

Concept Note

Reducing flood impacts on transport corridors by mobilizing upstream surface water for the most vulnerable agro-pastoralists in Djibouti

Djibouti | United Nations Development Programme (UNDP)

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Concept Note

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Project/Programme Title: Reducing flood impacts on transport corridors by mobilizing upstream surface water for the most vulnerable agro-pastoralists in Djibouti

Country(ies): Djibouti

National Designated Authority(ies) (NDA): Ministry on Habitat, Urbanism and the Environment (MHUE)

Accredited Entity(ies) (AE): United Nations Development Programme

Date of first submission/
version number: 2017.12.15 V.1

Date of current submission/
version number: 2017.12.15 V.1

A. Project / Programme Information (max. 1 page)			
A.1. Project or programme	<input checked="" type="checkbox"/> Project <input type="checkbox"/> Programme	A.2. Public or private sector	<input checked="" type="checkbox"/> Public sector <input type="checkbox"/> Private sector
A.3. Is the CN submitted in response to an RFP?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, specify the RFP: _____	A.4. Confidentiality ¹	<input type="checkbox"/> Confidential <input checked="" type="checkbox"/> Not confidential
A.5. Indicate the result areas for the project/programme	<p><u>Mitigation</u>: Reduced emissions from:</p> <input type="checkbox"/> Energy access and power generation <input type="checkbox"/> Low emission transport <input type="checkbox"/> Buildings, cities and industries and appliances <input type="checkbox"/> Forestry and land use <p><u>Adaptation</u>: Increased resilience of:</p> <input checked="" type="checkbox"/> Most vulnerable people and communities <input checked="" type="checkbox"/> Health and well-being, and food and water security <input checked="" type="checkbox"/> Infrastructure and built environment <input type="checkbox"/> Ecosystem and ecosystem services		
A.6. Estimated mitigation impact (tCO ₂ e _q over lifespan)	N/A	A.7. Estimated adaptation impact (number of direct beneficiaries and % of population)	350,000 people (roughly 37% of the total current population)
A.8. Indicative total project cost (GCF + co-finance)	Amount: USD 28,870,000_____	A.9. Indicative GCF funding requested	Amount: USD 25,000,000_
A.10. Mark the type of financial instrument requested for the GCF funding	<input checked="" type="checkbox"/> Grant <input type="checkbox"/> Reimbursable grant <input type="checkbox"/> Guarantees <input type="checkbox"/> Equity <input type="checkbox"/> Subordinated loan <input type="checkbox"/> Senior Loan <input type="checkbox"/> Other: specify_____		
A.11. Estimated duration of project/ programme:	7 years (Jan 2019 – Dec 2025)	A.12. Estimated project/ Programme lifespan	20 years
A.13. Is funding from the Project Preparation Facility requested? ²	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Other support received <input type="checkbox"/> If so, by who: _____	A.14. ESS category ³	<input type="checkbox"/> A or I-1 <input checked="" type="checkbox"/> B or I-2 <input type="checkbox"/> C or I-3
A.15. Is the CN aligned with your accreditation standard?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	A.16. Has the CN been shared with the NDA?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
A.17. AMA signed (if submitted by AE)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If no, specify the status of AMA negotiations and expected date of signing: _____	A.18. Is the CN included in the Entity Work Programme?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
A.19. Project/Programme rationale, objectives and approach of programme/project (max 100 words)	The proposed project supports the Government of Djibouti (GoD) to (1) reduce the impacts of floods on the nation's key transport infrastructure; and (2) improve access of agro-pastoralists to water supplies that are resilient to the increasingly destructive impacts of floods and dry periods.		

¹ Concept notes (or sections of) not marked as confidential may be published in accordance with the Information Disclosure Policy ([Decision B.12/35](#)) and the Review of the Initial Proposal Approval Process ([Decision B.17/18](#)).

² See [here](#) for access to project preparation support request template and guidelines

³ Refer to the Fund's environmental and social safeguards ([Decision B.07/02](#))

Together, floods and droughts are responsible for the greatest percentage (58%) of combined economic losses in Djibouti.⁴ During the period 2005 to 2015, annual per capita freshwater availability in the region dropped by about 20 percent due to extensive dry periods in combination with salt-water intrusion induced by sea level rise.⁵ Simulations of the aquifer systems under climate scenario RCP 2.6 (2001-2100) predict a continuing decrease in groundwater levels and a significant advance in marine intrusion into the interior. Relative to agriculture, forage production has also been shown to decrease by as much as 44% due to floods and droughts.⁶

To reduce flood damages and improve access to water supply, the project will divert and mobilize water in strategic locations that will simultaneously reduce flood impacts on critical roadways downstream. Roadways in Djibouti, although recently built, have been damaged by increasingly frequent intense rainfall events. The transport corridors are keys to the country's economic growth as outlined in Djibouti's Vision 2035.

In response to these climate-related adverse impacts, **the objectives of the project are two-fold: 1) to mobilize climate-resilient water supplies for domestic use and/or fodder production for 8,500 agro-pastoralists and 2) to reduce potential flood induced damage to the surrounding infrastructure serving approximately 350,000 people (roughly 37% of Djibouti's population).**

The execution modality for this project will be UNDP's National Implementation Modality (NIM). The Implementing Partner (IP) for this project will be the Ministry of Habitat, Urbanism and the Environment (MHUE) who has managed over five adaptation projects since 2011.

B. Project / Programme details (max. 8 pages)

B.1. Context and Baseline (max. 2 pages)

Current Climate Change Impacts

The Republic of Djibouti's arid and semi-arid lands have been subject to early manifestations of climate change, including increasing temperatures and increasingly variable and unpredictable rainfall patterns. The Second National Communication (NC2) states that over the past 3 decades, an increase of between 0.5 °C and 1.5 °C has been observed in monthly absolute maximum temperatures. Over the same period, precipitation was significantly lower from April to July, while it was significantly higher in January and October.

The drought that plagued the country from 2008 to 2011 made it much less possible to maintain the ancestral pastoral livelihood practice for nomadic populations. The fodder deficit due to climate conditions has been noted as one of the major problems for pastoralists.⁷ Annual forage production decreased from 390 to 216 tons between 2002 and 2007 due to the adverse impacts and floods and droughts.⁸ In Djibouti, nomadic pastoralists have voluntarily settled around a few water points in order to exploit the increasingly limited water and fodder resources surrounding them. Conscious of this, the GoD, international organizations and NGOs have taken steps to facilitate the transition of pastoralists towards more sedentary semi-nomadic, agro-pastoral lifestyles by constructing water points and housing at a small scale.⁹ However, many water points have demonstrated insufficient capacities during increasingly frequent and more intense dry periods. Djibouti agro-pastoralists, similar to pastoralists across Africa's drylands, are increasingly marginalized by provision of water supply services that are uninformed by current and projected climate risks.¹⁰ A prime example was seen in 2012 when all of the traditional wells and 80 percent of the community wells in Djibouti were temporarily or permanently out of order because of water shortage during the dry period.¹¹ Water insecurity is still rampant as shown by the fact that all of the agro-pastoralists in the 37 villages visited during GCF project concept design are living in increasingly precarious situations in terms of water access. Water coverage for the needs of human consumption, agriculture and livestock is only 60.8%.¹²

⁴ <http://www.preventionweb.net/countries/dji/data/>

⁵ AFED (2017). Arab Environment in 10 Years. Annual Report of Arab Forum for Environment and Development, 2017; Saab, N., (Ed.); Beirut, Lebanon. Technical Publications

⁶ Djibouti Plan Directeur 2008 – 2019 (Master Plan)

⁷ 2016-2020 National Agricultural Investment and Food Security Programme (PNIASA)

⁸ Djibouti Plan Directeur 2008 – 2019 (Master Plan)

⁹ The Djibouti National Climate Change Strategy Version 4 (Mar 2017)

¹⁰ JotoAfrika Aug 2011. Adapting pastoralism to a changing climate. Issue 7.

