vulnerable to such impacts as they have little on-line water storage and few have any water treatment, only delivering raw water.

Impacts of Reduced Rainfall on Groundwater Resources and Supplies

In the most populated island of Grande Comore, groundwater is the main water source for 30% of the population – primarily in the coastal towns and villages. All boreholes are close to the coast and many exhibit elevated salinity year-round⁷. Reduced annual aquifer recharge and

³ GCF Submission Feasibility Study Section 4.1.1 and 4.1.2, 2018

⁴ MP2L, 2015. Schema Directeur AEP Mbadjini Est

⁵ Stratégie et Programme National d'AEPA aux Iles Comores, 2013

⁶ NAPA 2006

⁷ Feasibility Study Section 4.2.1.

reduced groundwater throughflow will be at least equivalent to the predicted annual rainfall reduction (-15%⁸) but are likely to be reduced by a greater percentage due to increased temperatures and higher evapotranspiration. This will therefore increase salinity in pumping wells, reducing the availability of dry season groundwater supply where boreholes are already only marginally fresh.

Impacts of Reduced Rainfall on Water for Agriculture

Agricultural dry seasons already limit rain-fed cropping – with effective dry periods (*i.e.* rainfall – evaporation) of 3 months' duration⁹. Rural farmers are therefore already reliant on streams and non-potable water rainfall structures to sustain crops through these periods. The predicted increase in effective dry days by 48 days, will however extend the dry period requiring irrigation to beyond 5 months. This explains why dry season crop failure is such a high priority issue (NAPA, 2006).

Impacts of Increased Storm Floods on Water Resources and Water Supplies

Intense rainfall is predicted¹⁰ to increase with **climate change**, both in terms of wet season rainfall (+45%) and rainfall falling as storms (+14%). The amount¹¹ (at the 95%ile) of **very wet days** per annum is predicted to **increase by 30 days** per year, with the daily maximum increasing by 44mm (a 26% increase), the 5 day cumulative rainfall increasing by 120mm (a 34% increase) and the largest monthly rainfall increasing by 292mm.

These increases in storm event rainfall intensity represent an increased risk to both surface water and groundwater resources and their associated abstraction infrastructure due to increased peak and total flood flows causing both direct physical damage and also increased catchment erosion resulting in higher turbidity raw water entering the water supply systems

The April 2012 floods (>1250mm over 6 days, >400mm on one day) caused much damage in both islands. Stream water supply intakes were both physically damaged by vegetation and debris as well as received large volumes of sediment both at the intakes and further into the system.

Country Vulnerability

The Union of the Comoros is classified as a Least Developed Country and a Small Island Developing State (SIDS) by the UN System. It is one of not only the poorest countries in the world with an estimated 80% of the rural population considered poverty-stricken and 46% of the population living in absolute poverty (<\$1.25/person/day), but also one of the most vulnerable to climate change impacts, with a land mass area of approximately 1,600 km² with no land >7km from the coast.

The global position on SIDS vulnerabilities is articulated in the SIDS Accelerated Modalities of Action (SAMOA) Pathway¹² (2014). This position statement (previously defined in the Barbados Programme of Action and later the Mauritius Strategy) clearly identifies the unique and particular vulnerabilities of SIDS, including isolation, small land masses (and therefore water

⁸ Comoros UNDP Country Profile. 2006. University of Oxford.

⁹ Feasibility Study Section 1.3.3 – Daily Rainfall Analysis.

¹⁰ Comoros UNDP Country Profile. 2006. University of Oxford.

¹¹ <http://sdwebx.worldbank.org/climateportal>

resources), small populations and distance to global markets, as well as greater exposure to natural hazards (cyclones, droughts, volcanic and seismic hazards), which not only hinder sustainable development but also climate resilience.

The IPCC Fifth Assessment Report (AR5, 2014) Chapter 29¹³ specifically identifies SIDS as having high vulnerability and low adaptation capacity to climate change. It explicitly states addressing critical economic, social and environmental issues will increase human and environmental resilience to climate change, whilst also recognizing substantial changes to human settlement patterns within SIDS may mask climate change effects. Land and water management in particular are highlighted as complimentary climate change and development strategies.

Between 70-80% of the Comorian population are small-scale farmers that are dependent on rain-fed water resources for subsistence agriculture. National food security is therefore closely linked to water security and to climate change impacts and their successful adaptation.

The population of the Comoros experiences severe difficulties in accessing water of good quality. Most citizens consume a limited quantity of water, and a large share of the consumed water is non-potable. In 2014, the total cost of imports of medicine directly associated with the treatment of gastro-intestinal diseases in the 15 zones targeted by the project reached approximately \$6.4 million. This cost increased to \$7.7 million in 2015, and reached \$9.5 million in 2016, representing an average annual cost of approximately \$7.8 million over the period 2014-2016. In these zones targeted by the project, the average cost per person for the treatment of gastro-intestinal diseases increased from an estimated \$20.60 in 2014, to \$24.00 in 2015, and reached \$28.80 in 2016 for an average cost of \$24.50 per capita over these 3 years. Climate change is projected to significantly alter this situation and to make it even more challenging. However, Comoros has limited financial resources that prevent it from adequately addressing climate change adaptation needs. Classified as a Least Developed Country by the UN System, the Comoros ranks 169 on the Human Development Index (out of 187 countries), with US\$ 840 GNI per capita, and 46% of the population living in absolute poverty with less than US\$ 1.25 per day. Anjouan and Mohéli are the poorest islands. (REF: Anjouan Vul). A large proportion of the population relies on remittances from the Comorian diaspora (mainly in France), which was estimated to have sent in US\$ 35.4 million in 2004. (REF: UNEP)

The Proposed project is highly aligned with Comoros's climate change adaptation commitments and priorities.

The Government of Comoros ratified the United Nations Framework Convention on Climate Change in 1992 and submitted its National Adaptation Plan of Action (NAPA) in 2006. NAPA priorities are aimed at adaptation in agriculture and water. The NAPA identifies loss of water bodies, drought and low river flows, and climate-related storms as major threats and hazards to Comoros. It also identifies water/groundwater availability, food security and income generation as the main issues vulnerable to climate change. Some of the priority adaptation projects identified in the NAPA are i) increase water supply and increase its quality; and ii) fight against soil erosion and promote restoration and reconstitution of basin slopes.

The GCF financed project is also in agreement with the Initial and Second National Communications (INC (2003) and 2NC (2012) respectively to the UNFCCC which identify Comoros's principal environmental problem to be water scarcity and the ephemerality of surface water requiring the following strategies:

- strengthening water resources management and environmental monitoring;
- improving groundwater management and preservation;
- expanding hydrological and meteorological monitoring infrastructure;
- protecting ecosystems and regulating stream flow;
- increasing storm run-off collection and discharge infrastructure; and
- integrating local populations into water resources management.

Furthermore, the project is entirely aligned with Comoros's recently drafted Accelerated Growth and Sustainable Development Strategy (2015 – 2019) (Stratégie de Croissance Accélérée de Développement Durable-SCA2D). Two of the four objectives of the SCA2D are i) to improve the population's living conditions and ensure equity in the access to basic social services; and ii) to promote the Comorian natural and cultural heritage and the optimal use of natural resources.

Similarly, the Project supports i) the Water Act (1994) that indicates water resources management should be led by SONEDE (National Company for Water Distribution) in urban areas and by the Ministry of Production in peri-urban and rural areas and ii) the 2011 decree on the Decentralization Process that stipulates that water and sanitation management is attributed to communities on the three islands. The Project also takes steps to advance Comoros's National Adaptation Plan process. To date, Comoros has mobilized many government, private and civil society organizations to provide awareness on adaptation, water security and DRM.

It also fully supports one of the pillars of the United Nations Development Assistance Framework 2015-2019 (UNDAF): improvement of the population's living conditions and equity in the access to basic social services.

Finally, the Project supports Comoros's aim in achieving the Sustainable Development Goals (SDGs). The project will address SDG 13 – climate change action, and contribute to SDG 2 – food security, SDG 6 – sustainable water management, SDG 14 – sustainable land management and SDG 11 – making cities more resilient

III. STRATEGY

Baseline Scenario: Current context of water insecurity and scarcity

Water Supply Coverage

The population accesses water via rainwater harvesting (25%) or from household (40%) and community (25%) fountains fed directly by gravity fed stream intakes and some well supplies in coastal towns. The type of water supply system varies from island to island, with groundwater supplies only being used in Grand Comore and stream intakes only in Anjouan and Moheli. There are no significant dams or reservoirs on Comoros and no major natural lakes.

Water consumption per capita is estimated to be only 35 litres per day, but is reported to be as low as 11 litres per capita per day for 50% of the population of Mutsamudu in Anjouan¹⁴. Water consumption is therefore mostly limited to the strict minimum for daily needs (drinking, cooking and hygiene washing). Excessive water use and water user wastage are not issues in Comoros.

¹⁴ Raphael Tshimanga, 2015. Mutusmudu Watershed Integrated Management Plan. UNEP IWRM SIDS Programme.

For those not connected to a reliable year-round local water supply system there is a thriving private sector road tanker distribution system. A jerrycan of 20 liters of non-potable water (not sterilized) costs 250 to 500 KMF (US\$ 25-50/m³) in Grand Comore against 25 KMF (US\$ 2.5/m³) in Anjouan - the difference in cost reflecting the better water quality in Grand Comore (non-turbid groundwater compared untreated stream water) and the greater poverty in Anjouan.

Irrigation and Livestock

The majority of agricultural production is rain fed. On Anjouan and Moheli communities do use stream water for irrigation using hand held containers but there is no larger scale irrigation practiced.

At Sangani on Grand Comore, a volcanic cinder cone has in the past been lined with cement and this used to store rain water, which is used to irrigate an area of 10-14 hectares for cash crops. A daily water balance analysis (see Feasibility Study Section 4.1.3) has shown the Sangani Impluvium is just capable of irrigating cash crops (e.g. tomatoes) through the driest season of the most recent decade (1-2 days of no supply), but it is very dependent on crop type and cropping months, and requires good agricultural practice with respect to soil moisture retention. The predicted increase in future climate change extended drought by 48 days cannot be met at all with the current structure.

Water Governance

Comoros recently updated its National Water Code (2015) to deliver institutional reforms necessary to improve sustainable water planning and management. The revised National Water Code was approved by the President in 2016 but has not yet been ratified by Parliament. The Code lays out reforms necessary to improve water resource management, in particular the harmonization of procedures across all islands, extending the authority of SONEDE to the urban areas within Anjouan and Moheli.

With respect to O&M roles and responsibilities for the various institutions within the water sector, they are outlined in Annex XIII(b) Operations and Maintenance plan and aligned with the future Water Code.

There is no mention of climate change issues in the new Water Code, which is more focused on service provider institutional strengthening and improved cost recovery. Drought and flood planning and management are not currently practiced by the national or island water management agencies.

In the Water Code, GoC has committed to put in place the framework for implementation and full enforcement of a new tariff system in 7 years. Tariffs will include a fixed and a volume-based component and will be revised periodically by a water regulator to reflect changes in costs.

The process to set tariff levels entails the establishment of an independent water regulator (with its own staff and budget), public consultations, affordability studies (undertaken during the project) and pilots on-site to fine-tune tariffs levels. The latter is an important step since the sustainability of a tariff system relies on evidence of improved service quality.

The Code also envisages the creation of a National Fund for the Development of Water and Sewage Infrastructure (FNDIEA) but offers only very generic indications on the sources of funds (budget, borrowings and concessional) as well as management and supervisory structure. Like tariff reform, FNDIEA appears to be little more than a concept at this stage.

Existing Extreme Weather Coping Strategies

Dealing with climate variability and climatic extremes is an ongoing problem over the last decade, with a range of informal coping mechanisms being used. During periods of climatic norm, the above technical sections confirm the population is adequately served (35 lpd) by rainwater harvesting, fresh groundwater and ample flows in streams¹⁵. **The critical problem of water supply in Comoros is only during exceptional dry periods and following storm events.**

At times of drought, when household rainwater tanks become empty, rural Comorian populations travel to the towns to fill up containers from running water sources and/or road tankers from the towns which deliver water at elevated prices to the rural villages. At the village level, water from ablutions, ylang ylang distillery cooling water and washwater are re-used during dry seasons.

With respect to water quality, during periods of strong rainfall (*i.e.* cyclones and tropical storms), high turbidity levels in streams have been shown to cause rhexistasia¹⁶. Intakes cannot be sealed to prevent water ingress, and where not blocked entirely by such events, reduced water supply is distributed without any physio-chemical or disinfection treatment. Consequently, typhoid fever and diarrhoea are the leading sicknesses for children between 3 and 5 years.¹⁷

Baseline Investments

The Government of Comoros and the international community have over the last decade invested approximately USD 51 million for current and future projects that address climate and non-climate related water supply security through a combination of institutional capacity reinforcement and infrastructure investments.

Climate Change Projects in the Water Sector

The **ACCE** project, ***Adapting Water Resource Management in Comoros to Increase Capacities to Cope with Climate Change***, (financed by LDCF and supported by UNDP-UNEP (Feb 2011 to Dec 2016 \$USD 5.14M)) focused on **increasing climate resilience of drinking and irrigation water supplies** on all islands. It also stressed water management, **reforestation, land use planning and the construction of small rural water mobilization infrastructure** (impluviums, cisterns and drip irrigation) all of which contribute to climate change resilience. Specialized training was provided for water management committees to establish a water pricing system and to conduct good community management techniques and practices. The ACCE project failed to mainstream climate resilience into the national bodies, focusing instead on state agencies and water service providers and hence failed to address the institutionalization of climate resilience and its necessary technical and financial resources into sector strategic planning and annual work programmes and budgeting. The national aspect of the project was given to the PEAPA project to develop the draft Water Code, which then neglected to include climate change within the future legislation. Key additional lessons learned to this project were identified by the terminal evaluation of this project included:

1. Ensure a well-developed operations and maintenance plan is created to secure sustainability of the infrastructure constructed, including identification of roles and responsibilities.

¹⁵ [Feasibility Study](#)

¹⁶ [Feasibility Study](#)

¹⁷ DGEF, UNDP, GEF April 2012. Report on the Vulnerability and the Adaptation of Water Resources at Risk to Climate Change Impacts on Anjouan.

2. Necessity for inclusion of flow meters within the distribution system to capture long term usage to support the implementation of a tariff structure and detection of leaks to quantify lost water.

The project was completed in 2016, with a budget of US\$ 3.7 Million.

The **CRCCA** project, *Enhancing adaptive capacity for increased resilience to climate change in the agriculture sector in the Union of the Comoros* (UNDP, LDCF) (Jun 2014 to Dec 2018 \$USD 9.39M) is building capacities to **reduce the vulnerability of agricultural systems** to climate change on all islands. The project includes support to agricultural extension services, the development of agro-climate services, and installing climate data collection infrastructure including the interpretation and **use of forecasting and information bulletins on climate change specific to the development of weather and agro-meteorological products**. The CRCCA focused entirely on the agricultural sector and did not address water sector specific resilience.

Similarly, the **GCCA European Commission-funded project** is strengthening the resilience of Comoros to climate change through i) **data management (using satellite and ground data in GIS systems)** and dissemination and ii) **integration of climate change into development strategies**. The **GCCA** project (Aug 2013 to July 2019 \$USD 3.695M) will also implement local pilot projects related to water and sanitation.. The GCCA is essentially a national non-sector specific project, which does not focus on the water sector except at the pilot scale.

Furthermore, two LDCF have recently commenced: 1) the **Building Climate Resilience through Rehabilitated Watersheds, Forests and Adaptive Livelihoods** project (UNEP) (July 2017 to 2021 \$USD 5.14M) is focusing on strengthening technical and institutional capacity for resilient integrated watershed management at the national and local levels, rehabilitating and sustainably managing watersheds and sub-catchments in specific project areas and providing a diversified array of resilient livelihood strategies; and 2) the **Strengthening of the Comoros' resilience to disaster risk linked to climate change and variability** (UNDP and UN-ISDR) project (Feb 2018 to 2023 \$USD 9.482M) plans to strengthen DRM capacities, monitoring of disaster risks and early warning dissemination. This project will develop climate modelling and provide Early Warning System messages for cyclone-related climate disasters. The climate products developed by this Disaster Risk Management project will support the integration of climate risks into all sectors including but not limited to the water sector in Comoros.

Non-Climate Change Projects in the Water Sector

Water institutional reform and water supply and distribution infrastructure provision has been provided by the **PEAPA** project (AfDB). PEAPA made major investments (US\$ 10 Million) in infrastructure such as intakes and pre-treatment facilities. Through PEAPA, preliminary studies on the hydrology and geohydrology of the three islands were also conducted. This enabled the water-related ministries to understand the potential of groundwater and surface water resources across the country. The project was completed in 2015. Infrastructure support was in areas not being targeted by the GCF project.

PEAPA also detailed the new institutional and regulatory management schemes decentralizing authority to the islands and communities, although these are yet to be enacted. PEAPA did not however address CCA issues, although increasing water supply management capacity clearly contributes towards a more robust and less vulnerable enabling environment.

The Regional **Integrated Water Resources and Wastewater Management Project (IWRM or GIRE in French) in the Atlantic and Indian Ocean SIDS project** (UNDP – UNEP) will be completed in March 2018. It has implemented a watershed protection and integrated management programme in the Mutsamudu River Basin of Anjouan and developed a national

IWRM Plan to improve river and watershed management so as to reduce soil and river pollution, to reduce the amount of water-borne diseases and to increase the sustainability of water supplies. Sensitization campaigns were used to encourage upstream users and farmers to modify their practices to reduce pollution and erosion while increasing recharge. GIRE clearly includes CCA as one of its objectives and improved watershed management clearly increases climate change resilience, although the focus of the Mutsamudu work has been on wider IWRM issues. That said the IWRM national plan provides a strong foundation for watershed ecosystem-based climate adaptation responses. This project has made important progress on establishment of a watershed committee and water resources management committees in pilot municipalities and their training in IWRM under the GIRE project. The project provided a good example in engaging with stakeholders from different sectors. It has the potential to be national in scope building from the participatory approach, and has valuable lessons in terms of the importance of stakeholder engagement.

The US\$5 Million **GECEAU** project (2012-2018) funded by AFD, **Support to public management of water in a pilot zone in Grande Comore** is also investing in water mobilization infrastructure and has implemented a pilot project on water management. The project is developing boreholes, rehabilitating the water distribution network and creating an impluvium on Grande Comore, using a strategy of water source diversification (rainwater and groundwater) to increase water security.

In addition, recent region-specific water sector projects on Comoros include development of necessary water infrastructure and improvements in institutional capacity:

1. Oichilli - (US\$1.49M) completed in 2011
2. Anjoun and Moheli
 - a. Water Services Strengthening Project (NETWORK)- (US\$0.93M) 2009 to 2011
 - b. Support Project for Water Management - US\$1.5M 2004 to 2009

Other water supply infrastructure has been provided by: the World Bank's FADC grant program after the flood of 2011 / 2012 devastated much of the water distribution network; a US\$ 6 Million upgrade to the Domoni town water supply to be completed in 2018; a US\$ 4 Million upgrade to the Djandro water supply completed in 2017; and a US\$ 4 Million upgrade to Sima Pensinsula water supply completed in 2012. None of these are in the GCF project area. These were all engineering schemes and had no climate resilience considerations.

Water Sector Climate Resilience Gap Analysis

Despite the considerable efforts of the non-climate specific water supply programmes focusing on broader service provider institutional strengthening, infrastructure upgrades, cost recovery, and wider watershed management, and the strategic vision of a single project focusing on climate resilience in the water sector correctly exploring water resources monitoring, watershed and land use management as well as infrastructure resilience upgrades and climate forecasting, it is evident the water sector currently does not systematically integrate climate risk reduction into water supply provision and as such the sector remains highly vulnerable to climate change risks.

The gap analysis highlights both the inherent vulnerability to climate variability, due to the fundamental nature of the small island context – small land masses, with little natural freshwater storage, resources, which respond rapidly to increases and decreases in rainfall and the increasing severity of the climate change impacts to come.

Existing and forecast hydrological variability based on a range of climate change scenarios and its impact on water resources and water supply infrastructure has received almost no attention. There has been no national scale effort on water resources monitoring and no climate focused support to national agencies, policies or legislation.

Water conservation and water loss reduction within the reticulated water supply schemes has received no attention, despite these being obvious demand side climate change adaptation strategies to reduce water shortages.

Perhaps of greatest concern, the fundamental and unavoidable issue of limited and fragile freshwater resources during periods of rainfall variability is not addressed in any way.

This is particularly important with the predicted climate change impact of rainwater harvesting collapsing during future droughts resulting in greater demand for public water supply from groundwater when groundwater resources are under greatest pressure. This double-whammy means that climate change impacts necessitate the absolute need for i) assessing and understanding future drought yields from groundwater; and ii) maximizing the contribution of improved watershed management to increasing water retention and thereby increasing groundwater recharge and stream base flows as well as reducing flood flow peaks and erosion. These two approaches will support maximum potable water resources availability during climatic extremes.

The increasing population growth rate (2.4%)¹⁸ and consequential future increases in water demand will obviously increase the number of people at risk of climate vulnerability. Water resources are abundant during periods of non-climatic extremes – rainwater harvesting works well in Grand Comore except during extreme drought periods, and average stream flows in Anjouan and Moheli exceed predicted future demand by usually at least two orders of magnitude¹⁹. The critical issue is potable water availability in times of droughts and floods.

What is clearly absent from the water sector interventions, be they climate focused or not, is a **lack of consideration of climate impacts driven by an assessment of risks and how to reduce these risks**. This is all the more important in Comoros because the limited and therefore inadequate levels of human and financial resources means risk reduction assessment needs to be mainstreamed so as to prioritize climate resilience efforts to focus precious human and financial resources into those areas which can have optimum benefit.

Barriers to achieving Water Sector Climate Resilience

The Project objective is to *Increased Resilience of Water Supplies to Climate Risks in the Comoros Islands*. This can only be achieved by ensuring the government agencies, communities and households have the capacity to plan, deliver, operate and maintain appropriately designed and constructed water supplies and protect their water resources from derogation by forecast climate risks.

In order to build this technical adaptation capacity, the Comoros stakeholders require: knowledge, training and information. And in order to acquire these, Comoros has to provide/secure sufficient financial resources and then use these financial resources in an effective and coordinated manner. In order to secure the financial resources and coordinate stakeholders and agencies, Comoros needs to have appropriate prioritization of climate change impacts in its water sector enabling framework. And this requires political will to address climate change risks – which Comoros does have.

¹⁸ <http://hdr.undp.org/en/data>

¹⁹ Feasibility Study Section 4.4.3

These barriers are discussed in more detail below in the order they logically need to be addressed in.

Limited Financial Resources to Deliver Climate Resilience

Water supply service providers are currently undergoing national tariff reforms as part of the on-going water governance reforms mandated by the new water legislation (Water Code) to improve the sustainability of the water sector. However the issue of appropriate tariff setting is only identified within the new Water Code in terms of normal operating conditions. It is not recognized with respect to the level of additional investment required to deliver resilience to climate impacts – which require much greater investment in risk reduction and preparedness planning (CAPEX) as well as risk reduction operation & maintenance (OPEX).

Water resources monitoring and watershed management however appear to receive no current budgetary support at all, given there is no national hydrological monitoring network, no clear understanding of the nation's water resources, and little watershed management. To date the lack of a hydrological monitoring network and protected watersheds have not impacted water supply provision, however climate change rainfall variability necessitates water resources and watershed management as critical strategies to protecting and increasing water resources availability during climatic extremes in SIDS.

Inadequate Stakeholder Coordination and Collaboration to Deliver Climate Resilience

Comoros has national, island and community (water user) governance arrangements in place. The autonomous island/state level specific to Comoros introduces an additional level of institutional mandates and therefore complexity and fragmentation of water resource and water supply mandates, roles and responsibilities, including the planning and budgeting of annual work programmes than is usually observed.

The new Water Code legislation articulates a more effective and efficient institutional arrangement for delivering more reliable water supplies, but it does not consider climate change risks to water supplies.

There is no formal governance mechanism for water resources and watershed management at the island scale, although the introduction of IWRM to the regional water directorates by the GIRE project has created an entry point for improved coordination. A national IWRM Plan was validated in August 2017 but has yet to be enacted. With periods of climatic extremes this lack of IWRM to date has not been a critical barrier to water security. However, the impact of climate change on water resources necessitates the use of watershed management to both prevent water quality derogation and optimizes water quantity availability – through water retention within the catchment. IWRM therefore becomes an essential climate change strategy in countries with fragile and finite water resources. In addition, as climate risk reduction is arguably the most important IWRM issue with which to promote IWRM, using climate resilience to secure political and community support to IWRM is highly effective. Climate risk reduction through IWRM can therefore be used to secure wider commitments to improving non-climate related drinking water quality risk reduction to the water sector e.g. pollution.

Climate risks also introduce a much greater requirement for coordination, cooperation and collaboration between agencies and stakeholders, as they require data, decision-making and actions (e.g. preparedness and response) to transfer between organisations more quickly than managing water resources and water supply in normal operating conditions. Whilst the recent Water Code reforms accommodate the requirement for improved coordination, this does not extend to the level required to achieve effective climate risk reduction.

Limited Knowledge and Data to Identify Climate Risks and Develop Adaptation Responses

There is no current on-going monitoring of water resources and water supply infrastructure performance and no monitoring systems in place to allow such monitoring to occur. This lack of knowledge has not been essential to operate the nation's water supply to date, however it is now required in order to understand reliably the nation's fragile water resources, their availability during climatic extremes, and their quality and vulnerability to future climate variability and plan their resilience.

The lack of detailed climate forecasting in-country prevents specific early warning of future climate extreme impacts, other than by evaluating the antecedent conditions experienced in the country in previous hours, days and months. Monitoring requirements to assess climate risks requires even greater monitoring resources as the need for monitoring becomes time critical, especially for flood and erosion risks, but also for drought, as well as understanding how stressed the water resources become during climatic extremes.

Limited Technical Capacity to Assess and Reduce Climate Risks

The technical staff capacity within water-related agencies is limited. There is some capacity as evidenced by local water engineers, geologists and hydrologists being involved in the development of this project, however they are limited in experience to managing and operating the current water supply infrastructure within normal climatic conditions.

None of these climate resilience gaps are being addressed by the project baseline.

Project against Baseline Summary

The project is designed to address critical shortfalls in national capacity and knowledge which currently prevent climate risk reduction being integrated into national and community climate resilient water resources and water supply management, so as to overcome the country's vulnerability to climatic extremes due to its fragile water resources and lack of human and financial resources due to its small population and island isolation.

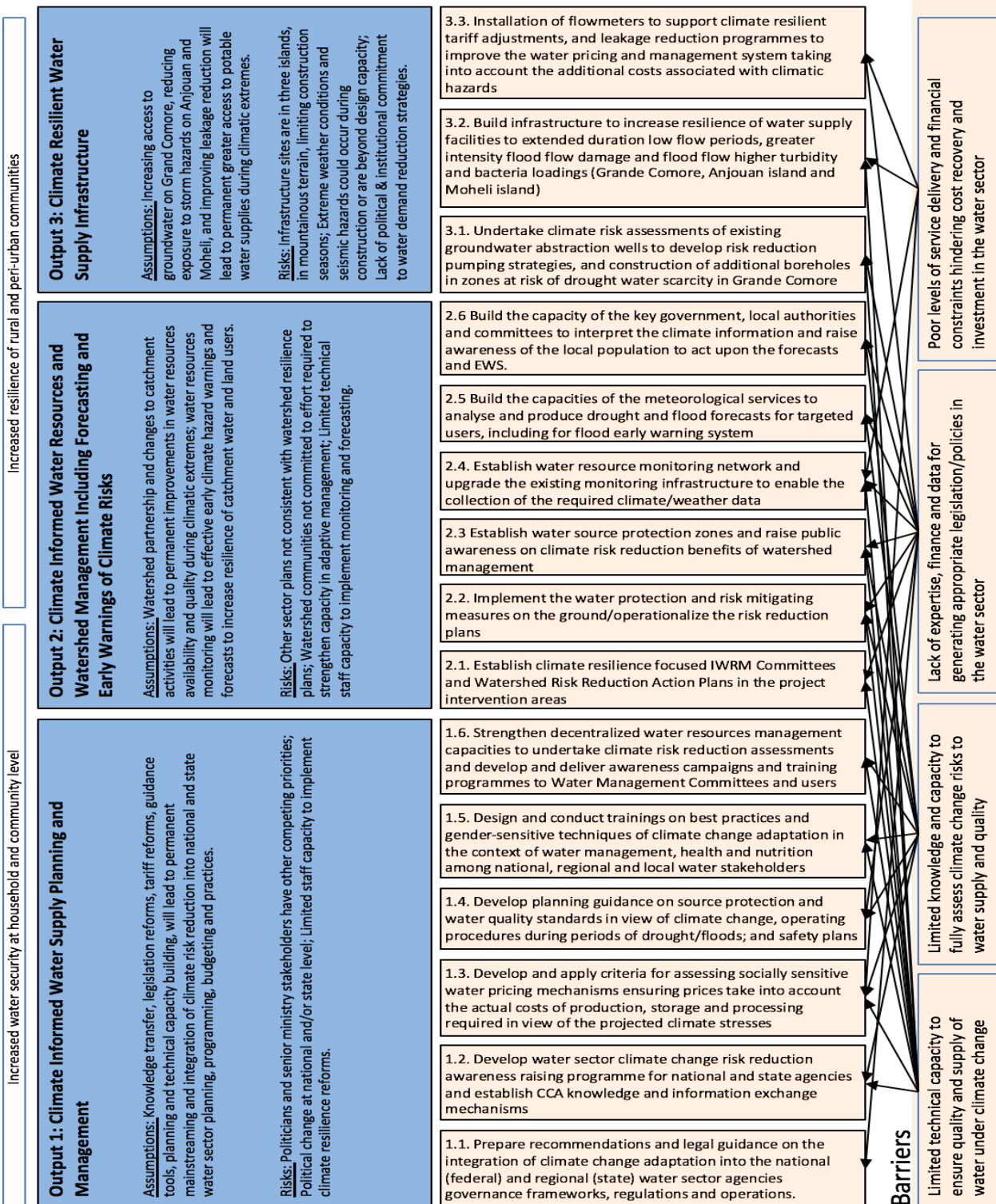
Specifically the project focuses on: creating a paradigm shift in water governance by mainstreaming climate risk reduction into water sector legislation, institutional arrangements, planning and budgeting; understanding and adapting to the climate risks to the nation's fragile water resources using watershed protection and rehabilitation coupled with hydrological monitoring and forecasting; and the integration of climate risk reduction into water supply scheme design, operation and management including multiple water source exploitation.

With the GCF project, approximately 450,000 people will have a more secure, more resilient and safer drinking water supply, capable of meeting longer drought periods, withstanding more intense storms and supporting food security as well as water security, with 800,000 people to benefit from national level interventions in improvements to climate resilient water governance and water resources protection.

Theory of Change of the project

Fund-Level Impact 2.0: Increased resilience of health and well-being, and food and water security

Project Outcome: Ensuring Climate Resilient Water Supplies in the Comoros Islands



IV. RESULTS AND PARTNERSHIPS

Expected Results: **The key** goal of the project is to strengthen the climate resilience of drinking and irrigation water for 15 of the most vulnerable zones in the Union of Comoros to climate change risks.

In order to deliver and sustain climate resilient water supplies it is necessary, especially in SIDS, to achieve three components. These forms the outputs of the project:

- i) a national water planning approach which mainstreams climate resilience into its policies, plans, legislation, budgeting and institutional arrangements including both the regulators and the service providers, to ensure adequate financial and human resources are available year-on-year to sustain climate resilience (this is the objective of Output 1);
- ii) ensure adequate water resources are available during droughts and floods and actively manage the watersheds to both prevent climate induced derogation and where possible augment water resources protection (this is the objective of Output 2), including providing forecasts and warnings of water resources status to enable adaptive management; and
- iii) locate, design, build, operate and maintain water supply infrastructure to explicitly be resilient to climate change increased risks including droughts, floods, storm damage, storm surges, bushfires, power outages, and increased temperature driven water demands (this is the objective of Output 3).

Together these three Outputs deliver climate change resilient water supplies. Failure to address any one of these outputs will result in limited and unsustainable climate resilience.

The 15 target zones on the three islands, comprising 103 villages, have been chosen due to their vulnerability to climate change, their good hydrogeological and hydraulic potential for water storage and capture, limited donor support for water supply in the localities to date and potential collaboration planned with complimentary donor support. The target zones are:

1. **Grande Comore Zones:** 1) Bambao et Itsandra et peri-urban Moroni, 2) Ngongwe, 3) Hambou Djoumoipanga, 4) Mboikou, 5) Oichili, 6) Hamanvou;
2. **Anjouan Zones:** 7) Hassimpao, 8) Vouani, 9) Vassi, 10) Ankibani, 11) Chitrouni – Saadani, 12) Mjamaoué, 13) Nioumakélé-Bas;
3. **Moheli Zones:** 14) Fomboni-Djoiezi, 15) Hoani-Mbatsé.

Output 1: Climate Informed Water Supply Planning and Management

This output intends to improve multi-agency coordination and collaboration, as well as mainstream climate risk reduction into organizational planning, budgeting and programming by strengthening the national water policy and legislation frameworks to require financial and technical resources to be available to undertake climate change informed decision making at all levels on water resources and water supply.

In light of the above, this output will revisit the current on-going water tariff pricing reform process in order to ensure prices reflect actual production, storage and treatment costs required to deliver climate resilient infrastructure. Socially-sensitive billing rates for water tariffs will be determined through comprehensive affordability surveys and will be standardized so that they include locality-specific production and distribution costs required to address climate extremes, so as to supply sufficient, good quality water during and after dry periods and intense rainfall events. The responsibility, timing and regulatory process to review tariffs after the initial setting will also be defined as a part of this output.

Furthermore, a Water Security Plan will be drafted and the Water Code will be updated in order to detail the requirements and responsibilities for climate risk reduction focused i) protection of sources, ii) operational procedures during dry / wet periods and iii) water quality standards. Best practices for addressing intense rainfall events, prolonged drought and saltwater intrusion will also be outlined.

In addition, drinking water management structures will be strengthened in rural and peri-urban areas through climate risk reduction training for the Water Management Committees (WMCs). Training will detail the existing and predicted impacts of climate change on water resources, required practices for water quality testing and monitoring, best protocols for climate resilient water infrastructure Operation and Management (O&M) and application of water tariff rates to reduce the identified climate risks to the water supplies within a risk based management framework known as Drinking Water Safety and Security Planning (DWSSP). To ensure sustainability of the water management system, user behavior change will be promoted with respect to protection and conservation of water services. Awareness-raising on climate change will be provided on water laws, water quality issues and water production and supply costs relative to water tariff rates. Users will be informed about the link between water and climate change and the need for water conservation.

The Government of Comoros will provide co-financing for: supporting the development of criteria for assessing socially sensitive water pricing mechanisms, regulatory processes to review tariffs and training related to tariffs; and strengthening water resource management capacities for the WMC's and users

Output 1 activities are as follows:

- Activity 1.1. Prepare recommendations and legal guidance on the integration of climate change adaptation into the national (federal) and regional (state) water sector agencies governance frameworks, regulations and operations
- Activity 1.2 Develop water sector climate change risk reduction awareness raising programme for national and state agencies and establish CCA knowledge and information exchange mechanisms
- Activity 1.3 Develop and apply criteria for assessing socially sensitive water pricing mechanisms ensuring prices take into account the actual costs of production, storage and processing required in view of the projected (GoC funded)
- Activity 1.4 Develop planning guidance on source protection and water quality standards in view of climate change, operating procedures during periods of drought/floods; and safety plans
- Activity 1.5 Design and conduct trainings on best practices and gender-sensitive techniques of climate change adaptation in the context of water management, health and nutrition among national, regional and local water stakeholders
- Activity 1.6 Strengthen decentralized water resources management capacities to undertake climate risk reduction assessments and develop and deliver awareness campaigns and training programmes to Water Management Committees and users

Output 2: Climate Informed Water Resources and Watershed Management Including Forecasting and Early Warnings of Climate Risks

Output 2 intends to optimize the availability of the finite and fragile water resources in each watershed and use watershed based adaptation approaches to reduce the impacts of climate change on dry season aquifer recharge, stream low flows and water quality, storm flood run-off and soil erosion and storm water quality (thereby extending the climate resilience of Output 3 hard infrastructure solutions) through improved inter-sectoral coordination and capacity building in watershed adaptation approaches. This output will support an integrated approach to water management by creating Integrated Water Resources Management committees that will guide water abstraction, use and protection activities at the watershed scale to ensure resilience to

climatic hydrological extremes. The revised Water Code has mandated the establishment of the IWRM committees to focus on ensuring groundwater and surface water recharge and watershed protection. The IWRM committees will coordinate with the DGEME (role of water supply) and the DGEF (role of water quality) at the national level, the DREA at the regional level and will work with the communes at the local level. Best practices will be used from a recent IWRM (GIRE) project that used a national IWRM Plan and national steering committee as an entry point to promote the IWRM watershed committees to focus initially on the priorities of drought and flood resilience planning and adaptation, as part of broader watershed management planning.

The IWRM committees will be responsible for generating watershed specific Climate Risk Reduction Action Plans based on initial Climate Risk Vulnerability Assessments (CRVAs) to be conducted. The CRVAs will provide a hazard mapping inventory of areas exposed to climate risks. The IWRM Climate Risk Reduction Action Plans will detail the most appropriate adaptation measures to ensure the conservation, protection and sustainability of water resources. In collaboration with UNEP-GEF's watershed project the development of these plans will be community-focused, gender-sensitive and elaborated in a participatory manner. These plans will detail feasible watershed management and restoration climate adaptation activities including zoning of source water areas and delineation of buffer zones, re-vegetation in riparian zones and reforestation of river basins, improving farming practices and other land use practices which de-stabilize soils eg road construction and drainage, so that water resources become more resilient to climate change through improved dry season water retention, flood flow attenuation, soil stabilization and water quality clarification and oxidation. The zoning areas will be established by decree under the Water Code.

Furthermore, output 2 will also address the lack of knowledge and data on the climate vulnerability of the water resources of the country and to develop the technical capacity to both forecast climatic risks and create sector specific hydrological products to inform and upskill the adaptation capacity of water users – be they water supply, agricultural or other sectors. The collection, analysis, interpretation and dissemination of water resources data for all aspects of the water cycle (rainwater, surface water, groundwater, evapo-transpiration) allows the impacts on the water resources due to climate change to be observed and predicted. In Comoros, where rainwater harvesting is already restricted, much groundwater is almost brackish, and surface water already highly variable in flows and turbid in quality, then small further increases in rainfall shortages or rainfall intensities can have very significant consequences in terms of water resource availability during periods of climatic extremes. In this situation, effective water resource monitoring enables agencies/ organizations to develop effective adaptation strategies.

This output will contribute to improving climatic extreme water resource data management through the procurement and installation of 10 hydrological (surface water) gauging stations in Anjouan and Moheli and the procurement and installation of 30 groundwater piezometers on Grande Comore and 13 across Anjouan and Moheli. All water related monitoring stations will be coupled with the existing synoptic stations (4), automatic weather stations (10) or with the 90 rain gauges already installed. Technicians will be trained on monitoring system operation and management. Data will be captured, processed, stored and analyzed, as well as distributed and shared, by the Directorate of Meteorology and not the watershed basin committees. This data will contribute directly and immediately to final engineering upgrade designs to be delivered in Output 3 – such as optimal locations and pumping rates of new production boreholes.

This output will also focus on developing simple but customized water-related forecasts for targeted user agencies (including water service providers, farmer associations) and local community end-users, by staff in key government departments and local authorities who will

have been trained in interpreting water-related climate and weather forecasts to support sector specific decision-making tools, eg agricultural drought warnings and response/preparedness advice s.

Furthermore, a simple flood alert early warning system using total rainfall and rainfall intensity from selected automated rainfall gauges and telemetry links to the volcanic observatory (which uses a similar real time seismic monitoring system) will be developed to provide a flood risk warning system for each island. This will be connected to the mobile phone system and provide SMS flood warning messages. The technical capacities of staff in the Directorate of Meteorology will be improved in-house using near-by available trainings (e.g., WMO Hydrology and Water Resources Programme (HWRP), the WMO Regional Training Centres in Madagascar and Kenya, WMO distance learning courses, RSMC Réunion and by exploring existing university knowledge. The University of Comoros is working with the SONEDE to monitor groundwater salinity levels in pumping wells brought about by saltwater intrusion. The national University hosts the national water quality laboratory and represents the main groundwater knowledge base in the country. This output will also support mainstreaming water resources and water supply climate risk reduction into relevant existing curriculums of existing graduate level classes and programmes within the university.

The Government of Comoros will provide co-financing for the following: supporting the establishment and formalization of climate risk centric IWRM committees; Establish water resource monitoring network and upgrade the existing monitoring infrastructure; facilitate building capacity of key stakeholders to interpret the climate information and raise awareness of the local population to act upon the forecasts and EWS

Output 2 activities are:

- Activity 2.1. Establish climate resilience focused IWRM Committees and Watershed Climate Risk Reduction Action Plans in the project intervention areas
- Activity 2.2 Implement water protection and risk mitigating measures (eg re-vegetation, reforestation, best practice low-erosion farming) on the ground/operationalize the risk reduction plans
- Activity 2.3 Establish water source protection and buffer zones and raise public awareness on climate risk reduction benefits of watershed management
- Activity 2.4 Establish water resource monitoring network and upgrade the existing monitoring infrastructure to enable the collection of the required climate/weather data
- Activity 2.5 Build the capacities of the meteorological services to analyze and produce drought and flood forecasts for targeted users, including for flood early warning system
- Activity 2.6 Build the capacity of the key government, local authorities and committees to interpret the climate information and raise awareness of the local population to act upon the forecasts and EWS.

Output 3: Climate Resilient Water Supply Infrastructure

Output 3 aims to deliver a programme of risk-prioritized evidence-based climate risk reduction infrastructure upgrades to the existing water supplies on each island - an approach known as Drinking Water Safety and Security Planning (DWSSP) and promoted by UNICEF - as the design process. This will deliberately include a range of groundwater and surface water fed potable water supply schemes and rainfed and surface water fed irrigation supply schemes, to ensure maximum relevance nationally both on sustaining these schemes against climate change and later replication throughout the country. These infrastructure upgrades address drought vulnerability and water shortages for rainwater reliant communities on Grand Comore and storm vulnerability and storm damage and high turbidity risks to surface water intakes on Anjouan and Moheli.

In specific, this output includes hard infrastructure measures to scale-up and improve water abstraction and storage during climatic extremes. The GCF project will focus on 1) increasing access and exploitation of groundwater when rainwater harvesting fails during extended dry periods, , 2) climate-proofing water sources and infrastructure (elevating pump stations, using protective covers for reservoirs), against flood risks, 3) treating and filtering water in a cost-effective manner to account for climate change water quality deterioration (especially in BOD, turbidity) and 4) expanding agricultural water storage mechanisms for dry periods and higher crop demand associated with increasing high temperatures. Taking into account the physical characteristics of watersheds and the types of risks they are exposed to, this output will upgrade surface water and groundwater abstraction systems and develop and / or rehabilitate rainwater irrigation systems, Rather than opt for a single type of solution which will increase susceptibility to climate change impacts, the output will enable each island to have more diversified sources of water supply. Details on the activities in each target zone are provided below.

