



REQUEST FOR CEO ENDORSEMENT

PROJECT TYPE: FULL-SIZED PROJECT

TYPE OF TRUST FUND: LDCF

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PART I: PROJECT INFORMATION

Project Title: <u>Enhancing Climate Resilience of the Vulnerable Communities and Ecosystems in Somalia</u>			
Country(ies):	<u>Somalia</u>	GEF Project ID: ¹	<u>5592</u>
GEF Agency(ies):	<u>UNDP</u>	GEF Agency Project ID:	<u>5268</u>
Other Executing Partner(s):	<u>Ministry of Petroleum, Minerals and the Environment</u>	Submission Date:	<u>September 2014</u>
		Resubmission Date:	<u>Oct 27, 2014</u>
GEF Focal Area (s):	<u>Climate Change</u>	Project Duration(Months)	<u>48</u>
Name of Parent Program (if applicable):	<u>n/a</u>	Agency Fee (\$):	<u>760,000</u>
➤ For SFM/REDD+ <input type="checkbox"/>			
➤ For SGP <input type="checkbox"/>			

A. FOCAL AREA STRATEGY FRAMEWORK²

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Grant Amount (\$)	Co-financing (\$)
CCA-1	<u>Outcome 1.1</u> Mainstreamed adaptation in broader development frameworks at country level and in targeted vulnerable areas	<u>Output 1.1.1:</u> Adaptation measures and necessary budget allocations included in relevant frameworks	LDCF	<u>764,500</u>	<u>6,194,400</u>
	<u>Outcome 1.2</u> Reduced vulnerability in development sectors	<u>Output 1.2.1:</u> Vulnerable physical, natural and social assets strengthened in response to climate change impacts, including variability		<u>3,687,000</u>	<u>29,873,900</u>
	<u>Outcome 1.3</u> Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	<u>Output 1.3.1:</u> Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability		<u>503,000</u>	<u>4,075,600</u>
CCA-2	<u>Outcome 2.2</u> Strengthened adaptive capacity to reduce risks to climate-induced economic losses	<u>Output 2.2.1</u> Adaptive capacity of national and regional centers and networks strengthened to rapidly respond to extreme weather events	LDCF	<u>1,439,500</u>	<u>11,663,500</u>
	<u>Outcome 2.3</u> Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	<u>Output 2.3.1</u> Targeted population groups participating in adaptation and risk reduction awareness activities		<u>503,000</u>	<u>4,075,600</u>

¹Project ID number will be assigned by GEFSEC.

² Refer to the [Focal Area/LDCF/SCCF Results Framework](#) when completing Table A.

CCA-3	Outcome 3.2 Enhanced enabling environment to support adaptation-related technology transfer	Output 3.2.1 Skills increased for relevant individuals in transfer of adaptation technology	LDCF	733,000	5,939,000
Project Management Cost			LDCF	370,000	2,998,000
Total project costs				8,000,000	64,820,000

B. PROJECT FRAMEWORK

Project Objective: Enhanced resilience and improved adaptive capacity of vulnerable Somali communities in pilot areas, and the ecosystems on which they depend, to the adverse impacts of climate change

Project Component	Grant type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative co-financing (\$)
1. Enhancing Policies, Institutional Frameworks and Government Capacities	TA	1. Policies, plans and tools reviewed, revised, developed, adopted and implemented by government to mainstream and enhance adaptive capacity and mitigate the risks of climate change on vulnerable communities and critical ecosystem services	<p>1.1 Increased knowledge of national and sub-national institutions in integrated land and water management principles under conditions of climate change and in the ecosystem based approaches to climate adaptation (TA: USD 649,000)</p> <p>1.2 Government Departments complete sectoral analyses of climate risks, vulnerability and gender dimensions of climate change to facilitate mobilization of long-term financing for Climate Change Adaptation (TA: USD 150,000)</p> <p>1.3 Government officials review, revise or draft new policies, regulations and frameworks for the protection, conservation and management of land and water ecosystems under conditions of climate change (TA: 614,500)</p> <p>1.4 National and regional Disaster Risk Management institutions are reinforced to produce early warning products and to disseminate early warnings (TA: 606,500)</p>	LDCF	2,020,000	16,367,000