¹¹ 2017 Humanitarian Response Plan – Djibouti, UNHCR (2016)

¹² IGAD. Djibouti: National Report on Drought Resilience. Sep 2017.

Water insecurity is in contradiction with the fact that Djibouti has approximately 345 million m³/yr of potentially mobilizable surface water compared to 30 m³/yr of exploitable groundwater resources.¹³ With over 10 times more surface water capture potential, national scientists are recommending no further increases in the exploitation of aquifers in 4 of the 5 regions of Djibouti (Arta, Ali-Sabieh, Dikhil and Tadjourah). There is a clear lack of replenishment of groundwater reserves and according to the PNIASA, only 5% of rainfall is likely to infiltrate and recharge the aquifers with current practices.^{14,15}

Flooding and an increase in extreme rainfall events are also becoming more frequent throughout Djibouti. Between 1990 and 2014, floods were responsible for almost 50% of human mortalities reported due to climate extremes. (Droughts were responsible for 27%.) Floods also caused the greatest percentage (37%) of combined economic losses in Djibouti.¹⁶ Djibouti's National Adaptation Programme of Action (NAPA, 2006) indicated that floods have been responsible for destruction of rural property (i.e., agro-pastoral plots) that are commonly located along the banks of *wadis* (ephemeral rivers), where the availability of water and fertile land is greatest. According to the National Agricultural Investment and Food Security Programme, floods in the 2003/2004 agricultural season, caused the destruction of a large part of the farms.

Continuous access on the roadways has also been hampered by flooding events and has resulted in delays on an average of 3 days due to parts of roads being washed away or impassable conditions until debris has been cleared along roads.¹⁷ Absence of climate-proofed infrastructure designs has resulted in significant erosion and sedimentation during and after intense rainfall events. The transport of sediments (sand through to large boulders) from upstream areas has blocked access to main road corridors. This has occurred along major roadways connecting Djibouti to Balbala and Djibouti to Nagad as well as the Dikhil-Galfi road and PK0 road to Randa. The recent cracking of the Ambouli Bridge in June 2017 from flood damage illustrates the vulnerability of roadway infrastructure to extreme climate events. A video of a flood in 2004 impacting transport infrastructure can be see here: <https://vimeo.com/256419658>. Moreover, meetings with the Djibouti Roadway Agency (ADR) indicated that planned roadway infrastructure are/will be located in the wadi or temporary river beds and are thus highly exposed to flooding damage. Wadis can extend up to several kilometres in width so traversing them is often necessary for transport corridors. High maintenance costs for roads due to erosion and sedimentation after flood events is becoming a main concern for the Ministry of Transport. The Djibouti Roadway Agency spent approximately USD 15 million between 2014 and 2016 on building 240 hydraulic works such as bridges after flood events damaged 110 km of roadway between Tadjourah and Balho.¹⁸

Projected Climate Change Impacts

Global and regional climate models generally project a steady increase in atmospheric temperatures over the current century for East Africa.¹⁹ According to Djibouti's Second National Communication (2014), climate change scenarios indicate that Djibouti will experience an increase in the annual mean temperature between 0.6 °C to 2.4 °C. Precipitation projections are less uniform for East Africa but generally are inclined towards more intense wet seasons.²⁰ It is highly likely that there will be an increased frequency of extreme wet days,²¹ a disturbance in seasonal rain cycles that will become more irregular and an increase in torrential floods associated with more frequent occurrences of rainfall extremes.²² This increase in precipitation has been ascribed to a variety of causes, from increasing water vapor in a warmer atmosphere, or changes to moisture transport by the Hadley Circulation, which transports warm and moist tropical air from the equatorial region towards the poles.²³ Climate projections have demonstrated that by 2050, mean annual precipitation is expected to increase by approximately 17%.²⁴ Juxtaposed next to wet events, there will be dry periods that are predicted to be less prolonged but more frequent than those that have marked the country over the past decade.²⁵

Djibouti's Strategy and the Proposed Project

¹³ 2016-2020 National Agricultural Investment and Food Security Programme (PNIASA)

¹⁴ Razack, M. 2016. Modeling the five aquifer system for all regions in the Republic of Djibouti. Assessing the sustainability of groundwater resources.

¹⁵ 2016-2020 National Agricultural Investment and Food Security Programme (PNIASA)

¹⁶ <http://www.preventionweb.net/countries/dji/data/>

¹⁷ Data provided by the Ministry of Transport, 26 Feb 2018

¹⁸ idem

¹⁹ AR5 IPCC: What's in it for Africa

²⁰ Africa. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC)*. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 1199-1265.

²¹ AR5 IPCC: What's in it for Africa

²² MHUE. Djibouti National Climate Change Strategy Oct 2017

²³ N Souverijns, W Thiery, M Demuzere and N P M Van Lipzig, Drivers of future changes in East African precipitation, *Environ. Res. Lett.* 11 (2016) 114011

²⁴ Djibouti's Second National Communication (2014)

²⁵ Tierney, J.E., Ummenhofer, C.C., deMenocal, P.B., Science - Climatology. 2015: *Past and future rainfall in the Horn of Africa*. e1500682 9 October 2015.

The proposed project responds to 4 of the 12 key vulnerabilities identified in Djibouti's NAPA,²⁶ (i) flooding, (ii) lack of water, (iii) loss of property and infrastructure and (iv) threats to livelihoods. The project is completely aligned with the 10, 20 and 40-year Objectives of the recently drafted **National Climate Change Strategy (NCC 2017)** that guide climate change adaptation and mitigation interventions, plans and related policies. Improving the resilience of transport corridors is also highlighted in each of the **five prefect's Regional Development Plans (PDR)**; The PDRs developed in the Spring of 2017 state that the absence of basic services such as water supply and robust access routes (roads, etc.) are the main constraints to sustainable development of the regions.

Baseline Initiatives and Investments

A high priority for the GoD has been to construct roads, railways and ports to facilitate access to markets for all Djiboutians with multiplier effects for reducing poverty and increasing employment opportunities. Current or planned transport projects amount to USD960 million (the Tadjourah port alone is USD 75 million). In February 2012, Djibouti signed a MoU with Ethiopia and South Sudan to create and strengthen cooperative economic development by agreeing to improve the competitiveness of Djiboutian transport facilities. In the coming decade, roads, railways and five new port facilities will be constructed thanks to the support of the Kuwaiti Fund for Arab Economic Development, the Saudi Development Fund and Exim Bank of China respectively. According to Djibouti's Vision 2035, rehabilitation and development of the Djibouti-Ethiopia road system will "restore new economic dynamics." By 2035, the Government of Djibouti hopes to see the country become "the Lighthouse of the Red Sea: a Commercial and Logistic Hub in Africa" whereby its shipping and transport infrastructure will open up the access of the country to markets.²⁷ New transport infrastructure already financed include the Tadjourah and Balho road (Kuwaiti Fund for Arab Economic Development), the south corridor crossroads of Arta Guelilé (European Union) and the Djibouti and Loyada Road (Islamic Development Bank). Priority roads to be constructed in the future include Djibouti-Tadjoura, Dikhil-Galafi, Djibouti-Ali Sabieh (Via Holhol). None of the existing or planned roads have been climate-proofed and are highly vulnerable to the impacts of climate change.