Output 3 specifically focuses on increasing the reliability of water supply during future climate change increased extreme rainfall variability events (*i.e.* droughts and storm floods) However, this output will not aim to provide additional water supply to serve the increasing demands of the growing population. In Grand Comore, communities will meet their normal water demand through their own household and community rainwater harvesting – which is not funded by the project. Only when this rainwater harvesting fails, due to climate change induced impacts and extreme events, will these communities need to access the groundwater scheme upgrades being provided by the project.

The Arab Fund for Social and Economic Development (FADES) will provide co-finance for the safe borehole salinity yield assessments in Zone I of Grand Comore where the largest and most productive boreholes are known to exist. The Chinese Government through one of its international construction companies will fund extension of the groundwater distribution network to 18 villages in Zone 1 of Grand Comore and will co-fund borehole pumps and treatment for 19 villages in Zone 2 of Grand Comore.

On Anjouan and Moheli, the existing surface water schemes have sufficient excess capacity to already meet the predicted population growth – most schemes are small and the pipework and intakes can transmit an order of magnitude more water than the current demand requires. This output will fund the upgrades that will protect these schemes during storm flood events and minimize the entry and use of storm waters into the systems – including intake closure systems, storm flow diverters and short-term storage tanks. This output will also fund for the increased treatment requirements for the potable water supply schemes necessary to overcome the climate change increases in turbidity due to higher rainfall intensity.

Furthermore, as stated above, most of the surface water schemes transmit greater flows than are needed for water supply. Therefore, this output will also support agricultural storage infrastructure to hold some of these flows to secure food production during the dry season. On Grand Comore a similar approach will use rainwater schemes. These irrigation storage schemes will only support existing agricultural production and will not support new or proposed expansions of farming areas. All schemes on Anjouan, Moheli and Grand Comore will be funded through GCF funds.

Studies have indicated that natural water resources are sufficient to ensure a continuous water supply if managed sustainably. Water balance estimates demonstrate that Grand Comore has a renewable water volume of 1.2 billion m³ per year, of which 1.1 billion m³ are from

groundwater.²⁰ Current exploitation of groundwater and of surface water and RWH is 0.5% and 1.9% of the total renewable volume.²¹

Across the 6 target zones in Grand Comore, the water demand is estimated to be 18,235 m³/d. When rainwater harvesting fails due to future climate change, this entire demand will need to be met for up to consecutive 44 days from the groundwater supplies. The potable groundwater boreholes on the island can only provide an estimated 11,088 m³/d, even if they could get this water to the rural communities, which they currently cannot. The shortfall of 7,147 m³/d (82 l/s) *i.e.* 40% of the normal water demand, will be able to be supplied by 5 new boreholes – 1 in each of 5 target zones. But to meet the total demand, this also requires existing groundwater schemes with spare pumping capacity to be have their distribution systems and pumping stations expanded into the rural upland areas.

In Anjouan and Moheli, the climate change risks do not relate to water quantity but to water quality derogation, both during the storm events themselves and then the increased turbidity due to storm damage to the catchments. Here the project approach is to provide sufficient storage tanks as upgrades to the schemes to enable the intakes to be closed during the storm periods, and then increase treatment capacity of the schemes to deal with the increased turbidity of the raw water after the storm has passed. Great amounts of fresh groundwater resources are also thought to exist in Anjouan and Moheli on perched aquifers for instance. Due to a lack of groundwater studies, this source has never been exploited.²² Groundwater resources analysis will be undertaken in Output 2 in advance of and to inform locations for new groundwater abstraction boreholes on Grand Comore.

Output 3 activities are:

- Activity 3.1. Undertake climate risk assessments of existing groundwater abstraction wells to develop risk reduction pumping strategies, and construction of additional boreholes in zones at risk of drought water scarcity in Grande Comore
- Activity 3.2. Build infrastructure to increase resilience of water supply facilities to extended duration low flow periods, greater intensity flood flow damage and flood flow higher turbidity and bacteria loadings (Grande Comore, Anjouan island and Moheli island)
- Activity 3.3. Installation of flowmeters to support climate resilient tariff adjustments, and leakage reduction programmes to improve the water pricing and management system taking into account the additional costs associated with climatic hazards This activity is fully funded by the Government of Comoros.

Activities include conducting simple rapid (1 day long) groundwater saline up-coming capacity tests on existing production wells to optimize existing pumping regimes (altering pumping rates and pump depths) to reduce the risks of saltwater intrusion during drought periods when recharge is low and groundwater demand and therefore pumping rates increase due to rainwater harvesting failure. FADES will fund these tests in Zone 1 of Comoros. The other zones will be funded by GCF.

In areas on Grand Comore where roof surface areas are minimal and where boreholes can be constructed in shallower, productive groundwater supply areas, boreholes will be upgraded and

²⁰ African Development Bank, Strategy and Programme of PEAPA in the Comoros, Annex 1: Hydrologic and water resources balance

²¹ African Development Bank, Strategy and Programme of PEAPA in the Comoros, Annex 1: Hydrologic and water resources balance, Annex 2: Hydrogeologic context, Annex 3: Socio-economic context, Annex 5: Water resources monitoring

²² DGEF, UNDP, GEF April 2012. Report on the Vulnerability and the Adaptation of Water Resources at Risk to Climate Change Impacts on Anjouan.

new boreholes constructed where groundwater investigations (see Output 2) confirm fresh groundwater to exist.

Expansion of existing coastal groundwater fed water supply networks into the high interior rural villages is an appropriate adaptation strategy in Grand Comore, into those areas where rainwater harvesting is inadequate (and cannot be expanded) and where depth to groundwater prevents direct exploitation of the underlying aquifers. The Chinese Government is funding the expansion of the groundwater distribution system to 18 villages in Zone 1 and co-funding the system to 19 villages in Zone 2. The other zones will be funded by GCF.

In contrast, on Anjouan and Moheli, climate-proof river intakes will be constructed to ensure they are not damaged by flood events. This will be fully funded by GCF. Rainfall catchment water balances undertaken as part of the Feasibility Study (see Feasibility Study Section 4.4.3) suggest dry season flows will be more than sufficient to meet public water supply requirements (including for population growth), however additional surface water monitoring (see Output 2) will be installed to confirm dry season flows do exist in each basin prior to intake upgrading.

All storage tanks attached to surface water and groundwater distribution systems will be equipped with the appropriate water disinfection and filtration systems – to address the increased turbidity and therefore water quality derogation expected due to climate change. The tanks will also provide greater flexibility in supply scheme operation to enable the intakes to be shut down during storm events and will provide a few days of storage during the dry season.

Reservoirs, impluviums and water troughs will also be constructed for non-potable uses including agriculture. Impluviums, or natural crater collecting rainwater, will be used for agriculture due to their tradition in the Comorian culture. The impluviums are located above the villages enabling gravity feed pipelines to be constructed. This will increase flood security during the dry seasons and reduce use of precious rainwater necessary for drinking water in the upland households of Grand Comore. These will be fully funded by GCF.

Finally, water meters will be installed to both promote water demand management (allowing service providers to identify areas of water leakage and/or theft in each supply zone) of water supply schemes thus minimizing groundwater and stream abstraction rates during climatic extremes and reducing saline up-coning and water shortage risks, but also demonstrate water delivery and therefore inform the tariffs required to sustain climate risk reduction operation and maintenance levels. This entire activity will be fully funded by the Government of Comoros. These hard infrastructure measures will be accompanied by a capacity building and strengthening of institutions in charge of managing the water provision infrastructure (see Output 1) to use the data to manage water leakage and reduce lost water, as well as how to use the data to inform tariff structures.

Table. Proposed Water Supply Infrastructure per Target Zone

Zone	Existing Borehole Protection	New Borehole Drilling	Protectin g Stream Intakes	Expanding Pipeline Network	Protecting Water Treatment	Potable Water Storage	Irrigation & Livestock Storage
1 Moroni	3 Bores	1	n/a	Rural	Yes	10 tanks	No
2 Ngongwe	1 Bore	0	n/a	Rural	Yes	1 tank	No
3 Hambou	n/a	2	n/a	Rural	Yes	2 tanks	No

Zone	Existing Borehole Protection	New Borehole Drilling	Protectin g Stream Intakes	Expanding Pipeline Network	Protecting Water Treatment	Potable Water Storage	Irrigation & Livestock Storage
4 Mboikou	1 Bore	1	n/a	Rural	Yes	2 tanks	No
5 Oichili	1 Bore	1	n/a	Rural	Yes	2 tanks	No
6 Hamanvou	n/a	n/a	n/a	Rural from impluvium	No	4 crater impluvium	No
7 Hassimpao	n/a	n/a	1	Rural	Yes	2 tanks	16 basins & 8 troughs
8 Vouani	n/a	n/a	1	Irrigation only	Yes	2 tanks	20 basins & 12 troughs
9 Vassi	n/a	n/a	1	Irrigation only	Yes	1 tank	12 basins & 6 troughs
10 Ankibani	n/a	n/a	1	Rural	Yes	4 tanks	30 basins & 24 troughs
11 Chitrouni	n/a	n/a	1	Rural	Yes	1 tank	12 basins & 6 troughs
12 Mjamaoue	n/a	n/a	1	Rural	Yes	1 tank	12 basins & 6 troughs
13 Niomakele	n/a	n/a	3	Rural	Yes	3 tanks	44 basins & 35 troughs
14 Fomboni	n/a	n/a	1	Rural	Yes	12 basins	6 troughs
15 Hoani	n/a	n/a	1	Rural	Yes	16 basins	6 troughs

Impact potential

The project will contribute to achieving GCF Fund Level Impact, increased resilience of health and wellbeing, and food and water security; The climate-impact potential of the Project introduces an integrated, holistic, participative approach to reduce hydrological (drought and flood) risks and increase the resilience of reliable and safe water supply accounting for climate stresses. All water resources, watershed and infrastructure designs and management protocols will account for expected climate change impacts (drought, extended dry periods, intense rainfall events). The project will benefit directly to 450,000 people (of which 229,500 are women) in the urban and peri-urban towns of each island capital (Moroni, Mutsamudu and Fomboni) and 100 rural villages of Comoros (see Feasibility Study Annex 5) by improving drinking water supply climate resilience to droughts, flood damage and poor storm run-off water quality. This is 64% of Comoros's current population.²³

²³ World Bank statistics

The project will also reduce and potentially eliminate the number of people severely impacted by floods due to water disruptions (e.g., 84,000 people had interrupted water supply after the 2012 flood) and by water-borne diseases (approximately 4,000 annually).^{24 25}

Also, 800,000 (375,000 women) will indirectly benefit from national and island scale climate risk resilience water governance reforms, national scale water resources monitoring and management during climate extremes, national scale climate risk forecasting and adaptation product dissemination, and national scale climate risk reduction public awareness raising.

Partnerships:

The project has designed a stakeholder consultation and engagement plan that is meant to guarantee proper partnerships to ensure the attainment of defined results. Thus, this project will support an integrated approach to water management by creating Integrated Water Resources Management committees that will guide water abstraction, use and protection activities at the watershed scale to ensure resilience to climatic hydrological extremes. The IWRM committees will coordinate with the DGEME (role of water supply) and the DGEF (role of water quality) at the national level, the DREA at the regional level and will work with the communes at the local level. Best practices will be used from a recent IWRM (GIRE) project that used a national IWRM Plan and national steering committee as an entry point to promote the IWRM watershed committees to focus initially on the priorities of drought and flood resilience planning and adaptation, as part of broader watershed management planning.

The IWRM committees will be responsible for generating watershed specific Climate Risk Reduction Action Plans based on initial Climate Risk Vulnerability Assessments (CRVAs) to be conducted. The CRVAs will provide a hazard mapping inventory of areas exposed to climate risks. The IWRM Climate Risk Reduction Action Plans will detail the most appropriate adaptation measures to ensure the conservation, protection and sustainability of water resources. In collaboration with UNEP-GEF/LDCF's watershed protection project the development of these plans will be community-focused, gender-sensitive and elaborated in a participatory manner. These plans will detail feasible watershed management and restoration climate adaptation activities including zoning of source water areas and delineation of buffer zones, re-vegetation in riparian zones and reforestation of river basins, improving farming practices and other irrelevant land use practices.

Further to that, knowledge and learning are embedded across all four components of the project design as approaches to promote partnerships both at national, regional and global level. These include both formal and informal knowledge strengthening and learning activities.

Risks and Assumptions:

The Environmental and Social Risk Assessment discussed earlier has highlighted risks associated with the impact of the project on the environment and communities. In addition, there are risks to the project implementation itself. These need careful evaluation, monitoring and mitigation due to the inherent vulnerabilities of Small Island Developing States.

In summary, these include risks magnified by Comoros being a SIDS including: Remoteness of Project Country, Remoteness of Project Sites, Limited Qualified Local Staff; and Exposure to Extreme Weather Events; and well as more generic project risks of Community Ownership,

²⁴ OCHA: Floods in April 2012 affected approximately 50,000 people, including more than 9,000 who were forced to leave their homes.

²⁵ Comoros Second National Communication to the UNFCCC (2012)

Political Commitment, and Land Disputes (although the latter is also magnified in SIDS where land resources are limited, population pressures high and land ownership often traditional).

The mitigation strategies for the project risks, including the risks identified in the final SESP, are outlined in the risk log presented in Annex K. Also, Details of the mitigation and management measures for projects with moderate or high social and environmental risks are presented in a stand-alone Environmental and Social Management Framework in Annex H.

Stakeholder engagement plan:

At the implementation level, there are several types of stakeholders that will be engaged during the implementation of the Proposed Project. Details of each stakeholder, their role and responsibilities with respect to project implementation and details of their engagement modality are shown in Annex XIII (e).

The implementing national and island governmental water organizations are well aware of the project and have been fully involved in its genesis.

To ensure local ownership of the Project, island coordinators will be responsible for local project activities. Training will be provided to all Water Management Committee trainers (implicating at least 50% women and making sure some of the trainers are female) on the integration of climate-informed practices into water management (e.g., storage) and on the operation and maintenance of climate-proof water supply systems.

Water User Associations at community levels will play a crucial role in monitoring the functioning of water resources in Comoros. Having a large women representation, these Associations focus on vulnerable groups such as women and children. Similarly, Women's Groups will be heavily implicated. At the moment, a focal point in each ministry is focusing on gender, however, with the current project, specific Women's Groups will be implicated in project decision-making.

Finally, the University which is the sole institution with experience in monitoring the groundwater will work in collaboration with the national and regional water management groups as well as the National Meteorological Service (ANACM). A comprehensive stakeholder engagement plan is included in Annex I.

Gender equality and empowering women:

The project development has included Gender, Equity and Social Inclusion (GESI) approaches. A GESI Assessment has been completed for the proposed project and a GESI Action Plan prepared (see Annex XIIIc).

The Assessment identified the primary role of women in provision and management of household water supply and water usage, as well as the constraints upon gender equity in the country more generally. The Assessment identified lack of water availability impacted on women and girls specifically through time taken to collect water (2 hours per day in rural areas), loss of income and education opportunities, as well as gender specific sanitary needs.

The Assessment found the project will therefore benefit women at the holistic and water supply specific levels as follows:

In this project, the expected outcomes in relation to gender include the following:

Global outcomes:

(i) Women's reduced vulnerability to the effects of climate change and better resilience to handle these impacts. (ii) Increased awareness of the impacts of climate change as well as the adaptation and mitigation of climate change. (iii) Increased awareness of the importance of

gender equality and women's involvement in climate-related projects and activities. (iv) Improvements in health and wellbeing. (v) Improved livelihoods. (vi) Increased empowerment of women in the concerned communities. (vii) Improved response to women's needs and priorities. (viii) Contribution to the promotion of gender mainstreaming in the society.

Specific outcomes:

(i) Reduced time for water collection for women and girls as compared to before the project. (ii) Reduced incidence of waterborne diseases. (iii) Increased number of women who will receive training related to water collection and management. (iv) Improved involvement of women in community decision-making as a result of women's participation in Water Management Committees and Integrated Water Resource Management Committees. (v) Women's increased access to water planning information to be able to anticipate water supply in relation to subsistence agriculture. (vi) As a result of improved water supplies, possibilities to improve sanitation issues in communities and schools. (vii) Increased awareness and capacity to handle local water management systems. (viii) Increased awareness of sustainable water management practices. (ix) Increased implication of local women's organizations in water and climate-related projects.

The following gender specific inclusions have been adopted by the project design:

- Women included in national, island and service provider scale Water Code CCA consultations, information exchange and awareness raising through the help of women's associations and representatives
- Gender specific water CCA issues included in revised national water code
- Ensure women fully involved in water supply management committees including training and women specific issues included in the Water Security Plans
- Ensure women fully represented on IWRM committees, receive equitable training and have women prioritized issues included in the watershed adaptation management plans
- Ensure women equitably involved in IWRM plan implementation, monitoring and evaluation
- Include gender issues in IWRM public awareness campaigns
- Ensure female staff included in hydrogeological investigations of water resources
- Include women equitably in the water supply upgrade design process
- Ensure women fully represented and empowered on water management committees and water user associations
- Ensure women equitably involved in national water resources monitoring programme
- Ensure women fully represented on climate forecasting training and operationalisation
- Ensure women fully involved in design of sectoral water CCA forecast preparedness & response products and tools
- Ensure women fully involved in workshops and public engagement & awareness raising on CCA preparedness

The GESI Plan includes monitoring indicators and targets, which will be used to track and if necessary re-dress gender equity during the project implementation.

A more detailed gender analysis and gender action plan is included in Annex J.

South-South and Triangular Cooperation (SSTrC):

The technical capacities of staff in the Directorate of Meteorology will be improved in-house using near-by available trainings (e.g., WMO Hydrology and Water Resources Programme (HWRP), the WMO Regional Training Centres in Madagascar and Kenya, WMO distance learning courses, RSMC Réunion and by exploring existing university knowledge. The University of Comoros is working with the SONEDE to monitor groundwater salinity levels in pumping wells brought about by saltwater intrusion.

Also, the water resource data will be forecasted in order to provide targeted water conservation advisories to subsistence farmers, etc. An MOU will be established with various regional forecasting groups and the WMO in order to have more accurate forecasts. Also, due to the experience of the university with regards to hydrogeological measurements (e.g., piezometers), the water agencies have set up collaborative agreements to enhance groundwater monitoring.

Paradigm Shift Potential

Potential for scaling up and replication

By addressing the critical barriers preventing climate resilience in the water sector – specifically the lack of climate risk reduction centric financial resources, the lack of stakeholder coordination and cooperation, the lack of knowledge and data and the lack of technical capacity (see the Theory of Change diagram) - the project develops, strengthens and sustains a national level enabling environment that promotes, supports and allows island and national scale roll-out of climate risk reduction practices, as well as enables international knowledge transfer on this adaptation approach. It is this mainstreaming and integration of climate risk reduction into the pre-project ‘business-as-usual’ water sector planning, budgeting and operating environment that is the paradigm shift the project is delivering to address climate change impacts and achieve a climate resilient water sector.

A national water code re-focused on climate risk reduction will provide the legal direction and requirement for national and island institutions to plan, budget and programme their water supply, water resources and watershed activities beyond that of just the project target zones. By mainstreaming climate risk reduction into institutional responsibilities, annual plans, performance indicators, staffing units and budgets, there will be a sustained planning and management paradigm shift in improving climate resilience.

The introduction of water tariffs designed to achieve sufficient cost recovery to maintain and invest in climate resilience infrastructure upgrades ensures water service providers will have the financial resources to maintain both capital and operational investment of climate resilience. Service providers, whose remit extends beyond the project intervention zones, will be able to expand this approach to the rest of the country, as well as provide a model for take-up by communities not directly supported by the project.

Climate forecasting, adaptation tool development and guidance, early warning systems and public awareness raising, will be national in availability and extent increasing the capacity, understanding and interest in climate risk reduction across the country as a whole.

Within each island there is considerable potential to replicate the infrastructure, water resources and watershed activities to the 40% of the people and 55% of the areas not directly benefiting from the project.

Groundwater and surface water monitoring whilst national in extent will not be in every watershed (11 only) and can be increased to have a much greater coverage than the project will deliver – ideally every catchment (60). Groundwater investigation in Anjouan and Moheli will be preliminary and exploratory in character and can be increased substantially to give a similar coverage to that proposed for Grand Comore.

Even within the project target zones there are opportunities to transfer best practice from one island to another. Specifically, Grand Comore exploits groundwater whereas the other islands do not. The project will investigate the occurrence of groundwater in Anjouan and Moheli, and where located, groundwater abstraction technologies can be introduced to these other islands.

Similarly, successful rainwater harvesting approaches currently used in Grand Comore could be replicated in the other islands, increasing resilience to flood events.

Watershed activities will primarily focus on those catchments or sub-catchments supporting or about to support stream water supply intakes, however watershed activities can be replicated in those catchments which do not, especially those which have groundwater abstraction boreholes which will benefit from increased groundwater recharge and/or have populations living in marginal land along flood route corridors.

Whilst climate hydrological forecasting will be national in scale the climate impacts will be watershed and aquifer specific and hence the preparedness planning and management responses can be expanded to a greater number of areas than the project target zones.

And although capacity building will focus within the project on the agencies and communities receiving the benefits of resilient water supply infrastructure upgrades and watershed improvements, those agencies and communities not receiving such targeted training in climate risk identification and risk reduction, will still require this post project.

Equally the climate adaptation hydrological products – which will focus on water supply and food security – can be expanded and applied to other sectors.

International

Comoros is but one of 4 Small Island Developing States in the Indian Ocean, along with Mauritius, Seychelles and the Maldives, with additional overseas territories in the region (e.g. Reunion, Mayotte) and larger coastal countries (e.g. Madagascar).

Whilst not all are steep volcanic terrains (Maldives most obviously), replication of many of the lessons learned from the project, including successful GCF application, will be relevant to these states – most obviously Seychelles and Mauritius in terms of water resources investigation & monitoring, watershed management, but for all countries and territories with respect to climate forecasting and product development, capacity building materials and national legislative codes and institutional reforms. The UNDP/UNEP GEF funded AIOSIDS IWRM programme has created a web forum <http://aio-iwrm.org/> for knowledge transfer which this project can use for knowledge transfer to support replication.

Indeed, the 56 recognized Pacific, Atlantic and Caribbean SIDS other than Comoros, all have potential replication value of using this GCF project as a guide and blueprint, especially given the difficulties SIDS have in successfully accessing global funding mechanisms.

Potential for knowledge and learning

Knowledge and learning are critical to building adaptation capacity, both within government and in the wider general public.

Knowledge and learning are therefore embedded across all four components of the project design as approaches to increase resource and infrastructure sustainability, build capacity, promote partnership, ensure ownership, secure political support, raise awareness and deliver evidence based risk reduction planning and management of the nation's water resources and water supply schemes.

These include both formal and informal knowledge strengthening and learning activities, including:

- Climate change risk knowledge and information sharing integrated into the Water Code;
- Assessment, guidance and standards for tariffs required to fund climate adaptation design, operation & maintenance of water supply infrastructure;
- Inclusion of risk mapping, risk reduction actions, source protection, climatic extreme operation & maintenance best practice and water quality standards in the Water Code;

- Training of national and island government agencies in implementation of the revised climate risk reduction Water Code;
- Promotion, development, training and use of Water Safety and Security Planning during climatic extremes for government and water management committee stakeholders;
- Water committee and community training on water conservation and efficient production of potable water;
- Training in IWRM governance to IWRM committees;
- Knowledge generation from watershed characterization including climate hazard and risk mapping;
- Training of IWRM committees and watershed communities in climate risk adaptation strategy options planning and budgeting, management and required monitoring;
- Development of evidence-based watershed adaptation action plans and knowledge exchange with island and national agencies;
- Implementing watershed adaptation plans involving community and other stakeholder awareness raising – including soil and water conservation, source protection and pollution prevention and groundwater recharge techniques;
- Assessment and guideline development on optimum well pumping techniques to minimize saline up-coning, and training of water supply service providers;
- Knowledge transfer of UNICEF Pacific Drinking Water Safety and Security Planning (DWSSP) approaches, guidance and materials
- Development of Comoros best practice DWSSP documents for water supply service providers and communities – including location selection, design, construction, operation & maintenance, emergency procedures and drought preparedness responses;
- Training in water supply system performance monitoring during climatic extremes;
- Investigation, assessment and characterization and monitoring of groundwater, stream and rain water resources, reliable yields and vulnerabilities to climate risks;
- Training of Meteorological service in climate forecasting, drought forecasting and floods forecasting;
- Development of standard procedures for data collection, processing and analysis and training in water resource monitoring network maintenance
- Training on application of rainfall predictions to water resources balances and risks of water supply failures;
- Training of different sector water users on water resources forecasts and information advisories;
- Training on forecast dissemination best practice – communication networks and media; and
- Inclusion of water sector climate risk reduction modules in local university curricula.

Contribution to the creation of an enabling environment

The Proposed Project will contribute to the creation of an enabling environment by delivering political, institutional and financial sustainability for climate resilient water resources, watershed and water supply management.

This is primarily achieved through the project inclusion of climate risk adaptation into the new Water Code. This will ensure the necessary legislative political and institutional commitment to ensuring climate risk reduction is included in ministerial and departmental programmes, with appropriate planning, recruitment and budgeting.

With improvements in quantities of treated water quality delivery the public have confirmed they will pay for reliable safe water supplies. Once improved secure water supplies are established then the tariff system will be set to be self-sustaining.

Decentralized Water Management Committees will be trained on decentralized water supply and management solutions including setting of water tariff structures to support operation and maintenance protocols focusing on preventative actions required to adapt to dry period and intense rainfall conditions.

Once financially sustainable water supply schemes become established, private sector interest will increase in the water sector and based on successful experiences by the semi-private Water User Association, SOGEM, the project could potentially catalyze PPPs to support with water management.

IWRM committees founded in accordance with the reformed Water Code with the objective of ensuring watershed protection, will use the human resources within the watersheds to be actively involved in climate risk reduction measures and to recognize the cost savings they benefit from reduce climate impacts and hence value of water achieved through climate risk reduction.

In order to plan for integrated water management, the water cycle in each target watershed will be monitored. Safe yields from wells that do not permit saltwater intrusion will be documented. Also, the water resource data will be forecasted in order to provide targeted water conservation advisories to subsistence farmers, etc. An MOU will be established with various regional forecasting groups and the WMO in order to have more accurate forecasts. Also, due to the experience of the university with regards to hydrogeological measurements (e.g., piezometers), the water agencies have set up collaborative agreements to enhance groundwater monitoring.

Increasing the water resources and water supply technical management capacity through using the human resources available within the watershed communities to be directly involved in participatory management reduces both national and island institutional governmental costs whilst accessing the monetarized and non-monetarized benefits received by other sectors, notably cash cropping, and attributed to be delivered through eco-system services, hence sustaining the watershed managed improvements and eco-system based adaptation measures.

Lastly the improved dry season water provision will remove the market demand which is currently supporting the excessive and extreme private trader water prices that occur during dry seasons, providing rural and peri-urban communities with incentives to use water conservatively and manage their water supply systems effectively.

Contribution to regulatory framework and policies

The Project will contribute to the strengthening of the national water sector reforms, by ensuring climate risk reduction is a central component and integral to the new Water Code, across water resources, watershed and water supply infrastructure management at the national, inland and community management scales. Without the GCF project climate risk reduction will not be included in the new Water Code and there will be no policy driver or legislative requirement to undertake climate risk reduction at all in the water sector, let alone mainstream it into work programmes and institutionalize it agency mandates and capacities.

The project then follows up with supporting implementation of revised climate risk reduction enhanced Water Code through training, advocacy and capacity building of the main institutional stakeholders, as well as strengthens the financial resources available to deliver climate risk reduction through improved tariff structures.

This is a paradigm shift in the approach to water resources, watershed and water supply infrastructure management by using a risk-based approach to identify, avoid and reduce exposure to climate risks, introducing both efficiency and collective effectiveness in improving dry season water flows and wet season water quality as well as reductions in soil erosion and flood damage to infrastructure.

By actively engaging with the watershed stakeholders and water supply customers the project also reduces the institutional regulatory compliance burden by advocating and raising awareness with the public and hence effectively creating a self-regulatory culture which requires much reduced enforcement monitoring.

In doing so, the project also contributes to both the National Strategy for Accelerated Growth and Sustainable Development (*Stratégie de croissance accélérée et de développement* (SCA2D) 2015-2019), but also to the National Action Programme of Adaptation (NAPA, 2006) to Climate Change and the Sustainable Development Goals.

The core strength of the proposed interventions in terms of sustainability is creating an enabling environment for water supply management, implementing concrete water mobilization works and in protecting water sources.

Sustainable Development Potential

The following co-benefits are recognized as being realized by the project.

Environmental Co-Benefits

Improved and enhanced water resources in terms of quality and quantity

The project will reduce groundwater salinity through improved understanding of the available groundwater resources (sustainable yields), their vulnerability to drought (drought yields) and optimizing how best to exploit the groundwater without resulting in saline up-coning.

The watershed rehabilitation activities in 32 catchments will contribute to groundwater (and surface water) quality and quantity improvements by slowing runoff and increasing groundwater recharge. They will also reduce pollution risks to both water resource types.

Water conservation measures – supply system leakage reduction, user conservation, and more efficient irrigation will reduce water abstraction contributing to fresher groundwaters and greater stream base flows.

Improved soil quality and reduced erosion

The watershed improvement component includes soil erosion reduction measures, through both improved farming practices and reforestation and revegetation efforts with native, drought-tolerant species. The reduction in stream peak flood flows and storm run-off will also reduce direct erosion of soils and land.

Improved biodiversity

The watershed improvement component directly supports watershed reforestation and revegetation of habitats.

The improved water quantities (greater baseflows, reduced flood flows) as well as reduced stream turbidity will all contribute to healthier aquatic eco-systems and those wider eco-systems that in turn are dependent upon the riverine eco-system corridor health e.g. the nearshore marine environment and wider watersheds.

Increased carbon sequestration

Although not an explicit objective of the project, the increased reforestation and re-vegetation of the watersheds will increase carbon sequestration in the country.

Social Co-Benefits

Improved Health

The project will improve drinking water quantity and quality to 450,000 people throughout the year, including in periods of droughts and during and after cyclones and associated flooding events

Reduced Lost Time – Access to Education and Work

Currently rural communities (especially women) spend considerable periods of time fetching and carrying water, especially in the dry season, but for some communities this is year round. This saving in lost time provides an opportunity to increase school attendance and/or work on household income activities.

Improved Safety in Climatic and non-Climatic Disasters

The climate forecasting linked to storm event flash flood forecasting will provide an early warning system for extreme flooding events. This will enable vulnerable communities and those working in or near streams to safely evacuate to higher ground.

Community Empowerment

The project focuses on increasing the capacity of rural communities to manage and protect their water supply schemes. This development of adaptation management capacity will strengthen the accountability of wider community governance generally and can be applied to other sector/issue resilience more specifically e.g. food security.

Economic Co-Benefits

Reduced Costs of Climatic Damage

The timely forecasting and prediction of flood events will reduce the economic damage to all sectors from flood water inundation, as well as improve event response and recovery performance. The April 2012 floods were estimated (by COSEP) to cost US20 Million, 5% of Comoros GDP.

Water supply utilities will design, locate, construct and operate and maintain water supply schemes which will be less exposed to drought and flood risks and therefore will have reduced event associated damage and repair costs.

The provision of a more regular water supply during droughts and floods will reduce losses associated with business/trade/manufacturing operation disruption.

Increased Employment Opportunities due to Improved Health

The 450,000 people receiving improved water supplies will have better health and therefore can be more productive in their household incoming earning activities – either informal or formal in nature.

More Productive Agricultural Sector

The agricultural sector has very little irrigation infrastructure with which to reduce exposure to the dry seasons. The project will increase irrigation water storage using impervium and stream water intakes to increase dry season cash crop productivity.

Direct Employment opportunities

Adaptation interventions such as impluvium rehabilitation, water supply construction upgrades and even watershed improvements will all require construction workers, field workers, material suppliers and importers, which will create employment opportunities in the country.

The wider project enabling environment will require a permanent increase in technical, management and financial capacity across a wide breadth of different ministries, agencies and organisations, including meteorologists, hydrologists, hydrogeologists, water risk reduction engineers and so on.

Gender-Sensitive Development Impacts

In Comoros, women and girls are traditionally in charge of collecting water, and are additionally affected by increasingly scarce water supplies. Consequently, women and girls in Comoros have to walk approximately 195 meters to the closest water source and distances to safe water resources are predicted to increase in rural areas due to the projected drying up of rivers and decrease of wells yields that will likely be led by the increased rainfall patterns and temperatures. To get the minimum amount of necessary daily water, women and girls walk this distance, back and forth, up to five times per day; which results in about 2 kilometers per day per household.²⁶ Women spend an average of 2 hours per day collecting water. Water collection is increasingly demanding and represents an opportunity cost in terms of time and labor.

Women are responsible for the majority of household food production in the Comoros. Agriculture, including food production, is suffering the effects of climate variability and the lack of water with an increase in food scarcity. Children's malnutrition and slow development rates are increasing (25.8 per cent and 44 per cent respectively in 2004) with more recent statistics showing that more than 42% of Comorian children age five and under suffer from chronic malnutrition.²⁷

To address the issues raised above, the project will reduce salinity risks and will improve water treatment which will have a direct impact on women and youth through reduced high salt water intakes, improved health, wellbeing and nutrition. Moreover, women's skills on operation and maintenance of local water management systems, and knowledge on water resource management will be improved as a result of this project. A Gender Action plan has been developed (see Annex XIII: Gender assessment and budgeted action plan). The action plan provides suggested entry points for gender-responsive actions to be taken during project implementation.

Sustainability and scaling-up

Institutional Sustainability – Legal Requirements, Capacity and Tariffs

Climate change risk reduction will be included in the national water legislation which will require evaluation and minimization of climate risks in all agency and organization planning and design. More robust climate proofed construction methods shall be employed and a comprehensive operation & maintenance has been initiated with budgets identified of all water supply schemes in Comoros. Through the update and use of a Water Security Plan improved operation and maintenance of all infrastructure works will be realized.

Financial Sustainability – Tariffs and Legal Requirements

In the medium term a water tariff will be introduced that provides adequate cost recovery to enable water supply providers to have sufficient budgets for not only addressing operation &

²⁶ Ibid.

²⁷ Ibid.

maintenance during climatic extremes but also where necessary capital re-investment of infrastructure. Projected operations and maintenance costs have been developed to better budget (and plan for long term sustainable infrastructure. In the short term all infrastructure will have sufficient budget to cover long-term operation and maintenance costs for at least the next 25 years) through co-financing support. The O&M costs and related government co-financing support are detailed in Annex XIIIb.

Non-infrastructure agencies e.g. water resources and watershed management, will have budgets clearly identified through climate risk mandated work programmes – and prioritized for funding through the water code legislation.

Environmental Sustainability – Water and Land Resources Protected Exploitation

The GCF project will contribute to a greater physical understanding of water resources. A hydrogeological measurement campaign will be conducted on all islands to quantify groundwater and surface water exploitation potential. Such measurements will support climate-informed water management to ensure sources will not be impacted by saltwater intrusion or sedimentation caused by intense rainfall events.

Additionally, the project will support the development of site-specific, community-based Integrated Water Resources Management Plans of Action that will facilitate watershed protection and increase subsistence agricultural productivity due to enhanced water resources available for irrigation.

Technical Sustainability – Capacity Building

The Project includes technical training for Water Management Committees and IWRM Committees on climate-informed water and watershed management practices respectively.

Eleven Comorian institutions (DGEF / 3DREF, DGEME / 3DREA, UCEA / UCEM, SONEDE) trained each island on the pricing of socially sensitive water that takes into account the impacts of climate change.

Similarly, staff from the Meteorological Department (ANACM) will be trained on hydro-meteorological data collection, analysis and presentation. Users such as agriculture unions, Women's Groups, local Water User Associations will be trained in interpreting water-related bulletins to assist their planning and budgeting.

Female trainers will be trained and empowered to ensure that women's specific vulnerabilities to climate change and water management are addressed.

As a result, the users will be able to take timely and in some cases urgent actions, to ensure water supply is of good quality and has sufficient capacity. The forecasts will also enable the agencies to take preparedness measures against natural hazard events such as flooding or extended dry periods.

The capacity to implement climate resilient drinking water solutions, helps safeguard the project investments as climate risks evolve. This ensures that the project interventions do not remain short-term responses rather can be sustained and scaled beyond the project lifetime. The ToT approaches to technical training further institutionalize these skills so as to build long-term, continued capacities across the agencies. Moreover, broadening the capacity building to include sub-national and national level government staff as well as institutional partners creates synergistic approaches to support for coastal communities that can also ensure that impacts last beyond the project.

Social Sustainability - Participative Approach

The project, through enforcement of the reformed Water Code and the Decentralization Strategy of the Comoros will ensure participation with existing Water User Associations and Women's Groups to create sustainable and fair water tariff scheme and equitable water supply schemes.

The Integrated Water Resources Management Committees will have a minimum of 30% women representation in addition to cross-sectoral representatives to determine the most effective and equitable water supply mechanisms for subsistence agriculture.

To ensure sustainability of the water management system, user behavior change will be promoted with respect to protection and conservation of water services. Users will be informed about the link between water and health, and the need for water cost recovery.

V. PROJECT MANAGEMENT

GoC Budget Considerations

Widespread poverty and poor economic prospects significantly constrain Comoros' ability to support additional borrowing. As highlighted in Section C.1, Comoros is one of only 6 countries to be classified as both a Least Developed Country and a Small Island Developing State. It is one of the poorest countries in the world, with an estimated 80% of the rural population considered poverty-stricken and 46% living in absolute poverty (<\$1.25/person/day). In recent years, structural constraints (e.g. in the electricity sector) and slower-than-expected implementation of the public investment program have resulted in economic stagnation, which is particularly bad considering a population growth rate of 2.5%.

Large budget and current account deficits make the payment of interest on sovereign debt, let alone repayment of amortization tranches, prohibitive. The budget of Comoros has been in significant deficit in recent years and will continue to be so at least until 2020 (last year of IMF projections). The budget deficit was 14.8% in 2016 and is expected to increase to 15.6% in 2017, settling at 11.5-12% in 2018-20. The economic slowdown in 2015/16 and related decrease in tax revenues accentuated deficits and lead to large arrears in the payment of public sector wages. In 2015 Saudi Arabia came to the rescue with a large grant that plugged the budget hole for the year and for part of 2016. As a result, a 12.2% deficit in 2015 turned into a 2.9% surplus and a 14.8% deficit in 2016 was reduced to 6.4%. The IMF assumes the continuation of grants from various sources in the future, but still projects overall budget deficits (7.3% in 2017 and approx. 4% thereafter). Current account deficits (excluding foreign grants) are steadily above 10%, in part due to imports stemming from investment projects in power and telecom and stagnating exports. As a result, Comoros is heavily reliant on external sources of funds to support its domestic growth and development.

With constant budget deficits, debt sustainability is already stretched, as proven by a debt relief negotiated in 2013. Unable to service its debt pile, in 2013 Comoros entered into agreements with all but one of its bilateral creditors, receiving irrevocable debt relief that cut nominal external debt from 40.5% of GDP in 2012 to 18.5% at year-end 2013. Since then, Comoros only contracted one new loan at very concessional terms with India for the construction of a power generation plant. Due to the accumulation of budget deficits, however, debt has risen already to over 25% and will continue to do so. The IMF projects debt/GDP ratios of 30% in 2026 and 39.2% in 2036, highlighting the continuing challenges in terms of debt sustainability. As a result, the IMF explicitly recommends that the country only seek external support on concessional terms.

Comoros has a very shallow financial system and no capital markets, limiting the domestic sources of finance for both government and private projects. Eight financial institutions operate in Comoros: four commercial banks, three micro-finance institutions and the postal bank. Their combined loans were approx. 25% of GDP in 2015 – higher than the average Sub-Saharan low-income country, but lower than the average SSA frontier country. Most loans are to the private sector – lending to the public sector is very limited.

Despite its severe fiscal constraints, GoC has committed to co-finance part of the initial project capex, all O&M costs and replacement capex over the 25-year project period and part of the project's soft components. Over the project period, the total financial burden for GoC would be US\$25.2 million. As previously discussed, introducing tariffs outside of the current limited SONEDE user base in Moroni and determining their structure and affordable levels will require significant technical and regulatory work, helped by the project. Should tariff implementation prove difficult, GoC may have to finance O&M and replacement capex entirely from budget – a very significant commitment in light of the debt sustainability issues discussed above.

Project-Specific Considerations

The project involves both hard (water infrastructure and related equipment) and soft (technical assistance) components. Only the former are suitable, in principle, to capex and O&M recovery via tariffs. Hard components involve total capex of US\$52.9 million, mostly for Output 3 and to a lesser extent Output 2. The capex plan will be implemented over the first 8 project years, with the vast majority falling in the first 5 years. Approximately US\$2.5 million in replacement capex will be needed cumulatively over 25 years. O&M costs will total US\$9.5 million over the 25-year project period. The total financial commitment required by the hard components of the project over 25 years will therefore be US\$65 million (all forecasts assume zero inflation). Other non-capex activities of Output 1 and 2, representing a total financial commitment of US\$5.46 million, involve mostly technical assistance activities that are not prone to revenue generation via tariffs or service fees.

As discussed in Section C.2 (Water Governance), the new Water Code envisages the design and implementation of nationwide water tariffs aimed at ensuring the financial sustainability of the water supply and distribution system. GoC has committed to implementing tariffs in 7 years – roughly coinciding with the time required to implement the project's capex plan. The project will support, through GoC co-finance, the establishment of the appropriate tariff system, making sure that climate risks are taken into consideration.

Under the Water Code, the principle underlying tariff structure and levels is full cost recovery, with costs defined as capex and O&M for urban water infrastructure and at least O&M for rural infrastructure. However, at this stage evidence of tariff affordability is limited to a very small portion of the urban population of Grande Comore. Willingness to pay for the rest of population of Grande Comore and the other islands will need to be tested through comprehensive affordability surveys supported by the project. Given the limited track record of charging and collecting water tariffs and widespread poverty in the three islands, it is doubtful that tariffs can be set immediately in year 7 at levels that ensure recovery of both capex and O&M. Introducing full tariffs upfront would likely encounter significant opposition, resulting in poor collection levels and undermining the long-term success of the tariff scheme. It is more likely that tariffs in the first years will be sufficient to cover for O&M, and only progressively over the 25-year project period they can be raised to levels that may also cover capex.

Specifically, on tariff affordability it is worth highlighting the following issues:

Only 4,225 households (30% of total) in the capital Moroni are connected to a water distribution network providing treated, drinkable water. This represents less than 10% of the total population of Comoros. The Moroni water network is managed by national utility SONEDE, which charges tariffs on a per cubic meter basis. The average household water bill is around US\$4-5 per month, or approx. 8% of the average wage – a high percentage, especially for lower-income households. Only 34% of water volume is metered and tariff collection rate is a low 64%. The Moroni water distribution network is under-invested and poorly maintained, with leakage as high as 50%.

Only 1,275 households in Anjouan and 470 in Moheli get treated water. An additional 5,590 households in Anjouan and 2,650 in Moheli have access to untreated water through infrastructure managed and maintained by two water management committees, UCEA in Anjouan and UCEM in Moheli. These committees were set up by a French NGO in 1997 and subsequently reorganized under an AFD-sponsored project. Tariffs were introduced to recoup capex and O&M costs and make the committees financially self-sustaining, but with little success. UCEM set tariffs at a fixed €3/month/household, regardless of volumes used, and targeted 2,500 paying households. It only managed to connect 1,700 households and is therefore unable to cover operating costs. This in turn results in poor maintenance and service quality, which reduces willingness to pay – 3 out of 4 households occasionally disconnect from the network. UCEA started a small network that distributes treated water in the Sima area of Anjouan three years ago. Tariffs were initially set at a level that would allow for capex and O&M recovery, but users refused to pay. One year ago tariffs were lowered to €2/cubic meter. In other areas of Anjouan, ACEA distributes untreated water for free.