Additionally, due to an increasingly pressing priority to mobilize water in the context of climate change for the rural populations, approximately USD 45 million in investments are currently being made into the rural water sector.²⁸ The IDA/WB PRODERMO, EU SHARE, AfDB DRSLP, IFAD PROGRESS and the GEF-financed projects are mobilizing surface and groundwater in spot locations across Djibouti. All of the projects include construction and rehabilitation of water reservoirs, boreholes and shallow wells. Many support the diversification of pastoral livelihoods. Successful interventions in limited locations have facilitated the availability of water in rural areas and reduced travel distances for women fetching water.²⁹

The most relevant projects/programmes to the proposed GCF Djibouti project are listed in the PFS Section 3.1. These include:

- **UNDP GEF-LDCF3** project (2015-2019): Supporting rural community adaptation to climate change in mountainous regions of Djibouti
- **IDA/WB, PRODERMO II** project (2017-2019): Rural Community Development and Water Mobilisation Project
- **IFAD PROGRESS** project (2016-2021): Programme for Land and Water Management
- **AfDB DRSLP III** project (2013-2021): Drought Resilience and Sustainable Livelihoods Programme in the Horn of Africa
- **EU Resilience support to rural communities** project (2017-2021)
- **IsDB PRMSRVCP** (2014-2019): Programme to Strengthen Livelihoods and Vulnerability Reduction of the Pastoral Communities in the Republic of Djibouti
- **Ministry of Transport and the Kuwaiti Fund for Arab Economic Development:** Construction of the Tadjourah-Balho Road (cofinancing USD 10 m)
- **Ministry of Transport and IsDB:** Construction of the Dikhil Galafi Road (cofinancing USD 15 m)

In spite of these one-off interventions on small-scales, the rural populations are lacking a broad-scale provision of water, which will ensure their resilience to the increasingly intense impacts of irregular rainfall and dry periods. Djibouti also has limited availability of fodder-rich pasture.³⁰ The yield and productivity of fodder and other agriculture production has been limited due to inadequate access to water. Agricultural systems have been successful only in point interventions where water access has been designed sustainably.³¹ Furthermore, no projects thus far have focused on climate-proofing the roads or transport corridors in spite of their economic importance and critical contribution to improving accessibility and in enhancing sustainable development in the rural regions.

²⁶ Djibouti NAPA (2006)

²⁷ Djibouti Vision 2035

²⁸ UNDP Table of On-going Aid and Humanitarian Projects, July 2017

²⁹ IGAD. Djibouti: National Report on Drought Resilience. Sep 2017.

³⁰ IGAD. Djibouti: National Report on Drought Resilience. Sep 2017.

³¹ Mouloud village in Dikhil District, there is an existing scheme and farmers are producing vegetables including shallot, egg plants, okra, pepper etc. They are also growing fodder for feeding livestock.

Limited access to water and damage to infrastructure are compounded by the following barriers that must be addressed (discussed in detail in Section 2.21 of the PFS):

- 1) Nascent experience in climate-proofing infrastructure
- 2) Shortage of knowledge or technical capacity to apply water mobilization techniques in Djibouti
- 3) Lack of knowledge and technical capacity to adopt climate resilient agriculture practices
- 4) Limited fiscal and cross-sectoral planning ability to put the National Climate Change Strategy into action

B.2. Project / Programme description (max. 3 pages)

Due to the gaps and barriers aforementioned, the project will set a new precedent by capturing and diverting surface water upstream of roadways in order to serve the domestic and agriculture needs of agro-pastoralists while reducing flood impacts to the downstream road corridors.

To maximize benefits and to be in alignment with the national priorities outlined in the National Climate Change Strategy and highlighted in the Vision 2035, the project will build on the successes of the projects aforementioned and avoid their pitfalls by diverting surface water away from transport corridors vulnerable to flood damage. This surface water will be mobilized and directed to a series of treatment and storage facilities designed to be responsive to the unique needs of the communities. In some target locations, the water will be captured for multi-usage including domestic, agriculture production and livestock.³² (See map below.)

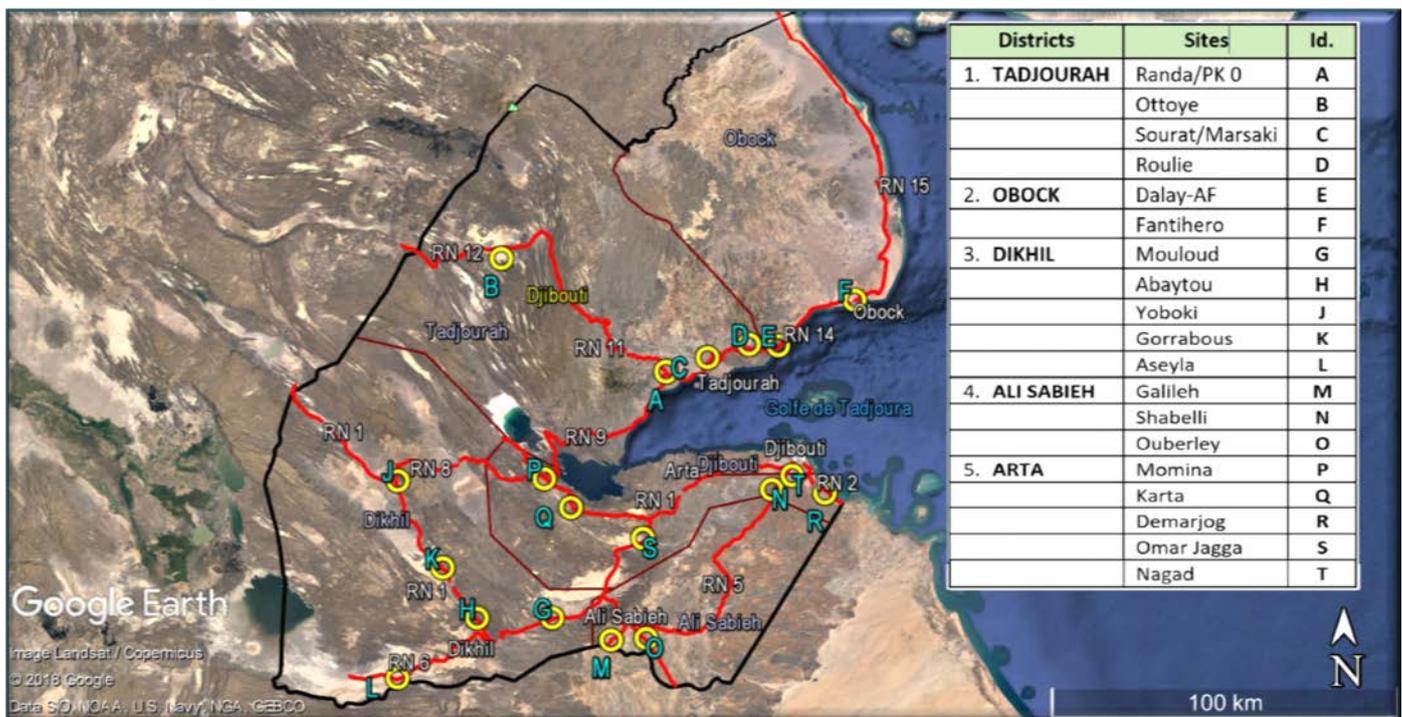


Figure 1: Map of targeted agro-pastoralist sites (identified by yellow circles) and corresponding downstream transport corridors (identified by red lines)

The project comprises 2 key outputs and a number of associated activities.

Output 1: Diversion of surface runoff as a means of climate-proofing downstream transport corridors

Output 1 will involve construction of subsurface dams, dykes and infiltration galleries to divert runoff and promote infiltration into aquifers. Infiltration galleries will be scaled-up because they have been shown to successfully capture water from seasonal streams after short localized rains in the target catchment areas (e.g., AF project). In conjunction with hard infrastructure, soft nature-based measures in the form of bio-stabilization measures such as re-vegetation and reforestation will be used to slow flows and reduce erosion impacts along particularly vulnerable roadway sections. They will simultaneously enable infiltration to increase groundwater supplies.