The remaining 90% of the population of Comoros, including the entire rural area of Grande Comore, uses free, untreated water from various sources, including: 25% collects rainwater through cisterns (especially in Grande Comore where surface water is very scarce), 40% uses house fountains and 25% communal fountains. Some of this water is distributed through small, independent community networks.

During the dry season, a minority of households resorts to purchasing water by the jerry can or having water delivered by truck. The former are mostly rural households that commute to Moroni to purchase treated water. Jerry cans are very expensive. The high cost of water purchased by the jerry can or delivered by truck is not indicative of widespread capacity to pay for water distribution. Should a household fulfill its entire water needs for the dry season with jerry cans, at the recommended per capita consumption of 35 l/day, the bill could run up to US\$200/year. Only 7% of households in Comoros can afford to buy jerry cans and, when they do, they purchase highly rationed volumes, well short of optimal daily consumption. Water delivery by truck is even more expensive (US\$24 per cubic meter in Moroni) and affordable only to the wealthiest 3% Comorians.

In the Comorian economy, there are no large, commercial water users with greater capacity to pay for water. 70-80% of the Comorian population consists of smallholder, subsistence farmers. Comoros exports three agricultural commodities – ylang-ylang, cloves and vanilla. None of these, however, is grown in large commercial farms (there are large exporters but they purchase the commodities from many small farmers). The tourism industry is underdeveloped: only one large hotel is present in Moroni. With such fragmented demand, there are no obvious user segments that could afford to pay high tariffs in support of the planned infrastructure investment. Water tariffs are currently the same for households and commercial users. Only some ylang-ylang distilleries in Anjouan pay higher tariffs since, for environmental reasons, separate distribution networks had to be set up for them; however, they represent only 3% of total water consumption in Comoros.

Tariff and financial IRR simulations

In the absence of nationwide affordability data, the project design team has run simulations based on two scenarios: (i) the current water tariff of US\$0.53/m³ charged by SONEDE in Moroni is applied to the entire user base of the project from year 7 (low likelihood scenario) and (ii) tariffs start in year 7 at two thirds of the current Moroni level and subsequently increase every 5 years by 20% (higher likelihood scenario). If GoC were to fund the entire project – initial capex, replacement capex, O&M – on its own, without any concessionality, it would realize a negative IRR of -8.5% (full tariffs scenario) to -8.7% (progressive tariffs scenario). In other words, the government would have to step in and support the project with additional budget resources. Since the IRR is negative, lending to the project – even at GCF’s very concessional terms – would only widen the funding gap by adding interest expenditure.

This funding proposal envisages a GCF grant of US\$37 million dedicated to the implementation of the capex plan in years 1-8. FADES and China Geo-Engineering will provide additional grant and in-kind co-financing for the amounts of US\$293,363 and US\$ 1.9 million, respectively, also dedicated to capex funding in years 1-8. GoC will take charge of the remaining US\$11.4 million capex, as well as US\$1.1 million in replacement capex and US\$10.9 million in O&M over the 25-year period (assuming no inflation) – a total funding contribution to the hard components of the project of US\$23.4 million. With the GCF grant the IRR would be just above breakeven: 2.0% in the full tariffs scenario and 0.2% in the progressive tariff scenario.

From a sustainability standpoint, most of the infrastructure installed has a lifetime exceeding 25 years. As a result, over the long-term, tariffs will need to cover mostly O&M and limited capital replacement. This should ensure the long-term financial sustainability of the project with limited need for support from the central government’s budget or new concessional sources.

The project will be located at the Ministry of Energy, Agriculture, Fishery, and Environment (MAFE), with 15 operationalisation areas for infrastructures and watershed management.

The project will have its main office in Moroni and Island level units in Moheli, Grande Comore and Anjouan.

At national level in Moroni the DGEF will host the (Project Support Team: coordination unit) composed by:

- The project manager/project national coordinator (PNC)
- The Chief Technical Advisor (CTA)
- The Financial and Administrative Officer
- The Procurement Officer
- The M&E Specialist
- The Communication Expert
- The Gender Expert
- The Safeguards expert

At Island level :

Regional Technical Unit of Grande Comore (Ngazidja):

- Island Coordinator
- Financial and Administrative Officer

Regional Technical Unit of Anjouan (Ndzuan):

- Island Coordinator
- Financial and Administrative Officer

Regional Technical Unit of (Mwali):

- Island Coordinator

- Financial and Administrative Officer

The project will be implemented following UNDP’s National Implementation Modality (NIM), according to the Special Agreement concerning Technical Assistance between UN organizations and the Government of Comoros (signed by both Parties on 27 January 1976) and the Agreement between UN Special Fund and the GOC concerning Assistance from the Special Fund (signed on 27 January 1976), and according to policies and procedures outlined in the UNDP POPP (see: <https://popp.undp.org/SitePages/POPPSubject.aspx?SBJID=245&Menu=BusinessUnit>).

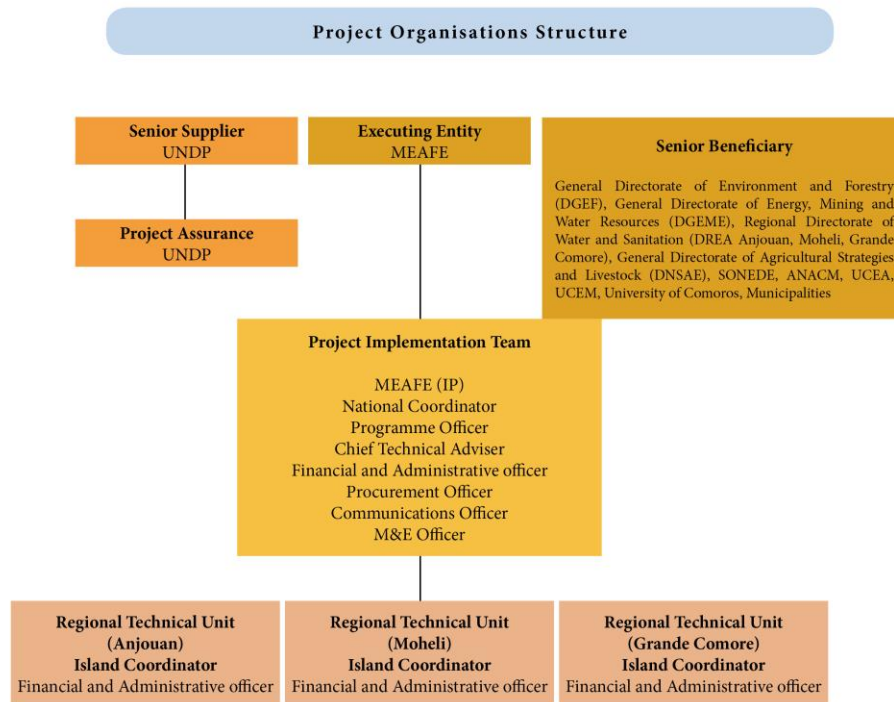
The national executing entity - also referred to as the national ‘Implementing Partner’ in UNDP terminology - is required to implement the project in compliance with UNDP rules and regulations, policies and procedures, including the NIM Guidelines. These include relevant requirements on fiduciary, procurement, environmental and social safeguards, and other performance standards. In legal terms, this is ensured through the national government’s signature of the Special Agreement concerning Technical Assistance between UN organizations and the Government of Comoros and the Agreement between UN Special Fund and the Government of Comoros concerning Assistance from the Special Fund together with a UNDP project document which will be signed by the Implementing Partner to govern the use of the funds. The Implementing Partner (IP) for this project will be the Ministry of Energy, Agriculture, Fisheries, Environment (MAFE), which is accountable to UNDP for managing the project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of UNDP resources. The MAFE will have project ownership and will appoint a Project Manager (PM), paid for by the project, to coordinate project operations. The MAFE is also the National Designated Authority of the Green Climate Fund and all the national level coordination mechanisms will be under the aegis of the ministry.

The **Project Manager** has the authority to run the project on a day-to-day basis. The PM is accountable to UNDP, the IP and the PSC for the quality, timeliness and effectiveness of the activities carried out, as well as for the use of funds. He/she will also be responsible for coordinating budgets and work plans at the island level with the **Island Coordinators**. The PM will be assisted by a Chief Technical Advisor, a Procurement Officer and a Financial and Administrative Assistant. **Three technical committees, one from each island** will provide financial and technical support to the PMU.

UNDP provides a three – tier oversight and quality assurance role involving UNDP staff in Country Offices and at regional and headquarters levels. The quality assurance role supports the Project Board by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. Project Assurance must be independent of the Project Management function; the Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager. The project assurance role is covered by the accredited entity fee provided by the GCF. As an Accredited Entity to the GCF, UNDP is required to deliver GCF-specific oversight and quality assurance services including: (i) Day-to-day oversight supervision, (ii) Oversight of project completion, (iii) Oversight of project reporting. “The ‘senior supplier’ role of UNDP is to represent the interests of the parties, which provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring, implementing). The senior supplier’s primary function within the Board is to provide guidance regarding the technical feasibility of the project.

The **Project Steering Committee (PSC)** established by a Ministerial Order will be directed by MAFE and will be responsible for approving reports and activities. It will also provide guidance for proper implementation of the project. Members of the Project Steering Committee will

include UNDP, representatives from the Ministries of Environment, Economy, Transport, Health and Interior as well as SONEDE, UCEA, UCEM and EDA. The PSC will be responsible for making management decisions for the project, in particular when guidance is required by the PMU. The PSC plays a critical role in project monitoring and evaluation by quality-assuring processes and products and using evaluations for performance improvement, accountability and learning. The Committee will convene 2 times per year. Representatives from other institutions/organizations such as local Water User Associations can be included in the PSC as appropriate.



The Project Outcome is Increased Resilience of Water Supplies to Climate Risks in the Comoros Islands. This outcome can only be achieved by ensuring the government agencies, communities and households have the capacity to plan, deliver, operate and maintain appropriately designed and constructed water supplies and protect their water resources from derogation by forecast climate risks.

In order to build this technical adaptation capacity, the Comoros stakeholders require: knowledge, training and information. And in order to acquire these, Comoros has to provide/secure sufficient financial resources and then use these financial resources in an effective and coordinated manner. In order to secure the financial resources and coordinate stakeholders and agencies, Comoros needs to have appropriate prioritization of climate change impacts in its water sector enabling framework. And this requires political will to address climate change risks – which Comoros does have, considering past and ongoing projects whether climate change or not in water sector or not.

For climate change project in the water sector we have had the 2 LDCF projects ACCE (Adapting water management to climate change), and CRCCA (Strengthening the adaptation capacity, of the agricultural sector) whereas some of them are still running, such as:

GCCA European Commission-funded project, although the project is essentially a national non-sector specific project, which does not focus on the water sector at the pilot scale it will also implement local pilot projects related to water and sanitation),

LDCF project: Building Climate Resilience through Rehabilitated Watersheds, Forests and Adaptive Livelihoods is focusing on strengthening technical and institutional capacity for resilient integrated watershed management at the national and local levels, rehabilitating and sustainably managing watersheds and sub-catchments in specific project areas and providing a diversified array of resilient livelihood strategies

LDCF project: Strengthening of the Comoros' resilience to disaster risk linked to climate change and variability, plans to strengthen DRM capacities, monitoring of disaster risks and early warning dissemination. This project will develop climate modelling and provide Early Warning System messages for cyclone-related climate disasters. The climate products developed by this Disaster Risk Management project will support the integration of climate risks into all sectors including but not limited to the water sector in Comoros.

It is noteworthy that most of these climate change specific project efforts are not specific to the water supply sector.

On the other hand, we have non-climate change projects in the water sector, but some of them have the potential to be national in scope building from the participatory approach, and has valuable lessons in terms of the importance of stakeholder engagement. All these projects, in fact will contribute to national water security through improved institutional operation and management of water supply systems, water supply infrastructure extensions and upgrades and more effective cost recovery, as well as pilot schemes on watershed management and pollution reduction, they did not explicitly address existing water resources and water supply risks from climatic extremes, and have actually increased exploitation of the finite water resources

In order to make profit of lessons learnt and ongoing interventions project implementation team (DGEF, DGEME, UNDP) will then:

- Provide technical oversight of structures involved in these sectors, including community and regional organizations, involved in the development, integrated management, sustainable development, protection and exploitation of resources in these sectors
- Collaborate with national, regional and international, bilateral, multilateral and non-governmental organizations for the coordination and orientation of activities, in accordance with the national sectoral development plan, in accordance with the various international conventions signed by the country

Agreement on intellectual property rights and use of logo on the project's deliverables and disclosure of information: To accord proper acknowledgement to the GCF for providing grant funding, the GCF logo will appear together with the UNDP logo on all promotional materials, other written materials like publications developed by the project, and project hardware. Any citation on publications regarding projects funded by the GCF will also accord proper acknowledgement to the GCF. Information will be disclosed in accordance with relevant policies notably the UNDP Disclosure Policy²⁸ and the relevant GCF policy.

Disclosure of information: Information will be disclosed in accordance with relevant policies notably the UNDP Disclosure Policy²⁹ and the GCF Disclosure Policy³⁰.

Carbon offsets or units: As outlined in the AMA agreement between UNDP and the GCF, to the extent permitted by applicable laws and regulations, the Implementing Partner will ensure that any greenhouse gas emission reductions (e.g. in emissions by sources or an enhancement of removal by sinks) achieved by this project shall not be converted into any offset credits or units generated thereby, or if so converted, will be retired without allowing any other emissions of greenhouse gases to be offset.

²⁸ See http://www.undp.org/content/undp/en/home/operations/transparency/information_disclosurepolicy/

²⁹ See http://www.undp.org/content/undp/en/home/operations/transparency/information_disclosurepolicy/

³⁰ See https://www.greenclimate.fund/documents/20182/184476/GCF_B.12_24_-_Comprehensive_Information_Disclosure_Policy_of_the_Fund.pdf/f551e954-baa9-4e0d-bec7-352194b49bcb

VI. PROJECT RESULTS FRAMEWORK

This project will contribute to the following Sustainable Development Goal (s): 13 (Climate Change), 6 (Water and Sanitation) and 3 (Good Health), 5 (Gender equality).

This project will contribute to the following country outcome included in the UNDAF/Country Programme Document:

UNDAF outcome No. 4 – Result 4: The most vulnerable people strengthen their resilience to climate change and crisis.

Output 7. Country has capacities, tools and adaptation technologies to reduce agricultural vulnerabilities to climate change

Output 8. State and non-State institutions have mechanisms, tools and means to manage risks of natural disasters and strengthen resilience

This project will be linked to the following output of the UNDP Strategic Plan:

Output 1.3: Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and waste.

Output 1.4: Scaled up action on climate change adaptation and mitigation cross sectors which is funded and implemented.

Output 1.5: Inclusive and sustainable solutions adopted to achieve increased energy efficiency and universal modern energy access (especially off-grid sources of renewable energy)

Output 2.5: Legal and regulatory frameworks, policies and institutions enabled to ensure the conservation, sustainable use, and access and benefit sharing of natural resources, biodiversity and ecosystems, in line with international conventions and national legislation.

GCF Paradigm shift objectives: *The project aims to increase the resilience of reliable and safe water supply and mainstream climate change risk reduction into water management in 15 of the most vulnerable zones in the Union of Comoros to climate change risks. All water resources, watershed and infrastructure designs and management protocols will account for expected climate change impacts (drought, extended dry periods, intense rainfall events).*

It is this mainstreaming and integration of climate risk reduction into the 'business-as-usual' water sector planning, budgeting and operating environment that will create the paradigm shift needed to address climate change impacts and achieve a climate resilient water sector.

	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target	Assumptions
SDG indicators	3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All	50.7/100,000 population	Expected status a mid- point of project implementation	Expected status a project closure	Note how project data will link with national statistics offices or other bodies monitoring SDG indicators

	<p>(WASH) services)</p> <p>5.4.1 Proportion of time spent on unpaid domestic and care work, by sex, age and location</p> <p>6.1.1 Proportion of population using safely managed drinking water services</p> <p>6.5.1 Degree of integrated water resources management implementation (0–100)</p> <p>6.b.1 Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management</p> <p>13.2.1 Number of countries that have communicated the establishment or operationalization of an integrated policy/ strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)</p> <p>13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions</p>	<p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>Not applicable to the country level</p>			
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	13.b.1 Number of least developed countries and small island developing States that are receiving specialized support, and amount of support, including finance, technology and capacity-building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized communities	Not applicable to the country level Not applicable to the country level			
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FUND LEVEL IMPACT:

Fund level impact: A2.0 Increased resilience of health and well-being, and food and water security	2.3. Number of males and females with year-round access to reliable and safe water supply despite climate shocks and stresses.	0 residents in the target zones	150,000 residents in the target zones 76,500 Females 73,500 Males	450,000 residents in the target zones 229,500 Females 220,500 Males	Sufficient rainfall, groundwater and surface water can be mobilized to help achieve water security.
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PROJECT OUTCOMES: Copy from GCF funding proposal H.1.2 Outcomes, Outputs, Activities and Input at Project/Programme level (no changes can be made). These are pre-defined outcomes selected from the GCF performance measurement framework and should be limited to one or two only.

Project Outcomes A5.0 Strengthened institutional and regulatory systems for climate-responsive planning and development	5.1: Institutional and regulatory systems that improve incentives for climate resilience and their effective implementation	No national and island agencies incentivizing climate resilience and its implementation under the current water sector planning	2 National agencies (DGEME and MAFE) and 2 Island Agencies (DREAs) annual workplan and multiyear investment plans include adaptation measures	4 National agencies (DGEME, CSRH, DGM, DGEF) and 3 Island Agencies (DREAs) annual workplan and multiyear investment plans include	Political commitments remain high for the period of project implementation.
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		<i>framework</i>		<i>adaptation measures</i>	
	<i>5.2: Number and level 31 of effective coordination mechanisms</i>	<i>Fragmented water governance - no effective coordination mechanism in place Level=1</i>	<i>1 National IWRM coordination mechanism/ committee Level=2</i>	<i>1 National IWRM coordination mechanism/ committee Level=4 3 Island IWRM coordination mechanism/ committees Level=4</i>	<i>Political commitments for coordination remain high for the period of project implementation.</i>
Project Outcomes A6.0 Increased generation and use of climate information in decision-making	<i>6.2: Use of climate information products/services in decision-making in climate-sensitive sectors</i>	<i>0%</i>	<i>20 % of the officials using climate information to advise watershed risk reduction plans and drinking water safety and security planning</i>	<i>100% of the officials using climate information to advise watershed risk reduction plans and drinking water safety and security planning</i>	<i>The fluctuation of ANACM staff (and number of staff) does not increase significantly</i>
Project Outcomes A7.0 Strengthened adaptive capacity and reduced exposure to	<i>7.1: Use by vulnerable households, communities, businesses and public-sector services of Fund-supported tools (climate products), instruments,</i>	<i>0</i>	<i>150,000 beneficiaries using climate information to increase drought</i>	<i>335,000 beneficiaries (using climate information to increase</i>	<i>Targeted population has the necessary access to the communication channels (e.g. mobiles, media)</i>

³¹ In this context, the “level” of coordination mechanism is expressed in a scale of 1 to 4 with the scale referring to a particular level of effectiveness. (1 = no coordination mechanism; 2= coordination mechanism in place and meeting consistently; 3 = coordination mechanism in place, meeting regularly with appropriate representation (gender and decision making authorities); 4 =coordination mechanism in place, meeting regularly, with appropriate representation, with appropriate information flows and monitoring of action items/issues raised)

climate risks	<i>strategies and activities to respond to climate change and variability</i>		<i>resilience and reduce vulnerability to flooding</i> 76,500 Females 73,500 Males	<i>drought resilience and reduce vulnerability to flooding</i> 170,850 Females 164,150 Males	
	<i>7.2: Number of males and females reached by climate-related early warning systems and other risk reduction measures established/strengthened</i>	0	<i>150,000 residents total in target areas</i> 76,500 Females 73,500 Males	<i>335,000 residents total in target areas</i> 170,850 Females 164,150 Males	<i>Disasters to not destroy installed data collection equipment.</i>
Project Outcomes A8.0 Strengthened awareness of climate threats and risk-reduction processes	<i>8.1: Number of males and females made aware of climate threats and related appropriate responses</i>	0	<i>150,000 residents total in target areas</i> 76,500 Females 73,500 Males	<i>450,000 residents total in target areas</i> 229,550 Females 220,500 Males	<i>The targeted population has the necessary access to the communication channels (e.g. mobiles, media)</i>
PROJECT OUTPUTS: Copy from GCF funding proposal H.1.2 Outcomes, Outputs, Activities and Input at Project/Programme level (no changes can be made). These are project specific and should be limited to maximum three outputs only.					
Project Outputs 1. Climate informed water supply planning and management 2	<i>1.1 Number of primary and secondary 32 water related legislations and regulations mainstreaming climate risks/adaptation</i>	0	<i>1 Water Code (primary) revised to integrate climate resilient Drinking Water Security and Safety Planning</i>	<i>1 Water Code (primary) formally ratified</i> <i>2 Climate resilience focused water abstraction and</i>	<i>Utilities fully adopt new management systems to improve service delivery, including O&M planning.</i>

³² Primary Legislation is created usually by an act (Act) of government and provides definition to an umbrella legal instrument. Secondary legislation (also referred to as delegated legislation or subordinate legislation) is law made by an executive authority under powers delegated from/by an enactment of primary legislation, which grants the executive agency power to implement and administer the requirements of that primary legislation.

				water quality regulation (secondary) drafted and ratified	
	1.2 Number of water service providers within target zones using Drinking Water Safety and Security Planning	0	6 target zone Water service providers using Water Security Plans that can accommodate climate extremes (drought & flood)	15 target zone Water service providers using Water Security Plans that can accommodate climate extremes (drought & flood)	Utilities fully adopt new management systems to improve service delivery, including O&M planning
	1.3 Percentage of Water Management Committees with women leading discussions on the integration of climate-informed practices into water management	0%	40%	100%	Sufficient women are willing to lead discussions in the committees and communities agree to women having an active role in committees
	1.4 Number of households contributing financially to the cost of climate resilient water services	0	0 households contributing financially to the cost of climate resilient water services ³³	50,000 households contributing financially to the cost of climate resilient water services	Advisory information is properly targeted, reaches intended audiences and beneficiaries perceive improvement and benefits and have sufficient resources (financial) to priorities and pay for climate resilient water service delivery
Project Outputs 2. Climate Informed	2.1 Number of IWRM Management Committees	No formal IWRM	15 catchment specific	32 catchment-specific	The communities participate with

³³ Up to year 7 of project implementation, the Government of Comoros will support climate resilient water services; from year 8 onwards, there will be a reduced subsidized tariff, therefore, households will be able to contribute directly to the subsidized tariff

Water Resources and Watershed Management including forecasting and early warnings of climate risks	<i>established with a climate resilience mandate in target watersheds</i>	<i>watershed management committees exist.</i>	<i>committees established that prioritize water sector climate resilience</i>	<i>committees established that prioritize water sector climate resilience</i>	<i>understand and respect IWRM processes.</i>
	<i>2.2 Level 34 of integration of climate information products and services (CIPS) for EWS in watershed management by IRWM management committees</i>	<i>Level=1</i>	<i>Level=2</i>	<i>Level=4</i>	<i>IRWM management committee members are aware of the benefits to using CIPS and accept to integrate them</i>
	<i>2.3 Number of meteorological workers with the capacity to analyse climate information and model flood forecasts</i>	<i>10 workers with relevant capacities</i>	<i>20 workers with relevant capacities</i>	<i>30 workers with relevant capacities</i>	<i>Enough workers in the ANACM with the appropriate skills level to undertake the trainings</i>
	<i>2.4 Number of female and male farmers receiving advisories for water management</i>	<i>0</i>	<i>5,000 target female and male farmers receiving advisories for water management 2,550 Female 2,450 Male</i>	<i>10,000 target female and male farmers receiving advisories for water management 5,100 Female 4,900 Male</i>	<i>Agricultural policies and incentives consistent with the watershed action plans</i>
Project Outputs 3. Climate Resilient Water Supply Infrastructure	<i>3.1 Number and value of physical assets made more resilient to climate variability and change, considering human benefits, reported and where applicable</i>	<i>0</i>	<i>10 covered storage units, 5 treatment systems, 8 new and protected water sources for a value of US\$ 3,911,551.57</i>	<i>30 covered storage units, 14 treatment systems and 22 new and protected water sources for a value of US\$</i>	<i>Sufficient rainfall, groundwater and surface water can be collected / mobilized to help achieve water security.</i>

³⁴ Level 1: No integration of climate information products; Level 2: low integration- able to identify the types and locations of climate hazard risks within the catchments; Level 3: medium integration- able to use drought forecasting to increase resilience of watershed management; Level 4: high integration: able to use of flood forecasts to increase resilience of watershed management

				13,989,495.88	
	3.2 Number of households in Grand Comore receiving water throughout in dry season.	0	15,000 total households (of which 7,650 are female headed households) with access to water in dry season	30,000 total households (of which 15,300 are female headed households) with access to water in dry season	Sufficient rainfall, groundwater and surface water can be mobilized to help achieve water security.
	3.3 Number of Households in Anjouan and Moheli receiving drinking water throughout storm events (disaggregated for female headed households).	0	5,000 total households (of which 2,550 are female headed households) with access to water during storm events	20,000 total households (of which 10,200 are female headed households) with access to water during storm events	Sufficient rainfall, groundwater and surface water can be collected/ mobilised to help achieve water security
DO NOT INCLUDE ACTIVITIES OR INPUTS IN THIS PROJECT RESULTS FRAMEWORK					

VII. MONITORING AND EVALUATION (M&E) PLAN

GCF funding will be used to ensure that monitoring and evaluation systems are put in place to track progress over the 8 years of project implementation towards the planned project outcomes and fund level impacts. This will be achieved through the means of verification outlined in Table H.1.2 above, where progress on each indicator from the baseline to the mid-point and end-point targets for those indicators will be tracked. The project will use the Randomized Control Trial approaches to monitor communities' adaptive capacity and exposure to climate risks, tracking their involvement in both water resources management, watershed management, water access, improvement of water supply delivery services and health condition integrating gender dimensions as outlined in the gender action plan. The questionnaire will include gathering baseline data on sources of water, capacity on integrating climate information on water related decision making, household economic activities, production yields (fishing, farming, aquaculture), monetary income and harvesting of natural resources. The questionnaire will also include analysis of additional variables contributing to vulnerability to climate change and adaptive capacity, including understanding of climate change impacts on water access, gender roles. The monitoring will use routine, concurrent and participatory processes. The project will carry out external mid-term and terminal evaluation (using International and national independent consultants) and the evaluations will be undertaken through a counterfactual analysis (or 'with or without' scenario) that allows a comparison between what happened and what would have happened in the absence of project interventions. For this analysis to take place, a comparison group who are/were not directly exposed to any of the project's intervention should be created. This will greatly aid in attributing changes in project outcomes to interventions undertaken by the project. For example, a detailed survey instrument, the Household Survey: Adaptive Capacity and Climate Vulnerability, will be used in the target landscapes.

The project results as outlined in the project results framework will be monitored and reported annually and evaluated periodically during project implementation to ensure the project effectively achieves these results.

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 GCF-specific M&E requirements will be undertaken in accordance with relevant GCF policies.

In addition to these mandatory UNDP and GCF 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 Workshop Report. This will include the exact role of project target groups and other stakeholders in project M&E activities including national/regional institutes assigned to undertake project monitoring.

M&E oversight and monitoring responsibilities:

Project Manager: The Project Manager is responsible for day-to-day project management and regular monitoring of project results and risks, including social and environmental risks. The Project Manager 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 Manager will inform the Project Board, the UNDP Country Office and the UNDP-GEF Regional Technical Advisor of any delays or difficulties as they arise during implementation so that appropriate support and corrective measures can be adopted.

The Project Manager will develop annual work plans to support the efficient implementation of the project. The Project Manager will ensure that the standard UNDP and GCF 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 Annual Project Report, and that the monitoring of risks and the various plans/strategies developed to support project implementation (e.g. Environmental and social management plan, gender action plan 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 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 Manager as needed, including through annual supervision missions. The annual supervision missions will take place according to the schedule outlined in the 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 M&E activities including the Annual Project Report, the independent mid-term evaluation and the independent terminal evaluation. The UNDP Country Office will also ensure that the standard UNDP and GCF 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; the regular updating of the ATLAS risk log; and, the updating of the UNDP gender marker on an annual basis based on gender mainstreaming progress reported in the Annual Project Report and the UNDP ROAR. Any quality concerns flagged during these M&E activities (e.g. Annual Project Report quality assessment ratings) must be addressed by the UNDP Country Office and the Project Manager.

The UNDP Country Office will support GCF staff (or their designate) during any missions undertaken in the country and support any ad-hoc checks or ex post evaluations that may be required by the GCF.

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

UNDP-Global Environmental Finance Unit (UNDP-GEF): Additional M&E and implementation oversight, 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 and the related arrangements agreed to in the Accreditation Master Agreement. Upon request, project audit reports (s) will be shared with the GCF (the donor).

Additional GCF monitoring and reporting requirements:

Inception Workshop and Report: A project inception workshop will:

- 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;
- e) Identify how project M&E can support national monitoring of SDG indicators as relevant;
- f) 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 action plan; and other relevant strategies;
- g) Review financial reporting procedures and mandatory requirements, and agree on the arrangements for the periodic audit; and
- h) Plan and schedule Project Board meetings and finalize the first year annual work plan.

The inception report must be submitted to the GCF within six months of project start (i.e. project effectiveness). The inception report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and approved by the Project Board.

GCF Annual Project Report (due 1 March each year of project implementation): The Project Manager, the UNDP Country Office, and the UNDP-GEF Regional Technical Advisor will provide objective input to the annual project report covering the calendar year for each year of project implementation. The Project Manager will ensure that the indicators included in the project results framework are monitored annually in advance so that progress can be included in the report. The APR will include reporting of: environmental and social risks and related management plans, gender, co-financing and financial commitments, GCF 'conditions precedent' outlined in the FAA, amongst other issues. The annual project report will be due for submission to the GCF in the first quarter of each year for the duration of the project. The last APR will be due for submission within 3 months after the project completion date.

The Annual Project Report submitted to the GCF will also be shared with the Project Board. The UNDP Country Office will coordinate the input of other stakeholders to the report as appropriate. The quality rating of the previous year's report will be used to inform the preparation of the subsequent report.

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.

Interim Independent Evaluation Report: An interim independent evaluation report will be completed by *ADD DATES (more than one may be required) FOR INTERIM INDEPENDENT EVALUATION REPORT (S) INDICATED IN PROJECT CALENDAR/MILESTONE OF GCF FAA*. The findings and responses outlined in the management response to the interim independent evaluation will be incorporated as recommendations for enhanced implementation during the final half of the project's duration. The terms of reference, the evaluation process and the evaluation report will follow the standard templates and guidance prepared by the UNDP IEO available on the [UNDP Evaluation Resource Center \(ERC\)](#). 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. Other stakeholders will be involved and consulted during the evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final interim evaluation 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.

Final Independent Evaluation Report: A final independent evaluation report will be completed by *ADD DATE INDICATED IN PROJECT CALENDAR/MILESTONE OF GCF FAA*. The final evaluation will take place upon completion of all major project outputs and activities. The final evaluation process will begin at least 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 Final Independent Evaluation report is due for submission to the GCF within 6 months after the project completion date.

The Project Manager will remain on contract until the final evaluation report and management response have been finalized. The terms of reference, the evaluation process and the final evaluation report will follow the standard templates and guidance prepared by the UNDP IEO 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. Additional quality assurance support is available from the UNDP-GEF Directorate. The final evaluation 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 final evaluation report will be publicly available in English on the UNDP ERC.

The UNDP Country Office will include the planned project evaluations in the UNDP Country Office evaluation plan, and will upload the evaluation reports in English and the corresponding management response to the UNDP Evaluation Resource Centre (ERC).

Final Report: The project's final Annual Project Report along with the final independent evaluation 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.

Mandatory GCF M&E Requirements and M&E Budget:

GCF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget ³⁵ (US\$)		Time frame
		GCF grant	Co-financing	
Inception Workshop	UNDP Country Office	USD 11,000	<i>add</i>	
Inception Report and baseline assessments	Project Manager	<i>add</i>	None	<i>Add date indicated in the FAA- Schedule 4</i>
Standard UNDP monitoring and reporting requirements as outlined in the UNDP POPP	UNDP Country Office	None	None	Annually
Risk management	Project Manager Country Office	None	None	Quarterly, annually
Monitoring of indicators in project results framework <i>(including hiring of external experts, project surveys, data analysis etc...)</i>	Project Manager	Per year: USD 10,000	<i>add</i>	Annually
GCF Annual Project Report	Project Manager and UNDP Country Office and UNDP-GEF Unit	None	None	Annually as per FAA
Audit of Implementing Partner as per UNDP audit policies	UNDP Country Office	Per year: USD5,000	<i>add</i>	As per UNDP Audit policies
Lessons learned, case studies, and knowledge	Project Manager	Per year: USD	<i>add</i>	Annually

³⁵ Excluding project team staff time and UNDP staff time and travel expenses.

GCF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget ³⁵ (US\$)		Time frame
		GCF grant	Co-financing	
generation		6,000		
Monitoring of environmental and social risks, and corresponding management plans as relevant	Project Manager UNDP CO	Per year: USD 6,000	<i>add</i>	On-going
Monitoring of gender action plan	Project Manager UNDP CO	Per year: USD 4,000	<i>add</i>	On-going
Monitoring of stakeholder engagement plan	Project Manager UNDP CO	Per year: USD 4,000	<i>add</i>	On-going
Addressing environmental and social grievances	Project Manager UNDP Country Office BPPS as needed	<i>add</i>	<i>add</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: 8,000 USD <i>add</i>	<i>add</i>	At minimum annually
Supervision missions	UNDP Country Office	None ³⁶	<i>add</i>	Two per year
Oversight missions	UNDP-GEF Unit	None ³⁶	<i>add</i>	Troubleshooting as needed
GCF learning missions/site visits	UNDP Country Office and Project Manager and UNDP-GEF Unit	50,000	<i>add</i>	To be determined.

³⁶ The costs of UNDP Country Office and UNDP-GEF Unit's participation and time are charged to the GCF Agency Fee.

GCF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget ³⁵ (US\$)		Time frame
		GCF grant	Co-financing	
Interim independent evaluation and management response (add additional lines if more than one interim evaluation is required)	UNDP Country Office and Project team and UNDP-GEF Unit	USD 50,000	add	Add date(s) specified in Schedule 4 of the FAA
Final independent evaluation and management response	UNDP Country Office and Project team and UNDP-GEF Unit	USD 50,000	<i>add</i>	Add date specified in Schedule 4 of the FAA
Translation of evaluation reports into English	UNDP Country Office	USD 2,000 – 10,000	add	As required. GCF will only accept reports in English.
TOTAL indicative COST Excluding project team staff time, and UNDP staff and travel expenses		<i>424,000</i>	<i>add</i>	

VIII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

The GCF Project's National Implementation Management (NIM) arrangements will be consistent with arrangements successfully-implemented via other adaptation projects in Comoros supported by UNDP.

Roles and responsibilities of the project's governance mechanism: The project will be implemented following UNDP's National Implementation Modality (NIM), according to the Special Agreement concerning Technical Assistance between UN organizations and the Government of Comoros (signed by both Parties on 27 January 1976) and the Agreement between UN Special Fund and the GOC concerning Assistance from the Special Fund (signed on 27 January 1976), and according to policies and procedures outlined in the UNDP POPP (see:

<https://popp.undp.org/SitePages/POPPSubject.aspx?SBJID=245&Menu=BusinessUnit>).

The national executing entity - also referred to as the national 'Implementing Partner' in UNDP terminology - is required to implement the project in compliance with UNDP rules and regulations, policies and procedures, including the NIM Guidelines. These include relevant requirements on fiduciary, procurement, environmental and social safeguards, and other

performance standards. In legal terms, this is ensured through the national government's signature of the Special Agreement concerning Technical Assistance between UN organizations and the Government of Comoros and the Agreement between UN Special Fund and the Government of Comoros concerning Assistance from the Special Fund together with a UNDP project document which will be signed by the Implementing Partner to govern the use of the funds. The Implementing Partner (IP) for this project will be the Ministry of Energy, Agriculture, Fisheries, Environment (MAFE), which is accountable to UNDP for managing the project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of UNDP resources. The MAFE will have project ownership and will appoint a Project Manager (PM), paid for by the project, to coordinate project operations. The MAFE is also the National Designated Authority of the Green Climate Fund and all the national level coordination mechanisms will be under the aegis of the ministry.

The DGEF (General Directorate for Environment and Forests) and the DGEME (General Directorate for Energy, Mines and Water) will be the main technical departments within the MAFE in charge of the implementation of the project.

The DGEME is the main state institution responsible for the sovereign missions in the water sector namely:

- Collect, create, maintain and manage a sectoral database for energy, water, mining and sanitation;
- Control and order the rational exploitation of energy resources in water and mineral, all over the territory;
- Implement programs and activities aimed at the optimal implementation of these same resources, their integrated management as well as good governance within the framework of the strategy defined by the Government;
- Develop, in conjunction with the General Planning Commissariat (CGP), the Public Investment Program (PIP) and the Public Expenditure Program
- To co-operate with other administrations and institutions, including the Directorates-General of Agriculture and Rural Development, Environment, Health, Economy, Customs, Comorian Society, hydrocarbons and the national electricity and water company, as well as private professional operators and NGOs AND development association, a dashboard on resources and their use
- Provide technical oversight of structures involved in these sectors, including community and regional organizations, involved in the development, integrated management, sustainable development, protection and exploitation of resources in these sectors
- Assure, on behalf of the Government, the project management of sectoral projects within the remit and competencies of the Ministry of Energy, Water, Sanitation and Mineral Resources.
- Develop and conduct comprehensive and partial technical and financial studies as part of the sectoral development program
- Define areas and different areas of protection of resources
- Collaborate with national, regional and international, bilateral, multilateral and non-governmental organizations for the coordination and orientation of activities, in accordance with the national sectoral development plan, in accordance with the various international conventions signed by the country

The DGEME will be responsible in the framework of the implementation of the project of the following tasks:

Will serve as an executing Partner for the implementation of some of demonstration projects

- Will be a member of the PSC.
- Will be responsible for reviewing existing policies to ensure the incorporation of climate change considerations.
- Will facilitate the sharing of lessons and experiences at a national level as resources permit.

- Will serve as a resource institution during the project or policy-related issues.
- Will serve as a resource institution for water resources monitoring, and managements.
- Will contribute in the M&E.

The DGEF is responsible among other for the following water resources management related tasks:

- Preserving the quality of water resources, according to the uses
- Increasing the availability of water resources while avoiding wastage
- The prior authorization of the ministers responsible for the management of water resources and the environment, on all works relating to rivers, their beds and banks, likely to modify the water regime, their chemical composition, their temperature or their fishing suitability or to compromise, in general, the ecological balance
- Definition of bacteriological, biological, physical and chemical standards for drinking water and water for irrigation and watering of cropland
- The establishment of protective perimeters (immediate, close and remote protection) on the water sampling points, intended for human consumption, according to the needs noted for each individual case
- Prohibition of all activities likely to affect water quality
- The prior authorization of the Minister of the Environment in relation to the operation of agricultural or industrial enterprises whose wastewater is discharged into watercourses and devices to be taken for the purification of wastewater.
- The classification of forests by decree in Council of Ministers, on the joint proposal of the Minister for Rural Development and the Environment when soil protection, watercourses regime, conservation of a threatened species of fauna or the ecological balance require it

In this framework, the DGEF will be responsible in the project implementation of the following tasks:

- Will serve as an Executing Partner and will, therefore, be responsible for executing the project.
- Will chair the Project Steering Committee (PSC).
- Will delegate implementation responsibilities to other national directorates such as, Directorate of Water and Energy, associations, unions, NGO's and others, which are still to be identified.
- A National Project Director will be appointed from within the Directorate.
- Will house the Project Support Team (PST: project manager and project support).
- Will implement project activities through its extension network.
- Responsible for M&E.

Subsidiary agreements will be signed between UNDP, the Government of Comoros and SONEDE, and ANACM (National Agency for Civil Aviation) respectively.

The SONEDE is a separate entity with a legal personality but under the technical supervision of the MAFE.

The SONEDE will be carrying out the following activities:

3.1. Undertake climate risk assessments of existing groundwater abstraction wells to develop risk reduction pumping strategies, and construction of additional boreholes in zones at risk of drought water scarcity in Grande Comore

3.2. Build infrastructure to increase resilience of water supply facilities to extended duration low flow periods, greater intensity flood flow damage and flood flow higher turbidity and bacteria loadings (Grande Comore, Anjouan island and Moheli island)

3.3. Installation of flowmeters to support climate resilient tariff adjustments, and leakage reduction programmes to improve the water pricing and management system taking into account the additional costs associated with climatic hazards

ANACM is also a separate entity with a legal personality but under the technical supervision of the Ministry of Transport, Tourism, Poste and Telecommunication and Information and Communication Technologies. ANACM will carry out the following activities:

2.4 Establish water resource monitoring network and upgrade the existing monitoring infrastructure to enable the collection of the required climate/weather data

2.5. Build the capacities of the meteorological services to analyze and produce drought and flood forecasts for targeted users, including for flood early warning system

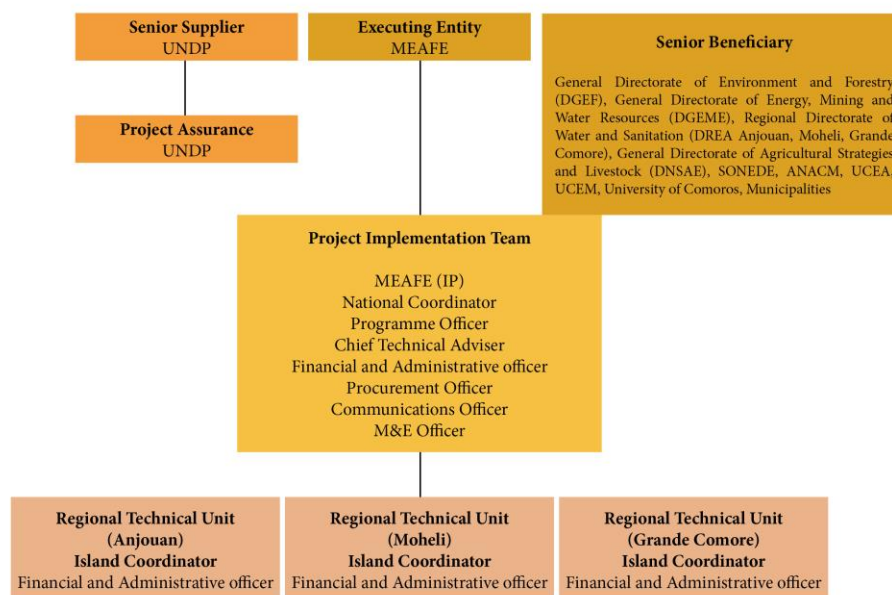
The UNDP country office provides support services for the implementation of project activities, including assistance in reporting and direct payment. In doing so, it must ensure that the capacity of the Government (the Implementing Partner) is strengthened.

In addition, the UNDP country office may provide, at the request of the Implementing Partner, the following support services for the implementation of the project activities:

- (a) Identification and / or recruitment of staff to be assigned to the project;
- (b) Management of service contracts and institutional / professional contracts;
- (c) Management of fixed-term contracts, temporary contracts;
- (d) The management of specialized expertise contracts;
- (e) Definition and facilitation of training activities;
- (f) Complex procurement processes including civil works;
- (g) Acquisitions of specialized equipment to be ordered using open international tenders;
- (h) Local acquisitions exceeding the ceiling of USD50,000.00;
- (i) International Travel Management;
- (j) Financial and administrative management of the project;
- (k) General Service Management;
- (l) Management of information technology and communications services

The project organisation structure – as outlined in Schedule 3 of the FAA - is as follows:

Project Organisations Structure



Project Board: The Project Board (also called Project Steering Committee) is responsible for making by consensus, management decisions when guidance is required by the Project Manager, including recommendations for UNDP/Implementing Partner approval of project plans and revisions, and addressing any project level grievances. 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.

Specific responsibilities of the Project Board include:

- Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- Address project issues as raised by the project manager;
- Provide guidance on new project risks, and agree on possible countermeasures and management actions to address specific risks;
- Agree on project manager’s tolerances as required;
- Review the project progress, and provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;
- Appraise the annual project implementation report, including the quality assessment rating report; make recommendations for the workplan;
- Provide ad hoc direction and advice for exceptional situations when the project manager’s tolerances are exceeded; and
- Assess and decide to proceed on project changes through appropriate revisions.

The composition of the Project Board must include the following roles:

Executive: The Executive is an individual who represents ownership of the project who will chair the Project Board. This role can be held by a representative from the Government Cooperating Agency or UNDP. The Executive is the Ministry of Energy, Agriculture, Fisheries, Environment (MAFE).

The Executive is ultimately responsible for the project, supported by the Senior Beneficiary and Senior Supplier. The Executive's role is to ensure that the project is focused throughout its life cycle on achieving its objectives and delivering outputs that will contribute to higher level outcomes. The executive has to ensure that the project gives value for money, ensuring cost-conscious approach to the project, balancing the demands of beneficiary and supplier.

Specific Responsibilities: (as part of the above responsibilities for the Project Board)

- Ensure that there is a coherent project organization structure and logical set of plans;
- Set tolerances in the AWP and other plans as required for the Project Manager;
- Monitor and control the progress of the project at a strategic level;
- Ensure that risks are being tracked and mitigated as effectively as possible;
- Brief relevant stakeholders about project progress;
- Organize and chair Project Board meetings.

Senior Supplier: The Senior Supplier is an individual or group representing the interests of the parties concerned which provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring, implementing). The Senior Supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project. The Senior Supplier role must have the authority to commit or acquire supplier resources required. If necessary, more than one person may be required for this role. Typically, the implementing partner, UNDP and/or donor(s) would be represented under this role. The Senior Supplier is UNDP.

Specific Responsibilities (as part of the above responsibilities for the Project Board)

- Make sure that progress towards the outputs remains consistent from the supplier perspective;
- Promote and maintain focus on the expected project output(s) from the point of view of supplier management;
- Ensure that the supplier resources required for the project are made available;
- Contribute supplier opinions on Project Board decisions on whether to implement recommendations on proposed changes;
- Arbitrate on, and ensure resolution of, any supplier priority or resource conflicts.

Senior Beneficiary: The Senior Beneficiary is an 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 Board is to ensure the realization of project results from the perspective of project beneficiaries. The Senior Beneficiary role is held by a representative of the government or civil society. The Senior Beneficiary are the DGEF (General Directorate for Environment and Forests) and the DGEME (General Directorate for Energy, Mines and Water),

General Directorate of Agriculture Strategies and Livestock (DNSAE), SONEDE, ANACM (National Agency for Civil Aviation), UCEA, UCEM, University of Comoros.

The Senior Beneficiary is responsible for validating the needs and for monitoring that the solution will meet those needs within the constraints of the project. The Senior Beneficiary role monitors progress against targets and quality criteria. This role may require more than one person to cover all the beneficiary interests. For the sake of effectiveness, the role should not be split between too many people.

Specific Responsibilities (as part of the above responsibilities for the Project Board)

- Prioritize and contribute beneficiaries' opinions on Project Board decisions on whether to implement recommendations on proposed changes;
- Specification of the Beneficiary's needs is accurate, complete and unambiguous;
- Implementation of activities at all stages is monitored to ensure that they will meet the beneficiary's needs and are progressing towards that target;
- Impact of potential changes is evaluated from the beneficiary point of view;
- Risks to the beneficiaries are frequently monitored.

Project Manager: The Project Manager has the authority to run the project on a day-to-day basis on behalf of the Project Board within the constraints laid down by the Board. The Project Manager is responsible for day-to-day management and decision-making for the project. The Project Manager's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost.

The Implementing Partner appoints the Project Manager, who should be different from the Implementing Partner's representative in the Project Board.

Specific responsibilities include:

- Provide direction and guidance to project team(s)/ responsible party (ies);
- Liaise with the Project Board to assure the overall direction and integrity of the project;
- Identify and obtain any support and advice required for the management, planning and control of the project;
- Responsible for project administration;
- Plan the activities of the project and monitor progress against the project results framework and the approved annual workplan;
- Mobilize personnel, goods and services, training and micro-capital grants to initiative activities, including drafting terms of reference and work specifications, and overseeing all contractors' work;
- Monitor events as determined in the project monitoring schedule plan/timetable, and update the plan as required;
- Manage requests for the provision of financial resources by UNDP, through advance of funds, direct payments or reimbursement using the fund authorization and certificate of expenditures;
- Monitor financial resources and accounting to ensure the accuracy and reliability of financial reports;
- Be responsible for preparing and submitting financial reports to UNDP on a quarterly basis;
- Manage and monitor the project risks initially identified and submit new risks to the project board for consideration and decision on possible actions if required; update the status of these risks by maintaining the project risks log;
- Capture lessons learned during project implementation;

- Prepare the annual workplan for the following year; and update the Atlas Project Management module if external access is made available.
- Prepare the Annual Project Report and submit the final report to the Project Board;
- Based on the Annual Project Report and the Project Board review, prepare the AWP for the following year.
- Ensure the interim evaluation process is undertaken as per the UNDP guidance, and submit the interim evaluation report to the Project Board.
- Identify follow-on actions and submit them for consideration to the Project Board;
- Ensure the final evaluation process is undertaken as per the UNDP guidance, and submit the final evaluation report to the Project Board;

Project Assurance: UNDP provides a three – tier supervision, oversight and quality assurance role – funded by the agency fee – involving UNDP staff in Country Offices and at regional and headquarters levels. Project Assurance must be totally independent of the Project Management function. The quality assurance role supports the Project Board and Project Management Unit by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. The Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager. This project oversight and quality assurance role is covered by the accredited entity fee provided by the GCF.

As an Accredited Entity to the GCF, UNDP delivers the following GCF-specific oversight and quality assurance services: (i) day to day project oversight supervision covering the start-up and implementation; (ii) oversight of project completion; and (iii) oversight of project reporting. A detailed list of the services is presented in the table below.

Function	Detailed description of activity	Typical GCF fee breakdown
Day-to-day oversight supervision	<p>1. Project start-up:</p> <ul style="list-style-type: none"> • In the case of Full Funding Proposals, prepare all the necessary documentation for the negotiation and execution of the Funding Activity Agreement (for the project) with the GCF, including all schedules • In the case of readiness proposals, if needed assist the NDA and/or government partners prepare all the necessary documentation for approval of a readiness grant proposal • Prepare the Project Document with the government counterparts • Technical and financial clearance for the Project Document • Organize Local Project Appraisal Committee • Project document signature • Ensure quick project start and first disbursement • Hire project management unit staff 	70%

Function	Detailed description of activity	Typical GCF fee breakdown
	<ul style="list-style-type: none"> • Coordinate/prepare the project inception workshop • Oversee finalization of the project inception workshop report <p>2. Project implementation:</p> <ul style="list-style-type: none"> • <u>Project Board</u>: Coordinate/prepare/attend annual Project Board Meetings • <u>Annual work plans</u>: Quality assurance of annual work plans prepared by the project team; issue UNDP annual work plan; strict monitoring of the implementation of the work plan and the project timetable according to the conditions of the FAA and disbursement schedule (or in the case of readiness the approved readiness proposal) • <u>Prepare GCF/UNDP annual project report</u>: review input provided by Project Manager/team; provide specialized technical support and complete required sections • <u>Portfolio Report (readiness)</u>: Prepare and review a Portfolio Report of all readiness activities done by UNDP in line with Clause 9.02 of the Readiness Framework Agreement. • <u>Procurement plan</u>: Monitor the implementation of the project procurement plan • <u>Supervision missions</u>: Participate in and support in-country GCF visits/learning mission/site visits; conduct annual supervision/oversight site missions • <u>Interim Independent Evaluation Report</u>: Initiate, coordinate, finalize the project interim evaluation report and management response • <u>Risk management and troubleshooting</u>: Ensure that risks are properly managed, and that the risk log in Atlas (UNDP financial management system) is regularly updated; Troubleshooting project missions from the regional technical advisors or management and programme support unit staff as and when necessary (i.e. high risk, slow performing projects) • <u>Project budget</u>: Provide quality assurance of project budget and financial transactions according to UNDP and GCF policies • <u>Performance management of staff</u>: where UNDP supervises or co-supervises project staff • <u>Corporate level policy functions</u>: Overall fiduciary and financial policies, accountability and oversight; Treasury Functions including banking information and arrangements and cash management; Travel services, asset management, and procurement policies and support; Management and oversight of 	

Function	Detailed description of activity	Typical GCF fee breakdown
	the audit exercise for all GCF projects; Information Systems and Technology provision, maintenance and support; Legal advice and contracting/procurement support policy advice; Strategic Human Resources Management and related entitlement administration; Office of Audit and Investigations oversight/investigations into allegations of misconduct, corruption, wrongdoing and fraud; and social and environmental compliance unit and grievance mechanism.	
Oversight of project completion	<ul style="list-style-type: none"> • Initiate, coordinate, finalize the Project Completion Report, Final Independent Evaluation Report and management response • Quality assurance of final evaluation report and management response • Independent Evaluation Office assessment of final evaluation reports; evaluation guidance and standard setting • Quality assurance of final cumulative budget implementation and reporting to the GCF • Return of any un-spent GCF resources to the GCF 	10%
Oversight of project reporting	<ul style="list-style-type: none"> • Quality assurance of the project interim evaluation report and management response • Technical review of project reports: quality assurance and technical inputs in relevant project reports • Quality assurance of the GCF annual project report • Preparation and certification of UNDP annual financial statements and donor reports • Prepare and submit fund specific financial reports 	20%
	TOTAL	100%

Governance role for project target groups: *Describe how project target groups will be engaged in decision making for the project.*

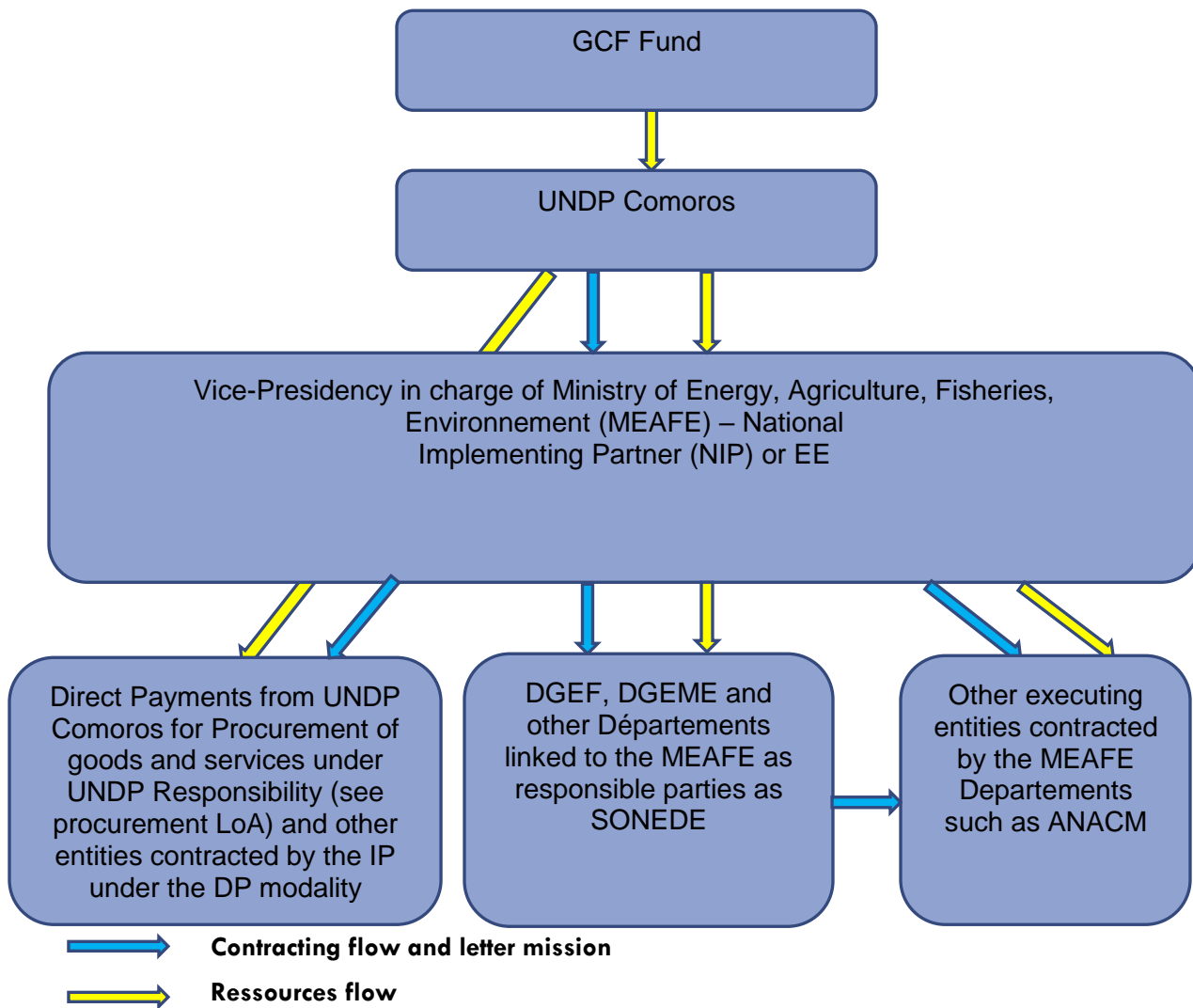
The main beneficiaries of this project will be the DGEF, the DGEME, the Water Company of Comoros (SONEDE), the local Water Committees of Anjouan and Moheli (UCEA) and (UCEM), Electricity of Anjouan (EDA), the ANACM through the Technical Directorate of Meteorology as well as the local Water User Associations and CBOs

As the AE, UNDP will disburse funding (received from the GCF according to the FAA disbursement schedule), to the MAFE, as the Executing Entity, for the purposes of undertaking the project. The MAFE will conclude agreements with the DGEME, DGEF, SONEDE and ANACM and these Letters of Agreement (LOAs) will be attached to the Project Document. In terms of these LOAs, these 4 governmental entities will be made Responsible Parties (RPs),

responsible for delivering particular projects outputs as set out in detailed terms of reference attached to the agreements.

The Project Steering Committee, led by MAFE, will be responsible for approving program activities. Based on the approved activities, the Project Management Unit (PMU) will ensure the provision of funds to all institutions/organizations for their respective activities. All executing agencies will be responsible for managing tasks allocated to their institution/organization.

Contracting structure and flow of funds



IX. FINANCIAL PLANNING AND MANAGEMENT

The total cost of the project is *USD 60.751.495*. This is financed through a GCF grant of *USD 41.919.808*, *USD 2.000.000* in cash co-financing to be administered by UNDP and *USD 16.830.687* in parallel co-financing. UNDP, as the GCF Accredited Agency, is responsible for the oversight and quality assurance of the execution of GCF resources and the cash co-financing transferred to UNDP bank account only.

Project Financing

Component	Outputs	Financing institution					Total (US\$)
		GCF	Government	China GEC	FADES	UNDP	
		Grant	Grant	In-Kind	Grant	Grant	
Component 1. Climate informed water supply planning and management	<i>Output 1.1</i> Prepare recommendations and legal guidance on the integration of climate change adaptation into the national (federal) and regional (state) water sector agencies governance frameworks, regulations and operations	0.328737					0.328737
	<i>Output 1.2</i> Develop water sector climate change risk reduction awareness raising programme for national and state agencies and establish CCA knowledge and information exchange mechanisms	0.100000					0.100000
	<i>Output 1.3</i> Develop and apply criteria for assessing socially sensitive water pricing mechanisms ensuring prices take into account the actual costs of production, storage and processing required in view of the projected climate stresses		0.175000				0.175000
	<i>Output 1.4</i> Develop planning guidance on source protection and water quality standards in view of climate change, operating procedures during periods of drought/floods; and safety plans	0.189457					0.189457
	<i>Output 1.5</i> Design and conduct trainings on best practices and gender-sensitive techniques of climate change adaptation in the context of water management, health and nutrition	0.505082					0.505082

Component	Outputs	Financing institution					Total (US\$)
		GCF	Government	China GEC	FADES	UNDP	
		Grant	Grant	In-Kind	Grant	Grant	
	among national, regional and local water stakeholders						
	<i>Output 1.6</i> Strengthen decentralized water resources management capacities to undertake climate risk reduction assessments and develop and deliver awareness campaigns and training programmes to Water Management Committees and users	0.371887	0.130000				0.501887
	Total Output 1	1.495163	0.305000				1.800163
Component 2. Climate Informed Water Resources and Watershed Management including forecasting and early warnings of climate risks	<i>Output 2.1</i> Establish climate resilience focused IWRM Committees and Watershed Risk Reduction Action Plans in the project intervention areas	0.313606				0.214500	0.528106
	<i>Output 2.2</i> Implement the water protection and risk mitigating measures on the ground/operationalize the risk reduction plans	0.190000					0.190000
	<i>Output 2.3</i> Support IWRM Management Committees to establish water source protection zones and raise public awareness on climate risk reduction benefits of watershed management	0.477205	0.140000				0.617205
	<i>Output 2.4</i> Establish water resource monitoring network and upgrade the existing monitoring infrastructure to enable the collection of the required	2.093501	0.103020				2.196521

Component	Outputs	Financing institution					Total (US\$)
		GCF	Government	China GEC	FADES	UNDP	
		Grant	Grant	In-Kind	Grant	Grant	
	climate/weather data						
	<i>Output 2.5</i> Build the capacities of the meteorological services to analyse and produce drought and flood forecasts for targeted users, including for flood early warning system	0.388000					0.388000
	<i>Output 2.6</i> Build the capacity of the key government, local authorities and committees to interpret the climate information and raise awareness of the local population to act upon the forecasts and EWS		0.340000			1.402700	1.742700
	Total Output 2	3.462312	0.583020			1.617200	5.662532
Component 3. Climate Resilient Water Supply Infrastructure	<i>Output 3.1</i> Undertake climate risk assessments of existing groundwater abstraction wells to develop risk reduction pumping strategies, and construction of additional boreholes in zones at risk of drought water scarcity in Grande Comore	3.950148			0.293363		4.243511
	<i>Output 3.2</i> Build infrastructure to increase resilience of water supply facilities to extended duration low flow periods, greater intensity flood flow damage and flood flow higher turbidity and bacteria loadings (Grande Comore, Anjouan island and Moheli island)	31.149959	10.778198	1.940856			43.869013

Component	Outputs	Financing institution					Total (US\$)
		GCF	Government	China GEC	FADES	UNDP	
		Grant	Grant	In-Kind	Grant	Grant	
	<i>Output 3.3</i> Installation of flowmeters to support climate resilient tariff adjustments, and leakage reduction programmes to improve the water pricing and management system taking into account the additional costs associated with climatic hazards		1.944050				1.944050
	Total Output 3	35.100107	12.722248	1.940856	0.293363		50.056574
Total Project Management Costs		1.862226	0.987200			0.382800	3.232226
Total		41.919808	14.597468	1.940856	0.293363	2.000000	60.751495

GCF Disbursement schedule: GCF grant funds will be disbursed according to the GCF disbursement schedule. The Country Office will submit an annual work plan to the UNDP-GEF Unit and comply with the GCF milestones in order for the next tranche of project funds to be released. All efforts must be made to achieve 80% delivery annually.

Disbursements	GCF Proceeds
1	USD 2,950,847
2	USD 8,475,242
3	USD 12,323,998
4	USD 8,179,774
5	USD 6,358,348
6	USD 1,668,474
7	USD 1,278,051
8	USD 685,074
Total	USD 41,919,808

Direct Project Services as requested by Government: services provided to government directly under NIM. The UNDP Country Office will also deliver a pre-determined set of project-specific execution services at the request of the Government. To ensure the strict independence required by the GCF and in accordance with the UNDP Internal Control Framework, these execution services should be delivered independent from the GCF-specific oversight and quality assurance services (i.e. not done by same person to avoid conflict of interest). These execution services will be charged to the project budget in accordance with the [UNDP's Harmonized Conceptual Funding Framework and Cost Recovery Methodology](#). The letter of agreement for these direct project costs is included in Annex to this project document.

The government has requested UNDP to undertake the following services:

- Selection and recruitment of international and national consultants
- Selection and recruitment of the project management unit
- Procurement of meteorological and hydrological equipment and vehicles
- Travel authorization for certain missions and settlement of travel expenses.

Budget Revision and Tolerance: 10% of the total overall projected costs can be reallocated among the budget account categories within the same project output. Any budget reallocation involving a major change in the project's scope, structure, design or objectives or any other change that substantially alters the purpose or benefit of the project requires the GCF's prior written consent.

As outlined in the UNDP POPP, the project board will agree on a budget tolerance level for each plan under the overall annual work plan allowing the project manager to expend up to the tolerance level beyond the approved project budget amount for the year without requiring a revision from the Project Board (within the GCF requirements noted above). Should such deviation occur, the Project Manager and UNDP Country office will seek the approval of the UNDP-GEF Unit.

Any over expenditure incurred beyond the available GCF grant amount will be absorbed by non-GCF resources (e.g. UNDP TRAC or cash co-financing).

Refund to GCF: Unspent GCF resources must be returned to the GCF. Should a refund of unspent funds to the GCF be necessary, this will be managed directly by the UNDP-GEF Unit in New York.

Project Closure: Project closure will be conducted as per UNDP requirements outlined in the UNDP POPP.³⁷ On an exceptional basis only, a no-cost extension beyond the initial duration of the project will be sought from in-country UNDP colleagues and then the UNDP-Global Environmental Finance Executive Coordinator.

Operational completion: The project will be operationally completed when the last UNDP-financed inputs have been provided and the related activities have been completed. This includes the final clearance of the Final Independent Evaluation Report (that will be available in English) and the corresponding management response, and the end-of-project review Project Board meeting. The Implementing Partner through a Project Board decision will notify the UNDP Country Office when operational closure has been completed.

Transfer or disposal of assets: In consultation with the NIM Implementing Partner and other parties of the project, UNDP programme manager (UNDP Resident Representative) is responsible for deciding on the transfer or other disposal of assets. Transfer or disposal of assets is recommended to be reviewed and endorsed by the project board following UNDP rules and regulations. Assets may be transferred to the government for project activities managed by a national institution at any time during the life of a project. In all cases of transfer, a transfer document must be prepared and kept on file³⁸.

In addition, the following GCF requirements must be followed: As stated in Clause 9.03 of the Funding Activity Agreement included in Annex^[1], the Accredited Entity shall inform the GCF, in the final APR, which steps it intends to take in relation to the durable assets and/or equipment purchased with the GCF Proceeds to implement the Funded Activity.

Financial completion: The project will be financially closed when the following conditions have been met: a) The project is operationally completed or has been cancelled; b) The Implementing Partner has reported all financial transactions to UNDP; c) UNDP has closed the accounts for the project; d) UNDP and the Implementing Partner have certified a final Combined Delivery Report (which serves as final budget revision).

The project is required to be financially completed within 12 months of operational closure or after the date of cancellation. Between operational and financial closure, the implementing partner will identify and settle all financial obligations and prepare a final expenditure report. The UNDP Country Office will send the final signed closure documents including confirmation of final

³⁷ see <https://info.undp.org/global/popp/ppm/Pages/Closing-a-Project.aspx>

³⁸ See https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PPM_Project%20Management_Closing.docx&action=default.

^[1] 23.04 of the AMA states: “ In relation to a Funded Activity that is a grant financed in whole or in part with GCF Proceeds, if any part of such grant is used to purchase any durable assets or equipment used to implement the relevant Funded Activity (such as vehicles or office equipment), upon completion of the Funded Activity or termination of the relevant FAA in accordance with its terms, the Accredited Entity shall take such steps in relation to such assets or equipment which it reasonably deems in the best interest of the continued operation of the Funded Activity taking into consideration the objectives of the Fund and the terms of the applicable SBAA.”

cumulative expenditure and unspent balance to the UNDP-GEF Unit for confirmation before the project will be financially closed in Atlas by the UNDP country Office.

Total Budget and Work Plan

Atlas[1] Proposal or Award ID:	00102496	Atlas Primary Output Project ID:	00104532
Atlas Business Unit	COM10		
UNDP-GEF PIMS No.	5740		
Implementing Partner	Government of Comoros acting through the Ministry of Energy, Agriculture, Fisheries, Environment, (MAFE)		

Output Title	Activity No.	Activity Title	Responsible party	Financing Source	Atlas Budget Account Code	Atlas Budget Account Title	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Amount Year 6 (USD)	Amount Year 7 (USD)	Amount Year 8 (USD)	TOTAL (USD)	Budget Note	
Output 1. Strengthened enabling environment for climate informed water supply planning and Management	1.1	Prepare recommendations and legal guidance on the integration of climate change adaptation into the national (federal) and regional (state) water sector agencies governance frameworks, regulations and operations	MAFE	GCF	71200	International Consultants	52,907	81,407	40,907	-	-	-	-	-	175,221	1A	
					71300	Local Consultants	1,800	15,300	19,800	-	-	-	-	-	36,900	1B	
					71400	Contractual Services Individual	-	6,717	6,717	6,717	6,717	6,717	6,717	6,717	6,717	53,736	1C
					71600	Travel	1,000	4,000	5,000	-	-	-	-	-	10,000	1D	
					75700	Training, Workshops and Conference	1,500	8,000	10,500	-	-	-	-	-	20,000	1E	
					61100	Salary costs - NP staff	4,110	4,110	4,110	4,109	4,110	4,110	4,110	4,110	32,879	1F	
					Activity 1.1 Total		68,034	119,534	87,034	10,826	10,827	10,827	10,827	10,827	10,827	328,736	
	1.2	Develop water sector climate change risk reduction awareness raising programme for national and state agencies and establish CCA knowledge and information exchange mechanisms	MAFE	GCF	71400	Contractual Services Individual	-	11,375	11,375	24,375	11,375	-	-	-	-	58,500	1G
					75700	Training, Workshops and Conference	6,125	6,125	13,125	6,125	-	-	-	-	31,500	1H	
					61100	Salary costs - NP staff	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	10,000	1I
					Activity 1.2 Total		18,750	18,750	38,750	18,750	1,250	1,250	1,250	1,250	1,250	100,000	
	1.3	Develop and apply criteria for assessing socially sensitive water pricing mechanisms ensuring prices take into account the actual costs of production, storage and	MAFE	GCF	N/A												

	processing required in view of the projected climate stresses															
1.4	Develop planning guidance on source protection and water quality standards in view of climate change, operating procedures during periods of drought/floods; and safety plans	MAFE	GCF	71200	International Consultants	9,000	9,000	21,000	9,000	-	-	-	-	48,000	1J	
				71300	Local Consultants	3,750	3,750	8,750	3,750	-	-	-	-	20,000	1K	
				71400	Contractual Services Individual	-	10,238	10,238	23,888	10,236	-	-	-	-	54,600	1L
				71600	Travel	3,000	3,000	6,000	3,000	-	-	-	-	15,000	1M	
				75700	Training, Workshops and Conference	4,241	4,241	8,483	4,242	-	-	-	-	21,207	1N	
				61100	Salary costs - NP staff	3,831	3,831	3,831	3,833	3,831	3,831	3,831	3,831	30,650	1O	
				Activity 1.4 Total		34,060	34,060	71,952	34,061	3,831	3,831	3,831	3,831	189,457		
1.5	Design and conduct trainings on best practices and gender-sensitive techniques of climate change adaptation in the context of water management, health and nutrition among national, regional and local water stakeholders	MAFE	GCF	71200	International Consultants	-	22,232	47,032	22,232	9,832	9,832	-	-	111,160	1P	
				71300	Local Consultants	-	10,392	21,392	10,392	4,892	4,892	-	-	51,960	1Q	
				71400	Contractual Services Individual	-	5,650	11,300	5,650	-	-	-	-	28,250	1R	
				71600	Travel	3,000	3,000	6,000	3,000	-	-	-	-	15,000	1S	
				72800	Information Technology Equipmt	-	36,000	81,000	36,000	13,500	13,500	-	-	180,000	1T	
				75700	Training, Workshops and Conference	10,742	10,742	22,309	10,741	-	-	-	-	54,534	1U	
				61100	Salary costs - NP staff	8,022	8,022	8,022	8,024	8,022	8,022	8,022	8,022	64,178	1V	
Activity 1.5 Total		27,414	96,038	197,055	96,039	36,246	36,246	8,022	8,022	505,082						
1.6	Strengthen decentralized water resources management capacities to undertake climate risk reduction assessments and develop and deliver awareness campaigns and training programmes to Water Management Committees and users	MAFE	GCF	71200	International Consultants	30,500	30,500	66,500	30,500	-	-	-	-	158,000	1W	
				71300	Local Consultants	8,000	8,000	18,000	8,000	-	-	-	-	42,000	1X	
				71400	Contractual Services Individual	-	16,874	16,874	33,748	16,874	-	-	-	-	84,370	1Y
				71600	Travel	3,000	3,000	7,000	3,000	-	-	-	-	16,000	1Z	
				75700	Training, Workshops and Conference	7,503	7,503	15,007	7,505	-	-	-	-	37,518	1AA	

					61100	Salary costs - NP staff	4,250	4,250	4,250	4,250	4,250	4,250	4,250	4,250	34,000	1AB	
					Activity 1.6 Total		70,127	70,127	144,505	70,129	4,250	4,250	4,250	4,250	371,888		
				GCF Total Output 1			218,385	338,509	539,296	229,805	56,404	56,404	28,180	28,180	1,495,163		
				UNDP Total Output 1			-	-	-	-	-	-	-	-	-		
				Co-financing Total Output 1			35,000	61,000	122,000	61,000	13,000	13,000	-	-	305,000	CoF1	
				Grand Total Output 1			253,385	399,509	661,296	290,805	69,404	69,404	28,180	28,180	1,800,163		
Output 2. Climate Informed Water Resources and Watershed Management including forecasting and early warnings of climate risks	2.1	Establish climate resilience focused IWRM Committees and Watershed Risk Reduction Action Plans in the project intervention areas	MAFE	GCF	71200	International Consultants	6,279	6,279	16,599	6,281	-	-	-	-	35,438	2A	
					71300	Local Consultants	3,600	3,600	7,600	3,600	-	-	-	-	18,400	2B	
					71400	Contractual Services Individual	20,151	20,151	20,151	20,151	20,151	20,151	20,151	20,151	161,208	2C	
					72100b	Contractual Services Companies / Int-Serv	16,160	16,160	32,058	16,160	-	-	-	-	80,538	2D	
					61100	Salary costs - NP staff	2,253	2,253	2,253	2,251	2,253	2,253	2,253	2,253	18,022	2E	
				UNDP	72100b	Contractual Services Companies / Int-Serv	-	42,900	42,900	42,900	42,900	42,900	-	-	214,500	2F	
		Activity 2.1 Total		48,443	91,343	121,561	91,343	65,304	65,304	22,404	22,404	528,106					
	2.2	Implement the water protection and risk mitigating measures on the ground/operationalize the risk reduction plans	MAFE	GCF	71200	International Consultants	-	8,600	8,600	8,600	8,600	8,600	-	-	43,000	2G	
					71300	Local Consultants	-	2,670	2,670	2,670	2,670	2,670	2,670	-	-	13,350	2H
					71600	Travel	-	2,670	2,670	2,670	2,670	2,670	2,670	-	-	13,350	2I
					75700	Training, Workshops and Conference	1,862	3,862	3,862	1,860	1,862	1,862	1,862	1,862	1,862	18,894	2J
					72100c	Contractual Services Companies Nat-G&W	-	12,600	12,600	12,600	12,600	12,600	12,600	-	-	63,000	2K
					61100	Salary costs - NP staff	4,801	4,801	4,801	4,799	4,801	4,801	4,801	4,801	4,801	38,406	2L
	Activity 2.2 Total		6,663	35,203	35,203	33,199	33,203	33,203	6,663	6,663	190,000						
2.3	Support IWRM Management Committees to establish water source protection zones and raise public awareness on	MAFE	GCF	71400	Contractual Services Individual	9,441	9,441	9,441	9,441	9,441	-	-	-	47,205	2M		
				72100a	Contractual	59,125	59,125	145,125	59,125	-	-	-	-	322,500	2N		

	climate risk reduction benefits of watershed management				Services Companies - Nat-Serv	-										
				61100	Salary costs - NP staff	13,438	13,438	13,438	13,434	13,438	13,438	13,438	13,438	13,438	107,500	20
				Activity 2.3 Total		82,004	82,004	168,004	82,000	22,879	13,438	13,438	13,438	477,205		
2.4	Establish water resource monitoring network and upgrade the existing monitoring infrastructure to enable the collection of the required climate/weather data	MAFE	GCF	71200	International Consultants	-	17,097	17,097	17,098	7,747	7,747	7,747	7,747	82,280	2P	
				71300	Local Consultants	-	11,315	11,315	11,315	5,315	5,315	5,315	5,315	55,205	2Q	
				71600	Travel	-	3,600	7,600	3,600	3,600	-	-	-	18,400	2R	
				72200	Equipment and Furniture	26,000	234,000	281,500	186,500	156,500	156,500	109,000	-	1,150,000	2S	
				73400	Rental & Maint of Other Equip	-	56,000	71,000	41,000	41,000	41,000	26,000	-	276,000	2T	
				75700	Training, Workshops and Conference	-	3,600	7,600	3,600	3,600	-	-	-	18,400	2U	
				72100c	Contractual Services - Nat-G&W	-	65,333	65,333	65,333	65,333	30,333	30,333	-	321,998	2V	
				61100	Salary costs - NP staff	21,403	21,403	21,403	21,397	21,403	21,403	21,403	21,403	171,218	2W	
				Activity 2.4 Total		47,403	412,348	482,848	349,843	304,498	262,298	199,798	34,465	2,093,501		
2.5	Build the capacities of the meteorological services to analyse and produce drought and flood forecasts for targeted users, including for flood early warning system	MAFE	GCF	71200	International Consultants	18,260	18,260	29,060	18,260	-	7,460	-	-	91,300	2X	
				71400	Contractual Services Individual	-	12,000	40,000	46,108	42,000	35,000	10,000	10,000	195,108	2Y	
				71600	Travel	6,251	8,251	10,251	4,239	-	-	-	-	28,992	2Z	
				75700	Training, Workshops and Conference	5,000	6,000	10,000	6,000	1,750	1,250	1,250	-	31,250	2AA	
				61100	Salary costs - NP staff	5,169	5,169	5,169	5,167	5,169	5,169	5,169	5,169	41,350	2AB	
				Activity 2.5 Total		46,680	77,680	100,588	75,666	41,919	23,879	16,419	5,169	388,000		
2.6	Build the capacity of the key government, local authorities and committees to interpret the climate information and raise awareness of the local population to act upon the forecasts and EWS	MAFE	UNDP	71200	International Consultants	12,192	12,192	24,384	12,192	-	-	-	-	60,960	2AC	
				71300	Local Consultants	1,800	12,000	12,000	-	18,000	16,200	-	-	60,000	2AD	
				71400	Contractual Services Individual	-	3,000	50,000	40,000	7,000	-	-	-	100,000	2AE	

					71600	Travel	750	11,750	15,500	14,750	10,250	4,000	4,000	4,000	65,000	2AF	
					72200	Equipment and Furniture	50,000	50,000	100,000	50,000	-	-	-	-	250,000	2AG	
					75700	Training, Workshops and Conference	12,750	14,500	28,500	18,500	4,750	1,500	3,000	1,500	85,000	2AH	
					72100a	Contractual Services Companies / Nat-Serv	6,952	46,348	62,570	46,348	69,522	-	-	-	231,740	2AI	
					72100b	Contractual Services Companies / Int-Serv	-	110,000	220,000	110,000	55,000	55,000	-	-	550,000	2AJ	
					Activity 2.6 Total		87,444	306,790	502,954	258,790	157,522	76,700	7,000	5,500	1,402,700		
					GCF Total Output 2		231,193	655,678	865,304	589,151	424,903	355,222	258,722	82,139	3,462,312		
					UNDP Total Output 2		87,444	349,690	545,854	301,690	200,422	119,600	7,000	5,500	1,617,200		
					Co-financing Total Output 2		48,604	116,604	233,208	116,604	34,000	34,000	-	-	583,020	CoF2	
					Grand Total Output 2		367,241	1,121,972	1,644,366	1,007,445	659,325	508,822	265,722	87,639	5,662,532		
Output 3. Improved water access through Climate Resilient Water Supply Infrastructure	3.1	Undertake climate risk assessments of existing groundwater abstraction wells to develop risk reduction pumping strategies, and construction of additional boreholes in zones at risk of drought water scarcity in Grande Comore	MAFE	GCF	71400	Contractual Services Individual	-	40,303	40,303	40,303	40,302	40,303	40,303	40,303	40,303	322,423	3A
					71500	UN Volunteers	-	14,725	15,776	13,426	13,491	15,591	8,056	1,636	82,701	3B	
					72100a	Contractual Services Companies / Nat-Serv	-	24,038	24,039	17,414	17,414	17,414	10,789	4,164	115,272	3C	
					72100b	Contractual Services Companies / Int-Serv	-	149,875	191,125	149,875	108,625	67,375	67,375	-	734,250	3D	
					72100c	Contractual Services Companies / Nat-G&W	-	53,676	370,861	288,479	291,292	48,802	21,427	16,125	1,090,662	3E	
					72100d	Contractual Services Companies / Int-G&W	-	256,565	347,564	256,564	118,891	118,891	73,392	73,394	1,245,261	3F	
					61100	Salary costs - NP staff	44,948	44,948	44,948	44,943	44,948	44,948	44,948	44,948	359,579	3G	
					Activity 3.1 Total		85,251	584,130	1,034,616	811,003	634,964	353,324	266,290	180,570	3,950,148		
	3.2	Build infrastructure to increase resilience of water supply facilities to extended	MAFE		71400	Contractual Services Individual	-	5,917	39,449	53,256	39,449	59,174	-	-	-	197,245	3H

		duration low flow periods, greater intensity flood flow damage and flood flow higher turbidity and bacteria loadings (Grande Comore, Anjouan island and Mohéli island)			72100d	Contractual Services - Companies / Int-G&W	1,986,316	6,407,380	9,381,430	6,131,981	4,800,518	530,139	351,474	-	29,589,238	3I	
					71400	Contractual Service Individual (RTI Ngazidja, Anjouan et Mohéli)	72,554	72,554	72,554	47,558	72,554	72,554	72,554	72,554	555,436	3J	
					71500	UN Volunteers	91,350	91,350	91,350	116,346	91,350	91,350	91,350	91,350	755,796	3K	
					61100	Salary costs - NP staff	6,531	6,531	6,531	6,527	6,531	6,531	6,531	6,531	52,244	3L	
					Activity 3.2 Total		2,162,668	6,617,264	9,605,121	6,341,861	5,030,127	700,574	521,909	170,435	31,149,959		
3.3		Installation of flowmeters to support climate resilient tariff adjustments, and leakage reduction programmes to improve the water pricing and management system taking into account the additional costs associated with climatic hazards	MAFE	GCF	N/A												
GCF Total Output 3							2,247,919	7,201,394	10,639,737	7,152,864	5,665,091	1,053,898	788,199	351,005	35,100,107		
UNDP Total Output 3							-	-	-	-	-	-	-	-	-		
Co-financing Total Output 3							776,981	1,884,138	2,826,206	2,826,206	2,214,312	3,321,468	1,107,156	-	14,956,467	CoF3	
Grand Total Output 3							3,024,900	9,085,532	13,465,943	9,979,070	7,879,403	4,375,366	1,895,355	351,005	50,056,574		
Project Management	4.0	Project Management	MAFE	GCF	71400	Contractual Services Individual	104,639	104,639	104,639	104,642	104,639	104,639	104,639	104,639	837,115	PM1	
					64300	Services to Projects - CO staff	66,711	133,422	133,422	66,712	66,711	66,711	66,711	66,711	66,711	667,111	PM2
					71600	Travel	5,000	10,000	10,000	5,000	5,000	5,000	5,000	5,000	5,000	50,000	PM3
					72500	Supplies	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	56,000	PM4
					72800	Information Technology Equipmt	56,000	5,600	5,600	5,600	5,600	5,600	5,600	5,600	22,400	112,000	PM5
					71300	Local Consultants	10,000	15,000	15,000	15,000	15,000	10,000	10,000	10,000	100,000	PM6	
					74100a	Professional Services - Nat	4,000	4,000	4,000	4,000	8,000	4,000	4,000	8,000	40,000	PM7	
				UNDP	71300	Equipment and Furniture	45,936	45,936	45,936	45,936	45,936	45,936	45,936	45,936	61,248	382,800	PM8
GCF Total Project Management Cost							253,350	279,661	279,661	207,954	211,950	202,950	202,950	223,750	1,862,226		

UNDP Total Project Management Cost	45,936	45,936	45,936	45,936	45,936	45,936	45,936	61,248	382,800	CoF4
Co-financing Total Project Management Cost	98,720	148,080	148,080	148,080	148,080	98,720	98,720	98,720	987,200	
Grand Total Project Management Cost	398,006	473,677	473,677	401,970	405,966	347,606	347,606	383,718	3,232,226	
Grand Total - GCF	2,950,847	8,475,242	12,323,998	8,179,774	6,358,348	1,668,474	1,278,051	685,074	41,919,808	
Grand Total - UNDP	133,380	395,626	591,790	347,626	246,358	165,536	52,936	66,748	2,000,000	
Grand Total - Co-financing	959,305	2,209,822	3,329,494	3,151,890	2,409,392	3,467,188	1,205,876	98,720	16,831,687	
GRAND TOTAL - PROJECT	4,043,532	11,080,690	16,245,282	11,679,290	9,014,098	5,301,198	2,536,863	850,542	60,751,495	