Through Output 1, Djibouti’s ability to divert water will be enhanced in the long-term by providing knowledge sharing on climate-proofed water diversion techniques to the Directorate of Large Works within the Ministry of Water and the Djibouti Roadway Agency within the Ministry of Transport to ensure coherent upscaling of climate-proofed designs when new roads are built.

³² In Galilé, residents have free reign livestock and use water points for house gardens and domestic uses

Cofinancing from the Ministry of Transport will be used to construct the road infrastructure including the bridges and culverts. GCF funds will be used to divert and capture the water upstream.

Output 1 responds directly to *Adaptation Axis 6* of the National Climate Change Strategy: Ensuring the resilience and sustainability of key infrastructure (transport, water) in the face of extreme climate scenarios by integrating climate change criteria into the design and construction of new production units vital to the nation

Activities under Output 1 include:

- Stormwater diversion and groundwater infiltration
- Soil stabilization techniques and replantation
- Development of engineering standards for storm water capture in rural areas
- Monitoring of climate impacts on infrastructure and facilitating knowledge sharing

Output 2: Mobilization of the surface runoff in Output 1 to the benefit of the agro-pastoralists upstream for domestic use and/or fodder production

Activities under Output 2 include:

- Stormwater capture with Construction of drainage channels linked to filtration/treatment systems and underground water storage tanks
- Subsurface water mobilization
- Training to local committees on best water planning and management practices
- Establishment of 40 hectares for forage and agricultural production
- Preparation of women-managed nursery plots
- Provision of silos
- Gender-sensitive capacity reinforcement
- Establishment of a Climate Change Monitoring Unit

Output 2 will enable agro-pastoralists to have sustainable water access.

In order to ensure sustainability of water supplies in the long-term, Output 2 includes reinforcement of existing Water User Associations to conduct community-based operation and maintenance. Based on the successes of the GEF-LDCF3 and IDA/WB PROGRESS projects, Water Point Management Committees will be trained on how to maintain the water points and to distribute water fairly according to traditional decision-making processes.

In select locations and **in collaboration with FAO**, Output 2 will use water collected for irrigation and cultivation of drought-resistant fodder, inter alia by promoting the production of a variety of local and regional drought-resilient forage plants. The establishment of grassroots nurseries run by women will produce the necessary varieties of drought-resilient seedlings. The fodder will be stored in silos to ensure there will be a constant supply, even during and after climate extremes.

In order to ensure sustainability, the existing Agro-pastoral Cooperatives will receive training on how to cultivate and store the drought-resistant fodder varieties. The Cooperatives will act as a showcase for climate-resilient fodder production across the country. Women will be trained on how to produce seedlings for a variety of drought-resilient forage varieties in the nurseries to be established in Output 2.

To ensure that water resources are sustainably managed, a Climate Change Monitoring Unit will be established within the Ministry of Higher Education and Research (MHER) to monitor water and groundwater resource evolution.

Cofinancing from the Ministry of Environment will support adaptation training and will provide the space and resources for the Climate Change Monitoring Unit. GCF resources will focus on improving water access, creation of nurseries, re-vegetation and provision of silos.

Output 2 responds directly to *Adaptation Axes 1, 2 and 3* of the National Climate Change (NCC) Strategy:

NCC Adaptation Axis 1: Ensuring access to water for all by favoring surface water capture, underground recharge, creation of reservoirs and multipurpose actions for flood control

NCC Adaptation Axis 2: Promoting best practices for increased pastoral production systems, facilitating settlement where desired

NCC Adaptation Axis 3: Increasing the resilience of the most exposed socio-economic and geographic sectors, including pastoralism, via monitoring of water supply systems, limiting losses and damage to resources in rural areas

Shifting the development pathway

Djibouti's Vision 2035 and its Accelerated Growth Strategy for Promotion of Employment (SCAPE, 2015-2019) highlight the need to improve the country's access to transport corridors to diversify the country's economic activities.³³ The project

³³ SCAPE (2015 – 2019)

will climate-proof 520 km of strategically and economically important roadways being built simultaneously by diverting and infiltrating upstream runoff. It will then capture this runoff for rural domestic and agro-pastoral use. Due to the fact that 25% of the rural population are still conducting pastoralism on over 94% of Djibouti's territory, the project will support the agro-pastoralists by promoting drought-resilient fodder production where soil conditions permit.³⁴

In such a manner, the GCF project will **provide the much needed climate-informed element to investments into the transport sector by safely capturing and utilizing the increased surface runoff for the benefit of the vulnerable agro-pastoralists in the vicinity.** The project will **shift Djibouti's development pathway** by reducing their dependency on dwindling groundwater resources and opening up access to simple yet effective water mobilization techniques that will improve sustainable, rural economic development alongside transport corridors.

The **Theory of Change (Section 6.3, Figure 27 in the PFS attached)** describes the interconnections between the project objective and outputs and how they address the existing barriers and build on the country's sustainable development strategies.

The project will be in line with the GCF's goals and objectives:

- Fund-Level Impact 1.0: Increased resilience and enhanced livelihoods of the most vulnerable agro-pastoralists in all 5 regions of Djibouti
 - ✓ Indicator 1.0: 95% less time for women to search for sufficient, good quality water
- Fund-Level Impact 2.0: Increased climate-resilient fodder production for 8,500 agro-pastoralists
 - ✓ Indicator 2.0: Sustainable forage and agricultural production systems established along 40 ha
- Fund-level Impact 3.0: Increased resilience of water and transport infrastructure to climate change threats
 - ✓ Indicator 3.0: Number and type of water and transport assets climate-proofed to reduce the impacts of floods and desertification for the 350,000 people that could potentially be impacted.

Water diversions upstream of roads in Output 1 will ensure that approximately 520 km of roadways can continue to serve the peri-urban and urban areas after intense rainfall events for over 350,000 beneficiaries (roughly 37% of the current population)³⁵. Based on field consultations with pastoral groups and ministries and institutions pertinent to agro/pastoralism while preparing the pre-feasibility study, it has been estimated that the proposed project will benefit approximately 8,500 agro-pastoralists in 17 villages to have sustainable access to climate resilient water and fodder supplies via Output 2. The approximately 135,000 nomadic pastoralists will also benefit from improved access to water and fodder along their grazing routes.³⁶ Over time, the water diversion and mobilization practices will contribute to improved recharge of ground water, increasing the availability of water for other outside communities.

Alignment with climate changes strategies and adaptation priorities

The Proposed project is highly aligned with Djibouti's climate change adaptation commitments and priorities. The Government of Djibouti ratified the **United Nations Framework Convention on Climate Change** in 1992 and submitted its **National Adaptation Plan of Action (NAPA)** in 2006. The project addresses 4 of the 12 NAPA priorities.

The Project is completely aligned with the Objectives and the implementation of the **National Climate Change Strategy**. The National Climate Change (NCC) Strategy has been recently drafted to guide climate change adaptation and mitigation interventions, plans and related policies. The National Steering Committee on Climate Change is being revitalized to implement the Strategy and ensure coherency of climate change actions.

The GoD has also formed a sectoral group on regional development and climate change resilience and has established key Priority Intervention Areas (PIAs) within **Djibouti's Country Programme Document (2018-2022)**.³⁷ The project addresses four of the key PIAs: PIA1) Environment and Natural Resources: water, pasture and land management; PIA2) Market access: market, transport, regional trade and infrastructure development; PIA3) Local livelihoods: agriculture production and income diversification; and PIA5) Knowledge management and sharing.

Furthermore, the project is entirely aligned with Djibouti's recently drafted **Intended Nationally Determined Contributions (INDC)** (2015). The INDC has recommended reducing the effects of flooding while restocking groundwater supplies. The GCF financed project is also in agreement with the **Second National Communication (INC2)** to the

³⁴ Djibouti Plan Directeur 2008 – 2019 (Master Plan)

³⁵ <http://worldpopulationreview.com/countries/djibouti-population/>

³⁶ Djibouti Plan Directeur 2008 – 2019 (Master Plan)

³⁷ http://www.arabstates.undp.org/content/dam/rbas/doc/CPD/CPD_DJIBOUTI_2013-2017.pdf

UNFCCC (2014)³⁸ which identifies Djibouti's principal environmental problem to be water scarcity and the ephemerality of surface water.

This project is aligned with the **National Initiative for Social Development**, (Initiative Nationale pour le Développement Social, INDS)³⁹. This initiative was launched in January 2007 to address Djibouti's social and economic challenges. The INDS aims to promote access to basic social services by strengthening institutional capacity, risk mitigation and preparedness.

In its 2016-2020 **National Agricultural Investment and Food Security Programme (PNIASA)**, the government has further laid out its strategy to support the rural sector, highlighting that fodder and water deficits are the largest problems. The PNIASA comprises four pillars: (i) regional food security; (ii) enhancing water resources for agricultural use; (iii) supporting vulnerable populations; and (iv) promoting new sources of growth and encouraging exportation. All four of these pillars are addressed by this project proposal.

Similar to the PNIASA, the project is fully consistent with the **Comprehensive Africa Agriculture Development Programme (CAADP)** – in which Djibouti participates – which calls for urgent action in areas related to invest in water and land management. The Outputs of the GCF financed project are also in-line with the Government's **Seven Pillar Mitigation Priorities**. Relevant pillars addressed by this project include: (a) establishing strategic foodstock (b) creating more sustainable and drought-resilient agriculture and (c) strengthening water management and retention.

The project is also coordinating with Djibouti's **National Adaptation Plan** process. To date, Djibouti has mobilized many Government, private and civil society organisations to provide awareness on adaptation.

Finally, the Project supports Djibouti's aim in achieving the **Sustainable Development Goals (SDGs)**. The project will address SDG 13 – climate resilience, SDG 2 – food security, SDG 6 – sustainable water management and SDG 9 – resilient infrastructure.

Accredited Entity

The Accredited Entity is the United Nations Development Programme (UNDP). UNDP has exemplified its success in developing and overseeing the implementation of numerous climate resilience projects in Djibouti over the past 7 years. UNDP is currently monitoring and supporting 4 climate resilience-building projects, more than any other agency or organization. UNDP was the first agency to succeed in accessing climate-related financing for Djibouti from the Adaptation Fund (AF) in 2010. The AF project in Djibouti was innovative and successful in scaling up the oasis-like shade gardening concept in the regions of Petit and Grand Bara which now serve as the premise and good case study for other projects including for Output 2 in the proposed project.

Furthermore, UNDP is now successfully providing oversight for the LDCF3 GEF-financed project that UNDP helped to develop. This project is building the resilience of mountain and rural populations with water mobilization and agro-pastoral production systems. The GCF project will build on the National Climate Change (NCC) Strategy, developed under the LDCF3 project.

Financial risks:

Risk	Mitigation Measure
Budgets allocated are insufficient to finance adaptation interventions after Project termination	Training provided by all Outputs will target all communities, prefect (regional) and federal institutions to budget for adaptation. Due to the fact that the Project will take place over 7 years, this will leave sufficient time for the institutions to accrue sufficient budget lines for adaptation interventions in the future.

Operational risks:

Risk	Mitigation Measure
Low level of cooperation between executing institutions	The implementation arrangements have been discussed in detail and have been accepted by all involved parties. MHUE is very willing to coordinate activities with the different implementing agencies (M. of Agriculture and Transport, as evidenced in the LDCF-financed and Adaptation Fund projects). The UNDP Country Office will closely monitor the project's execution so as to limit any deviations and redundancies.
Unforeseen natural hazards such as floods and droughts	Project investments will be climate-proofed in terms of their locations, designs and capture capacities so as to be able to withstand forecast future climate stresses. Diversified and secured access to water resources, combining surface and stored water, as well as the implementation of adapted cultivation techniques of forage varieties, will be used. Water

³⁸ Djibouti's Second National Communication to the UNFCCC 2014, http://unfccc.int/essential_background/library/items/3599.php?such=j&symbol=DJI/COM/1%20B#beg

³⁹ INDS document 2006: <http://www.solidaritenationale.dj/Document.php>

render the adaptation measures ineffective	points will be constructed with sufficient barriers. Trainings for existing Water Point Management Committees and the regional governments will include how to regulate the usage (volume, frequency, beneficiaries) and management of water resources.
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Social risks:

Risk	Mitigation Measure
The participatory approach could be ineffective due to lack of community ownership or lack of understanding on the part of implementers and beneficiaries.	Most community investments targeted by the projects (nursery development, revegetation, etc.) are relatively simple in their technical design and implementable in a reasonable timeframe (up to 1 year, as opposed to several years). For example, it is expected that the Catchment Management Committees and Water Point Management Committees will be trained and will be capable of providing maintenance during the first year after construction of the infrastructure. This will facilitate the participation and involvement of communities and will ensure that demonstrable results are achieved quickly, thereby avoiding frustration and credibility loss. This will be similar in the case of training Agro-pastoral cooperatives with drought-resilient fodder production.

Environmental risks:

Risk	Mitigation Measure
Works associated with water mobilization and retention infrastructures lead to unanticipated environmental impacts.	UNDP's Environmental & Social Screening Procedure and a preliminary EIA under Djibouti law have been applied during project development, providing a thorough analysis of possible environmental impacts of interventions, and their associated best management practices and mitigation strategies.

B.3. Expected project results aligned with the GCF investment criteria (max. 3 pages)

Paradigm Shift

The project promotes a **paradigm shift** by moving away from unsustainable groundwater extraction and ensuring climate-informed water and fodder production along transport corridors. The project will be the first to put the National Climate Change Strategy into action and to capitalize on the boom in transport infrastructure development to innovatively have a dual purpose use for runoff: 1) diverting runoff to reduce flood-induced impacts on roadways and 2) capturing this runoff for the domestic and agricultural use for the most vulnerable agro-pastoralists in Djibouti.⁴⁰ More robust transport corridors will provide sustainable market access in spite of increasingly torrential and irregular rainfall impacts. The captured runoff will also be directed to filtration and treatment units and then to a series of underground storage tanks. The storage tanks will be designed to store water during predicted dry periods for at least 6 months. The irrigation water will serve peripheral agro-pastoral communities to have relatively simple and water efficient forage production sites that will use a range of drought-resilient fodder types which flourish in arid and semi-arid lands. The fodder will be stored in silos to ensure that pastoral production will not be compromised during extended dry periods or due to extreme rainfall events. With these basic core inputs of water and fodder that will be accessible during climate extremes, the numerous projects focused on livestock value chain enhancement and nutrition improvements will benefit from a sustainable base of climate-resilient supplies throughout the year.

Sustainability will be achieved by building capacities from ministerial down to district levels on techniques to 1) climate-proof the growing amounts of infrastructure and 2) mobilize water for the growing rural population. Training for Agro-pastoral Cooperatives and Water Point Management Committees to manage water and fodder production systems in a climate-informed manner will be integral to ensuring the sustainability of adaptation interventions on local levels.

Details on how the project will address the GCF's four investment criteria for paradigm shift potential are indicated below.