Budget Notes

Budget Note	Atlas Budget Account Description	Description of cost items	Unit cost (USD)	Quantity	Unit	Percentage time/ Duration	Unit	Amount (USD)	Total (USD)
Output 1									
1A	International Constulant	Recommendations on the climate resilient water planning, budgeting and operations with special focus on the project targeted areas (with special focus on gender mainstreaming). Consultant will be hired for 80 days (4 months) at the rate of 500 USD per day	500	80	Days			40,000	175,221
		Development of systematic approaches to water sector climate risk assessment and risk reduction as well as their inclusion in work programmes and planning. Consultant will be hired for 120 days (6 months) at the rate of 500 USD per day	500	120	Days			60,000	
		An international Legal expert(s) for review of existing legislature on Climate Resilience inclusion, drafting of Primary and Secondary Water Code legislation, and facilitating 3 rounds of consultation meetings with national agencies. \$600 per day including DSA and Travel	75,221	1	Contract			75,221	
1B	Local Consultants	Provision of consultancy services of a National expert in Rural Hydraulics, Hydrology, Quality control & water treatment inputs to review of existing legislature on Climate Resilience inclusion, drafting of Primary and Secondary Water Code legislation, and facilitating 3 rounds of consultation meetings with national agencies. Expert at USD 164 per day for 225 days including travel and DSA	164	225	Days			36,900	36,900
1C	Contractual Services Individual	M&E Specialist @ 10% for out output 1, 30% for Output 2 and 60% for Output 3	20,700	7	years	10%	time	14,490	53,736
		Gender Expert @ 10% for out output 1, 30% for Output 2 and 60% for Output 3	20,650	3	years	10%	time	6,195	
		Communications Expert @ 10% for out output 1, 30% for Output 2 and 60% for Output 3	43,100	6.5	years	10%	time	28,015	
		Safeguards expert @ 10% for out output 1, 30% for Output 2 and 60% for Output 3	6,295	8	years	10%	time	5,036	

Budget Note	Atlas Budget Account Description	Description of cost items	Unit cost (USD)	Quantity	Unit	Percentage time/ Duration	Unit	Amount (USD)	Total (USD)
1D	Travel	Travel costs for local trips for the three consultation meetings undertaken in the three islands including DSA per days.	10,000	1	Contract			10,000	10,000
1E	Training, Workshops and Conferences	Cost for organization of 3 rounds of consultation meetings with various national agencies for review of finalization and inclusion of the drafted Primary and Secondary Water Code legislations. Cost includes venue and refreshments as well as print and audio-visual materials or equipment as well as travel costs, DSA for 150 participants.	20,000	1	Contract			0000020,000	20,000
1F	Salary costs - NP staff	Provisional costs for Technical support services provided by for UNDP CO staff towards project execution distributed across outputs at 10% for Output 1, 30% for Output 2 and 60% for Output 3 as per details below: - Programme Analyst Climate Change (PACC) @ 45% of time - Programme officer Climate Change/GCF (POCC) @ 50% of time - Communication Officer (CO) @ 45% of time - Economist/ (ECO) @ 20% of time - Governance Specialist (Gov Spe) @ 43% of time	32,879	1	Contract			32,879	32,879
1G	Contractual Services - Individual	Provision of contractual services to i) develop awareness raising webinars, including meetings with national and state agencies to promote their usage; and ii) set-up and promoting the open access central knowledge platform hub.	58,500	1	Contract			58,500	58,500
1H	Training, Workshops and Conferences	Cost for organization of 3 rounds of consultation meetings with various national and state agencies to promote the usage of the open access central knowledge platform hub for accessing global CVA and adaptation awareness materials developed. Cost includes venue and refreshments as well as print and audio-visual material costs as well as travel costs for 180 participants	31,500	1	Contract			31,500	31,500
1I	Salary costs - NP staff	Provisional costs for Technical support services provided by for UNDP CO staff towards project execution distributed across outputs at 10% for Output 1, 30% for Output 2 and 60% for Output 3 as per details below: - Programme Analyst Climate Change (PACC) @ 45% of time - Programme officer Climate Change/GCF (POCC) @ 50% of time - Communication Officer (CO) @ 45% of time - Economist/ (ECO) @ 20% of time - Governance Specialist (Gov Spe) @ 43% of time	10,000	1	Contract			10,000	10,000
1J	International Consultants	Provision of consultancy services of 2 consultant at US\$200 per day per person for 105 days each working total amount 42000\$ with \$6000 for workshops including DSA and ticket for Moheli and Anjouand and Ngazidja participants.	24,000	2	Contracts			48,000	48,000
1K	Local Consultants	Recruitment of a national Expert in Environment, Rural Hydraulics, Hydrology, Quality control & water treatment for 140 days (approx. 5 months) at \$4000 per month including travel expenses and DSA	4,000	5	Months			20,000	20,000
1L	Contractual Services - Individual	Provision of consultancy services of an expert for reviewing global best practices on DWSSP, including source protection, drought and flood event O&M, and water quality monitoring requirements, and developing tailored guidelines for Comoros national state for sectoral planning and regulatory requirements, including undertaking of stakeholder consultations on each of the three island.	54,600	1	Contract			54,600	54,600

Budget Note	Atlas Budget Account Description	Description of cost items	Unit cost (USD)	Quantity	Unit	Percentage time/ Duration	Unit	Amount (USD)	Total (USD)
1M	Travel	Provision for local travel to the islands and DSA	15,000	1	Contract			15,000	15,000
1N	Training, Workshops and Conferences	Cost for organization of Workshops for 150 persons DSA, Ticket include, transport of participants	21,207	1	Contract			21,207	21,207
1O	Salary costs - NP staff	Provisional costs for Technical support services provided by for UNDP CO staff towards project execution distributed across outputs at 10% for Output 1, 30% for Output 2 and 60% for Output 3 as per details below: -Programme Analyst Climate Change (PACC) @ 45% of time -Programme officer Climate Change/GCF (POCC) @ 50% of time -Communication Officer (CO) @ 45% of time -Economist/ (ECO) @ 20% of time -Governance Specialist (Gov Spe) @ 43% of time	30,650	1	Contract			30,650	30,650
1P	International Consultants	Provision of consultancy services of an International Expert in Hydrology at \$420 per day for 144 days working total amount \$60,480\$ with \$23,240 for workshops	83,860	1	Contract			83,860	111,160
		Provision of consultancy services of Environmental expert at \$420 per day for 65 days working total amount 27,300\$ to support organization and facilitation of workshops for Moheli and Anjouan and Ngazidja .	27,300	1	Contract			27,300	
1Q	Local Consultants	Provision of services of 2 national Expert in Environment, Rural Hydraulics, Hydrology, Quality control & water treatment. Each consultant ad USD 200 per day for 100 and 160 days respectively	200	259.8	Days			51,960	51,960
1R	Contractual Services Individual	Provision of contractual services for facilitating trainings on best practices and gender-sensitive techniques of climate change adaptation in the context of water management, health and nutrition among national, regional and local water stakeholders. Consultant will be hired for 120 days (6 months) at the rate of 200 USD per day plus USD 4,250 for travel and DSA	28,250	1	Contract			28,250	28,250
1S	Travel	Provision for local travel to the islands and DSA	15,000	1	Contract			15,000	15,000
1T	Information Technology Equipment	Procurement of IT equipment and an online learning tool to learn and exchange among community to develop best practices for climate change adaptation for water supply communities. (USD 39,000 for a total of 30 Laptops for 15 Zones 2 per zone, USD 45,000 for a total of 30 Desktops for 15 zones 2 per zone, USD 12,000 for 30 Printer for 15 zones, 2per zone and USD 55,000 for 30 Photocopiers for 15 zones, 2 per zone. USD 29,000 Audio-visual equipment for organization of exchange meetings by zone)	180,000	1	Contract			180,000	180,000
1U	Training, Workshops and Conferences	Cost for organization of 4 (3-day) national and state (island) level training programme for 20 agencies on gender-sensitivity in climate change adaptation and risk reduction planning and programme monitoring and evaluation. Cost includes venue and refreshments as well as print and audio-visual material costs as well as travel costs for 100 participants	54,534	1	Contract			54,534	54,534

Budget Note	Atlas Budget Account Description	Description of cost items	Unit cost (USD)	Quantity	Unit	Percentage time/ Duration	Unit	Amount (USD)	Total (USD)
1V	Salary costs - NP staff	Provisional costs for Technical support services provided by for UNDP CO staff towards project execution distributed across outputs at 10% for Output 1, 30% for Output 2 and 60% for Output 3 as per details below: - Programme Analyst Climate Change (PACC) @ 45% of time - Programme officer Climate Change/GCF (POCC) @ 50% of time - Communication Officer (CO) @ 45% of time - Economist/ (ECO) @ 20% of time - Governance Specialist (Gov Spe) @ 43% of time	64,178	1	Contract			64,178	64,178
1W	International Consultants	Provision of contractual services of a Hydraulics expert at \$420 per day for 117 days working total amount 79,000\$ with \$29,860 for workshops including DSA and ticket for Moheli and Anjouand and Ngazidja participants	79,000	1	Contract			79,000	158,000
		Provision of contractual services of a Quality control & water treatment at \$420 per day for 117 days working total amount 79,000\$ with \$29,860 for workshops including DSA and ticket for Moheli and Anjouand and Ngazidja participants	79,000	1	Contract			79,000	
1X	Local Consultants	Provision for services of 2 National Consultants in Hydraulics and quality control) at 168 per day for 125 days each including local travel and DSA	21,000	2	Contracts			42,000	42,000
1Y	Contractual Services Individual	Provision of consultancy services of Climate Change Adaptation for i) Developing training materials and ii) facilitating the trainings for 140 participants for undertaking climate risk reduction assessments and develop and deliver awareness campaigns and training programmes to Water Management Committees and users. Expert \$500 per day for 150 days plus \$9370 for DSA and travel	84,370	1	Contract			84,370	84,370
1Z	Travel	Provision for local travel to the islands and DSA	16,000	1	Contract			16,000	16,000
1AA	Training, Workshops and Conferences	Provision of costs for organization of workshops for 140 participants for undertaking climate risk reduction assessments and develop and deliver awareness campaigns and training programmes to Water Management Committees and users	37,518	1	Contract			37,518	37,518
1AB	Salary costs - NP staff	Provisional costs for Technical support services provided by for UNDP CO staff towards project execution distributed across outputs at 10% for Output 1, 30% for Output 2 and 60% for Output 3 as per details below: - Programme Analyst Climate Change (PACC) @ 45% of time - Programme officer Climate Change/GCF (POCC) @ 50% of time - Communication Officer (CO) @ 45% of time - Economist/ (ECO) @ 20% of time - Governance Specialist (Gov Spe) @ 43% of time	34,000	1	Contract			34,000	34,000
CoF1		Co-financing by GoC for • Supporting the development of criteria for assessing socially sensitive water pricing mechanisms, regulatory processes to review tariffs and training related to tariffs (USD 175,000) • Strengthening water resource management capacities for the WMC's and users (USD 130,000)	305,000	1	Contract			305,000	305,000
Total of Output 1									1,800,100

Budget Note	Atlas Budget Account Description	Description of cost items	Unit cost (USD)	Quantity	Unit	Percentage time/ Duration	Unit	Amount (USD)	Total (USD)
Output 2									
2A	International Consultants	Recruitment of 4 International experts in water management, Integrated water resources management and International Expert to train field agents (US\$211,708.80) across output 2: each expert \$6615,9 per month on 8 months for an amount total of 211,708.80. The 11,50 % contribution from this budget line is equivalent to \$24,341.65 to what is added 11,087.49 for travels and DSAs for a total of \$35,438	35,438	1	Contracts			35,438	35,438
2B	Local Consultants	Recruitment of 3 National Experts in Water Management to propose an improvement of the community charging zones in the targeted watersheds and 2 National Consultants to Establish the location and functionality of the measurement equipment (US\$63,297) across output 2: each consultant \$2109,9 per month for 6 months working. The contribution of this line of 21.15% is equivalent to \$13,387.32 to which we add \$5,012.68 for travels and DSAs for a total of \$18,400	3,680	5	Contracts			18,400	18,400
2C	Contractual Services Individual	M&E Specialist @ 10% for out output 1, 30% for Output 2 and 60% for Output 3	20,700	7	years	30%		43,470	161,208
		Gender Expert @ 10% for out output 1, 30% for Output 2 and 60% for Output 3	20,650	3	years	30%		18,858	
		Communications Expert @ 10% for out output 1, 30% for Output 2 and 60% for Output 3	43,100	6.5	years	30%		84,045	
		Safeguards expert @ 10% for out output 1, 30% for Output 2 and 60% for Output 3	6,295	8	years	30%		15,108	
2D	Contractual Services Companies Int-Services	Provision of contractual services for carrying out a mapping survey of areas vulnerable to climate risks, particularly those exposed to saltwater intrusion to allow analysis of risk scenarios	80,538	1	Contract			80,538	80,538
2E	Salary costs - NP staff	Provisional costs for Technical support services provided by for UNDP CO staff towards project execution distributed across outputs at 10% for Output 1, 30% for Output 2 and 60% for Output 3 as per details below: - Programme Analyst Climate Change (PACC) @ 45% of time - Programme officer Climate Change/GCF (POCC) @ 50% of time - Communication Officer (CO) @ 45% of time - Economist/ (ECO) @ 20% of time - Governance Specialist (Gov Spe) @ 43% of time	18,022	1	Contract			18,022	18,022
2F	Contractual Services Companies Int-Services	Co-financing by UNDP to support the develop IWRM committees understanding of climate risks and adaptation options that ensure access to adequate water quality	214,500	1	Contract			214,500	214,500
2G	International Consultants	Recruitment of 4 International experts in water management, Integrated water resources management and International Expert to train field agents (US\$211,708.80) across output 2: each expert \$6615,9 per month on 8 months or an amount total of 211,708.80. The 14,50 % contribution from this budget line is equivalent to \$230,697.78 to what is added 12,302.22 for travels and DSAs for a total of \$43,000	10,750	4	Contracts			43,000	43,000

Budget Note	Atlas Budget Account Description	Description of cost items	Unit cost (USD)	Quantity	Unit	Percentage time/ Duration	Unit	Amount (USD)	Total (USD)
2H	Local Consultants	Recruitment of 3 National Experts in Water Management to propose an improvement of the community charging zones in the targeted watersheds and 2 National Consultants to Establish the location and functionality of the measurement equipment (US\$63,297) across output 2: each consultant \$2109,9 per month for 6 months working. The contribution of this line of 15.35% is equivalent to \$9,716.09 to which we add \$ 3,633.91 for travels and DSAs for a total of \$ 13,350	2,670	5	Contracts			13,350	13,350
2I	Travel	Provision for local travel to the islands and DSA	13,350	1	Contract			13,350	13,350
2J	Training, Workshops and Conferences	Cost for organization of workshops, 1 Trainings, Workshops and Conference to popularize the different activities and the use of the equipment provided by project for 90 participants (including the DSA of each participant)	18,894	1	Contract			18,894	18,894
2K	Contractual Services - Companies / Nat-G&W	Provision of contractual services for 1 national contract to implement soil conservation measures at Community level in watersheds of 15 target areas	63,000	1	Contract			63,000	63,000
2L	Salary costs - NP staff	Provisional costs for Technical support services provided by for UNDP CO staff towards project execution distributed across outputs at 10% for Output 1, 30% for Output 2 and 60% for Output 3 as per details below: - Programme Analyst Climate Change (PACC) @ 45% of time - Programme officer Climate Change/GCF (POCC) @ 50% of time - Communication Officer (CO) @ 45% of time - Economist/ (ECO) @ 20% of time - Governance Specialist (Gov Spe) @ 43% of time	4,801	8	Contracts			38,406	38,406
2M	International Consultants	Recruitment of 4 International experts in water management, Integrated water resources management and International Expert to train field agents (US\$211,708.80) across output 2: each expert \$6615,9 per month on 8 months for an amount total of 211,708.80. The 15.75% contribution from this budget line is equivalent to \$33,344.14 to what is added 13,860.86 for travels and DSAs for a total of \$47,205	11,801	4	Contracts			47,205	47,205
2N	Contractual Services - Companies / Nat-Services	Provision of contractual services for the formation and training of IWRM committee trainers in mainstreaming climate change adaptation, integrated water resources management strategy, planning and budgeting, business models, management fees and performance monitoring	322,500	1	Contract			322,500	322,500
2O	Salary costs - NP staff	Provisional costs for Technical support services provided by for UNDP CO staff towards project execution distributed across outputs at 10% for Output 1, 30% for Output 2 and 60% for Output 3 as per details below: - Programme Analyst Climate Change (PACC) @ 45% of time - Programme officer Climate Change/GCF (POCC) @ 50% of time - Communication Officer (CO) @ 45% of time - Economist/ (ECO) @ 20% of time - Governance Specialist (Gov Spe) @ 43% of time	107,500	1	Contract			107,500	107,500

Budget Note	Atlas Budget Account Description	Description of cost items	Unit cost (USD)	Quantity	Unit	Percentage time/ Duration	Unit	Amount (USD)	Total (USD)
2P	International Consultants	Recruitment of 4 International experts in water management, Integrated water resources management and International Expert to train field agents (US\$211,708.80) across output 2: each expert \$6615,9 per month on 8 months for an amount total of 211,708.80. The 27,50 % contribution from this budget line is equivalent to \$58,219.92 to what is added 24,060.08 for travels and DSAs for a total of \$82,280	20,570	4	Contract			82,280	82,280
2Q	Local Consultants	Recruitment of 3 National Experts in Water Management to propose an improvement of the community charging zones in the targeted watersheds and 2 National Consultants to Establish the location and functionality of the measurement equipment (US\$63,297) across output 2: each consultant \$2109,9 per month for 6 months working. The contribution of this line of 63.50 % is equivalent to \$40,193.595 to which we add \$15,011.405 for travels and DSAs for a total of \$55,205	11,041	5	Contracts			55,205	55,205
2R	Travel	Cost for travel allowance and DSA for establishing water resource monitoring network and upgrade the existing monitoring infrastructure to enable the collection of the required climate/weather data	18,400	1	Contract			18,400	18,400
2S	Contractual Services Companies Nat-G&W	Cost for procurement of equipment for building the capacities of the meteorological service. Costs include : - 8 agro-meteorological stations in the targeted areas of the three islands (US\$350,000): USD 43750 per station for 8 stations - 95 automatic rain gauges covering the three islands (US\$350,000): USD 3,684 per Unit for 95 - Radar to improve protection of water resources and storage units during periods of heavy rainfall (US\$300,000): The dedicated amount is underestimated while a radar costs an average of \$ 1,000,000 - 25 flow measurement equipment on both islands for better monitoring of watercourses (US\$300,000): USD 12,000 per unit - 43 Piezometric probes for the monitoring of saline intrusion in Grand Comoros (US\$300,000): USD 6,977 per Unit	1,150,000	1	Contract			1,150,000	1,150,000
2T	Rental & Maintenance	Strengthening the infrastructure of national meteorology 276,000\$ Dans les antennes secondaire (Anjouan et Mohéli) plus les mobiliers des bureaux et les équipements informatiques	276,000	1	Contract			276,000	276,000
2U	Training, Workshops and Conferences	Cost for organization of training to popularize the different activities and the use of the equipment provided by project for 90 participants including the DSA of each participant	18,400	1	Contract			18,400	18,400
2V	Contractual Services Companies Nat-G&W	Provision of contractual services for 1 national contract to implement soil conservation measures at Community level in watersheds of 15 target areas	321,998	1	Contract			321,998	321,998

Budget Note	Atlas Budget Account Description	Description of cost items	Unit cost (USD)	Quantity	Unit	Percentage time/ Duration	Unit	Amount (USD)	Total (USD)
2W	Salary costs - NP staff	<ul style="list-style-type: none"> • 50% of Climate Change Programme Officer's time @ 10% for out output 1, 30% for Output 2 and 60% for Output 2 • 50% of Climate Change Programme Officer's time @ 10% for out output 1, 30% for Output 2 and 60% for Output 2 • 20% of Economist's time @ 10% for out output 1, 30% for Output 2 and 60% for Output 3 	171,218	1	Contract			171,218	171,218
2X	International Consultants	Recruitment of 4 International experts in water management, Integrated water resources management and International Expert to train field agents (US\$299,219) across output 2: each expert \$6615,9 per month on 8 months for or an amount total of 211,708.80. The 30.75% contribution from this budget line is equivalent to \$65,100.456 to what is added 26,199.544 for travels and DSAs for a total of \$91,300	22,825	4	Contracts			91,300	91,300
2Y	Contractual Services Individual	Provision for organization of trainings for building the capacities of the meteorological services to analyze and produce drought and flood forecasts for targeted users, including for flood early warning system. 4 engineers to be trained in the use of dynamic tools & statistics for the seasonal predictions	48,777	4	Contracts			195,108	195,108
2Z	Travel	Travel allowance and DSA costs for participants	28,992	1	Contract			28,992	28,992
2AA	Training, Workshops and Conferences	Cost for organization of workshops and consultations with various stakeholders for promoting the use of the meteorological equipment provided under output 2 for 70 participants	31,250	1	Contract			31,250	31,250
2AB	Salary costs - NP staff	Provisional costs for Technical support services provided by for UNDP CO staff towards project execution distributed across outputs at 10% for Output 1, 30% for Output 2 and 60% for Output 3 as per details below: <ul style="list-style-type: none"> - Programme Analyst Climate Change (PACC) @ 45% of time - Programme officer Climate Change/GCF (POCC) @ 50% of time - Communication Officer (CO) @ 45% of time - Economist/ (ECO) @ 20% of time - Governance Specialist (Gov Spe) @ 43% of time 	41,350	1	Contract			41,350	41,350
2AC	International Consultants	Co-financing by UNDP for recruitment of an International Consultant for training personnel on the utilization of laboratory at \$375 per day for approx. 8 months	60,960	1	Contract			60,960	60,960
2AD	Local Consultants	Co-financing by UNDP for the recruitment of 2 national consultants for the sensitization of communities, Each consultant will be recruited for USD150 per days for 200 days (approx. 10 months) including provision for travel allowance and DSA.	150	400	Days			60,000	60,000
2AE	Contractual Services Individual	Provision of contractual services for building the capacity of the key government, local authorities and committees to interpret the climate information and raise awareness of the local population to act upon the forecasts and EWS	100,000	1	Contract			100,000	100,000
2AF	Travel	Co-financing by UNDP for the provision of travel allowance and DSA for the 150 participants of the capacity building trainings	65,000	1	Contract			65,000	65,000
2AG	Equipment and Furniture	Co-financing to support the procurement of equipment for laboratory for analysis & water quality control, Strengthen hydrogeological control equipment and water quality laboratories	250,000	1	Contract			250,000	250,000

Budget Note	Atlas Budget Account Description	Description of cost items	Unit cost (USD)	Quantity	Unit	Percentage time/ Duration	Unit	Amount (USD)	Total (USD)
2AH	Training, Workshops and Conferences	Co-financing by UNDP to support the trainings and sensitization workshops for 90 participants for 3 days and two training on the practices of analysis of which 1 will be for 90 participants	85,000	1	Contract			85,000	85,000
2AI	Contractual Services Companies Nat-Services	Co-financing by UNDP to support the contracting of a national productive association, NGO to Strengthen the dissemination of information on the water cycle and seasonal forecasts through the media and communication networks	231,740	1	Contract			231,740	231,740
2AJ	Contractual Services Companies Int-Services	Co-financing by UNDP to support the contracting of a firm for the installation of a laboratory, and Hiring a provider to strengthen hydrogeological control equipment and water quality laboratories	550,000	1	Contract			550,000	550,000
CoF2		Co-finance by GoC for supporting <ul style="list-style-type: none"> The establishment and formalization of climate risk centric IWRM committees (USD 280,000) The establishment of water resource monitoring network and upgrade the existing monitoring infrastructure to enable the collection of the required climate/weather data. (USD 303,020) 	583,020	1	Contract			583,020	583,020
Total of Output 2									5,662,532
Output 3									
3A	Contractual Services Individual	M&E Specialist @ 10% for out output 1, 30% for Output 2 and 60% for Output 3	20,700	7	years	60%		86,942	322,423
		Gender Expert @ 10% for out output 1, 30% for Output 2 and 60% for Output 3	20,650	3	years	60%		37,171	
		Communications Expert @ 10% for out output 1, 30% for Output 2 and 60% for Output 3	43,100	6.5	years	60%		168,092	
		Safeguards expert @ 10% for out output 1, 30% for Output 2 and 60% for Output 3	6,295	8	years	60%		30,218	
3B	Contractual Services Companies Nat-Serv	UNV in Hydraulics and Rural expert	13,784	6	years	100%	times	82,701	82,701
3C		Provision of contractual services of a Design Office to undertake the Pumping trial & demarcation of protection zones	115,272	1	year	100%	time	115,272	115,272
3D		Provision of contractual services of a company to Water drilling works	734,250	1	year	100%	time	734,250	734,250
3E		Provision of contractual services of a company to:• Supervision & monitoring of works (US\$3,300) ; • Deepening of well (US\$912,662) ; • Pumping trial (US\$73,150) ; • Feasibility study on the deepening & trial of water well pumping (US\$45,300) ; • Water well pumping trial (US\$56,250)	1,090,662	1	year	100%	time	1,090,662	1,090,662
3F		Provision of contractual services of a company to:• Feasibility study on the deepening & trial of water well pumping (US\$85,800) ; • Water drilling & trial of pumping (US\$804,461) ; • Geophysical investigation to define targeted drilling zones (US\$ 355,000)	1,245,261	1	year	100%	time	1,245,261	1,245,261

Budget Note	Atlas Budget Account Description	Description of cost items	Unit cost (USD)	Quantity	Unit	Percentage time/ Duration	Unit	Amount (USD)	Total (USD)
3G	Salary costs - NP staff	Provisional costs for Technical support services provided by for UNDP CO staff towards project execution distributed across outputs at 10% for Output 1, 30% for Output 2 and 60% for Output 3 as per details below: - Programme Analyst Climate Change (PACC) @ 45% of time - Programme officer Climate Change/GCF (POCC) @ 50% of time - Communication Officer (CO) @ 45% of time - Economist/ (ECO) @ 20% of time - Governance Specialist (Gov Spe) @ 43% of time	44,948	8	Contracts			359,579	359,579
3H	Contractual Services Companies Int-G&W	Contract with a Design Office to carry a Pre-project detailed study APD & DAO for the installation of water catchment, reservoirs, AEP system irrigation system treatment units, mini-basins & communal water troughs.	197,245	1	Contract			197,245	197,245
3I	Contractual Services Companies Int-G&W	Contract with a Design Office to carry a detailed pre-project study APD et DAO for the installation of water catchment, reservoirs of 500m3 & 1000m3, AEP systems, units of treatment & irrigation systems, mini-basins & communal water troughs,	287,250	1	Contract			287,250	29,589,238
		Detailed pre-project study APD et DAO for the installation of 4 impluviums, irrigation systems, micro-basins, communal troughs, AEP systems abreuvoirs collectifs	386,508	1	Contract			386,508	
		Construction of 31 reservoirs of an average size of 500m3 including equipment & including hydromécanical accesseroes -average Unit price for construction of 500m3 size is USD 210,122 at USD 420 per m3. i) Zone 1 Moroni - 10 tanks, Zone 2 Ngongwe - 1 tank, Zone 3 Hambou - 2 tanks, Zone 4 Mboikou - 2 tanks & 2 ecotank, Zone 5 Oichili - 2 tanks, Zone 6 Hamanvu - 2 tanks & 2 ecotanks, Zone 7 Hassimpao - 2 tanks, Zone 8 Vouani - 2 tanks, Zone 8 Vouani - 2 tanks, Zone 9 Vassi - 1 tank, Zone 10 Ankibani - 4 tanks, Zone 11 Chitrouni - 1 tank, Zone 12 Mjamaoué - 1 tank, Zone 13 Niomakele - 3 tanks)	210,122	31	Reservoirs			6,513,772	
		ii) Construction of a reservoir of 300m3/500m3/1000m3 including equipment & including hydro-mechanical accessories in the villages at Unit price for construction of USD 180,957, USD 225,750 and USD451,500 at USD 420/420/694 per m3 respectively.							
		Construction of 17 water catchment units in Ankibani, Hassimpao, Vouani, Vassi, Chitrouni, Mjamaoué and Nioumakele ranging from USD 26,000 to USD 198,875 per unit based on specifications and design.	1,765,344	1	Contract			1,765,344	
		Construction of approx. 260 mini-basins, communal troughs & irrigations systems linked to the impluviums. At a USD 10,000-24,000 price per Unit	7,116,617	1	Contract			7,116,617	
		Construction of impluviums in 5 crater areas (Trodjou, Hamtroni, Sangani, Mberadju and Hamalengo)	3,300,595	1	Contract			3,300,595	

Budget Note	Atlas Budget Account Description	Description of cost items	Unit cost (USD)	Quantity	Unit	Percentage time/ Duration	Unit	Amount (USD)	Total (USD)
		Establishment of treatment units including construction Installation of 2 types of treatment systems - Unit price of a treatment ranges from USD 30,000 to USD 121,000 per unit	1,228,226	1	Contract			1,228,226	
		Installation irrigation systems in the agricultural plots in zones Anjouan Island and Moheli Island. Irrigations systems and equipment at the rate of USD 9000-13000 per km	1,144,740	1	Contract			1,144,740	
		Installation of potable water supply interconnected among the villages of 5 Communes (Bambao Djou, Bambao Ya Hari, Bambao Ya Mboini, Itsandra Issahari and Itsandra Djoumoichongo)	2,135,849	1	Contract			2,135,849	
		Installation of potable water supply systems in the villages of zone 7 - 15 of the Anjouan Island	2,799,599	1	Contract			2,799,599	
		Installation of water supply systems for 6 villages	1,492,733	1	Contract			1,492,733	
		Rationing equipment and Installation of water supply system in the Ochili Ya Djou Region	741,577	1	Contract			741,577	
		Procurement of equipment: o USD 298,000: Equipment for the rationing of potable water (meter, valve, hydro-stabiliser) o USD 76,149: Treatment equipment (dosing pump, agitators, DPD) o USD 125,000: Purchase & installation hydromechanical pumps	499,149	1	Contract			499,149	
		Technical control & monitoring of the works	177,279	1	Contract			177,279	
3J	Contractual Services Individual	Supervision & monitoring of works	555,436	1	Contract			555,436	555,436
3K	Contractual services (VNUs)	3 international UNVs: Provide technical support for the project implementations: 1 Specialist in Procurement, 1 Specialist in Finance, and 1 Specialist in water infrastructures for 2 years @ 64,438	64,438	3	Contracts	2	years	386,628	755,796
		2 National UNV for Ngazidja, Anjouan & Moheli Island each: 1 Regional coordinator and 1 water technical specialist to provide day to day technical support to the Island Manager;	15,382	6	Contracts	4	years	369,168	
3L	Salary costs - NP staff	Provisional costs for Technical support services provided by for UNDP CO staff towards project execution distributed across outputs at 10% for Output 1, 30% for Output 2 and 60% for Output 3 as per details below: - Programme Analyst Climate Change (PACC) @ 45% of time - Programme officer Climate Change/GCF (POCC) @ 50% of time - Communication Officer (CO) @ 45% of time - Economist/ (ECO) @ 20% of time - Governance Specialist (Gov Spe) @ 43% of time	6,531	8	Contracts			52,244	52,244
CoF3		Co-financing by the GoC the break-up of which is as below:	14,956,467	n.a.	n.a.			14,956,467	14,956,467

Budget Note	Atlas Budget Account Description	Description of cost items	Unit cost (USD)	Quantity	Unit	Percentage time/ Duration	Unit	Amount (USD)	Total (USD)
		<ul style="list-style-type: none"> • USD 10,778,198: In-kind Co-financing by the GoC in the form of Land compensation and O&M during the 8-year project implementation period. • USD 1,944,050: Co-financing by the GoC to support the installation of flowmeters to support climate resilient tariff adjustments, and leakage reduction programmes to improve the water pricing and management system taking into account the additional costs associated with climatic hazards This activity will be fully funded by the Government of Comoros <p>Co-financing by FADES and China Geo-Engineering Corporation towards output 3, the details of which are as follows</p> <ul style="list-style-type: none"> • USD 293,363: Co-financing by FADES for the safe borehole salinity yield assessments in Zone I of Grand Comore where the largest and most productive boreholes are known to exist • USD 1,940,856: In-kind co-financing by the China Geo-Engineering Corporation to support extension of the groundwater distribution network to 18 villages in Zone 1 of Grand Comore and will co-fund borehole pumps and treatment for 19 villages in Zone 2 of Grand Comore 							
Total of Output 3									50,056,574
Project Management									
PM1	Salary costs - NP staff	Project Manager – USD 423,404 total (hired for 2 years at USD 211,702 per year)	211,702	2	Years			423,404	837,115
		Project Coordinator – USD 210,000 total (hired for 8 years at USD 26,250 per year)	26,250	8	Years			210,000	
		Procurement Expert – USD 79,713 total (hired for 4.5 years at USD 15,943 per year)	15,943	5	Years			79,713	
		Admin and Finance Officer – USD 123,998 total (hired for 7 years at USD 17,714 per year)	17,714	7	Years			123,998	
PM2	Services to Projects - GOE	UNDP support services to project are services related to administrative and operations supports, including finance processing (\$311,049), HR (\$105,597), Procurement of goods and services (\$135,660), IT services (\$50,825) and Travel assistance and processing (57,980). The supports covers the 8 year project period calculated based on UNDP transaction service costs.	667,111	1	Contract			667,111	667,111
PM3	Travel	PMU staff travel costs for to implementation, supervision and monitoring visits to project sites	50,000	1	Contract			50,000	50,000
PM4	Supplies	Office supply and stationary costs at an average of USD 7000 p.a.	7,000	8	Years			56,000	56,000
PM5	Equipment and Furniture	Provision for purchase of office equipment and furniture as well as IT equipment including information management systems, licenses and IT support services and running and maintenance costs at an average USD 14000 per year with an initial expense of approximately 56000 assumed in the first year.	112,000	1	Contract			112,000	112,000

Budget Note	Atlas Budget Account Description	Description of cost items	Unit cost (USD)	Quantity	Unit	Percentage time/ Duration	Unit	Amount (USD)	Total (USD)
PM6	Local Consultants	Monitoring and evaluation cost for mid-term and terminal evaluations	50,000	2	Evaluation Studies			100,000	100,000
PM7	Professional Services - Nat	Recruitment an international expert to carry out the project financial audits (USD\$ 40,000): USD 5000 per year for Audit for 8 years	5,000	8	Years			40,000	40,000
PM8	Local Consultants	Co-finance by UNDP for the recruitment 3 local consultant on 3years to Conduct and maintain records for site inspection during the infrastructure construction period and environmental and social risk monitoring throughout the entire project lifespan and management of the identified risks (USD382,800): each consultant \$ 2378,12 per month for 3 years 4 months working \$ 285374,4 with \$ 86000 for DSA and \$11425,6 for travels	382,800	1	Contract			382,800	382,800
CoF4		Co-financing by the GoC in the form of cash as well as in-kind co-financing which include staff time (\$319,714), office rental (\$62,320), operating equipment, software, transport (\$562,248), Communication, internet and maintenance (\$ 42,718) provided by the GoC and relevant staff towards project management activities	987,200	n.a.	n.a.			987,200	987,200
Total PMC									3,232,226

X. LEGAL CONTEXT

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of Comoros and UNDP, signed on 27 January 1976. All references in the SBAA to “Executing Agency” shall be deemed to refer to “Implementing Partner.”

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

Any designations on maps or other references employed in this project document do not imply the expression of any opinion whatsoever on the part of UNDP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

By signing this UNDP GCF project document, the Implementing Partner also agrees to the terms and conditions of the GCF Funded Activity Agreement (FAA) included in Annex and to use the GCF funds for the purposes for which they were provided. UNDP has the right to terminate this project should the Implementing Partner breach the terms of the GCF FFA.

XI. RISK MANAGEMENT

Consistent with the Article III of the SBAA [*or the Supplemental Provisions to the Project Document*], the responsibility for the safety and security of the Implementing Partner and its personnel and property, and of UNDP’s property in the Implementing Partner’s custody, rests with the Implementing Partner. To this end, the Implementing Partner shall:

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

UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of the Implementing Partner’s obligations under this Project Document.

The Implementing Partner agrees to undertake all reasonable efforts to ensure that no UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/sc/committees/1267/aq_sanctions_list.shtml.

Social and environmental sustainability will be enhanced through application of the UNDP Social and Environmental Standards (<http://www.undp.org/ses>) and related Accountability Mechanism (<http://www.undp.org/secu-srm>).

The Implementing Partner shall: (a) conduct project and programme-related activities in a manner consistent with the UNDP Social and Environmental Standards, (b) implement any management or mitigation plan prepared for the project or programme to comply with such standards, and (c) engage in a constructive and timely manner to address any concerns and complaints raised through the Accountability Mechanism. UNDP will seek to ensure

that communities and other project stakeholders are informed of and have access to the Accountability Mechanism.

All signatories to the Project Document shall cooperate in good faith with any exercise to evaluate any programme or project-related commitments or compliance with the UNDP Social and Environmental Standards. This includes providing access to project sites, relevant personnel, information, and documentation.

The Implementing Partner will take appropriate steps to prevent misuse of funds, fraud or corruption, by its officials, consultants, responsible parties, subcontractors and sub-recipients in implementing the project or using UNDP funds. The Implementing Partner will ensure that its financial management, anti-corruption and anti-fraud policies are in place and enforced for all funding received from or through UNDP.

The requirements of the following documents, then in force at the time of signature of the Project Document, apply to the Implementing Partner: (a) UNDP Policy on Fraud and other Corrupt Practices and (b) UNDP Office of Audit and Investigations Investigation Guidelines. The Implementing Partner agrees to the requirements of the above documents, which are an integral part of this Project Document and are available online at www.undp.org.

In the event that an investigation is required, UNDP has the obligation to conduct investigations relating to any aspect of UNDP projects and programmes. The Implementing Partner shall provide its full cooperation, including making available personnel, relevant documentation, and granting access to the Implementing Partner's (and its consultants', responsible parties', subcontractors' and sub-recipients') premises, for such purposes at reasonable times and on reasonable conditions as may be required for the purpose of an investigation. Should there be a limitation in meeting this obligation, UNDP shall consult with the Implementing Partner to find a solution.

The signatories to this Project Document will promptly inform one another in case of any incidence of inappropriate use of funds, or credible allegation of fraud or corruption with due confidentiality.

Where the Implementing Partner becomes aware that a UNDP project or activity, in whole or in part, is the focus of investigation for alleged fraud/corruption, the Implementing Partner will inform the UNDP Resident Representative/Head of Office, who will promptly inform UNDP's Office of Audit and Investigations (OAI). The Implementing Partner shall provide regular updates to the head of UNDP in the country and OAI of the status of, and actions relating to, such investigation.

UNDP shall be entitled to a refund from the Implementing Partner of any funds provided that have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document. Such amount may be deducted by UNDP from any payment due to the Implementing Partner under this or any other agreement.

Where such funds have not been refunded to UNDP, the Implementing Partner agrees that donors to UNDP (including the Government) whose funding is the source, in whole or in part, of the funds for the activities under this Project Document, may seek recourse to the Implementing Partner for the recovery of any funds determined by UNDP to have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document.

Note: The term "Project Document" as used in this clause shall be deemed to include any relevant subsidiary agreement further to the Project Document, including those with responsible parties, subcontractors and sub-recipients.

Each contract issued by the Implementing Partner in connection with this Project Document shall include a provision representing that no fees, gratuities, rebates, gifts, commissions or other payments, other than those shown in the proposal, have been given, received, or promised in connection with the selection process or in contract execution, and that the recipient of funds from the Implementing Partner shall cooperate with any and all investigations and post-payment audits.

Should UNDP refer to the relevant national authorities for appropriate legal action any alleged wrongdoing relating to the project, the Government will ensure that the relevant national authorities shall actively investigate the same and take appropriate legal action against all individuals found to have participated in the wrongdoing, recover and return any recovered funds to UNDP.

The Implementing Partner shall ensure that all of its obligations set forth under this section entitled “Risk Management” are passed on to each responsible party, subcontractor and sub-recipient and that all the clauses under this section entitled “Risk Management Standard Clauses” are included, *mutatis mutandis*, in all sub-contracts or sub-agreements entered into further to this Project Document.

XII. MANDATORY ANNEXES

The following documents are mandatory annexes and must be included as part of the final project document package. Links can be provided to these documents if they have been posted to the UNDP GEF PIMS and open.undp.org.

Annex A: GCF Funding Activity Agreement and Notice of Effectiveness (To be included when received from GCF Sec)

Annex B: GCF Board approved GCF Funding Proposal

Annex C: Letter of agreement between the Implementing Partner and Responsible Parties (To be provided)

Annex D: Letters of co-financing

Annex E: Timetable of project implementation

Annex F: Procurement plan

Annex G: Terms of References for Project Board and Project Team

Annex H: UNDP Social and Environmental and Safeguards screening procedure (SESP) and Environmental and Social Management Plan or Framework (ESMP or ESMF) as relevant

Annex I: Stakeholder Engagement Plan

Annex J: Gender Analysis and Action Plan

Annex K: UNDP Risk Log (To be provided)

Annex L: LOA with the government in case DPCs are applied

Annex M: Capacity Assessment including HACT micro assessment (RP Mico-assessment to be provided)

Annex N: UNDP Project Quality Assurance Report (to be completed in UNDP online corporate planning system, does not need to be attached as separate document) (to be provided)

Annex A: GCF Funding Activity Agreement and Notice of Effectiveness (To be included when received from GCF Sec)

Annex B: GCF Board approved GCF Funding Proposal

[https://undpgefpmis.org/attachments/5740/215762/1721184/1730443/GCF_B.21_34 -
_Decisions of the Board twenty-first meeting of the Board 17 20 October 2018.pdf](https://undpgefpmis.org/attachments/5740/215762/1721184/1730443/GCF_B.21_34_-_Decisions_of_the_Board_twenty-first_meeting_of_the_Board_17_20_October_2018.pdf)

Annex C: Letter of agreement between the Implementing Partner and Responsible Parties (To be provided)

Annex D: Letters of co-financing

1. a. Letter from China Geo – Engineering Corporation Comoros (French)



中地集团公司科摩罗项目部

CHINA GEO – ENGINEERING CORPORATION COMORES
Villa MARBOUR Sise à la Coulée MORONI
TEL: (+269) 777 31 30 / Email : cgc.comores@gmail.com

Date: 05 Juin 2017

Ms Adriana Dinu
Executive coordinator
UNDP – Global Environment Finance
304 East 45th street room FF-914
New York, NY 10017 U.S.A

Objet : Lettre d'engagement de co-financement pour la fourniture d'équipements AEP dans le cadre du projet « Assurer un approvisionnement en eau durable et résilient aux changements climatiques aux Iles Comores »

Par cette lettre, la société China Geo-Engineering Corporation, donne son accord d'engagement auprès du secrétariat du Fond Vert Climat pour cofinancer les activités du projet « Assurer un approvisionnement en eau durable et résilient aux changements climatiques aux Iles Comores » en formulation pour la soumission au Fond Vert Climat.

En ma qualité de représentant de la société China Geo-Engineering Corporation en Union des Comores, j'ai le plaisir de marquer mon accord de principe pour participer au cofinancement en nature du projet cité en objet, pour un montant évalué à **1 940 856 USD**.

Ce montant correspondant aux coûts d'acquisition d'équipements AEP destinés à la mise en place des réseaux de distribution.

En vous souhaitant bonne réception, je vous prie de croire, Mme la Coordinatrice Exécutive, l'assurance de ma considération distinguée.



2. b. Translation of the letter from China Geo – Engineering Corporation Comoros



中地集团公司科摩罗项目部

CHINA GEO – ENGINEERING CORPORATION COMOROS

MARBOUR Villa Sise à la Coulée MORONI

TEL : (+269) 777 31 30 / Email : cgc.comores@gmail.com

Date: June 5 2017

Ms Adriana Dinu

Executive Coordinator

UNDP – Global Environment Finance

304 East 45th Street room FF-914

New York NY 10017 USA

Subject: Commitment of co-financing letter for the provision of AEP equipment in the context of the implementation of the project “Ensuring climate resilient water supplies in the Comoros Islands”

China Geo-Engineering Corporation company hereby commits to the Green Climate Fund Secretariat to co-finance the activities of the project “Ensuring climate resilient water supplies in the Comoros Islands” being prepared for submission to the Green Climate Fund.

In my capacity of representative of the China Geo-Engineering Corporation company in the Union of the Comoros, I am glad to confirm my agreement-in-principle to contribute to the co-financing in-kind of the above-mentioned project, for an estimated amount of **USD 1,940,856**.

This amount reflects the costs associated with the purchase of AEP equipment that will be used for the installation of distribution networks.

Wishing you good reception of this letter, I am looking forward to hearing from you.

Signatory
Li BOZHI



Signatory:

3. Letter from the Government of Comoros



Date : Moroni le, 01 Août 2018

Ms Adriana Dinu
Executive coordinator
UNDP – Global Environment Finance
304 East 45th street room FF-914
New York, NY 10017 U.S.A

Subject: Co-financing commitment letter

With this letter, the Comorian Government confirms, through the Vice-Presidency in charge of the environment, its commitment to the secretariat of the Green Climate Fund to co-finance the activities of the project "Ensuring climate resilient water supplies in the Comoros Islands" in formulation for submission to the Green Climate Fund.

The Vice-Presidency in charge of the environment is the government institution mandated to ensure the delivery of all equipment related to the GCF project entitled " Ensuring climate resilient water supplies in the Comoros Islands ". It ensures that the project fulfills its objectives and delivers the expected benefits. It is also responsible for the deployment of service delivery, operations and maintenance through regulations, standards and monitoring.

The Government of the Union of the Comoros hereby undertakes to contribute **25,234,834 US Dollars** as follows:

- A cash contribution of about **US\$ 3,819,270 ;**
- An in-kind contribution of **US\$ 9,381,165** corresponding to the acquisition cost/value of land for the installation of water collection, storage and distribution infrastructures
- An in-kind contribution valued of **US\$ 12,034,399** corresponding to the operation and maintenance costs (integrated water resources management systems in 3 islands with rainwater harvesting systems); which will be committed for 25 years, as follows: **US\$ 1,397,033** over the first 8 years of project implementation, and **US\$ 10,637,366** over the next 17 years

We take this opportunity to thank the Green Climate Fund for its support in addressing the current and future challenges of climate change in the Comoros.

[Signature]

B.P : 42 Moroni-Comores, TEL : (00269) 775 00 00 Fax : (00269) 775 00 03
E-mail: ministaraaricomores@yahoo.fr **MOUSTADROINE ABDOU**

LE VICE-PRESIDENT

4. Letter from UNDP Comoros



259/001/GCF/00099599

01 August 2018

Objet: Co-financing letter for the activities of the project « Ensuring climate resilient water supplies in the Comoros Islands »

I am pleased to confirm to the Green Climate Fund Secretariat, the commitment of UNDP Comoros to co-finance the activities of the project in formulation « Ensuring climate resilient water supplies in the Comoros Islands » for submission to the Green Climate Fund's approval.



Therefore, in my quality of Resident Representative of UNDP Comoros, I am pleased to mark my agreement to the co-financing of the abovementioned project, to the estimated amount of **2,000,000 US\$** (two million US Dollars) in cash, for the total duration of the project.

Wishing you good reception, please believe, Mrs. Executive Coordinator, the assurance of my highest consideration.


Matthias NAAB
Resident Representative



Ms Adriana Dinu
Executive coordinator
UNDP – Global Environment Finance
304 East 45th street room FF-914
New York, NY 10017 U.S.A


 PNUD / UNDP – Programme des Nations Unies pour le Développement
Système des Nations Unies
www.km.undp.org – www.km.one.une.org

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5. a. Letter from FADES (French)

UNION DES COMORES

Unité-Solidarité-Développement

MINISTRE DES FINANCES
ET DU BUDGET

LE MINISTRE

N° 17- 074 /MFB/CAB

Moroni, le 9 octobre 2017

A
Ms Adriana Dinu
Executive Coordinator
UNDP -Global Environment Finance
304 East 45th Street room FF-914
New York NY 10017 USA

Objet : Lettre d'engagement de Co-financement pour les activités du projet « Assurer un approvisionnement en eau durable et résilient aux changements climatiques en Union des Comores

En tant qu'ordonnateur du Fond Arabe pour le Développement Economique et Social (FADES) en Union des Comores, je confirme auprès du secrétariat du Fonds Vert Climat l'engagement de l'utilisation de fonds FADES pour le cofinancement des activités du projet « Assurer un approvisionnement en eau durable et résilient aux changements climatiques aux îles Comores » en formulation pour la soumission au Fonds Vert Climat.

Ce montant estimé à 293 363 USD, servira à financer les activités de gestion des risques climatiques et renforcement de la résilience des infrastructures d'approvisionnement en eau dans les communes de la zone 1.

En vous souhaitant bonne réception, je vous prie de croire Mme la Coordinatrice Exécutive, l'assurance de ma considération distinguée.



MOUSTADROINE ABDOU

Vice-président chargé du Ministère de l'Agriculture,
de la Pêche, de l'Environnement, de l'Aménagement
du Territoire et de l'Urbanisme, chargé de l'intérim

6. Translation of the letter from FADES

Union of the Comoros

MINISTRY OF FINANCE AND BUDGET

THE MINISTER

N°17-074/MFB/CAB

Moroni, October 9 2017

To Ms Adriana Dinu
Executive Coordinator
UNDP – Global Environment Finance
304 East 45th Street room FF-914
New York NY 10017 USA

Subject: Commitment of co-financing letter for the activities of the project “Ensuring climate resilient water supplies in the Comoros Islands”

In my capacity of authorizing officer of the Arab Fund for Economic and Social Development (AFESD) in the Union of the Comoros, I hereby confirm to the Green Climate Fund Secretariat the commitment of the AFESD funds to co-finance the activities of the project “Ensuring climate resilient water supplies in the Comoros Islands” being prepared for submission to the Green Climate Fund.

The amount, estimated at USD 293,363, will be used to finance the activities on climate risks management and strengthening of water supply infrastructure resilience in the communes of zone 1.

Wishing you good reception of this letter, I am looking forward to hearing from you.



MOUSTADROINE ABDOU

Vice-President in charge of the Ministry of Agriculture,
Fisheries, Environment, Land Use, Urban Planning, in charge of interim

	2018				2019				2020				2021				2022				2023				2024				2025				2026								
Description	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6				Year 7				Year 8												
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4					
Activity 3.2: Build infrastructure to increase resilience of water supply facilities to extended duration low flow periods, greater intensity flood flow damage and flood flow higher turbidity and bacteria loadings (Grande Comore, Anjouan island and Moheli island)				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X											
Activity 3.3: Installation of flowmeters to support climate resilient tariff adjustments, and leakage reduction programmes to improve the water pricing and management system taking into account the additional costs associated with climatic hazards				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
Project Management																																									
Project Management Activities	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
Monitoring and Evaluation					A	P	R					A	P	R					A	P	R					A	P	R					A	P	R					T	E

Annual Progress Report (APR) Mid-Term Report (MTR) Terminal Evaluation (TE)

FOOTNOTES

- Activity 1.1 Support to sector regulatory and planning framework on mainstreaming DWSSP into work plans and budgets. Timing of legal support (1.1.1) depends on Water Code approval.
- Activity 1.2 Initial project technical task - to re-sensitise water sector stakeholders to climate risks, reduction approaches and DWSSP as a systematic approach
- Activity 1.3 Initial tariff tasks involve utility and community dialogues on actual operating costs and willingness to pay. Later tasks involve analysis of project metering data available from 3.3.
- Activity 1.4 Early tasks focus on tailoring global DWSSP practises to Comoros context. Later tasks relate to preparation of first version of security plans for each supply scheme.
- Activity 1.5 Training of sector planning and regulatory regime stakeholders in technical compliance aspects of DWSSP - runs in parallel to Activity 1.1
- Activity 1.6 Training of service providers in DWSSP in design, construction, operation & maintenance functions, using the design and construction opportunities provided by 3.1, 3.2 and 3.3
- Activity 2.1 Each watershed stakeholder group to be taken through a sequential IWRM governance process of initial informal stakeholder partnership formation, committee formalisation, catchment vulnerability assessment, resilience needs analysis, resilience actions optioneering, resilience action plan development and endorsement. Watershed engagement will be staggered.
- Activity 2.2 Watershed resilience action plan implementation staggered and commences once first plans approved and endorsed (1 year allowed for plan development per watershed).
- Activity 2.3 Runs in parallel with 2.1 to provide legal, training, management and awareness raising support to watershed IWRM governance activity (2.1).
- Activity 2.4 Monitoring network design (2.4.1) to start ASAP as piezometers (2.4.5) inform new boreholes (3.1.) and rain gauges (2.4.3) inform flood alerts (2.5) and dissemination (2.6.1)

- Activity 2.5 Design of flood EWS alerts (2.5.4) post-dates rain gauges (2.4.3) and pre-dates forecast dissemination set-up (2.6.1). Later tasks include drought analysis & water balance training.
- Activity 2.6 Early tasks include hydrogeological equipment (2.6.4) - to support groundwater investigations (2.4.5 and 3.1.2) - and forecast awareness raising (2.6.2)
- Activity 3.1 Testing of existing boreholes (3.1.2) occurs as early as possible. Location and design of new boreholes (3.1.1 & 3.1.3) has to be informed by piezometer installations (2.4.6)
- Activity 3.2 Construction activities likely to be mostly in dry seasons. Grand Comore contracts phased to allow works when access on other islands is problematic.
- Activity 3.3 Runs in parallel and integrated into with construction and commissioning activities (3.2)

Annex F: Procurement plan

The procurement and human resources plan will cover a plan to address the project requirements. The National Implementation Agency shall update the procurement plan throughout the duration of the project at least annually by including contracts previously awarded. All procurement plans, their updates or modifications shall be published on the website of the National Implementation Agency.

Project Name: Ensuring climate resilient water supplies in the Comoros Islands	
Country: Comoros	Executing Agency: Ministry of Energy, Agriculture, Fisheries, Environment, Country Planning and Urbanism (MAFECU)
Loan Amount: N/A	Loan (Grant) Number: N/A
Date of First Procurement Plan: Aug 2018	Date of this Procurement Plan: Aug 2018

A. The following UNDP procurement thresholds are applicable to procurement of goods, services and works:

Procurement method	Contract value	Type of requirement	Method of solicitation	Type of competition
Micro-purchasing	Below US \$5,000	Goods, services or simple works	Canvassing (by phone, Internet, shopping, etc.)	Limited international or national
Request for quotation	US \$5,000 to \$149,999	Goods, services or simple works	Written request for quotation	Limited international or national
Invitation to bid	US \$150,000 and above	Goods or works	Advertisement in international media	Open international
Request for proposal	US \$150,000 and above	Services	Advertisement in international media	Open international
Other	Below US \$100,000	Individual Consultancy Services	Direct invitation from Roster or Advertisement	None or Open as applicable
Other	Above US \$100,000	Individual Consultancy Services	Advertisement in international media	Open international

B. The Following UNDP HR rules are applicable to recruitment of personnel under Services Contracts/ Staff Contracts/ UN Volunteers:

Human Resources Recruitment Method	Type of Requirement
Advertisement	Services Contracts/ Staff Contracts/ UN Volunteers

C. Prior or Post Review Requirements to Procurement:

Please refer to *Annex 1* for UNDP prior or post review requirements which shall apply to the various procurement and consultancy recruitment methods used for the project.

D. Overall Procurement and Human Resources including Project Direct Costs Plan for the whole Project Duration:

General Description of Requirement	Estimated Budget in USD
Provision of consultancy services of an international consultant for recommendations on the climate resilient water planning, budgeting and operations with special focus on the project targeted areas (with special focus on gender mainstreaming). Consultant will be hired for 80 days (4 months) at the rate of 500 USD per day	40,000
Provision of consultancy services of an international consultant for development of systematic approaches to water sector climate risk assessment and risk reduction as well as their inclusion in work programmes and planning. Consultant will be hired for 120 days (6 months) at the rate of 500 USD per day	60,000
Provision of consultancy services of an international Legal expert(s) for review of existing legislature on Climate Resilience inclusion, drafting of Primary and Secondary Water Code legislation, and facilitating 3 rounds of consultation meetings with national agencies. \$600 per day including DSA and Travel	95,000
Provision of consultancy services of a National expert in Rural Hydraulics, Hydrology, Quality control & water treatment inputs to review of existing legislature on Climate Resilience inclusion, drafting of Primary and Secondary Water Code legislation, and facilitating 3 rounds of consultation meetings with national agencies. Expert will be hired at 2378.12 USD per day for 12 months	45,000
Recruitment of a M&E Specialist – USD 144,172 total hired for 7 years at USD 20,596 p.a.	144,172
Recruitment of a Safeguards Expert – USD 61,788 total hired for 3 years at USD 20,596 p.a.	61,788
Recruitment of a Gender Expert – USD 281,884 total hired for 6.5 years at USD 40,367 p.a.	281,884

General Description of Requirement	Estimated Budget in USD
Recruitment of a Communication Specialist – USD 49,528 total hired for 8 years at USD 6,191 p.a.	49,528
Cost for organization of 3 rounds of consultation meetings with various national agencies for review of finalization and inclusion of the drafted Primary and Secondary Water Code legislations. Cost includes venue and refreshments as well as print and audio-visual materials or equipment as well as travel costs, DSA for 150 participants.	25,000
Provision of contractual services to i) develop awareness raising webinars, including meetings with national and state agencies to promote their usage; and ii) sett-up and promoting the open access central knowledge platform hub.	65,000
Cost for organization of 3 rounds of consultation meetings with various national and state agencies to promote the usage of the open access central knowledge platform hub for accessing global CVA and adaptation awareness materials developed. Cost includes venue and refreshments as well as print and audio-visual material costs as well as travel costs for 180 participants.	35,000
Provision of consultancy services of 2 consultant at US\$430 per day for 100 days working total amount 42000\$ with \$18000 for workshops including DSA and ticket for Moheli and Anjouan and Ngazidja participants	60,000
Recruitment of a national Expert in Environment, Rural Hydraulics, Hydrology, Quality control & water treatment for 8 months at \$ 2378,12 per month including travel expenses and DSA	25,000
Provision of consultancy services of an expert for reviewing global best practices on DWSSP, including source protection, drought and flood event O&M, and water quality monitoring requirements, and developing tailored guidelines for Comoros national state for sectoral planning and regulatory requirements, including undertaking of stakeholder consultations on each of the three island.	68,250
Cost for organization of Workshops for 150 persons DSA, Ticket include, transport of participants	21,207
Provision of consultancy services on an International Expert in Hydrology at \$430 per day for 144 days working total amount 60480\$ with \$23520 for workshops and an Environmental expert at \$430 per day for 60 days working total amount 25200\$ with \$14800 for workshops including DSA and ticket for Moheli and Anjouan and Ngazidja participants	124,000
Provision of services of 2 national Expert in Environment, Rural Hydraulics, Hydrology, Quality control & water treatment for 12 months, Each consultant \$ 2378,12 per month for 1 years working	55,000
Provision of contractual services for facilitating trainings on best practices and gender-sensitive techniques of climate change adaptation in the context of water management, health and nutrition among national, regional and local water stakeholders. Consultant will be hired for 120 days (6 months) at the rate of 200 USD per day.	28,250
Procurement of IT equipment and an online learning tool to learn and exchange among community to develop best practices for climate change adaptation for water supply communities. (USD 39000 for 30 Laptops for 15 Zones 2 per zone, USD 60000 30 Desktops for 15 zones 2 per zone, USD 12,000 for 30 Printer for 15 zones, 2per zone and USD 75 000 for 30 Photocopiers for 15 zones, 2 per zone. USD 39,000 Audio-visual equipment for organization of exchange meetings by zone)	225,000

General Description of Requirement	Estimated Budget in USD
Cost for organization of 4 (3-day) national and state (island) level training programme for 20 agencies on gender-sensitivity in climate change adaptation and risk reduction planning and programme monitoring and evaluation. Cost includes venue and refreshments as well as print and audio visual material costs as well as travel costs for 100 participants.	40,000
Hydraulics expert at \$430 per day for 144 days working total amount 60480\$ with \$29520for workshops including DSA and ticket for Moheli and Anjouan and Ngazidja participants	90,000
Quality control & water treatment at \$430 per day for 144 days working total amount 60480\$ with \$29520 for workshops including DSA and ticket for Moheli and Anjouan and Ngazidja participants	90,000
Provision for services of 2 National Consultants in Hydraulics and quality control) 10 months at \$2378,12 per month including local travel and DSA	50,000
Provision of consultancy services of Climate Change Adaptation for i) Developing training materials and ii) facilitating the trainings for 140 participants for undertaking climate risk reduction assessments and develop and deliver awareness campaigns and training programmes to Water Management Committees and users. 6 Months, Each expert \$500 per day for 150 (6 months) including DSA and travels	83,370
Cost for organization of workshops for 140 participants for undertaking climate risk reduction assessments and develop and deliver awareness campaigns and training programmes to Water Management Committees and users	37,517
Recruitment of 4 International experts in water management, Integrated water resources management and International Expert to train field agents (US\$ 386,055) across output 2: each expert \$12,064.3 per month on 8 months for mount total \$ 313,040 + DSA (\$27,600) and \$6,980 travels	51,594
Recruitment of 4 National Experts in Water Management to propose an improvement of the community charging zones in the targeted watersheds and 2 National Consultants to Establish the location and functionality of the measurement equipment (US\$145,000) across output 2: each consultant \$ 2378,12 per month for 7 months working \$ 99 881,04 with \$ 38900 for DSA and \$ 6218,96 for travels	20,000
Provision of contractual services for carrying out a mapping survey of areas vulnerable to climate risks, particularly those exposed to saltwater intrusion to allow analysis of risk scenarios	80,800
Provision of consultancy services of an international Expert on water management at \$12,064.3 per month on 4 month plus local travel and DSA.	50,000
Provision of consultancy services of a National Expert, Water Management, Each consultant \$ 2378,12 per month for 6 months working plus local travel and DSA	15,000
Cost for organization of workshops, 1 Trainings, Workshops and Conference to popularize the different activities and the use of	20,000

General Description of Requirement	Estimated Budget in USD
the equipment provided by project for 90 participants (including the DSA of each participant)	
Provision of contractual services for 1 national contract to implement soil conservation measures at Community level in watersheds of 15 target areas	90,000
Recruitment of 4 International experts in water management, Integrated water resources management and International Expert to train field agents (US\$ 386,055) across output 2: each expert \$12,064.3 per month on 8 months for mount total \$ 313,040 + DSA (\$27,600) and \$6,980 travels	47,205
Provision of contractual services for the formation and training of IWRM committee trainers in mainstreaming climate change adaptation, integrated water resources management strategy, planning and budgeting, business models, management fees and performance monitoring (US\$430,000): USD 53 750 per year for 3 workshops	430,000
Provision of consultancy services for an Integrated water resources management at \$12064,3 per month for a duration of 6 months plus travel and DSA.	93,501
Provision of consultancy services of 2 National Consultants water management at \$2378,12 per month for 10 months working plus local travel and DSA	60,000
Procurement and installation of 8 agro-meteorological stations in the targeted areas of the three islands (US\$350,000): USD 43750 per station for 8 stations	350,000
Procurement and installation of 95 automatic rain gauges covering the three islands (US\$350,000): USD 3675 per Unit for 95	350,000
Procurement and installation of a Radar to improve protection of water resources and storage units during periods of heavy rainfall	300,000
Procurement and installation of 25 flow measurement equipment on both islands for better monitoring of watercourses	300,000
Procurement and installation of 43 Piezometric probes for the monitoring of saline intrusion in Grand Comores	300,000
Strengthening the infrastructure of national meteorology: Dans les antennes secondaire (Anjouan et Mohéli) plus les mobilizers des bureau et les equipments informatiques	300,000
Cost for organization of training to popularize the different activities and the use of the equipment provided by project for 90 participants including the DSA of each participant	20,000
Recruitment of 4 International experts in water management, Integrated water resources management and International Expert to train field agents (US\$ 386,055) across output 2: each expert \$12,064.3 per month on 8 months for mount total \$ 313,040 + DSA (\$27,600) and \$6,980 travels	124,000
Organization of trainings for building the capacities of the meteorological services to analyze and produce drought and flood forecasts for targeted users, including for flood early warning system. 4 engineers to be trained in the use of dynamic tools &	58,757

General Description of Requirement	Estimated Budget in USD
statistics for the seasonal predictions.	
Contractual services for Communication and information dissemination contracts for 3 years	141,243
Cost for organization of workshops and consultations with various stakeholders for promoting the use of the meteorological equipment provided under output 2 for 70 participants	40,000
Recruitment UN Volunteers	87,700
Provision of contractual services of a Design Office to undertake the Pumping trial & demarcation of protection zones	132,500
Provision of contractual services of a company to Water drilling works	825,000
Provision of contractual services of a company to: <ul style="list-style-type: none"> - Supervision & monitoring of works - Deepening o wells - Pumping trial - Feasibility study on the deepening & trial of water well pumping - Water well pumping trial 	1,205,800
Provision of contractual services of a company to: <ul style="list-style-type: none"> - Feasibility study on the deepening & trial of water well pumping - Water drilling & trial of pumping - Geophysical investigation to define targeted drilling zones 	1,376,725
Contract with a Designs Office and a research institution to carry: <ul style="list-style-type: none"> - Contract with a Design Office to carry a Pre-project detailed study APD & DAO for the installation of water catchment, reservoirs, AEP system irrigation system treatment units, mini-basins & communal water troughs. - Detailed pre-project study APD et DAO for the installation of 4 impluviums, irrigation systems, micro basins, communal throughs, AEP systems abreuvoirs collectifs - Construction of a reservoir of 300m3/500m3/1000m3 including equipment & including hydro-mechanical accessories in the villages at Unit price for construction of USD 180,957, USD 225,750 and USD451,500 at USD 420/420/694 per m3 respectively - Construction of approx. 260 mini-basins, communal throughs & irrigations systems linked to the impluviums. At a USD 10,000-24,000 price per Unit 	31,149,959

General Description of Requirement	Estimated Budget in USD
<ul style="list-style-type: none"> - Construction of impluviums in 4 crater areas. - Construction of treatment units - Installation irrigation systems in the agricultural plots in zones Anjouan Island and Moheli Island. Irrigations systems and equipment at the rate of USD 9000-13000 per km - Installation of 2 types of treatment systems - Unit price of a treatment USD 48856 per Unit - Installation of potable water supply interconnected among the villages of 5 Communes (Bambao Djou, Bambao Ya Hari, Bambao Ya Mboini, Itsandra Issahari and Itsandra Djoumoichongo) - Installation of stream water treatment units - USD 28000 – USD 115,000 per Unit - Procurement of various equipment - Technical control & monitoring of the works - Supervision & monitoring of works 	
Direct Project Cost	667,111
Monitoring and evaluation cost for mid-term and terminal evaluations	100,000
PMU staff travel costs for to implementation, supervision and monitoring visits to project sites	50,000
Office supply and stationary costs at an average of USD 7000 p.a.	56,000
Provision for purchase of it equipment and information management systems, licenses and running costs.	112,000
Recruitment an international expert to carry out the project financial audits	40,000
Professional services at USD 5000 per year for Audit services for 8 years	40,000
Total Estimated Costs in USD	40,984,861

UNDP Policy on Prior and Post Review

	<u>Level 1 (Country Level):</u> Contracts, Assets and Procurement Committee	<u>Level 2 (Regional):</u> Regional Advisory Committee on Procurement (country offices only)	<u>Level 3 (HQ):</u> Advisory Committee on Procurement

	<u>Level 1 (Country Level):</u> Contracts, Assets and Procurement Committee	<u>Level 2 (Regional):</u> Regional Advisory Committee on Procurement (country offices only)	<u>Level 3 (HQ):</u> Advisory Committee on Procurement
Competitive procurement process			
Any contract or series of contracts including amendments to be awarded to a vendor <i>in a calendar year</i> that in aggregate has a cumulative value:	Above US \$50,000 (above US \$100,000 for Individual Contracts) and up to the standard delegated procurement authority – Direct Review by PMU Chairperson Above the standard delegated procurement authority and up to any increased delegated procurement authority – by PMU Committee	Above the delegated procurement authority and up to US \$2 million (applies per year for Long-Term Agreements)	Country offices: above US \$2 million (applies per year for Long-Term Agreements)
Direct contracting			
Any contract or series of contracts, including amendments to be awarded to a vendor <i>in a calendar year</i> that in aggregate has a cumulative value:	Above US \$50,000 and up to 50 percent of the standard delegated procurement authority – Direct Review by PMU Chairperson Above 50 percent of the standard delegated procurement authority and up to 50 percent of any increased delegated procurement authority – by PMU Committee	Above 50 percent of the delegated procurement authority and up to US \$2 million (applies per year for long-term agreements)	Headquarters units: above 50 percent of the delegated procurement authority Country offices: above US \$2 million (applies per year for long-term agreements)
Amendment of all contracts			
Any amendment or series of amendments to a contract which, in aggregate, increases the contract value by 20 percent or the delegated procurement authority, whichever is less:	Above US \$50,000 and up to the standard delegated procurement authority – Direct Review by PMU Chairperson. Above the standard delegated procurement authority and up to the increased delegated procurement authority - by PMU Committee	Above the delegated procurement authority and up to US \$2 million (applies per year for long-term agreements)	Country offices: above US \$2 million (applies per year for long-term agreements)
Ex ante review			
Ex ante review refers to the review of the procurement strategy roadmap prior to commencement of the procurement process for complex procurement actions with a value:	N/A	Above US \$1 million and up to US \$2 million (applies per year for long-term agreements)	Above US \$2 million (applies per year for long-term agreements)

	<p align="center"><u>Level 1 (Country Level):</u> Contracts, Assets and Procurement Committee</p>	<p align="center"><u>Level 2 (Regional):</u> Regional Advisory Committee on Procurement (country offices only)</p>	<p align="center"><u>Level 3 (HQ):</u> Advisory Committee on Procurement</p>
Notes:	<ol style="list-style-type: none"> 1. The procurement support unit shall participate when requested in the committee review of ex ante submissions. 2. An ex ante review is not required if: <ol style="list-style-type: none"> (a) The business unit has had a previous successful experience in the procurement of similar goods/services/works that was already subject to an ex ante review; or (b) There is sufficient specific corporate guidance and templates on the procurement of the said goods/services. 3. Irrespective of the above, the procurement authority may submit the cases for ex ante review if significant risks are perceived. 		

Annex G: Terms of References for Project Board and Project Team

Terms of reference

1. M&E specialist
2. Gender specialist
3. Environmental and social safeguards specialist
4. Project Manager
5. Technical Adviser
6. Procurement Specialist
7. Communication Specialist
8. Admin and Finance Specialist
9. Program Analyst (UNDP)
10. Drivers

TERM OF REFERENCE (ToR) FOR THE RECRUITMENT OF MONITORING AND EVALUATION SPECIALIST (PROJECT MANAGEMENT UNIT) GENERAL INFORMATION

Services/Work Description: Recruitment of a Monitoring and Evaluation specialist (Project Management Unit)

Project/Program Title: Ensuring climate resilient water supplies in the Comoros Islands

Duty Station: Moroni (Comoros)

Expected Places of Travel: In the 3 Islands of Comoros (Grande Comore, Anjouan and Moheli)

Duration: One-year renewable based on satisfactory performance for a maximum assignment of 7 years

Expected Start Date: Immediately after Concluding Contract Agreement

I. BACKGROUND / PROJECT DESCRIPTION

Background:

Comoros has received funding from the Green Climate Fund (GCF) for the project Ensuring climate resilient water supplies in the Comoros Islands. The key goal of the project is to strengthen the climate resilience of drinking and irrigation water for 15 of the most vulnerable zones in the Union of Comoros to climate change risks. The project is designed to overcome the country's water supply vulnerability to climatic extremes due to its fragile water resources and lack of human and financial resources due to its small population and island isolation.

Specifically the project focuses on: creating a paradigm shift in water governance by mainstreaming climate risk reduction into water sector legislation, institutional arrangements, planning and budgeting; understanding and adapting to the climate risks to the nation's fragile water resources using watershed protection and rehabilitation coupled with hydrological monitoring and forecasting; and the integration of climate risk reduction into

water supply scheme design, operation and management including multiple water source exploitation.

In order to achieve its objective of delivering and sustaining climate resilient water supplies the project will deliver the 3 following components:

- i) a national water planning approach which mainstreams climate resilience into its policies, plans, legislation, budgeting and institutional arrangements including both the regulators and the service providers, to ensure adequate financial and human resources are available year-on-year to sustain climate resilience (this is the objective of Output 1);
- ii) ensure adequate water resources are available during droughts and floods and actively manage the watersheds to both prevent climate induced derogation and where possible augment water resources protection (this is the objective of Output 2), including providing forecasts and warnings of water resources status to enable adaptive management; and
- iii) locate, design, build, operate and maintain water supply infrastructure to explicitly be resilient to climate change increased risks including droughts, floods, storm damage, storm surges, bushfires, power outages, and increased temperature driven water demands (this is the objective of Output 3).

It is with this background that a qualified and self-motivated specialist is being sought to fill the position of monitoring and evaluation Specialist.

II. Key Tasks

The Monitoring and Evaluation (M&E) Specialist will report to the Project Manager and will work in close collaboration with the RPs and relevant stakeholders. The main responsibility of the M&E Specialist will be to support all M&E related needs of the project. His/her specific duties would be to:

- Lead the development project M&E plan and oversee the implementation of the resource framework;
- Develop Terms of References (ToRs) for M&E tasks to be carried out for consulting firms (e.g. the design of surveys, evaluations, etc. using a combination of quantitative and qualitative methods);
- Develop and maintain an M&E database for the project (technical and financial) and contribute to the maintenance of a database of the Project;
- Set the baseline for the project as per the indicators identified in the project results framework;
- Identify information source and be responsible for sourcing data and information for specific M&E needs directly from other implementing agencies and stakeholders particularly for indicators not requiring a survey;
- Support technical work such as reviewing M&E methods, carrying out training needs, designing M&E tools and providing M&E technical assistance;
- Oversee and participate in evaluations and assessments;
- Serve as the evaluation team member of selected evaluations conducted;
- Ensure quality control of M&E outputs (e.g. surveys etc.), including by contributing substantively to the design and field testing of the monitoring methodology, review, supervise design and implementation of the survey, participatory data collection methods and protocols, data verification techniques, and other technical evaluation and analytical tasks conducted;
- Maintain a detailed knowledge of all relevant issues impacting M&E;
- Guide and provide training for project team to foster capacity building on M&E knowledge;

- Support M&E missions commissioned by the donor and UNDP;
- Review M&E system/mechanism, process and procedures of the RPs and forms and formats for project activities under its various components;
- Monitor project progress through field visit as may be required, offer feedback and keep regular communication with related field and centre level staff;
- Attend, participate and provide necessary inputs for preparation of and during project meeting, Workshops and trainings;
- Prepare and submit periodical progress reports based on M&E inputs as per the Results Framework meeting the deadline as per the requirement of project and UNDP;
- Prepare consolidate progress reports for project management to submit to the relevant stakeholders, in accordance with approved reporting formats and schedule;
- Support other relevant staff of the Project in coordinating the preparation and consolidation of annual work plans, monthly and quarterly, Project reports and other deliverables;
- Review monitoring reports, analyse them for impact evaluation and to identify the causes of potential bottlenecks in project implementation and make recommendations;
- Assist PM to manage identified risks, foresee new risks and to support project staff to mitigate them effectively;
- Track progress made on the Project's Results Framework during project implementation;
- Undertake relevant field visits to ensure achievement of the objectives of his/her assignment.
- Be responsible for all communication activities on the project

Institutional arrangement / reporting relationships

The M&E specialist will report to the Project Director and will work under the guidance of Project Manager (PM), the gender specialist of the Ministry of Energy, Agriculture, Fisheries, Environment, Land Management and Urbanism (MAFE), the project technical adviser, the UNDP CO head of climate change adaptation programme and the regional technical advisor in Addis Ababa. Required

III. Required Qualifications and Experience:

- Advanced University degree in economics, business administration, development studies, political science, public policy, international relations, or a related field.
- Seven years relevant experience in project or programme management, including monitoring and evaluation, performance assessment, reporting on results, accountability, quality assurance, policies, procedures and tools for project cycle management
- Experience in climate change and water related project is desired
- Fluency in French and English
- Good reporting and communication skills
- Prior experience in the UN System is an asset

Professional Competencies:

Core Values:

- Respect for Diversity;
- Integrity;
- Professionalism.

Core Competencies:

- Awareness and Sensitivity Regarding Gender Issues;
- Accountability;
- Creative Problem Solving;
- Effective Communication;
- Inclusive Collaboration;
- Stakeholder Engagement;
- Leading by Example.

TERM OF REFERENCE (ToR) FOR THE RECRUITMENT OF GENDER SPECIALIST (PROJECT MANAGEMENT UNIT) GENERAL INFORMATION

Services/Work Description: Recruitment of gender specialist (Project Management Unit)

Project/Program Title: Ensuring climate resilient water supplies in the Comoros Islands

Duty Station: Moroni (Comoros)

Expected Places of Travel: In the 3 Islands of Comoros (Grande Comore, Anjouan and Moheli)

Duration: One-year renewable based on satisfactory performance for a maximum assignment of 6.5 years

Expected Start Date: Immediately after Concluding Contract Agreement

I. BACKGROUND / PROJECT DESCRIPTION

Background:

Comoros has received funding from the Green Climate Fund (GCF) for the project Ensuring climate resilient water supplies in the Comoros Islands. The key goal of the project is to strengthen the climate resilience of drinking and irrigation water for 15 of the most vulnerable zones in the Union of Comoros to climate change risks. The project is designed to overcome the country's water supply vulnerability to climatic extremes due to its fragile water resources and lack of human and financial resources due to its small population and island isolation.

Specifically the project focuses on: creating a paradigm shift in water governance by mainstreaming climate risk reduction into water sector legislation, institutional arrangements, planning and budgeting; understanding and adapting to the climate risks to the nation's fragile water resources using watershed protection and rehabilitation coupled with hydrological monitoring and forecasting; and the integration of climate risk reduction into water supply scheme design, operation and management including multiple water source exploitation.

In order to achieve its objective of delivering and sustaining climate resilient water supplies the project will deliver the 3 following components:

- i) a national water planning approach which mainstreams climate resilience into its policies, plans, legislation, budgeting and institutional arrangements including both the regulators and the service providers, to ensure adequate financial and human resources are available year-on-year to sustain climate resilience (this is the objective of Output 1);
- ii) ensure adequate water resources are available during droughts and floods and actively manage the watersheds to both prevent climate induced derogation and where possible augment water resources protection (this is the objective of Output 2), including providing forecasts and warnings of water resources status to enable adaptive management; and
- iii) locate, design, build, operate and maintain water supply infrastructure to explicitly be resilient to climate change increased risks including droughts, floods, storm damage, storm surges, bushfires, power outages, and increased temperature driven water demands (this is the objective of Output 3).

It is with this background that a qualified and self-motivated gender specialist is being sought to fill the position of Gender Specialist.

II. Key Tasks

The main role of the Gender specialist is to support the implementation, the update and the monitoring of the project Gender action plan.

In this perspective, the gender specialist will be responsible specifically for the following tasks:

- Compilation, analysis and interpretation of gender issues and statistical data, thorough research and preparation of top quality analysis and reports.
- Provision of top quality analysis and substantive inputs to the project and other strategic documents.
- Production and launch of gender reports.
- Provision of policy options and high quality advisory inputs to projects to ensure these are responsive to national policies, priorities and strategic plans, and advance to corporate goals.
- Sound contributions to knowledge networks and communities of practice through identification of best practices and lessons learned.
- Assessment of the country's gender policies and their impact on poverty reduction, growth, equity, etc.
- Training and capacity building support for the project staff public institutions on gender issues.
- Effective application of Results Based Management tools, establishment of management targets and monitoring achievement of results.
- Coordination of gender theme implementation with the executing agencies.
- Effective monitoring, measuring the impact of the project and evaluation. Constant monitoring and analysis of the project environment, timely readjustment of project.
- Quarterly reports are regularly prepared on activities, outputs and outcomes.
- Preparation of donor reports.
- Organization of cost-recovery system for the services provided by the projects in close collaboration with UNDP.
- Undertaking of selected studies/research on emerging development concerns that feed into government/development partners processes
- Advocacy and promotion of awareness of the project's mandate and mission focusing on management of events and publications on gender issues.

Institutional arrangement / reporting relationships

The gender specialist will report to the Project Director and will work under the guidance of Project Manager (PM), the gender specialist of the Ministry of Energy, Agriculture, Fisheries, Environment, Land Management and Urbanism (MAFE), the project technical adviser, the UNDP CO head of climate change adaptation programme and the regional technical advisor in Addis Ababa.

III. Required Qualifications and Experience:

- Master's degree or equivalent in Social Sciences, Political Science, Development, Public Administration, Gender is required.
- Minimum 5 years relevant experience at the national or international level in design, planning, implementation, monitoring and evaluation of development projects and establishing inter-relationships among international organization and national governments, preferably in the field of gender and human rights of women;
- Experience in working in a gender related area is an asset;
- Prior experience in the UN System is an asset.
- Experience in water and climate change related project is desired.
- Fluency in French and English
- Good reporting and communication skills

Professional Competencies:

Core Values:

- Respect for Diversity;
- Integrity;
- Professionalism.

Core Competencies:

- Awareness and Sensitivity Regarding Gender Issues;
- Accountability;
- Creative Problem Solving;
- Effective Communication;
- Inclusive Collaboration;
- Stakeholder Engagement;
- Leading by Example.

TERM OF REFERENCE (ToR) FOR THE RECRUITMENT OF ENVIRONMENTAL AND SOCIAL SAFEGUARD SPECIALIST (PROJECT MANAGEMENT UNIT)

GENERAL INFORMATION

Services/Work Description: Recruitment of an environmental and social safeguard specialist (Project Management Unit)

Project/Program Title: Ensuring climate resilient water supplies in the Comoros Islands

Duty Station: Home Based with missions in Comoros

Expected Places of Travel: In the 3 Islands of Comoros (Grande Comore, Anjouan and Moheli)

Duration: one-year renewable based on satisfactory performance for a maximum assignment of 3 years

Expected Start Date: Immediately after Concluding Contract Agreement

I. BACKGROUND / PROJECT DESCRIPTION

Background

Comoros has received funding from the Green Climate Fund (GCF) for the project Ensuring climate resilient water supplies in the Comoros Islands. The key goal of the project is to strengthen the climate resilience of drinking and irrigation water for 15 of the most vulnerable zones in the Union of Comoros to climate change risks. The project is designed to overcome the country's water supply vulnerability to climatic extremes due to its fragile water resources and lack of human and financial resources due to its small population and island isolation.

Specifically the project focuses on: creating a paradigm shift in water governance by mainstreaming climate risk reduction into water sector legislation, institutional arrangements, planning and budgeting; understanding and adapting to the climate risks to the nation's fragile water resources using watershed protection and rehabilitation coupled with hydrological monitoring and forecasting; and the integration of climate risk reduction into water supply scheme design, operation and management including multiple water source exploitation.

In order to achieve its objective of delivering and sustaining climate resilient water supplies the project will deliver the 3 following components:

- i) a national water planning approach which mainstreams climate resilience into its policies, plans, legislation, budgeting and institutional arrangements including both the regulators and the service providers, to ensure adequate financial and human resources are available year-on-year to sustain climate resilience (this is the objective of Output 1);
- ii) ensure adequate water resources are available during droughts and floods and actively manage the watersheds to both prevent climate induced derogation and where possible augment water resources protection (this is the objective of Output 2), including providing forecasts and warnings of water resources status to enable adaptive management; and
- iii) locate, design, build, operate and maintain water supply infrastructure to explicitly be resilient to climate change increased risks including droughts, floods, storm damage, storm surges, bushfires, power outages, and increased temperature driven water demands (this is the objective of Output 3).

It is with this background that a qualified and self-motivated professional is sought to fill the role of environmental and social safeguard specialist

II. Key Tasks:

The Environmental and Social Safeguard Specialist will report to the Project Manager (PM) and will be responsible for the overall management of environmental and social safeguards

of the project and the implementation of the project specific social and environmental safeguards Framework of the project as per UNDP, donor and national requirements. In this perspective, she/he will be responsible for the following tasks:

- Provide overall policy and technical direction for safeguards management under the Project, as defined by the project environmental and social safeguards instruments;
- Co-ordinate closely with the Environmental and Social Officers in the RPs in planning and managing project implementation as per the safeguards instruments;
- Provide necessary technical assistance to facilitate the implementation, management and monitoring of environmental and social safeguards;
- Develop and manage complaints and grievance management guideline and system for the project;
- Build awareness among beneficiaries and project stakeholders on complaints and grievance management guidelines and systems;
- Provide training to project RPs, project partners, etc. on safeguards and grievance management as needed;
- Ensure gender and social inclusions is carried out in all project activities;
- Obtain necessary clearances from local environmental/archaeological regulatory authorities for sub-projects, where applicable;
- Manage the consultants hired to undertake environmental and social assessments, where applicable, and provide coordination support with implementation agencies and individuals;
- Review draft and final environmental and social assessments for quality and obtain necessary clearances as per the safeguards instruments;
- Ensure that recommendations of environmental and social assessments are included in all project activities;
- Develop, organize and deliver environmental and social training programs and workshops for RPs at the field level, contractors, field supervision staff and other implementing agency officials as needed, on safeguard requirements and their management;
- Prepare additional technical guidelines, if necessary, to support the safeguards instruments to strengthen the implementation of environmental and social safeguards;
- Ensure public complaints relating to sub-project implementation are addressed with corrective action and adequately documented;
- Report to the Project Director and the World Bank on the overall environmental and social performance of the project as part of Project Management Unit's periodic progress reporting;
- Maintain close cooperation with IAs to monitor the operations and maintenance during the operation of the project;
- Hold regular review meetings with RPs and visit selected project sites to monitor implementation of the safeguards instruments;
- Prepare routine monitoring reports, in collaboration with the RPs as set forth in the safeguards instruments;
- Promote community participation in the process of planning, management and monitoring of environmental/social impacts of sub-projects; provide guidelines on community participation in environmental/social monitoring to the RPs;
- Prepare terms of references for social/environmental/gender audits for all project components and obtain clearances;
- Review and comment on audit reports, take necessary actions to address audit issues raised and obtain comments from UNDP;
- Undertake relevant field visits to ensure achievement of the objectives of his/her assignment.