Scale-up

The potential for replication of adaptation interventions is high due to several actions: Output 1 will improve the institutional capacities of the Ministries of Agriculture and Transport to divert and mobilize water in a coherent and coordinated manner. Water will be diverted with the dual-purpose of reducing downstream flood impacts on infrastructure and increasing infiltration to groundwater reserves. Output 2 includes modest investments in relatively simple water mobilization infrastructure that can be maintained by communities. Also, targeted support for relatively simple fodder production that is more drought-resilient and promotes water savings will more likely ensure its uptake by agro-pastoral communities. To date rural communities have had difficulties in sustaining more complex agricultural production for a variety of crops due to the complexities of soil and water management. The simple yet effective water and fodder

⁴⁰ Based on interviews with the Djibouti Railway Society (SDCF) and with the Djibouti Road Agency (ADR) conducted during July 2017

management practices that have been proven and will be applied can be easily transferred to and adopted by neighbouring communities through community-driven word-of-mouth extension.

GCF funds will be used to heavily involve CBOs in the implementation of the project to ensure that activities continue in the communities after project termination. Benefits of this approach are threefold; First, the CBOs, such as Water Point Management Committees and Agro-pastoral Cooperatives already have experience and have gained credibility in their communities. Second, following the lead of the LDCF3 and PROGRESS projects, capacity reinforcement will ensure that the CBOs have adequate technical knowledge on climate resilient fodder and water management practices. Third, the CBOs will make the project sustainable in the long-term by organizing and preserving training materials and lessons learned which can easily be transferred for scaling-up to other agro-pastoral communities in Djibouti.

Knowledge generation

In Output 1, capacity reinforcement for national, state and district institutions on climate-proofing infrastructure will enable them to build a best practice portfolio. Similarly, in Output 2, the Climate Change Monitoring Unit will closely monitor, and measure climate change impacts on water resources, contributing to appropriate adaptation practices in Djibouti. Also, trainings on water conservation and sustainable dryland management practices that are designed to build resilience during dry and intense rainfall periods will enhance knowledge transfer. The Agro-pastoral Cooperatives will facilitate knowledge sharing on developing nurseries for drought-resistant fodder. Similarly, Water Point Management Committees will ensure documentation of best practices on water management, including operation and maintenance and tariff setting for cost-recovery. This knowledge can easily be extended to other CBOs in other target agro-pastoral communities.

Enabling environments

The proposed project will contribute to the creation of an enabling environment that can facilitate climate risk integration into infrastructure planning. Also, activities that successfully provide water and fodder in alignment with the NCC Strategy will promote cross-sectoral support and further investments to put the strategy into continued action. The Project also includes training of government officials from the various ministries (environment, agriculture, livestock and transport) and all prefects to coherently plan for and upscale the adaptation activities. The Climate Change Monitoring Unit will collect data to give strong evidence for the impacts of climate change on water resources to justify subsequent investments into adaptation. Furthermore, the project will support women-based groups to proliferate nursery development for the production of drought-resilient forage throughout Djibouti. This will stimulate independent resilience building within agro-pastoral households who are often the most vulnerable to the impacts of climate change.

Regulatory frameworks

The project will be the first to put the National Climate Change (NCC) Strategy into action. The Ministries of Transport and Agriculture will be responsible for integrating climate risk information into planning, placing emphasis on the gender aspects of impacts and adaptation measures, in alignment with the NCC Strategy. Furthermore, the proposed Project will institutionalize the successful aspects of the proposed climate-proofing interventions into Regional Development Plans.

Water and land use will continue to be regulated based on land tenure. Officially rural land across the entire country is owned by the Government. However, a number of ethnic communities in the north use different sets of customary law to deal with issues and disputes relating to the use of land and water. In the northern part of the country, which is occupied by the Afar community and where several target villages are located, land and water issues must be considered because land is traditionally owned by tribes and sub-tribes and communication with the tribes is necessary to obtain approval to build and operate on the land. During full project preparation, land and water use agreements will be drafted between the tribes and the Government. No issues are foreseen based on stakeholder consultations, prior experience of implementing projects in the northern regions and the fact that the project brings significant socio-economic benefits.

Sustainable Development

The Proposed Project is closely aligned with sustainable land and water management in Djibouti with additional co-benefits related to employment and improved ecosystem services. Anticipated co-benefits from project activities that are associated with environmental, demographic, and gender-based national development priorities are highlighted in the bullets below.

Environment

- *Water conservation:* Agro-pastoralists will be trained to conserve water resources and to sustainably operate and maintain all water points via their local Water Point Management Committees.
- *Improved pasture quality:* Agro-pastoralists will be trained on how to improve the health and productivity of fodder on pasturelands and how to sustainably manage dryland vegetation in general.
- *Improved ecosystem services:* Pasture rehabilitation will serve to enhance the ecological diversity of the natural areas within Djibouti's Arid and Semi-Arid Lands.
- *Reduced erosion:* Water diversion and capture techniques both hard and soft will support the regions to have less runoff-induced erosion damage to the natural landscape.
- *Improved groundwater infiltration:* Surface water diversion and mobilization including through re-vegetation will enable the capture of rainfall to recharge groundwater tables.
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Gender empowerment

- *Increased women representation in decision-making and planning:* Training programmes, workshops, the Water Point Management Committees and the Agro-Pastoral Cooperatives will have at least 30% women to empower women and increase their presence in national and community-based decision making.
- *Integration of women in climate change adaptation planning:* Training for the Ministries of Agriculture and Transport will include integration of recommendations provided by the Ministry of Women and Youth, the UNFD and local Women's Associations.

Economic

- *Diversified employment for women:* Women will be supported to manage nurseries that will produce seedlings for drought-resilient local and regional varieties of forage. Women-based organizations will have a key role in the training for women-run nurseries. The nurseries will be mandated to sell the seedlings to the subsistence-based agro-pastoral plots to be developed under the project.
- *Employment opportunities for youth:* Adaptation interventions such as subsurface dam and shallow well construction will support local employment for youth.

Social

- *Implication of local leaders and traditional practices in design and implementation decisions:* Climate-informed land and water management planning will uphold traditional practices by continuing to support elder and religious leaders to lead decision-making.

Needs of the Recipient: Limited Capacity to Adapt to Climate Change

According to the World Bank, approximately 35 percent of Djibouti's economy is vulnerable to flood and drought.⁴¹ Drought-induced food insecurity has been rampant such as when it affected approximately 17% of the total population in November 2016 (predominantly the rural populations in the Northwest and Southeast of Djibouti).⁴² Similarly, according to a GFDRR report, the drought between 2008-2011 reduced agricultural GDP by 50%.⁴³

Floods have also wreaked havoc on the country; Between 1990 and 2014, floods were responsible for almost 50% of human mortalities reported due to climate extremes. The GFDRR Post-Disaster Needs Assessment indicated that the greatest damage and losses due to floods and droughts were found in the agriculture livestock, water, and sanitation sectors. During the period 2013-2018 interventions for drought and floods are expected to cost USD196 million.⁴⁴

Crop and livestock production in rural areas is becoming severely hampered due to recurrent droughts and floods.⁴⁵ Development of small-scale agro-pastoralism remains modest in Djibouti due to the increasing scarcity of water resources and reductions in available topsoil eroded during intense rainfall events in most rural areas. Increasingly insufficient fodder and water supplies caused income generated from animal husbandry to fall by approximately 4.8% between 2012 and 2013.⁴⁶ A decade ago, nomadic pastoralism was vibrant in Djibouti. Now, approximately half of the Djiboutian shepherds are today considered semi-sedentary around water points and villages, however, these breeders continue to travel 20 to 100 km for access to fodder and water.⁴⁷

With less productive agro-pastoral livelihoods, rural poverty is high and rural exodus is increasing. Poverty across the country is on average 21.1%, however, extreme poverty in the rural areas is 40.9% compared with 13.7% in the country's capital.⁴⁸ Consequently, the usual adaptation option is migration to the capital, Djibouti Ville, where the unemployment rate is extremely high (approximately 50%).⁴⁹

Responding to needs impacted by climate change

Immediate needs

There is an urgent need to mobilize surface water runoff at a large-scale due to the rapid decrease in groundwater quality and quantity. The activities proposed will capture and store the increasingly irregular and intense rainfall. Another immediate need is to have a secure source of drought-resilient fodder during dry periods. In spite of other initiatives focusing on livelihood diversification and value chains, no other project has addressed the basic need of fodder provision at a large-scale as a pre-requisite for healthy and productive livestock. A third need is to have resilient roads that are not destroyed by intense rainfall events with the consequence of severe impacts on Djibouti's trade economy.