III. Required Qualifications and Experience:

The successful candidate will have the following academic and professional background with strong skills in undertaking SESP for GCF/GEF or other water and adaptation related projects:-

- Master's degree in a field related to international development, with specific academic background related to social and environmental sustainability
- Technical expertise in environmental and social safeguards, including environmental and social screening, impact assessment, human rights and indigenous peoples/local communities
- Demonstrated ability to communicate complex issues in a concise and clear manner
- Highly organized with strong analytical and research skills
- Experience developing and conducting training related to social and environmental screening and assessment
- Familiarity with the UN System, in particular UNDP
- At least 5 years of experience related to social and environmental standards and impact assessment in an international development context

Desirable criteria include:

- Work experience related to undertaking SESP for GCF coastal management projects, infrastructure development, poverty reduction and community engagement;

Language and other skills:

- Fluency in French and English both written and oral

Compliance with UN Core Values:

- Demonstrates integrity by modelling the UN's values and ethical standards;
- Promotes the vision, mission, and strategic goals of UNDP;
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability;
- Treats all people fairly without favoritism;
- Fulfils all obligations to gender sensitivity and zero tolerance for sexual harassment

TERM OF REFERENCE (ToR) FOR THE RECRUITMENT OF PROJECT MANAGER GENERAL INFORMATION

Services/Work Description: Recruitment of a Project Manager

Project/Program Title: Ensuring climate resilient water supplies in the Comoros Islands

Duty Station: Moroni (Comoros)

Expected Places of Travel: In the 3 Islands of Comoros (Grande Comore, Anjouan and Moheli)

Duration: One-year renewable based on satisfactory performance for a maximum assignment of 8 years

Expected Start Date: Immediately after Concluding Contract Agreement

I. BACKGROUND / PROJECT DESCRIPTION

Comoros has received funding from the Green Climate Fund (GCF) for the project Ensuring climate resilient water supplies in the Comoros Islands. The key goal of the project is to strengthen the climate resilience of drinking and irrigation water for 15 of the most vulnerable zones in the Union of Comoros to climate change risks. The project is designed to overcome the country's water supply vulnerability to climatic extremes due to its fragile water resources and lack of human and financial resources due to its small population and island isolation.

Specifically the project focuses on: creating a paradigm shift in water governance by mainstreaming climate risk reduction into water sector legislation, institutional arrangements, planning and budgeting; understanding and adapting to the climate risks to the nation's fragile water resources using watershed protection and rehabilitation coupled with hydrological monitoring and forecasting; and the integration of climate risk reduction into water supply scheme design, operation and management including multiple water source exploitation.

In order to achieve its objective of delivering and sustaining climate resilient water supplies the project will deliver the 3 following components:

- i) a national water planning approach which mainstreams climate resilience into its policies, plans, legislation, budgeting and institutional arrangements including both the regulators and the service providers, to ensure adequate financial and human resources are available year-on-year to sustain climate resilience (this is the objective of Output 1);
- ii) ensure adequate water resources are available during droughts and floods and actively manage the watersheds to both prevent climate induced derogation and where possible augment water resources protection (this is the objective of Output 2), including providing forecasts and warnings of water resources status to enable adaptive management; and
- iii) locate, design, build, operate and maintain water supply infrastructure to explicitly be resilient to climate change increased risks including droughts, floods, storm damage, storm surges, bushfires, power outages, and increased temperature driven water demands (this is the objective of Output 3).

It is with this background that a qualified and self-motivated specialist is being sought to fill the position of Project Manager.

II. Key Tasks:

The Project Manager has the authority to run the project on a day-to-day basis on behalf of the Project Steering Committee within the constraints of time, budget, quality and scope. The Project Manager is responsible for day-to-day management and decision-making for the project. The Project Manager's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost.

Ensures the direction of project activities and the achievement of project targets and results, by focusing on the following results:

- Plan and develop project Annual Work Plans (AWPs) and establish Annual Targets in accordance with the Project Document and in close coordination with project stakeholders and the PMU staff,
- Ensure that AWP activities suggested are in line with the overall direction set by the Project Document and lead to the timely achievements of project targets and results;

- Oversee and coordinate development and formulation of detailed implementation plans, procurement and human resources, communication and risk management plans for the Project;
- Ensure implementation of activities as per AWP and agreed deadlines as well as according to detailed implementation, procurement and HR plans;
- Identify bottlenecks and develop solutions;
- Assess project impact and oversee the appropriateness and accuracy of methods used to verify progress and results;
- Establish adequate monitoring procedures and systems throughout project activities in consultation and collaboration with Ministry, UNDP and consultants;
- Ensure that adequate systems are in place to gather data and information for project monitoring and that systematic monitoring of project progress against targets is undertaken, including regular field trips for monitoring purposes;
- Develop innovative improvements to enhance performance of the project;
- Manage the accurate and timely high-quality results reporting on the progress of the project and achievement of annual targets to the Project Board and GCF. Ensure that GCF and UNDP reports are prepared according to UNDP's SOPs, quality standards and in line with the contractual obligations to GCF;
- Ensure that all internal and external reports are submitted by deadlines;
- Coordinate and prepare ad hoc thematic and substantive reports/analysis/briefs.
- Ensure that project communications activities are being implemented;
- Organise and participate in project level coordination meetings and/or technical working groups as per project document and AWP.
- Implement project governance arrangements;
- Ensure organisation of Project Board meetings and ensure timely preparation of agenda, background materials to agenda items and minutes;

1) Ensures day-to-day management of the project, by focusing on the following results:

- Ensure compliance of all actions and activities with organizational rules, regulations, policies, strategies and internal control mechanisms;
- Mobilize personnel, goods and services, training and grants schemes to initiate activities, including drafting and reviewing terms of references and work specifications and overseeing all contractors' work;
- Oversee effective provision of services to project stakeholders as required;
- Oversee the appropriate use of project funds as well as the consistent application of UNDP rules and regulations. Manage requests for the provision of financial resources by UNDP, through advance of funds, direct payments, or reimbursement using the FACE (Fund Authorization and Certificate of Expenditures);
- Monitor budget implementation and accounting to ensure accuracy and reliability of project expenditure;
- Coordinate preparation of financial reports to UNDP, as required;
- Supervise and manage project personnel and consultants. Develop ToRs for consultancies and other short-term jobs;
- Establish performance objectives and standards and ensure timely and appropriate feedback, guidance and support to ensure optimum performance;
- Undertake performance evaluation of project management staff;
- Manage and monitor project risks. In collaboration with the technical project staff, UNDP and MoA identify new risks and update risk frameworks for consideration of the Project Steering Committee for consideration and decision on possible actions if required;
- Update the status of these risks by maintaining the project risks log;
- Ensure appropriate management of project assets, attendance records, filing system.
- Implement audit recommendations for the project;

- Provide inputs to audit management responses;
 - Initiate operational closure of the project.
- 2) **Ensures and coordinates provision of high quality technical advice and building of partnerships, focusing on achievement of the following results:**
- Coordinate the advisory activities of the project technical staff including the. Ensure that technical outputs are provided according to plans and up to highest technical standards. Review and clear technical outputs for quality;
 - Establish, maintain and facilitate strategic dialogue between UNDP Staff, project staff and Government officials at central and local levels, in project's area of work;
 - Provide technical advice, draft papers/briefs/proposals in project's technical focus;
- 3) **Facilitates knowledge building and management, focusing on achievement of the following results:**
- Ensure that the Project systematically builds capacities of stakeholders through introduction of innovation and best practices, access to knowledge and expertise and promote their application to project implementation;
 - Promote teamwork, information sharing and collaboration within the Project Team and between the Project Team and the Government partners and UNDP;
 - Promote skills development of project staff through coaching and mentoring;
 - Ensure capturing and disseminations of lessons learnt during project implementation;
 - Facilitate the Project's representation and/or participation in international knowledge networks to draw on and share best practice and lessons learned.

III. Required Qualifications and Experience:

- Master's degree or equivalent in Climate Change, water resources management
- Minimum 10 years relevant experience at the national or international level in design, planning, and implementation, monitoring and evaluation of development projects and establishing inter-relationships among international organization and national governments
- Experience in working on climate change projects;
- Experience in setting priorities, budgets, work plans, participating in programme development and programme writing;
- Demonstrated ability to communicate complex issues in a concise and clear manner
- Highly organized with strong analytical, research and writing skills
- Prior experience in the UN System is an asset.
- Experience in water resources management or water supply related project is desired.
- Fluency in French and English
- Good project writing capacity and

Professional Competencies:

Core Values:

- Respect for Diversity;
- Integrity;

- Professionalism.

Core Competencies:

- Awareness and Sensitivity Regarding Gender Issues;
- Accountability;
- Creative Problem Solving;
- Effective Communication;
- Inclusive Collaboration;
- Stakeholder Engagement;
- Leading by Example.

**TERM OF REFERENCE (ToR)
FOR THE RECRUITMENT OF PROJECT TECHNICAL ADVISER
GENERAL INFORMATION**

Services/Work Description: Recruitment of a project technical adviser

Project/Program Title:

Duty Station: Home based with missions in Comoros

Expected Places of Travel: In the 3 Islands of Comoros (Grande Comore, Anjouan and Moheli)

Duration: 2 years on part-time basis

Expected Start Date: Immediately after Concluding Contract Agreement

I. BACKGROUND / PROJECT DESCRIPTION

Comoros has received funding from the Green Climate Fund (GCF) for the project Ensuring climate resilient water supplies in the Comoros Islands. The key goal of the project is to strengthen the climate resilience of drinking and irrigation water for 15 of the most vulnerable zones in the Union of Comoros to climate change risks. The project is designed to overcome the country's water supply vulnerability to climatic extremes due to its fragile water resources and lack of human and financial resources due to its small population and island isolation.

Specifically the project focuses on: creating a paradigm shift in water governance by mainstreaming climate risk reduction into water sector legislation, institutional arrangements, planning and budgeting; understanding and adapting to the climate risks to the nation's fragile water resources using watershed protection and rehabilitation coupled with hydrological monitoring and forecasting; and the integration of climate risk reduction into water supply scheme design, operation and management including multiple water source exploitation.

In order to achieve its objective of delivering and sustaining climate resilient water supplies the project will deliver the 3 following components:

- i) a national water planning approach which mainstreams climate resilience into its policies, plans, legislation, budgeting and institutional arrangements including both the regulators and the service providers, to ensure adequate financial and human resources are available year-on-year to sustain climate resilience (this is the objective of Output 1);
- ii) ensure adequate water resources are available during droughts and floods and actively manage the watersheds to both prevent climate induced derogation and where possible augment water resources protection (this is the objective of Output 2), including providing forecasts and warnings of water resources status to enable adaptive management; and
- iii) locate, design, build, operate and maintain water supply infrastructure to explicitly be resilient to climate change increased risks including droughts, floods, storm damage, storm surges, bushfires, power outages, and increased temperature driven water demands (this is the objective of Output 3).

It is with this background that a qualified and self-motivated expert is being sought to fill the position of project technical specialist

II. Key Tasks

The technical adviser is expected to:

- Provide technical expertise and strategic guidance to all project components, assuming quality control of interventions, and support the Project Manager in the coordination of the implementation of planned activities under the GCF project as stipulated in the project document;
- Provide a suite of technical advisory, planning & management and coordination services to the project where key work areas will include as outlined below:
 - Technical and Management Services;
 - Project Advisory and Guidance;
 - Project Monitoring and Implementation Support;
 - Training.

Technical Services:

Safeguards and Environmental and Social Management Plan:

- The CTA will support and provide guidance to the implementation of the existing Environmental and Social Management Plan - ESMP of the project and observe a full compliance during the entire project duration by the core project team, group of national and international consultants assigned to the project and all sub-contractors;
- The CTA, together with the Project Manager, will support the project team with the implementation and monitoring of all risk mitigation measures and take necessary actions to mitigate the risks;

Water Sector Baseline Study:

- The CTA will support and provide technical input into the development of a baseline study that involves a diagnosis of the water and sewerage sector, and an assessment of the technical, financial, operational and management situation with particular focus on the target outer islands in Comoros and establish the legal, technical, institutional and financial barriers to adaptive water management and effective ways to address them;
- As part of the baseline assessment, all existing water sector studies and identify critical gaps in information and knowledge will be compiled, the existence of any standards or requirements for policy direction and practices in relation to efficient and effective provision for water and sewerage services will be assessed under the guidance of the CTA, as relevant within the scope of the project
- The CTA will support, guide and provide technical input into a comprehensive overview of a good international practice of water production and management systems of relevance for small island

states faced with geographical challenges of isolation and dispersed nature of islands and populations;

- The CTA will provide support and technical input to the analysis of the status of existing sewerage and solid waste management in relation to groundwater sources, and recommend the policy direction and practices (e.g. land use, construction, quality monitoring, pollution prevention, controlled recharge and extraction) in relation to safe groundwater sources.

Investment Plan and Implementation:

- The CTA will provide support and technical input to the design of phased investment work plans, related detailed procurement plans, tender documents and TORs that include feasibility study, design, implementation/construction, stakeholder involvement, quality control and risk management for the specific tasks outlined below:
 - Rainwater Harvesting methods and technologies, with attention to management arrangements and SOPs both for the community and household water collection tanks, including social and environmental safeguards. This will also include detailed sustainable O&M plan with clear roles and responsibilities, spare parts, services and associated costs for at least next 10 years;
 - Groundwater Management, with particular attention to natural replenishment, controlled recharge and extraction and systematic sample tests and quality monitoring protocols; and with emphasis on social and environmental safeguards. This will also include detailed O&M plan with clear roles and responsibilities, spare parts, services and associated costs for at least next 10 years;
 - Water Desalination, with particular attention to adoptable RO technology that is energy efficient and sourced by on and/or off grid renewable energy and integrates other sources of water (e.g. rainwater, groundwater) into its unified system of production and distribution. And with emphasis on social and environmental safeguards. This will also include detailed O&M plan with clear roles and responsibilities, spare parts, services and associated costs for at least next 10 years;
 - Regional Distribution/Dry Season Water Shipments, with particular focus on decentralized operations, creation of atoll or regional centres of water production and distribution, associated management system, infrastructure, legal and logistical mechanisms;
 - Identifying, supporting and providing technical input into the required support to the Comoros Meteorological Services to establish Early Warning for Water Emergency Alerts, with focus on provision of real time data through the MMS database system, data analysis and early alerts to the communities, councils, water utilities and other parties for early action and water stress risk reduction. This will also include establishing SOPs, detailed O&M plan with clear roles and responsibilities, spare parts, services and associated costs for at least next 10 years.

Climate Change, Economic and Financial Studies:

- CTA will provide support and technical input towards the design of detailed work plans, related procurement plans, tender documents and TORs for the specific tasks outlined below:
 - In-depth studies of current and projected water demand in the target outer islands, considering a range of climate change scenarios in relation to rainfall amounts and distribution. Assist to design a methodological model for water resource planning and development for the use at Island level with an aim to contribute to island level self-sufficiency and resilience. This may include (if applicable) a customized water resources planning and management software. Self-sufficiency and resilience strategies must consider the central role of the communities and include development of island level water safety plans, atoll-based backup water supply plans, and island level water resource planning and management with the engagement of local councils and affiliated community groups (e.g. women's committee) and water utilities;
 - A study to recommend a pricing policy for water supply services. This would be done in conjunction with and in justification of the assessment of projected demand. In particular, the Coordinator would consider how these policies affect the poorer sections of the community currently not receiving service and recommend measures to enhance the quality and quantity of service to them. The recommendations will include procedures and methodologies for willingness to pay surveys;
 - A gender study and outline gender strategy for the project targeting the needs of female beneficiaries in accessing safe and reliable water to meet their household needs;
 - Review the current tariff level and tariff structure and recommend a basic tariff structure; recommend an implementation schedule for cost recovery strategy; recommend a subsidy mechanism (if applicable); level and financing mechanism. This will include the detailed

guidelines for setting the tariffs (progressive and differentiated tariff setting may be considered) to be approved by the MEE and adopted by the water utilities;

- A long term financial model for the water supply system. In particular, this would include a revenue projection from the proposed investment and the issues of financial sustainability for the way forward.

Capacity Development and Training:

- The CTA will provide support and technical input into developing detailed work plans, related procurement plans, tender documents and TORs for the specific tasks outlined below:
 - A detailed assessment of water legislation that establishes the key roles and mandates of the water sector as well as coordination mechanisms. This will identify the institutional gaps and functional overlaps that preclude effective and efficient governance of the water sector. Provide the recommendations for clear delineation of roles and responsibilities, avoidance of conflict of interest between the policy setting and oversight functions, building an accountability framework into the water sector institutions and effective sector financing mechanisms;
- The CTA will support and provide technical input to the development, design and delivery of targeted training programmes in water planning and management tools and methods; integrated water resource management methods; water budgeting methods; institutional quality management systems; contract management for the utilities and relevant Ministerial departments;
- The CTA will review existing, or develop new where appropriate, guidelines, checklists, standards and procedures for bidding process, evaluations, designing, water supply systems and works implementation, monitoring, supervision, inspection evaluation, commissioning testing and handover. Provide hands on training to relevant staff
- The CTA will review existing technical specifications of water supply systems, identify critical gaps and provide recommendations for improvements, provide hands on training to staff in reviewing of project technical and financial proposals, preliminary designs and detailed designs

Management Services:

- The CTA will provide hands-on support to the Project Manager, other project staff and Ministry of Environment and Energy in the areas of project management and planning, management of site activities, regular impact assessments and monitoring of the project where required;
- The CTA will provide support to the Project Manager and provide technical input to the preparation and revision of the Annual Work Plans, budgets and Procurement Plans;
- The CTA will guide the project M&E Specialist to undertake monitoring the technical quality of project M&E systems (including AWP, indicators and targets) where required; this includes developing a detailed M&E plans throughout the project implementation; guiding and assisting the project M&E Specialist to adjust the project Results Framework targets and indicators, if and as the baseline assessment findings would require;
- The CTA will assist the Project Manager in managing evaluation processes, such as midterm and final evaluations as well as auditing and spot checks where required;
- The CTA will assist the Project Manager in the preparation of the Combined Project Implementation Review/Annual Project Report, inception report, technical reports, monthly/quarterly/biannual reports, quarterly financial reports for submission to UNDP, Project Board and the GCF Secretariat where required;
- The CTA will assist the Project manager throughout the project management cycle and provide hands on guidance and mentorship to a broader project management team to develop core management skills and capacities where required.

Generic Outputs:

Outputs shall be further specified under each contract in line with the given tasks:

- Provision of guidance to the implementation of the ESMP.
- Provision of technical inputs into the development of a baseline study of the water and sewerage sector.

- Provision of technical inputs into a comprehensive overview of a good international practice of water production and management systems
- Provision of technical input to the analysis of the status of existing sewerage and solid waste management in relation to groundwater sources
- Provision of recommendations on the policy direction and practices (e.g. land use, construction, quality monitoring, pollution prevention, controlled recharge and extraction) in relation to safe groundwater sources.
- Provision of technical input to the design of phased investment work plans, related detailed procurement plans, tender documents and TORs that include feasibility study, design,
- implementation/construction, stakeholder involvement, quality control and risk management related to the investment plan and implementation.
- Provision of technical input towards the design of detailed work plans, related procurement plans, tender documents and TORs related to the Climate Change, Economic and financial studies
- Provision of technical input into developing detailed work plans, related procurement plans, tender documents and TORs related to capacity development and training
- Provision of hands-on support to the Project Manager, other project staff and Ministry of Environment and Energy in the areas of project management and planning, management of site activities, regular impact assessments and monitoring of the project where required;
- Provision of technical input to the preparation and revision of the Annual Work Plans, budgets and Procurement Plans
- Provision of guidance to the project M&E Specialist to undertake monitoring the technical quality of project M&E systems (including AWP, indicators and targets) where required;

Qualifications and Experience:

- At least a Master's degree or equivalent in engineering related to water resource management, or managing water sector related projects and investments is required;
- At least 10 years of experience in managing water sector projects, project management and supervision is required;
- 5 years of experience of the technical leadership in the area of integrated water resource management;
- Experience of the development of water sector projects, especially in small islands is preferred;
- In-depth knowledge and experience of national and/or international best practice in all aspects of water resource management, especially effective water production and distribution systems, including the engineering and financial aspects of the sector;
- Good understanding of developments in national and/ or international water management sector. S/He should have good knowledge in latest trends and approaches in adaptive and integrated water resource management is preferred;
- Hands-on experience in managing water sector related projects and investments, with particular familiarity with functions, quality management and accounting systems at water utilities is preferred;
- Proven knowledge and experience of applying integrated water resource management principle is preferred;

Professional Competencies:

Core Values:

- Respect for Diversity;
- Integrity;
- Professionalism.

Core Competencies:

- Awareness and Sensitivity Regarding Gender Issues;
- Accountability;
- Creative Problem Solving;
- Effective Communication;
- Inclusive Collaboration;

- Stakeholder Engagement;
- Leading by Example.

TERM OF REFERENCE (ToR) FOR THE RECRUITMENT OF PROCUREMENT EXPERT GENERAL INFORMATION

Services/Work Description: Recruitment of a procurement expert

Project/Program Title:

Duty Station: Moroni (Comoros)

Expected Places of Travel: In the 3 Islands of Comoros (Grande Comore, Anjouan and Moheli)

Duration: one-year renewable based on satisfactory performance for a maximum assignment of 4.5 years

Expected Start Date: Immediately after Concluding Contract Agreement

I. BACKGROUND / PROJECT DESCRIPTION

Comoros has received funding from the Green Climate Fund (GCF) for the project Ensuring climate resilient water supplies in the Comoros Islands. The key goal of the project is to strengthen the climate resilience of drinking and irrigation water for 15 of the most vulnerable zones in the Union of Comoros to climate change risks. The project is designed to overcome the country's water supply vulnerability to climatic extremes due to its fragile water resources and lack of human and financial resources due to its small population and island isolation.

Specifically the project focuses on: creating a paradigm shift in water governance by mainstreaming climate risk reduction into water sector legislation, institutional arrangements, planning and budgeting; understanding and adapting to the climate risks to the nation's fragile water resources using watershed protection and rehabilitation coupled with hydrological monitoring and forecasting; and the integration of climate risk reduction into water supply scheme design, operation and management including multiple water source exploitation.

In order to achieve its objective of delivering and sustaining climate resilient water supplies the project will deliver the 3 following components:

- i) a national water planning approach which mainstreams climate resilience into its policies, plans, legislation, budgeting and institutional arrangements including both the regulators and the service providers, to ensure adequate financial and human resources are available year-on-year to sustain climate resilience (this is the objective of Output 1);
- ii) ensure adequate water resources are available during droughts and floods and actively manage the watersheds to both prevent climate induced derogation and where possible

augment water resources protection (this is the objective of Output 2), including providing forecasts and warnings of water resources status to enable adaptive management; and

iii) locate, design, build, operate and maintain water supply infrastructure to explicitly be resilient to climate change increased risks including droughts, floods, storm damage, storm surges, bushfires, power outages, and increased temperature driven water demands (this is the objective of Output 3).

It is with this background that a qualified and self-motivated specialist is being sought to fill the position of Project Manager.

II. Key Tasks

The Procurement Analyst will report to the UNDP Country Office Chief of operation and will be responsible for the overall management of procurement under the project. He/she will support the procurement activities being undertaken for the projects administered by the PMU and RPs, with the responsibility for ensuring compliance with UNDP and Government of Comoros guidelines on procurement and selection of consultants/contractors and the requirements of the project. The Procurement Analyst will liaise closely with the procurement department of UNDP in delivering his/her tasks.

The Procurement Analyst will be directly responsible for the following tasks:

- The Procurement Analyst will, provide guidance to the Project Manager on all procurement matters, progress and constraints with the implementation of the procurement plan;
- Guide assigned sector staff of the project on procurement and related issues;
- Work in coordination with the technical specialists and staff in the project team and advise them on procurement issues;
- Be responsible for the development of detailed procurement plans for activities identified under the project by the Ministry
- Prepare bidding documents and draft contracts for goods, works and non-consultant service contracts following UNDP and Government of Comoros procurement procedures.
- Prepare requests for EOI, bidding documents/ request for proposals and draft contracts for goods, works, consultants and non-consultant service contracts in accordance with the schedule in the procurement plan;
- Provide guidance on consultant short-listing, and bid and proposal evaluations;
- Review and provide guidance on the preparation of the Bidding Documents, Request for Proposal, Invitations to Bid, contracts;
- Ensure timely submission of all relevant documents to UNDP when UNDP procurement process is followed
- Specifically, review and revise, if necessary, the contracting procedures and documents for the localized community level procurement of works;
- Provide training for Coordinators, Technical Evaluation Committees and Ministry in the preparation of Terms of References (TORs), Invitation for Expression of Interests (Eols) and consultant short-listing; preparation of RFP and proposal evaluations and draft contracts for consultants and non-consultant service; Preparation of specifications and bidding documents and evaluation;
- Establish and maintain close links with the relevant institutes involved in the Project and ensure their compliance with all relevant requirements and the adherence to Government and UNDP procedures in implementing their work plans;
- Conduct general reviews of procurement performance and submission of reports;
- Any other duties assigned by the Project Manager

Required Qualifications and Experience:

- Bachelor's degree or equivalent in Finance, Accounting, Administration or equivalent
- Minimum 5 years relevant experience at the national or international level in project procurements
- Experience in working on UNDP projects procurement
- Experience in procurement of water infrastructures projects
- Experience in working on water and climate change projects is an asset
- Experience in setting priorities, budgets, work plans;
- Demonstrated ability to communicate complex issues in a concise and clear manner
- Highly organized with strong analytical, research and writing skills
- Prior experience in the UN System is an asset.
- Fluency in French and English

Professional Competencies:

Core Values:

- Respect for Diversity;
- Integrity;
- Professionalism.

Core Competencies:

- Awareness and Sensitivity Regarding Gender Issues;
- Accountability;
- Creative Problem Solving;
- Effective Communication;
- Inclusive Collaboration;
- Stakeholder Engagement;
- Leading by Example.

TERM OF REFERENCE (ToR) FOR THE RECRUITMENT OF PROJECT COMMUNICATION SPECIALIST GENERAL INFORMATION

Services/Work Description: Recruitment of a project communication specialist

Project/Program Title:

Duty Station: Moroni (Comoros)

Expected Places of Travel: In the 3 Islands of Comoros (Grande Comore, Anjouan and Moheli)

Duration: one-year renewable based on satisfactory performance for a maximum assignment of 8 years

Expected Start Date: Immediately after Concluding Contract Agreement

I. BACKGROUND / PROJECT DESCRIPTION

Comoros has received funding from the Green Climate Fund (GCF) for the project Ensuring climate resilient water supplies in the Comoros Islands. The key goal of the project is to strengthen the climate resilience of drinking and irrigation water for 15 of the most vulnerable zones in the Union of Comoros to climate change risks. The project is designed to overcome the country's water supply vulnerability to climatic extremes due to its fragile water resources and lack of human and financial resources due to its small population and island isolation.

Specifically the project focuses on: creating a paradigm shift in water governance by mainstreaming climate risk reduction into water sector legislation, institutional arrangements, planning and budgeting; understanding and adapting to the climate risks to the nation's fragile water resources using watershed protection and rehabilitation coupled with hydrological monitoring and forecasting; and the integration of climate risk reduction into water supply scheme design, operation and management including multiple water source exploitation.

In order to achieve its objective of delivering and sustaining climate resilient water supplies the project will deliver the 3 following components:

- i) a national water planning approach which mainstreams climate resilience into its policies, plans, legislation, budgeting and institutional arrangements including both the regulators and the service providers, to ensure adequate financial and human resources are available year-on-year to sustain climate resilience (this is the objective of Output 1);
- ii) ensure adequate water resources are available during droughts and floods and actively manage the watersheds to both prevent climate induced derogation and where possible augment water resources protection (this is the objective of Output 2), including providing forecasts and warnings of water resources status to enable adaptive management; and
- iii) locate, design, build, operate and maintain water supply infrastructure to explicitly be resilient to climate change increased risks including droughts, floods, storm damage, storm surges, bushfires, power outages, and increased temperature driven water demands (this is the objective of Output 3).

It is with this background that a qualified and self-motivated expert is being sought to fill the position of Project communication specialist.

II. Key Tasks

The Communications Specialist will report to the Project Manager (PM) and will be responsible for all communication related activities under the project. The Communication Specialist is expected to provide the initial thinking, advice, and inputs to develop a Communication Strategy and Plan and implement the identified activities. As an integral part

of developing a communication strategy, the consultant shall pay special emphasis in carrying out a stakeholder mapping exercise and target audience identification in order to develop key messaging to the diverse audiences.

The Communication Specialist will be directly responsible for the following tasks:

- Undertake a stakeholder mapping exercise, identify communication needs, develop and deliver messages and record feedback;
- Set up a communication management team in the Project consisting of the Project Director and senior representatives of teams including environmental and social specialists/officers of the PMU, etc.;
- Draft and/or obtain services of external experts in preparation and dissemination of brochures, pamphlets, videos, commercials, hoardings, etc.;
- Manage identification and implementation of strategic communication plans;
- Lead media relations - including regular information flow, organizing media events and preparing media products such as press releases, op-eds, etc.;
- Manage the hiring and delivery of a professional website creation and content management firm and be responsible for overall quality and updating of project website;
- Engage in social media for project information dissemination;
- Engage with civil society organizations - proactive information flow, hold transparent and timely consultations, and gather and report on feedback
- Support the relevant agencies/departments to undertake citizen engagement activities as identified in the Project Appraisal Document and Project Operations Manual
- Train Communications staff of XX in modern communication methodologies;
- Organize training programmes and awareness building sessions for national and provincial media;
- Assist the project teams to develop all communication materials including presentations for public awareness and training programmes;
- Liaise closely with the Communications Team of UNDP for guidance and directions;
- Ensure timely submission of required communication and knowledge products including case studies and lessons learnt, reports, etc. to the Communication Specialist of UNDP

Required Qualifications and Experience:

- Master's degree or equivalent in communication related fields
- Minimum 5 years relevant experience at the national or international level in project communication
- Experience in working on climate change and /or water management projects;
- Demonstrated ability to communicate complex issues in a concise and clear manner
- Highly organized with strong analytical, research and writing skills
- Prior experience in the UN System is an asset.
- Fluency in French and English

Professional Competencies:

Core Values:

- Respect for Diversity;
- Integrity;

- Professionalism.

Core Competencies:

- Awareness and Sensitivity Regarding Gender Issues;
- Accountability;
- Creative Problem Solving;
- Effective Communication;
- Inclusive Collaboration;
- Stakeholder Engagement;
- Leading by Example.

**TERM OF REFERENCE (ToR)
FOR THE RECRUITMENT OF PROJECT ADMIN/FINANCE ANALYST
GENERAL INFORMATION**

Services/Work Description: Recruitment of a Project Admin/Finance Analyst

Project/Program Title:

Duty Station: Moroni (Comoros)

Expected Places of Travel: In the 3 Islands of Comoros (Grande Comore, Anjouan and Moheli)

Duration: one-year renewable based on satisfactory performance for a maximum assignment of 8 years

Expected Start Date: Immediately after Concluding Contract Agreement

I. BACKGROUND / PROJECT DESCRIPTION

Comoros has received funding from the Green Climate Fund (GCF) for the project Ensuring climate resilient water supplies in the Comoros Islands. The key goal of the project is to strengthen the climate resilience of drinking and irrigation water for 15 of the most vulnerable zones in the Union of Comoros to climate change risks. The project is designed to overcome the country's water supply vulnerability to climatic extremes due to its fragile water resources and lack of human and financial resources due to its small population and island isolation.

Specifically the project focuses on: creating a paradigm shift in water governance by mainstreaming climate risk reduction into water sector legislation, institutional arrangements, planning and budgeting; understanding and adapting to the climate risks to the nation's fragile water resources using watershed protection and rehabilitation coupled with hydrological monitoring and forecasting; and the integration of climate risk reduction into water supply scheme design, operation and management including multiple water source exploitation.

In order to achieve its objective of delivering and sustaining climate resilient water supplies the project will deliver the 3 following components:

- i) a national water planning approach which mainstreams climate resilience into its policies, plans, legislation, budgeting and institutional arrangements including both the regulators and the service providers, to ensure adequate financial and human resources are available year-on-year to sustain climate resilience (this is the objective of Output 1);
- ii) ensure adequate water resources are available during droughts and floods and actively manage the watersheds to both prevent climate induced derogation and where possible augment water resources protection (this is the objective of Output 2), including providing forecasts and warnings of water resources status to enable adaptive management; and
- iii) locate, design, build, operate and maintain water supply infrastructure to explicitly be resilient to climate change increased risks including droughts, floods, storm damage, storm surges, bushfires, power outages, and increased temperature driven water demands (this is the objective of Output 3).

It is with this background that a qualified and self-motivated specialist is being sought to fill the position of Project Manager.

II. Key Tasks

The Admin/Finance Analyst will report to the Project Manager and will be responsible for supporting financial management of the respective areas of the project assigned to him/her. This will support in establishing and maintaining financial management systems, including accounting systems, internal control, planning, budgeting, financial reporting systems and auditing arrangements. He/she will:

- Be responsible for the operation of the project financial management system under the guidance of the Project Manager;
- Ensure sound accounting practices and systems to manage resources available to the project;
- Undertake annual budget estimates and disbursement plans for the Project;
- Ensure accountability and promote the efficient use of financial resources allocated for the Project based on Government and UNDP procedures;
- Prepare all the payment vouchers, maintain records, maintain records of assets and prepare all the reports under the supervision and guidance of the Project Manager;
- Ensure that procedures are in place to provide accurate, complete and timely financial information for managing and monitoring project activities;
- Support the Project Manager in managing the internal and external Audit Processes, facilitate submission of financial statements and audit schedules of the regions to auditors on time, obtaining audit reports of the agencies on time and submit the consolidated annual external audit reports as per the UNDP financial guidelines.
- Liaise with the relevant authorities to obtain information on audit observations and corrective measures and prepare a consolidated response to the UNDP on project audit qualifications/exceptions.
- Support monitoring of financial aspect of procurement implementation as required;
- Assist the management of the overall disbursement process and the preparation of required reports;
- Establish and maintain close links with the relevant institutes involved in the Project and ensure their compliance with all relevant requirements and the adherence to Government and UNDP procedures in implementing their work plans;

- Any other duties assigned by the Project Manager.

Required Qualifications and Experience:

- Bachelor's degree or equivalent in Finance, Accounting, Administration or equivalent
- Minimum 5 years relevant experience at the national or international level in project finance, accounting or administration
- Experience in working on climate change projects;
- Experience in setting priorities, budgets, work plans,;
- Demonstrated ability to communicate complex issues in a concise and clear manner
- Highly organized with strong analytical, research and writing skills
- Prior experience in the UN System is an asset.
- Fluency in French and English

Professional Competencies:

Core Values:

- Respect for Diversity;
- Integrity;
- Professionalism.

Core Competencies:

- Awareness and Sensitivity Regarding Gender Issues;
- Accountability;
- Creative Problem Solving;
- Effective Communication;
- Inclusive Collaboration;
- Stakeholder Engagement;
- Leading by Example.

TERM OF REFERENCE (ToR) FOR THE RECRUITMENT OF PROGRAM ANALYST (ICS.10) GENERAL INFORMATION

Services/Work Description: Recruitment of a Program Analyst (ICS 10)

Project/Program Title:

Duty Station: Comoros

Expected Places of Travel: In the 3 Islands of Comoros (Grande Comore, Anjouan and Moheli)

Duration: 2 years on part-time basis

Expected Start Date: Immediately after Concluding Contract Agreement

I. BACKGROUND / PROJECT DESCRIPTION

Comoros has received funding from the Green Climate Fund (GCF) for the project Ensuring climate resilient water supplies in the Comoros Islands. The key goal of the project is to strengthen the climate resilience of drinking and irrigation water for 15 of the most vulnerable zones in the Union of Comoros to climate change risks. The project is designed to overcome the country's water supply vulnerability to climatic extremes due to its fragile water resources and lack of human and financial resources due to its small population and island isolation.

Specifically the project focuses on: creating a paradigm shift in water governance by mainstreaming climate risk reduction into water sector legislation, institutional arrangements, planning and budgeting; understanding and adapting to the climate risks to the nation's fragile water resources using watershed protection and rehabilitation coupled with hydrological monitoring and forecasting; and the integration of climate risk reduction into water supply scheme design, operation and management including multiple water source exploitation.

In order to achieve its objective of delivering and sustaining climate resilient water supplies the project will deliver the 3 following components:

- i) a national water planning approach which mainstreams climate resilience into its policies, plans, legislation, budgeting and institutional arrangements including both the regulators and the service providers, to ensure adequate financial and human resources are available year-on-year to sustain climate resilience (this is the objective of Output 1);
- ii) ensure adequate water resources are available during droughts and floods and actively manage the watersheds to both prevent climate induced derogation and where possible augment water resources protection (this is the objective of Output 2), including providing forecasts and warnings of water resources status to enable adaptive management; and
- iii) locate, design, build, operate and maintain water supply infrastructure to explicitly be resilient to climate change increased risks including droughts, floods, storm damage, storm surges, bushfires, power outages, and increased temperature driven water demands (this is the objective of Output 3).

It is with this background that a qualified and self-motivated expert is being sought to fill the position of project technical specialist

II. Key Tasks

Support implementation of project activities and the achievement of project targets and results:

- Support and provide input in planning and development project Annual Work Plans (AWPs) and in establishment of annual targets in accordance with the Project Document

and in close coordination with the Government of Comoros and other members of the Project Management Unit;

- Support with organizing Project Board meetings twice a year, especially through the timely preparation of agenda, background materials and minutes for the Board Meeting;
- Assist Team in identifying bottlenecks in project implementation, keep the Government and UNDP abreast of the issues and develop solutions;
- Support in establishment of monitoring procedures and systems throughout project activities in close collaboration with the CO Team;
- Support for gender equality within the project especially to address structural gender inequalities and help ensure, in depth gender analyses is carried out and include explicit measures/outputs to address needs of women and men
- Contribute to put in place mechanisms for monitoring gender mainstreaming in the project and make them operational

Support in ensuring day-to-day management of the project, by focusing on the following results:

- Thorough analysis and research of the political, social and economic situation in the country and preparation of substantive inputs to UNDAF, and other documents.
- Support & provide inputs with carrying out the following elements of project management: Annual work planning, Annual budgeting, Procurement of goods and services, budget and expenditure monitor and analysis, contractual management, Quarterly and annual progress reporting, Quarterly operational reporting
- Provide support and input in drafting and reviewing of terms of references and work specifications for all contractors' work;
- Support in preparation of financial reports to UNDP, as required;
- Support in carrying out risk assessments for the project and implementing risk mitigation measures;
- Support with coordination and preparation of ad hoc thematic and substantive reports/analysis/briefs;
- Support with Implementation of project communications activities in close collaboration with the Communications Specialist and UNDP;
- Support in operational closure of the project.

Contribute towards building of partnerships:

- Under the leadership of the NPM, support in building partnerships with donors, technical agencies and other development partners based inside & outside of Comoros;
- Provide inputs to UN coordination platforms and participate in meetings, as requested.

Provide input and support for communication required for the Government of Comoros, local communities about progress, future plans and issues of the Project

- Provide input required for maintaining communications with the Government and local communities about progress, future plans and issues of the Project;
- Support with organizing formal or informal briefing sessions with the Government, as needed, to inform them of any minor changes in the implementation plan, needs for adaptive management, and emerging risks;
- Assist the NPM in preparation of any ad hoc communication materials for the Government or other national partners,

Facilitates knowledge building and management, focusing on achievement of the following results:

- Support in capturing and disseminations of lessons learnt during project implementation and coordinate with the Suva-based team for wider dissemination;
- Support in Project's representation and/or participation in international knowledge networks to draw on and share best practice and lessons learned

Qualifications and Experience:

- At least a Master's degree or equivalent in engineering, development studies, environmental/natural resources, management, administration or equivalent;
- Up to 5 years of experience in project development and management, with focus on planning, monitoring, reporting, and stakeholder and team coordination in international development organization; Experience in working at the country level with a UN or International Organisation.
- Experience in setting priorities, budgets, work plans, participating in programme development and programme writing;
- Demonstrated ability to communicate complex issues in a concise and clear manner
- Highly organized with strong analytical, research and writing skills
- Good computer literacy – MS office applications, web-based management information systems
- Proficiency in spoken and written French and Shikomori is essential

Professional Competencies:

Core Values:

- Respect for Diversity;
- Integrity;
- Professionalism.

Core Competencies:

- Awareness and Sensitivity Regarding Gender Issues;
- Accountability;
- Creative Problem Solving;
- Effective Communication;
- Inclusive Collaboration;
- Stakeholder Engagement;
- Leading by Example.

TERM OF REFERENCE (ToR) FOR THE PROJECT DRIVER GENERAL INFORMATION

Services/Work Description: Recruitment of a Project Driver

Project/Program Title:

Duty Station: Moroni (Comoros)

Expected Places of Travel: In the 3 Islands of Comoros (Grande Comore, Anjouan and Moheli)

Duration: one-year renewable based on satisfactory performance for a maximum assignment of 8 years

Number of Positions : 3

Expected Start Date: Immediately after Concluding Contract Agreement

I. BACKGROUND / PROJECT DESCRIPTION

Comoros has received funding from the Green Climate Fund (GCF) for the project Ensuring climate resilient water supplies in the Comoros Islands. The key goal of the project is to strengthen the climate resilience of drinking and irrigation water for 15 of the most vulnerable zones in the Union of Comoros to climate change risks. The project is designed to overcome the country’s water supply vulnerability to climatic extremes due to its fragile water resources and lack of human and financial resources due to its small population and island isolation.

Specifically the project focuses on: creating a paradigm shift in water governance by mainstreaming climate risk reduction into water sector legislation, institutional arrangements, planning and budgeting; understanding and adapting to the climate risks to the nation’s fragile water resources using watershed protection and rehabilitation coupled with hydrological monitoring and forecasting; and the integration of climate risk reduction into water supply scheme design, operation and management including multiple water source exploitation.

In order to achieve its objective of delivering and sustaining climate resilient water supplies the project will deliver the 3 following components:

- i) a national water planning approach which mainstreams climate resilience into its policies, plans, legislation, budgeting and institutional arrangements including both the regulators and the service providers, to ensure adequate financial and human resources are available year-on-year to sustain climate resilience (this is the objective of Output 1);
- ii) ensure adequate water resources are available during droughts and floods and actively manage the watersheds to both prevent climate induced derogation and where possible augment water resources protection (this is the objective of Output 2), including providing forecasts and warnings of water resources status to enable adaptive management; and
- iii) locate, design, build, operate and maintain water supply infrastructure to explicitly be resilient to climate change increased risks including droughts, floods, storm damage, storm surges, bushfires, power outages, and increased temperature driven water demands (this is the objective of Output 3).

It is with this background that qualified and self-motivated drivers are sought for the project.

II. Key Tasks

The incumbent will be responsible for providing reliable and safe driving services to the Project. S/he will also be responsible for providing clerical support to various project staff as required, including day-to-day office project work as well as during events such as workshops, meetings, conferences, seminars, and training activities. The driver will be under the overall supervision of the Project Manager.

- Provide reliable and secure driving services to the PMU.
- Ensure cost-savings through, amongst others, proper use and accurate maintenance of daily vehicle logs.
- Ensure proper day-to-day maintenance of the assigned vehicle through identification of vehicle service needs that require repairs, timely change of oil, check of tyres, brakes, car washing and scheduled.
- Report any mechanical fault in good time for repairs to be carried out and cross check to see that the repairs were well done.
- At all time, make sure that copies of vehicle insurance including office directory, map of the city/country, first aid kit and necessary spare parts are available.
- Ensure that all immediate measures required by rules and regulations are taken in case of involvement in accidents
- Learn and comply with all security requirements, when driving and using the vehicle
- Support the project team by providing administrative and clerical support as requested, including preparing, copying, collating, binding, filing and distributing documents, mail and notifications, as instructed
- Provide logistical and administrative support during events and meetings, as required
- Support hospitality and orientation support of personnel and other individual, especially of new staff and visitors and guests of the Project Support Unit and the Country Office, as required
- Ensure security and safety at all times especially while driving and respond to radio checks/calls at all times.
- Performs other duties as assigned.

III. Required Qualifications and Experience:

Education:

- Secondary Education, relevant trade test, and valid driving license

Experience:

- A minimum of 3 years work experience as driver. Sound knowledge of UN.
- Demonstrable skills in carrying out minor vehicle repairs are necessary. Prior experience working as a driver/clerk in an international, national or NGO office is required.
- Work experience with the UN or other international institutions with stringent accountability rules would be an asset.

Languages:

- Fluency in French and shikomori is essential.
- Knowledge of other main languages in Comoros, would be an advantage

Annex H: UNDP Social and Environmental and Safeguards screening procedure (SESP) and Environmental and Social Management Plan or Framework (ESMP or ESMF) as relevant

<https://undpgefpiims.org/attachments/5740/215762/1712727/1722283/FP-UNDP-230518-5740-Annex%20VI%20 a -SESP.docx>

<https://undpgefpiims.org/attachments/5740/215762/1712728/1726779/FP-UNDP-180918-5740-Annex%20VI%20 b .docx>

Annex I: Stakeholder Engagement Plan

<https://undpgefpiims.org/attachments/5740/215762/1712738/1715153/FP-UNDP-220818-5740-Annex%20XIII%20 c -Stakeholder%20Engagement%20Plan.docx>

Annex J: Gender Analysis and Action Plan

I. Introduction

The proposed project is designed to support the Government of Comoros's efforts to address climate and water related disaster risk, including droughts, floods and water quality that impact the country's drinking and irrigation water supply. The total direct beneficiaries will be 470,000 (51% female and 49% male) who will benefit from improvements to drinking and irrigation water supply infrastructure resilience. Furthermore, 800,000 people (46% female and 54% male) will benefit from improved national and sub-national climate resilient water governance in Comoros.

This gender assessment provides an overview of the gender situation in Comoros, with a specific focus on climate-resilient water supplies and Integrated Water Resources Management, identifying gender issues that are relevant to the project and examining potential gender mainstreaming opportunities. This gender assessment is based on:

- A desk review of relevant national policy documents, including the National Gender Equity and Equality Policy (PNEEG), the Growth and Poverty Reduction Strategy Paper (PRGSP), Comoros development strategy for 2015-2019 and others;
- Recommendations and lessons learned from past studies and assessments on gender from the Government of Comoros, the United Nations, civil society organisations, the private sector and multilateral development banks;
- Stakeholder consultations.

II. Gender equality and social inclusion in Comoros

Comoros is a least developed country (LDC), with one of the lowest human development rating (ranked 159 out of 188 countries), and an economy heavily reliant on agriculture for food security, poverty alleviation and economic growth. The Human Development Index for Comoros is 0.503 (0.443 for women and 0.545 for men), indicating a net gender difference in health, education and standard of living.³⁹ The Government of Comoros recognizes the importance of gender mainstreaming in ensuring sustainable development and reducing poverty through various policies and actions.

Comoros is a Muslim country and culture is firmly anchored in religious traditions and customs. Religion has a strong influence on gender roles and most religions are androcentric, emphasizing male interests and male power.⁴⁰ In this way, Islam is predicating women's position as that of the homemaker, focusing on the family, with little power and lower status as compared to men. Despite the strong patrilineal traditions stemming from religion, Comorian women have acquired a certain presence in society due to parallel matrilineal traditions. Oftentimes, Comorian women have the power of decision within the family and they are also able to take employment outside of the home. This shows signs of openness to women's participation in society, more so than other similar Muslim countries in the region.

Addressing gender dimensions within the project design and implementation, this proposal works to identify and integrate interventions to provide gender responsive and transformative results. Women

³⁹ Ibid.

⁴⁰ Holland, J. (2006). *Misogyny: the world's oldest prejudice* (1st Carroll & Graf ed.). New York: Carroll & Graf: Distributed by Publishers Group West.

and girls are more vulnerable than other parts of the society, including to the effects of climate change, often due to existing social norms. The risks and impacts of climate change further aggravate women and youth's relative poverty.

As part of this analysis, women and youth are seen as agents of change and key players in efficient water management practices. Some of the key recommendations emerging from this analysis include the need to train women and youth ground on gender-sensitive techniques on water management, to establish and formalize women-led Water Management Committee and ensure gender inclusion in various policies and national documents. The Gender Action Plan in Section IV includes the complete list of recommended gender actions.

Poverty

Comoros is a Least Developed Country (LCD), as classified by the UN system. 80% of the population living in rural areas is considered poor, with 46 per cent living in absolute poverty (living on less than 1.25 dollar (equivalent to 522.737 KMF per person per day).⁴¹ 42 Looking at gender differences, 30.4% of women live below the poverty level compared to 38.6% men. This gender difference (in women's favor) is skewed due to the fact that many women are economically dependent on family members to provide for them.

Gender differences in income levels are substantial with men earning an average of 2'123 dollar (GNI, PPP), and women 778 dollar (equivalent to 325,252 KMF)⁴³. This difference in income is due to a majority of women doing unpaid work (such as housework, agricultural and farming activities).

Labor Force Participation

The number of households headed by a single woman is 40.2%, compared to 2.8% of households headed by a single man. Female-headed households comprise an average of 3.9 dependent individuals whereas male-headed households have an average of 3.4 dependent individuals.⁴⁴ Furthermore, 47% of the unemployed are women, with only 13.7% of women in the wage-earning group.

Across Africa, there has been a general rise of female single-parent households⁴⁵. Children in households headed by a woman show higher educational participation and performance. This is because when women are in charge of the household economy they tend to invest more money in their children's education. However, single women might be more vulnerable in terms of their lack of power and decision-making on a community and national level. Their rights are less looked after and, thus, "most African single-mother homes miss not the father as such, but his connections and the fruits of nepotism and patronage that they bring."⁴⁶

⁴¹ International Labor Organistaion (2015). Programme Pays pour le Travail Décent 2015-2019. http://www.ilo.org/addisababa/countries-covered/comoros/WCMS_445887/lang--fr/index.htm

⁴² 1 USD = 418.063 Comorian Franc (KMF)

⁴³ Ibid.

⁴⁴ African Development Bank (2009). Gender Profile of the Union of the Comoros. <https://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Comoros%20-%20Country%20Gender%20Profile.pdf>.

⁴⁵ World Family Map (2014). <http://worldfamilymap.ifstudies.org/2014/articles/executive-summary>

⁴⁶ Mungai, C. (2014). Children 'better off' with single mothers in poor nations, report suggests. Mail & Guardian Africa, 13 July, 2014. <http://mgafrika.com/article/2014-07-10-children-better-off-with-single-mothers-in-poor-nations-report-suggests>

Education

There has been a slow albeit positive development in education in Comoros. In 2014, the expected years of schooling were 11.0 for women and 11.9 for men⁴⁷. In 2012, the school enrolment rate was 79.4 per cent of children where the ratio of girls to boys was 0.96 for primary school: 0.96, and 0.89 for secondary school.⁴⁸

When looking at years of schooling, there are net differences between men and women. There is almost 2 years gender difference of years in school; on average, men go to school 5.6 years and women 3.7 years.⁴⁹ There are also considerable gender differences in the literacy level; women scoring significantly lower than men at 71.2 percent and 80.7 percent respectively (total average of 75.9 per cent).⁵⁰

The primary school dropout rate is 44.6 per cent⁵¹. Considering the gender differences in education, looking at women's lower levels of education, there is reason to believe that girls drop out of school more frequently than boys do. However, gender disaggregated data on actual school dropout is not available at the time of writing. Women also attain higher levels of education at a much slower pace than men do and, consequently, have much less access to specialized (and higher paid) professions.

Political participation in decision making

Women have very little influential power on national levels. Studies show that women's empowerment and equality is important to ensure sustainable development in terms of increased productivity, effectiveness, climate resilience and increased health and well-being.⁵²

Comorian women have the right to vote and to be elected. Women are not subject to discrimination in relation to civil and political rights. The General Commission for Solidarity and Gender Promotion is the Government entity responsible for gender equity. There are also gender focal points in each Ministry to safeguard gender equality issues. The willingness of the Government to include more women as well as adopting a gender perspective is important⁵³. Still, progress is slow, and women rarely get elected to political office. In fact, women hold only 3 per cent of parliamentary seats despite increasing numbers of female candidates available. In practice, political instability and lack of resources result in little or irregular progress in terms of gender equality and the protection of women's rights.

On the community level, women are in general more involved in decision-making and are often bearer of important aspects of climate-related projects. Unfortunately, when community projects are put in place and financed by the government, women are at times, vaguely consulted.⁵⁴

⁴⁷ Human Development Report (2015) (data from 2014). hdr.undp.org/sites/default/files/2015_human_development_report.pdf

⁴⁸ Ibid.

⁴⁹ Ibid.

⁵⁰ African Development Bank (2016). Country strategy paper 2016-2020. <http://www.afdb.org/en/documents/document/comoros-2016-2020-country-strategy-paper-87573/>

⁵¹ Human Development Report (2015), this data point is from 2003. hdr.undp.org/sites/default/files/2015_human_development_report.pdf

⁵² Habtezion, S. (2013). Overview of linkages between gender and climate change. Global Gender and Climate Alliance & United Nations Development Programme; World Bank (2011). Gender and climate change: 3 things you should know. Washington, DC: The World Bank.

⁵³ African Development Bank (2016). Country strategy paper 2016-2020. <http://www.afdb.org/en/documents/document/comoros-2016-2020-country-strategy-paper-87573/>

⁵⁴ Notes from meeting with gender actors on the Comoros on November 30, 2016.

Access to Resources

Owing land offers independence for women and can be an important form of income and security. The right to own land is an important right that women do not benefit from universally and at the same level as men. According to a tradition of matrilineal rule in the Comoros, women can inherit and own land. However, in reality inheritance is shared between boys and girls with boys usually receiving more than girls by cultural tradition and Islamic law⁵⁵.

Access to financial resources is also limited for women. In Comoros, women entrepreneurs often are not able to comply with loan requirements and as a consequence, they are not able to access conventional bank credit. The most commonly used and accessed financial measures are provided by micro financial institutions (MFIs), with more than 50% of MFI customers being women (AFDB, 2009).⁵⁶

Water, Sanitation, Health and Wellbeing

Limited access to clean and potable water, hygiene and sanitation are one of the primary cause of child mortality in Comoros. Clean potable water is only available to 13% of the population, resulting in various health implications for women and children. Furthermore, due to limited and low access (66.2% of the population) to sanitation infrastructures and human waste management infrastructures (i.e. toilets), and poor management of hospital waste, leading to water contamination and to high prevalence of diarrhea, malaria, cholera, typhoid epidemics and water-borne diseases.

Women are the main victims of water-borne, and vector-borne disease and are carrying the risk, as they are responsible for fetching water, which also reduces the time available to actively participate in the labour market and increase their household income. It is estimated that women and girls devote up to two hours a day to fetching water, hence reducing their time available for work by 25% (based on a regular 8-hour working day).⁵⁷

Women and girls often need to walk long distances to latrines facilities, which are often not available at a household level. This poses a security risk and is an additional burden to women and girls. It was documented that women often consume less water during the day in order to avoid going outside during the night, this makes women more sensitive to infection disease (e.g. urinary tract infections and kidney problems). Moreover, the lack of hand-washing after defecating and before preparing food and when caring for children has increased the spread and prevalence of diseases.

In the island of Grand Comore, more than half of the population lives within 5km from the shoreline, and the primary source of potable water is sourced through rainwater from roofs into tanks, which often leads to health issues with bacterial contamination. Freshwater is also distributed to about 20 localities (or 35% of the population) who could afford this, by water trucks delivering from 54 wells in the volcanic aquifers of the coastal zone. However, only 30% of the wells provide groundwater with Total Dissolved Solids (TDS) at 3g L⁻¹, instead of TDS with less than 1g L⁻¹, as recommended by the World Health Organization (WHO).⁵⁸

The government of Comoros is strengthening water management capacities in terms of water treatment in emergency and disaster preparedness through capacity building trainings on the use of pre-positioned portable water treatment units on the three islands of Comoros.

⁵⁵ African Development Bank (2009). Gender Profile of the Union of the Comoros. <https://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Comoros%20-%20Country%20Gender%20Profile.pdf>.

⁵⁶ <https://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Comoros%20-%20Country%20Gender%20Profile.pdf>

⁵⁷ https://www.unicef.org/about/annualreport/files/Comoros_2016_COAR.pdf

⁵⁸ J.-C. Comte et al. / Journal of Hydrology: Regional Studies 5 (2016) 179-199

⁵⁹ However, additional efforts are needed to strengthen government's capacity on water management, and to provide safe potable water to the communities of Comoros.

As part of UNICEF 2015-2019 country programme, Nutrition and WASH (Water, Sanitation and Hygiene) sub-component to screen and treat malnourished children and provide counseling to parents of children under 2 years of age. This sub-component also aims to distribute micronutrients to pregnant women, and to make systematic the distribution of Vitamin A and biannual deworming of children from 6 to 59 months of age. The overall goal is to ensure equitable access to drinking water and to a healthy environment, and to encourage women and children to adopt better practices with regard to sanitation and hygiene.⁶⁰

Through this project, water security and the provision of potable clean water will have a direct impact of women and girls, and children and youth through improved health and wellbeing. In order to reduce water demand during periods of drought, the project will reduce borehole pumping rates which will reduce salinity risks and will improve water treatment, allowing water to be stored and increasing the quantity of potable water. This will have a direct benefit to women, youth and children as high salt intakes in their water supply will be reduced, in line with WHO's recommendation, and this will have a positive impact on health and nutrition.

Gender Based Violence

Gender based violence (GBV) is common in Comoros, and women and girls suffer from physical, sexual and psychological violence, most often from family members and in-laws.⁶¹ The combination of several factors, for example, lack of support for women, traditional gender norms as well as embarrassment and denial, prevent women and girls from denouncing violence and abuse, and, thus, it remains difficult to collect data on the actual prevalence of gender-based violence.

Some efforts have been made in order to improve the protection of women and children's rights in the Comoros, but help is not available in a regular manner. There is reason to believe that climate adaptation projects will help reduce the occurrence of violence indirectly by reducing the stress on couples and families, by providing opportunities for women and youth to actively participate in the project's interventions through capacity buildings and training workshops, by minimizing the time spent to fetch water and creating economic opportunities for women and youth.

III. Mechanisms to address gender inequality in Comoros - legal and administrative framework

There is a general willingness to support gender equality in the country, rendered evident by the ratification of the Convention on the Elimination of All Forms of Discrimination against Women in 1994 as well as the adoption of the National Gender Equity and Equality Policy (PNEEG) in 2007. In the Growth and Poverty Reduction Strategy Paper (PRGSP), updated in 2009, women's rightful place in the decision-making and development process has been clearly emphasized. Also, the Comorian Government expresses its support for the development of gender equality in its development strategy for 2015-2019⁶². The strategy mentions that special attention will be paid to questions associated with human rights and

⁵⁹ *ibid*

⁶⁰ https://www.unicef.org/about/execboard/files/2014-PL5_Comoros_CPD-final_approved-EN.pdf

⁶¹ African Development Bank (2009). Gender Profile of the Union of the Comoros. <https://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Comoros%20-%20Country%20Gender%20Profile.pdf>.

⁶² Stratégie de Croissance Accélérée de Développement Durable (SCA2D) 2015-2019. http://www.comores-online.com/wiki/Strat%C3%A9gie_Nationale_de_D%C3%A9veloppement#Strat.C3.A9gie_de_Croissance_Ac.c3.A9l.C3.A9r.C3.A9e_de_D.C3.A9veloppement_Durable_.28SCA2D.29_-_2015_.

gender equity in relation to the four main objectives of the strategy: sustainable development, employment and integration, mitigation and adaptation to climate change impacts and governance⁶³.

To protect women's health, education and to offer support, several women's associations are active in the area. Women's associations can be extremely helpful in advocating women's rights, raising awareness and informing about the importance of women's participation in communities and projects. Women's organizations can also help organize women, collect relevant data as well as assist in training and capacity building. Numerous examples exist of women's associations participating in sustainable development projects to support women's situation; development of irrigation techniques to improve household food production, tree planting, water management, income generation through improved agricultural activities, and so on.⁶⁴ Wherever possible, the implication of women's associations can be a valuable asset to projects and help create real, sustainable change.⁶⁵

The Constitution of the Union of the Comoros prohibits all forms of gender-based discrimination. The importance of gender mainstreaming is recognized in the Growth and Poverty Reduction Strategy Paper (2009), in which the Government underlines the importance of women's participation in decision-making⁶⁶.

IV. Gender issues in response to immediate threats of water scarcity

In Comoros, nearly 87% of the population does not have access to safe and clean water supplies. The average water consumption is below the World Health Organization's recommendation of 50 liters per day per person (28 liters per day per person).⁶⁷ Additionally, agriculture is the most vulnerable sector in Comoros, highly dependent on sufficient rainfall and irrigation. National agricultural production currently meets only 40 % of food needs and is a source of employment for women and man.

In Comoros, women and girls are traditionally in charge of collecting water and are additionally affected by increasingly scarce water supplies. Due to increased rainfall patterns and temperatures, rivers are drying up, and the yields of wells are diminishing. Consequently, distances to safe water resources are predicted to increase in rural areas. Women and girls in Comoros have to walk approximately 195 meters to the closest water source. To get the minimum amount of necessary daily water, women and girls walk this distance, back and forth, up to five times per day; which results in about 2 kilometers per day per household.⁶⁸ Women spend an average of 2 hours per day collecting water. Water collection is increasingly demanding and represents an opportunity cost in terms of time and labor. The quality of the available water is often questionable. Poor water quality leads to increased health issues and disease, such as typhoid fever, diarrhea and various water-borne diseases.

Women are responsible for the majority of household food production in the Comoros. Agriculture, including food production, is suffering the effects of climate variability and the lack of water with an increase in food scarcity. Children's malnutrition and slow development rates are increasing (25.8 per cent and 44 per cent respectively in 2004) with more recent

⁶³ <http://www.gouvernement.km/index.php?id=7> and <http://www.comores-online.com/wiki/Strat%C3%A9gie Nationale de D%C3%A9veloppement#Strat.C3.A9gie de Croissance Ac.c.C3.A91.C3.A9r.C3.A9e de D.C3.A9veloppement Durable .28SCA2D.29 - 2015 .>

⁶⁴ The Women and Gender Constituency (2015). Gender-just solutions. <http://wedo.org/genderjustsolutions/>

⁶⁵ Ibid.

⁶⁶ African Development Bank (2009). Gender Profile of the Union of the Comoros. <https://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Comoros%20-%20Country%20Gender%20Profile.pdf>.

⁶⁷ Stratégie et Programme d'AEPA aux Comores (2013). Annexe 3: Contexte socio-économique de l'AEPA.

⁶⁸ Ibid.

statistics showing that more than 42% of Comorian children age five and under suffer from chronic malnutrition.⁶⁹ Food scarcity also leads to increased prices and dependency on imported food supplies.⁷⁰ Women are forced to draw on their already limited budgets to buy food for their families, exacerbating their financial situation.

Sanitation and hygiene is extremely important for health and wellbeing and depends heavily on the access to clean water. An important problem lies in early detection and correct monitoring of epidemic outbreaks in water sources.⁷¹ Sanitation and hygiene are seen as women's issues. However, women have very little influential power in decisions related to safe sanitation. Increased access to safe water in combination with awareness training can considerably lower risks related to sanitation and hygiene.

Girls are disproportionately affected by climate change as compared to boys. Typically, when resources are limited and families have to choose which children to send to school, boys usually have priority.⁷² More, when increased help is needed in the households (for example after climate shocks), girls are held back from school to help out, not boys. In the Comoros, girls are traditionally involved in housework, particularly in collecting water. With increased scarcity of water, girls will have to spend more time collecting water, taking time away from school and other chores. Girls are also particularly influenced by the lack of safe sanitation. Previous projects show that when proper sanitation is lacking, children, especially girls, are discouraged to relieve themselves, resulting in increased school absenteeism, especially during menstruation.⁷³

As mentioned above, in Comoros women are responsible for collecting and managing water for the households. A few Water User Associations such as SOGEM are functioning well and have trained women to be involved with the Integrated Water Resources Management (one-quarter of participants received training). However, women's voices are not sufficiently heard and not enough women are implicated in training due to technical and financial constraints. Women have little to no decision-making power and therefore, very little influence on important decisions related to water allocation and development.⁷⁴ The Gender and Water IWRM Resource Guide states that: "Women should be recognised as central to the provision, management and safeguarding of water."⁷⁵ Involving women in water projects is not only the right thing to do, women provide knowledge, skills and their perspective to help mitigate vulnerability to climate change, improve livelihoods, productivity and the well-being of their communities. In the extension, women's implication in (all) climate-related projects will help fully empower women, improve women's human rights and reach the United Nations Sustainable Development Goal of gender equality by 2030.

V. Gender analysis and expected outcomes

The present gender analysis was carried out at the onset and design of the current project. The gender analysis was done by desk review and based on available data from previous studies and reports about the Comoros as well as previous climate change projects. Stakeholder consultations with local officials and women's organizations took place at the

⁶⁹ Ibid.

⁷⁰ Second National Communication to the UNFCCC of the Union of Comoros (2012)

⁷¹ Commission de l'Océan Indien (2011). Rapport national Comores: Etude de vulnérabilité. http://www.commissionoceanindien.org/fileadmin/resources/Aclimate%20Etudes%20Asconit-Pareto/20110819_vulnerabilite-comores.pdf

⁷² Ibid.

⁷³ UN Water (2006). Gender, water and sanitation: A policy brief. <http://www.unwater.org/downloads/unwpolbrief230606.pdf>.

⁷⁴ Human Development Report (2015). http://hdr.undp.org/sites/default/files/2015_human_development_report.pdf

⁷⁵ UNDP (2006). Gender and Water IWRM Resource Guide. http://www.undp.org/content/undp/en/home/librarypage/environment-energy/water_governance/resource-guide-mainstreaming-gender-in-water-management.html.

end of November-beginning of December 2016. The analysis also integrates gender perspectives in indicators, targets and project activities, to ensure a holistic gender approach.

Consultations during the project design took place with a range of stakeholders and partners, including UN agencies, National Commission on Solidarity, Social Protection and Gendre, DGEF, National Bureau for Gender Advocacy, NGOs, Civil societies and women and youth groups. Results from the consultations are detailed in the Stakeholder Engagement Report and Stakeholder Action Plan annex included in full as an additional annex as part of the proposal.

Summary of gender-specific stakeholder consultations are outlined below:

- Stronger link between gender-related issues and development work is needed;
- Gender-specific data needs to be collected and disseminated in a systematic manner, as the three censuses conducted in 1980, 1991 and 2003 do not include gender-disaggregated data;
- Awareness campaigns on gender-specific issues are needed;
- Local expertise should be used when tackling gender-related issues and mainstreaming gender into national level-education;
- During period of prolonged drought and water scarcity, private type of initiatives are carries out by women and youth;
- Women are rarely consulted in government-led decision-making processed, however, on a community level, women's views and opinion is taken into account;
- Women's knowledge on women's rights varies from one island to another, but also from different women's communities residing in the same island.

This gender analysis addresses women and youth's issues, needs and priorities as outlined during stakeholder consultations, and extensive project design and completes the project proposal to ensure women's and youth's integration in the project activities as well as the development of gender adapted efforts. This analysis underlines the importance of women's role in the society and the existing inequalities between men and women. The project design and implementation will integrate the aspect of gender in the following manner:

- 1) All indicators in the logframe have been gender disaggregated where appropriate to compare situations of men and women.
- 2) Gender-sensitive study will be undertaken at midterm to verify and monitor the implementation of gender-specific activities and at end of project, within the targeted river basins and district. The results of the midterm study will be incorporated in the Gender Action Plan and targets will be re-assessed, if needed.
- 3) The socio-economic analysis detailed the current situation for women in terms of the time spent collecting water (2 hours per day in rural areas). Women will be primary beneficiaries through the reduction of the water collection time.
- 4) Water Management Committees and IWRM committees will have at least 50 per cent female representation.
- 5) All training will target 50% women in institutions (ministries, NGOs, Water User Associations) with the exception of the IWRM committees which will have a minimum of 30% women beneficiaries. The IWRM Committees must represent all concerned sectors such as agriculture, manufacturing and distilleries that are generally led by men. Also, all training activities will aim to have at least 50% female trainers.
- 6) Improvements relative to integrating water resource knowledge into professional, Master's and continuing education programmes will ensure that women represent 50% of the beneficiaries. This will ensure that women can also serve as the next technical savvy recruits for such organizations/ institutions.
- 7) The Water Security Plan and Watershed Management Plans will have sections that explicitly state how to consider women in planning and implementation of activities.

- 8) Women will receive training on how to maintain local water management systems such as monitoring small water infrastructure and treatment systems, indicating when they are in need of repair and on preventing water use inefficiencies (e.g., leaks) (ensuring that at least 30% of the trainers are female).

In this project, gender-specific targets and indicators were designed, including the following **Gender-specific indicators:**

- Gender aspects integrated in the new Water Code;
- Number of women and youth engaged in the discussion on water tariffs;
- Number of women and girls, youth and children engaged in trainings on best practices for water management, health and wellbeing and nutrition;
- Number of women trained to lead Water Management Committee discussions;
- Number of men and women trained in Water Management Committees;
- Number of men and women trained on the use of UNICEF Drinking Water Safety and Security Planning climate risk reduction and operation procedures;
- Number of reports and surveys with integrated gender considerations;
- Number of women and men included in the IWRM Committees (at least 30% women);
- Women representative/s included in development of IWRM Plans of Action for expertise and to ensure that women's situation is taken into account and that women receive the necessary information;
- Number of women leading community-based soil and water conservation measures;
- Number of men and women participating in recharge zone improvement activities;
- Number of men and women in the IWRM committees;
- Number of men and women receiving awareness training;
- Number of single women-led households receiving awareness training;
- Number of women involved in budgeting and monitoring training;
- Number of public awareness workshops, including a gender component;
- Gender disaggregated % of population with access to improved water management information on floods and drought periods;
- Number of women and men field agents receiving training;
- Number of men and women as trainers;
- Number of women farmers and other rural stakeholders receiving and using advisories for water management;
- Number of men and women participants in training of trainers' sessions;
- Number of women and men receiving training through vocational and educational programmes;
- Ensure that women and youth are informed of the project activities;
- Grievance mechanism established;
- Time saved for water collection by women and girls;
- Number of women involved in Water User Associations;
- Number of schools with improved water supply and number of children benefited;
- Number of women staff members involved in flow meter installation;
- Ensured equitable access to potable water resources for men, women and youth.

Gender Action Plan and Budget

This Gender Action plan provides suggested entry points for gender-responsive actions to be taken during project implementation. In addition, specific indicators and targets are also proposed to measure and track progress on these actions at the activity level. This can be incorporated into the detailed M&E plan which will be developed at the start of implementation and provides concrete recommendations on how to ensure gender (including disaggregated data) continues to be collected and measured throughout the project implementation.

Objective	Action	Targets and Indicators	Partner Institution	Timeline	Allocated budget (\$)
TOTAL					2,727,931
Output 1: Climate informed water supply planning and management					
Activity 1.1: Prepare recommendations and legal guidance on the integration of climate change adaptation into the national (federal) and regional (state) water sector agencies governance frameworks, regulations and operations.	1.1.1 Legal consultancy for existing legislation review on Climate Resilience inclusion, drafting of Primary (Water Code) and Secondary legislation, regulations; and 3 rounds of consultation meetings with national agencies. 1.1.2 Consultancy providing recommendations on the climate resilient water planning, budgeting and operations with special focus on the project targeted areas (with special focus on gender mainstreaming	Baseline: 0 Target: 50% women and youth beneficiaries Indicator: <ul style="list-style-type: none"> Gender aspects integrated in the new Water Code. Number of men, women and youth engaged in trainings on best practices for water management 	Gender expert and National Commission for Gender (NCG)	Q3, Year 1 to Q1, Year 4	283,625

<p>Activity 1.2: Develop water sector climate change risk reduction awareness raising programme for national and state agencies and establish CCA knowledge and information exchange mechanisms</p>	<p>1.2.1 Design of awareness raising webinars (with focus on gender)</p> <p>1.2.2 Set-up of an open access (web based) central knowledge platform hub for accessing global/regional climate vulnerability assessments and adaptation awareness materials available to all authorities involved in the water sector and agriculture planning</p>	<p>Baseline: 0</p> <p>Target: 50% women beneficiaries</p> <p>Indicator:</p> <ul style="list-style-type: none"> • Number of documents with gender considerations; • Collect data on the number of men and women accessing central knowledge platform 	<p>Gender expert, NCG, Gender Representative in in DGEF / DGEME</p>	<p>Q3, Year 1 to Q4, Year 5</p>	<p>174.361</p>
<p>Activity 1.3: Develop and apply criteria for assessing socially sensitive water pricing mechanisms ensuring prices take into account the actual costs of production, storage and processing required in view of the projected climate stresses</p>	<p>1.1.3 Technical consultancy services on systematic approaches to water sector climate risk assessment and risk reduction (ie. UNICEF Drinking Water Safety and Security Planning -DWSSP) and assistance on inclusion in work programmes and planning.</p> <p>1.3.1 Consultancy services to conduct economic and social analysis/evaluation, on-the-ground survey, evaluation, analysis of water users and service providers across all 3 islands to determine acceptable tariff structures required to sustain climate resilient water supplies.</p>	<p>Baseline: 0</p> <p>Target: 50% women beneficiaries</p> <p>Indicator:</p> <ul style="list-style-type: none"> • Number of women and youth engaged in the discussion on water tariffs 	<p>Gender expert, NCG, Gender Representative in in DGEF / DGEME</p>	<p>Q3, Year 1 to Q4, Year 5</p>	<p>174.361</p>
<p>Activity 1.4: Develop planning guidance on source protection and water quality standards in view of climate change, operating procedures during periods of drought/floods; and safety plans</p>	<p>1.4.1 Consultancy services to collect best practises on Drinking Water Safety and Security Planning (DWSSP), including source protection, drought and flood event O&M, and water quality monitoring requirements, tailored to Comoros national state sector planning and</p>	<p>Baseline: 0</p> <p>Target: 50% women</p> <p>Indicator:</p>	<p>Gender expert, NCG, Gender Representative in in DGEF / DGEME</p>	<p>Q3, Year 1 to Q4, Year 5</p>	<p>174.361</p>

	regulatory requirements - with consultations on each island. 1.4.2. Preparation of Safety Plans under the Water Master Plan to respond to (i) intense precipitation (ii) increased or prolonged drought (iii) saline intrusion				
1.5. Design and conduct trainings on best practices and gender-sensitive techniques of climate change adaptation in the context of water management, health and nutrition among national, regional and local water stakeholders	1.5.1 Consultancy services to develop and deliver climate change national and state (island) level training programme (4 x 3-day workshops to 20 agencies) on water adaptation best practices and gender-sensitivity in water management, health and nutrition	Baseline: 0 Target: 50% women and girls, children and youth beneficiaries Indicator: <ul style="list-style-type: none"> Number of women and girls, youth and children engaged in training programmes on improved health and wellbeing conditions, and improved nutrition 	Gender expert, NCG, Gender Representative in in DGEF / DGEME	Q3, Year 1 to Q4, Year 5	100.000
1.6 Strengthen decentralized water resources management capacities to undertake climate risk reduction assessments and develop and deliver awareness campaigns and training programmes to Water Management Committees and users	1.6.3. Train DGEF / DGEME and their decentralized island (DR) agencies in the planning and regulation of climate risk reduction approaches to water management at the communal level and implement the tariff standards for water 1.6.4. Organize 8 participatory workshops to train all members of water management committees to use UNICEF Drinking Water Safety and Security Planning climate risk reduction design and operation procedures	Baseline: 0 Target: 50% women Indicator: <ul style="list-style-type: none"> Number of men and women trained on the use of UNICEF Drinking Water Safety and Security Planning climate risk reduction and operation procedures Number of women trained to lead Water Management Committee discussions; 	Gender expert, NCG, Gender Representative in in DGEF / DGEME	Q3, Year 1 to Q4, Year 5	174.361

		<ul style="list-style-type: none">• Number of men and women trained in Water Management Committees			
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Objective	Action	Targets and Indicators	Responsible Institution(s)	Timeline	Allocated budget (\$)
Output 2: Climate Informed Water Resources and Watershed Management including forecasting and early warnings of climate risks					
Activity 2.1: Establish climate resilience focused IWRM Committees and Watershed Risk Reduction Action Plans in the project intervention areas	<p>2.1.1 Establish and formalize the IWRM management committees in each watershed, prioritising climate resilience and adaptation approaches</p> <p>2.1.2. Carry out a mapping survey of areas vulnerable to climate risks, particularly those exposed to saltwater intrusion to allow analysis of risk scenarios</p> <p>2.1.3. Train IWRM committees understanding of climate risks and adaptation options that ensure access to adequate water quality</p> <p>2.1.4. Develop action plans for river basins, taking into account climate change impacts on rainfall patterns, floods, rising temperatures and increasing salinity</p> <p>2.1.5. Provide expert consultant(s) for the development of Water Code Decrees to integrate IWRM best practices to address the risks of climate change and facilitate knowledge exchange and formal collaboration between IWRM Committees and DG / REF</p>	<p>Baseline: 0</p> <p>Target: 50% women beneficiaries</p> <p>Indicator:</p> <ul style="list-style-type: none"> • Number of reports and surveys with integrated gender considerations; • Number of women and men included in the IWRM Committees (at least 30% women). • Women representative/s included in development of IWRM Plans of Action for expertise and to ensure that women's situation is taken into account and that women receive the necessary information • Number of women leading community-based soil and water conservation measures. • Number of men and women participating in recharge zone improvement activities. 	NCG and Gender Representative for DGEF	Q4, Year 1 to Q2, Year 5	139,223
Activity 2.2 Implement the water protection and risk mitigating measures on the	2.2.1. Implement soil conservation measures at community level in watersheds of 15 target areas to reduce increase	<p>Baseline: 0</p> <p>Target: 30% women beneficiaries</p>	NCG and Gender Representative	Q4, Year 1 to Q2, Year 5	119,301

Objective	Action	Targets and Indicators	Responsible Institution(s)	Timeline	Allocated budget (\$)
ground/operationalize the risk reduction plans	rainfall intensity erosion 2.2.2. Upgrade community-based recharge areas in 11 watersheds to protect drought flows through reforestation and to other appropriate techniques	Indicator: <ul style="list-style-type: none">Number of single women-led households receiving awareness training;Number of public awareness workshops, including a gender component.	for DGEF		
Activity 2.3 Establish water source protection zones and raise public awareness on climate risk reduction benefits of watershed management	2.3.1. Legal advisory services to be provided to IWRM committees for the implementation of climate resilience establishing watershed-specific zoning regulatory frameworks for the protection of recharge areas 2.3.2. 8 training to Train IWRM committee trainers in mainstreaming climate change adaptation, integrated water resources management strategy, planning and budgeting, business models, management fees and performance monitoring. 2.3.3. Organize 5 public awareness workshops on increasing watershed resilience to climate change and ensuring the preservation of water resources good water management practices, including soil and water conservation, and reforestation	Baseline: 0 Target: 50% women beneficiaries Indicator: <ul style="list-style-type: none">Gender disaggregated % of population with access to improved water management information on floods and drought periods;Number of men and women as lead trainers.Number of public awareness workshops, including a gender component.Number of men and women participants in training of trainers' sessions.	NCG and Gender representative in DGEF / ANACM University of Comoros Meteorology Department	Q4, Year 1 to Q3, Year 5	
Activity 2.4 Establish water resource monitoring network and upgrade the existing monitoring infrastructure to enable the collection of the required climate/weather data	2.4.1. Strengthen the dissemination of information on the water cycle and seasonal forecasts through the media and communication networks 2.4.2. Acquire and install 6 agro-meteorological stations in the targeted areas of the three islands	Baseline: 0 Target: 50% women beneficiaries Indicator: <ul style="list-style-type: none">Number of women farmers and other rural stakeholders	NCG and Gender representative in DGEF / ANACM	Q4, Year 1 to Q4, Year 4	115,872

Objective	Action	Targets and Indicators	Responsible Institution(s)	Timeline	Allocated budget (\$)
	<p>2.4.3. Acquire and install 20 automatic rain gauges covering the three islands climate risks on water resources</p> <p>2.4.4. Acquire and install radar to improve protection of water resources and storage units during periods of heavy rainfall</p> <p>2.4.5. Acquire and install 9 flow measurement equipment on two islands</p> <p>2.4.6. Acquire and install 43 piezometric probes for the monitoring of saline intrusion in Grand Comore</p> <p>2.4.7. Strengthen the structure (climate proof) of the national hydrometeo services infrastructure to withstand with climate shocks and disasters</p>	<p>receiving and using advisories for water management.</p>			
<p>2.5: Build the capacities of the meteorological services to analyse and produce drought and flood forecasts for targeted users, including for flood early warning system</p>	<p>2.5.1. Design and provide training to the staff of the meteorological services to develop and apply dynamic and statistical tools for seasonal forecasting</p> <p>2.5.2. Develop standardized operational procedures (SOPs) for the collection, processing and analysis of water cycle data as well as alert thresholds</p> <p>2.5.3. Design and provide training for 20 field workers on the installation and maintenance of measurement equipment</p> <p>2.5.4. Expert training design and delivery for 10 staffs of meteorological services on (i) drought indexing, (ii) preparation of annual, quarterly and monthly rainfall prediction, (iii) water resource projections based on water balance analysis; (iv)</p>	<p>Baseline: 0</p> <p>Target: 50% women beneficiaries</p> <p>Indicator:</p> <ul style="list-style-type: none"> • Number of women and men receiving and using advisories for water management. 	<p>NCG and Gender representative in DGEF / ANACM</p> <p>University of Comoros</p> <p>Meteorology Department</p>	<p>Q4, Year 1 to Q4, Year 4</p>	<p>115,872</p>

Objective	Action	Targets and Indicators	Responsible Institution(s)	Timeline	Allocated budget (\$)
	assessments/reporting to notify the relevant authorities on the droughts and floods (EW basis)				
2.6 Build the capacity of the key government, local authorities and committees to interpret the climate information and raise awareness of the local population to act upon the forecasts and EWS.	<p>2.6.1 Conduct 8 trainings for the key government and local officials, committee trainers (that will be appointed within the committees) to interpret the climate information provided by the meteo services and identify the appropriate communication channels (e.g. different information for water services providers vs. rural farmers).</p> <p>2.6.2. Conducting awareness raising campaigns (through media) to sensitize communities to the use of forecasting and alert information on the impacts of climate risks on water resources</p> <p>2.6.3. Design new university web-based modules (1 for undergraduate and 1 for graduate students to be rolled out in the relevant specialisations/degrees such as engineering etc.) with focus on the climate change reduction</p> <p>2.6.4. Acquire hydrogeological control equipment to supporting existing university research to enable them to have capacity to conduct water quality and specific groundwater analysis, documenting the effects of climate change on the water cycle, in particular the intrusion of saltwater</p>	<p>Baseline: 0</p> <p>Target: 50% women beneficiaries</p> <p>Indicator:</p> <ul style="list-style-type: none"> • Number of government officials (men and women) trained in the interpretation of climate information • Number of community members (men and women) taking part of sensitization campaigns • Number of women enrolled in web-based modules and learning about climate change • Number of women and men receiving training through vocational and educational programmes. 	<p>NCG and Gender representative in DGEF / ANACM</p> <p>University of Comoros</p> <p>Meteorology Department</p>	Q4, Year 1 to Q4, Year 4	115,872

Objective	Action	Targets and Indicators	Responsible Institution(s)	Timeline	Allocated budget (\$)
Output 3: Climate Resilient Water Supply Infrastructure					
Activity 3.1 Undertake climate risk assessments of existing groundwater abstraction wells to develop risk reduction pumping strategies, and construction of additional boreholes in zones at risk of drought water scarcity in Grande Comore	<p>3.1.1. Site selection confirmation for new production borehole siting based upon review of groundwater piezometer installations.</p> <p>3.1.2. Step test salinity pumping tests of 6 existing production boreholes in Zones 1 to 5 to determine optimum pumping rate</p> <p>3.1.3. Design of 5 new production boreholes in Zones 1, 2, 3 and 4.</p> <p>3.1.4. Drilling, testing and commissioning of new production boreholes</p>	<p>Baseline: 0</p> <p>Target: 50% of beneficiaries are men, women and youth engaged in information dissemination activities.</p> <p>Indicator:</p> <ul style="list-style-type: none"> • Ensure equitable access to potable water resources for men, women and youth; • Ensure that women and youth are informed of the project activities; • Grievance mechanism established. 	NCG and Gender Representative in DGEF / DGEME	Q4, Year 1 to Q1, Year 6	346,900

Objective	Action	Targets and Indicators	Responsible Institution(s)	Timeline	Allocated budget (\$)
<p>Activity 3.2 Build infrastructure to increase resilience of water supply facilities to extended duration low flow periods, greater intensity flood flow damage and flood flow higher turbidity and bacteria loadings (Grande Comore, Anjouan island and Moheli island)</p>	<p>3.2.1 Grand Comore Island Construction of reservoir tanks, treatment plants, distribution network extensions and irrigation impluviums</p> <p>3.2.2. Anjouan Island Flood protection upgrades to surface water intakes, treatment plants, storage tanks and network extensions, and livestock and irrigation watering basins and troughs</p> <p>3.2.3 Moheli Island Flood protection upgrades to surface water intakes, treatment plants, storage tanks and network extensions, and livestock and irrigation watering basins and troughs</p>	<p>Baseline: 0 Target: 50% women beneficiaries</p> <p>Indicator:</p> <ul style="list-style-type: none"> • Number of women, men and youth with access to safe water; • Time saved for water collection by women and girls; • Number of women involved in Water User Associations. • Number of schools with improved water supply and number of children benefited. 	<p>NCG and Gender Representative in DGEF / DGEME</p>	<p>Q4, Year 1 to Q4, Year 7</p>	<p>346,900</p>

Objective	Action	Targets and Indicators	Responsible Institution(s)	Timeline	Allocated budget (\$)
<p>Activity 3.3. Installation of flowmeters to support climate resilient tariff adjustments, and leakage reduction programmes to improve the water pricing and management system taking into account the additional costs associated with climatic hazards</p>	<p>3.3.1. Installation of meters to improve the water pricing and management system taking into account the additional costs associated with climatic hazards</p> <p>3.3.2 Training to the water providers on the leakage detection and leakage reduction programming, operations and maintenance of meters</p> <p>3.3.3. Consultancy to analyse the consumption patterns and draft guidance for the water providers with respect to tariffs/pricing</p>	<p>Baseline: 0</p> <p>Target: 50% women and youth beneficiaries</p> <p>Indicator:</p> <ul style="list-style-type: none"> • Number of women staff members involved in flow meter installation; • Ensured equitable access to potable water resources for men, women and youth; 	<p>NCG and Gender Representative in in DGEF / DGEME</p>	<p>Q4, Year 1 to Q4, Year 7</p>	<p>346,900</p>

Annex K: UNDP Risk Log (To be provided)

Annex L: LOA with the government in case DPCs are applied

English version:

https://undpgefpims.org/attachments/5740/215762/1724351/1735832/FP094-UNDP-010419-AnnexXIII_LOA%20for%20DPC_English.pdf

French version:

https://undpgefpims.org/attachments/5740/215762/1723523/1734818/FP094-UNDP-150319-AnnexXIII_revised%20LOA%20for%20DPC.pdf

Annex M: Capacity Assessment including HACT micro assessment

<https://undpgefpims.org/attachments/5740/215762/1718369/1725631/FP-UNDP-5740-160818-Annex%20XIIIe-HACT-Assessment.docx>

Annex N: UNDP Project Quality Assurance Report (to be completed in UNDP online corporate planning system, does not need to be attached as separate document) (to be provided)