Medium needs

⁴¹ Natural Hotspots Study: A Global Risks Analysis (Disaster Risk Management Series No. 5, World Bank, 2005)

⁴² WFP 2016. Atlas of Climate Risk and Food Security in the Greater Horn of Africa Region. Sep 2016.

⁴³ Djibouti Country Profile, Global Facility for Disaster Reduction and Recovery GFDRR (2015)

⁴⁴ Verner, Dorte, *Adaptation to a Changing Climate in the Arab Countries*, MENA Development Report, World Bank 2012.

⁴⁵ WFP 2016. Atlas of Climate Risk and Food Security in the Greater Horn of Africa Region. Sep 2016.

⁴⁶ WFP. 2013. Evaluation of the Food Security Situation in Rural Djibouti July 2013 (Evaluation de la Sécurité Alimentaire en zone rurale, juillet 2013)

⁴⁷ Djibouti. Programme National d'Investissement Agricole et de Sécurité Alimentaire et Nutritionnelle (2016-2020)

⁴⁸ Djibouti National Drought Report June 2017

⁴⁹ Djibouti Vision 2035

In the medium term, the project will provide the Ministries of the Environment, Agriculture and Transport with the technical expertise to divert surface water away from key vulnerable infrastructure. They will also be supported to ensure that budgets are in place to climate proof new and existing roads and have long design lives. This will enable continued economic growth so that marginalized agro-pastoralists can gain access to the market opportunities associated with the transport corridors.

Output 2 will also respond to the medium-term need of sustaining the water and fodder production after the lifetime of the project by transferring capacities on planning and maintaining water infrastructure and dryland fodder production practices to locally organized committees and cooperatives.

Long-term needs

In the long-term, Output 2 will enable the monitoring of groundwater and surface water resources. Output 1 will integrate this and other climate risk information into plans to enhance community preparedness to climate extremes. This will align well with *Djibouti's 20-year objective outlined in the NCC Strategy: Water resources are well-known and regulated, distributed and alternative supplies are available in case of shortage,*

Country Ownership

At the implementation level, there are several types of stakeholders that have been engaged during the implementation of the Project. The overall goal of stakeholder consultations has been to identify relevant agencies involved with supporting city and rural community adaptation and disaster risk preparedness, particularly those who will be responsible for continuing project activities in the long-term. Consultations have ensured the proposed project is grounded in local realities whilst being aligned with national policies and able to support the most vulnerable agro-pastoralists.

To ensure local ownership of the Project, stakeholder committees will be assembled in each of the implementation sites to inform and respond to project activities. Members of the stakeholder committees will be state representatives of key institutions including the Ministries of Agriculture, Husbandry, Water Resources and Land Planning and Transport as well as local NGOs/CBOs, the Agro-Pastoral Cooperatives, Water Point and Catchment Management Committees. Cross-visits for the stakeholder committee members will take place in order to promote sharing of lessons learned.

Civil Society Organizations (CSOs) play a crucial role in climate change adaptation and disaster risk reduction programmes and activities in Djibouti. Several of these NGOs focus on vulnerable groups such as women and children and conduct capacity building for agro-pastoralists. Several CBO representatives were consulted in the design of the project, including the Ecological Association of Ali-Sabieh, the Village Ecological Association of Adailou (EVA), the Integrated Development Association of Mabla (ADIM) and the Women's Association of Tadjourah.

Efficiency and effectiveness

The project will also be cost-effective by exploiting existing national capacities and organized committees to train locals on-the-ground. It will also build off of existing water diversion and mobilization infrastructure construction knowledge.

To estimate the economic soundness of this Project, a full economic analysis of the projects will be carried out during proposal development in accordance with the Guidelines for the Economic Analysis of Projects of United Nations Development Program (UNDP 2015).

The project also has a strong complementarity with ongoing government programmes/initiatives that have been able to provide co-financing such as those described in Section B. **GCF financing will permit the incremental/additional costs for adaptation for all relevant transport infrastructure and will ensure effective collaborations and synergies with the baseline projects as described in Section 8 of the PFS.**

C. Indicative financing / Cost information (max. 3 pages)

C.1. Financing by components (max ½ page)

The Ministry of Transport will provide cofinancing for Component 1 with the construction of the *Tadjourah-Balho Road* (USD 10 m) and the *Dikhil-Galafi Road* (USD 15m). The GCF project will cover the costs of climate-proofing 110 and 150 km of the roads respectively by diverting intense rainfall and encourage infiltration of the groundwater upstream to reduce flood impacts. Financing committed to the construction of these roads has been 150 and 110 million by the Kuwaiti Fund for Arab Economic Development and the Islamic Development Bank.

Ministry of the Environment (MHUE) in-kind co-financing for Component 2 is USD 3.12 million and includes provision of office space, staff, water and electricity for all groups including for the Climate Change Monitoring Unit. UNDP will also provide cash support for Output 2 by supporting implementation of the National Climate Change Strategy and institutional capacity reinforcement on planning and budgeting for adaptation activities.

Component	Indicative cost (USD)	GCF financing		Co-financing		
		Amount	Financial Instrument	Amount	Financial Instrument	Name of Institutions

		(USD)		(USD)		
1	40,000,000	15,000,000	Grant	25,000,000	Grant	M. Transport
2	13,870,000	10,000,000	Grant	3,120,000	Grant	M. Environment
				750,000	Grant	UNDP
Indicative total cost (USD)	53,870,000	25,000,000		28,870,000		

C.2. Justification of GCF funding request (max 1 page)

The GoD has recognized that no meaningful reduction in poverty can be achieved in the country without addressing the deleterious impacts of disasters and climate change.⁵⁰ As estimated by the GFDRR Post-Disaster Needs Assessment, during the period 2013-2018, interventions for natural hazards (flood and drought inclusive) are expected to cost Djibouti USD 196 million (about 4 percent of GDP). Adaptation measures are thus essential to mitigate the extreme event shocks.⁵¹ According to Djibouti's INDC (2015),⁵² in the case of an optimistic climate scenario, the cost of damage from natural catastrophes, most notably flooding, is likely to exceed USD 5 billion. Implementing adaptation measures would make it possible to anticipate and mitigate the effects of natural hazards. For example, an investment of close to USD 1 billion would enable a reduction of the total costs of impacts by two.

Classified as a Least Developed Country by the UN System, Djibouti is one of the poorest countries in the world, with an estimated 80% of the population being generally poor (<\$2/person/day) and 53% absolutely poor (<\$1/person/day). Djibouti also has an exorbitant unemployment rate at approximately 50%, with youth unemployment at 80%.⁵³ While the country has experienced an exceptional economic growth in recent years, it still has one of the lowest Human Development Indexes globally (172 of 188 countries) and one of the lowest among the Arab states. Located in the Horn of Africa, where political and humanitarian instability prevail, Djibouti hosts over 27,000 refugees (3.2% of the population), one of the highest densities in the world (from Somalia, Ethiopia, Eritrea and Yemen).⁵⁴ The pressure from the migrant and refugee population strains the country's limited resources and infrastructure. Consequently, Djibouti has limited financial resources that prevent it from adequately building resilience to climate change. In fact, the country is faced with significant debt that has increased from 50% to 85% of the GDP between 2015 and 2016.⁵⁵ They simply cannot afford to borrow from financial institutions.

As the project targets the very poor, there is limited scope for end users to pay for the services generated through the project.⁵⁶ There is no short or medium-term prospect of private sector investment in such public goods for the very poor. The additional investment required to build resilience to climate change in rural communities is prohibitive for a government that is financially constrained. Therefore, the project seeks grant financing for all of the aforementioned reasons to support its adaptation objectives.

C.3. Sustainability and replicability of the project (exit strategy) (max. 1 page)

Project/Programme sustainability.

The core strength of the proposed interventions in terms of sustainability is two-fold. First, by empowering the national and regional governments to mainstream climate risk information into designs for infrastructure development in line with the National Climate Change Strategy and the Regional Development Plans, adaptation options for climate-proofed infrastructure will be prioritized across sectors and funds will be able to be coherently mobilized to upscale interventions.

Secondly, through concrete measures such as the reinforcement of Catchment Management Committees, Water Point Management Committees and Agro-pastoral Cooperatives, local communities will be given the technical and operational capacities to plan, maintain and operate water infrastructure and fodder production sites. For example, the Water Point Management Committees will be provided training on how to repair solar-powered hand pumps for shallow wells and set water tariffs. Similarly, CBOs and Women-based Organizations will become empowered to replicate nursery development. By supporting community groups to plan, implement and monitor adaptation activities, they will be more easily sustained in the future.

⁵⁰ National Initiative for Social Development (INDS 2014), NAPA 2006, INDC 2015, INC 2001.

⁵¹ Verner, Dorte, *Adaptation to a Changing Climate in the Arab Countries*, MENA Development Report, World Bank 2012.

⁵² Djibouti INDC 2015

⁵³ Idem

⁵⁴ Djibouti Country Programme Document 2013 - 2017

⁵⁵ International Monetary Fund. April 2017. 2016 Consultations under Article IV – Press Release, Staff Report and Declaration by the Administrator for Djibouti. No. 17 / 87

⁵⁶ Cost recovery at water points managed by Water User Associations will support continued O&M.

The targeted interventions on-the-ground will also serve as models for climate sensitive investments for water diversion, mobilization, dryland rehabilitation and climate-resilient fodder production. For example, the Agro-pastoral Cooperatives will be able to demonstrate tangible improvements to productivity in the field with increased water storage and cultivation of drought-resistant forage. Enhanced fodder production will subsequently feed into the other baseline projects that are supporting the value chain of pastoral products (e.g., milks and cheeses) which will then provide success-based evidence to upscale the GCF activities. Moreover, through consultations with diverse stakeholders and documentation of lessons learned and emerging best adaptation practices, synthesized project results will provide clear strategies for the numerous vulnerable agro-pastoralists throughout Djibouti to improve their resilience.

The GoD has fiscal and management budgets to cover O&M. They are included in each Regional Development Plan. Government budgets will ensure the continuity of O&M payments in the future for the equipment and the infrastructure. As a general practice, large infrastructure will be maintained by the government while small infrastructure such as water points will be maintained by communities. During full proposal development, agreements will be signed with the communities on O&M responsibilities for small scale infrastructure. Capacity building on tariff setting, budgeting and planning will be provided to the Catchment Management Committees and the Water Point Management Committees.

Furthermore, asset transfer is part and parcel of project completion for UNDP projects. Transfer is done in agreement with the UNDP counterpart at the national level, generally via the Ministry of Finance. Assets are generally transferred to the relevant recipient agencies before project closure. In terms of results monitoring, government line ministries are responsible with UNDP oversight. UNDP will also undertake a Development Results Report to assess post-project impacts.

C.4 Engagement among the NDA, AE, and/or other relevant stakeholders in the country (max ½ page)

The proposed project has been designed using a highly inclusive and participatory process with extensive engagement in all 5 districts with 3 site selection field missions since August 2017. In collaboration with the current NAP process, numerous stakeholders have been consulted during initial preparatory stages for the GCF project. National experts from a variety of governmental and civil society institutions (such as the CBO Eva) have been heavily involved from the outset in the development and in the design of the proposed project. This involvement has focused on undertaking scoping missions in each of the project areas to consult with local authorities, traditional leaders, community cooperatives and other relevant government agencies.

The UNDP Djibouti Country Office meets with the Djibouti DNA, Mr. Dini Omar, once per week to discuss the progress and needs of GCF project development. The DNA is working with the Ministry on the Environment to facilitate the GCF readiness project and will regularly organize workshops to inform the 5 regional prefects on the status of the GCF project development with key partners. Other key stakeholders consulted and who will be implicated in project design and implementation (as indicated in Annex 7 of the PFS) include the following:

Stakeholders
Federal/Sector
Ministry of Habitat, Urbanism and Environment (MHUE), Directorate of Land Use and the Environment (DATE)
Directorate of Rural Hydraulics (DRH), and Directorate of Large Works within the Ministry of Agriculture, Livestock and Hydraulic Resources (MALHR)
Ministry of Women and Family
Ministry of Energy, Water and Natural Resources
Ministry of Equipment and Transport – Djibouti Railway Society and Djibouti Roadway Agency
Directorate of Economy, Ministry of Budget
Djiboutian Agency for Social Development (ADDS)
Djibouti Meteorological Agency
Technical / Research Institutions
CERD
University of Djibouti
Private Sector
Port of Tadjourah
EXIM Bank China
Regional Sector
Regional Government of Ali-Sabieh
Regional Government of Arta
Regional Government of Dikhil
Regional Government of Obock

Regional Government of Tadjourah
NGOs/CSOs
Village Ecology Association (EVA)
Association pour le développement integer de Mabla (ADIM)
Agricultural Cooperative of Assamo
National Women's Union (Union Nationale des Femmes Djiboutiennes, UNFD)
Women's Association of Tadjourah (Association des femmes de Tadjourah)
Association Ecologique d'Ali Sabieh
Donor Partners
African Development Bank (AfDB) (DRSLP III, PAEPARC, PARISER)
Islamic Development Bank (IsDB) (PRMSRVCP and Djibouti – Loyada roadway)
Intergovernmental Authority on Development (IGAD)
World Bank (WB) (PRODERMO II and PRRCP)
IFAD (PROGRESS)
UN Food and Agriculture Organization (FAO) (PRAREV)
European Union (EU) (PSSP – SHARE)
Kuwaiti Fund for Arab Economic Development
Arab Fund for Social and Economic Development – Saudi Development Fund, OPEP Fund for International Development

Some of the 26 agro-pastoral cooperatives with 1,433 members and 2 breeders' cooperatives with 600 members have also been consulted.⁵⁷ Almost all of these primary producer structures are characterized by weak technical and organizational capabilities. By strengthening their capacities, these producer structures will be able to contribute more significantly with the promotion of sustainable agro-pastoral activities.

D. Supporting documents submitted (OPTIONAL)

- Map indicating the location of the project/programme
- Diagram of the theory of change
- Financial Model
- Pre-feasibility Study
- Evaluation Report of previous project

Self-awareness check boxes

Are you aware that the full Funding Proposal and Annexes will require these documents? Yes No

- Feasibility Study
- Environmental and social impact assessment or environmental and social management framework
- Stakeholder consultations at national and project level implementation including with indigenous people if relevant
- Gender assessment and action plan
- Operations and maintenance plan if relevant
- Loan or grant operation manual as appropriate
- Co-financing commitment letters

Are you aware that a funding proposal from an accredited entity without a signed AMA will be reviewed but not sent to the Board for consideration? Yes No

⁵⁷ Djibouti Plan Directeur 2008 – 2019 (Master Plan)