2. Piloting Ecosystem Based Adaptation strategies	INV/ TA	2. Models of community and ecosystem resilience developed and implemented in pilot areas selected in consultation with government and community stakeholders	<p>2.1 Ecosystem-based Adaptation (EbA) plans, Natural Resource Management (NRM) strategies and Integrated Water Management options for critical watersheds, rangelands, agricultural lands and forested areas are developed and piloted jointly by local governments and vulnerable communities at each location (INV/TA: USD 1,509,000)</p> <p>2.2 District Disaster Management Committees are established and Disaster Risk Reduction plans are generated to address community vulnerabilities to climatic change and to facilitate response and preparedness plans to reduce identified risk (TA: USD 184,000)</p> <p>2.3 Suite of physical techniques and adaptation measures including investment in medium and large-scale water infrastructure, reforestation, flood-control infrastructure, and watershed management developed to improve ecosystem resilience of critical watersheds, rangelands and forested areas through government support (INV: USD 3,687,000)</p> <p>2.4 Support for women’s livelihood diversification with the introduction adaptation technologies aimed to reduce dependence on dwindling natural resources (INV/TA: USD 230,000)</p>	LDCF	5,610,000	45,455,000
Sub-total				7,630,000	61,822,000	
Project management cost (PMC)				370,000	2,998,000	
Total project costs				8,000,000	64,820,000	

C. SOURCES OF CONFIRMED COFINANCING FOR THE PROJECT BY SOURCE AND BY NAME (\$)

Please include letters confirming co financing for the project with this form

Sources of Co-financing	Name of Co-financier (source)	Type of Co-financing	Co-financing Amount (\$)
National Government	Ministry of Petroleum, Minerals and Environment, Government of Somalia	In-kind	8,000,000
GEF Agency	UN's Joint Programme for Sustainable Charcoal Production and Alternative Livelihoods (PROSCAL)	Grant	12,320,000
GEF Agency	UNDP TRAC funding for Poverty Reduction and Environment Protection Programme (PREP)	Grant	1,500,000
GEF Agency	Poverty Reduction and Environment Protection Programme (PREP)	Grant	9,000,000
Bilateral Aid Agency	EU's MDG initiative for Somalia - Reducing hunger and food insecurity in Puntland region through improved and sustainable use of rangeland resources	Grant	34,000,000
Total Co-financing			64,820,000

D. TRUST FUND RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY¹

GEF AGENCY	TYPE OF TRUST FUND	FOCAL AREA	Country name/Global	Project amount (a)	Agency Fee (b)	Total c=a+b
UNDP	LDCF	Climate change adaptation	Somalia	8,000,000	760,000	8,760,000
Total GEF Resources				8,000,000	760,000	8,760,000

¹ In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table. PMC amount from Table B should be included proportionately to the focal area amount in this table.

² Indicate fees related to this project.

E. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

Component	Grant Amount (\$)	Cofinancing (\$)	Project Total (\$)
International Consultants	391,000	0	391,000
National/Local Consultants	1,212,000	0	1,212,000

F. DOES THE PROJECT INCLUDE A "NON-GRANT" INSTRUMENT? NO

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

PART II: PROJECT JUSTIFICATION

A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN OF THE ORIGINAL PIF³

1. No significant changes have been made to the original PIF. All outputs have been detailed and contextualized, and some outputs have been restructured/re-worded to emphasise the needs highlighted during the project preparation phase, as noted during workshops and bilateral/multilateral consultations.

2. Specific updates to the outputs include the following:

3. In Component 1, the sectoral analyses to be conducted in Output 1.2 will now also consider the gender aspects of climate change. Output 1.2 also focuses more on mobilizing long-term financing for Climate Change Adaptation to ensure project intervention sustainability. Due to the somehow unrealistically large scope of Output 1.3 in the PIF, the proposed project will focus on surface water, groundwater and terrestrial ecosystems specifically; marine ecosystems will be excluded because Stakeholders indicated that needs along the coast are not as great and that they have been supported through previous projects such as the World Bank's Tsunami Livelihoods Recovery Project after the natural disaster occurred.

4. Overall, the biggest change in Component 1 was to modify Output 1.4 not only to create/update Disaster Risk Reduction (DRR) policies to consider climate change, but also to support the relevant DRR ministries to have the capacities to disseminate early warnings. Stakeholder consultations during project preparation indicated that Disaster Risk Management agencies in all three zones suffer from serious capacity gaps including inadequate qualified staff; inadequate staff recruitment; low level of staff skills and knowledge on disaster management; limited access to information due to inadequate skills on Information Communication Technology (ICT); and lack of capacity building for Disaster Preparedness. Moreover, since the civil war erupted in 1991, Somalia has lost almost all of its climate and weather monitoring systems through vandalism and lack of maintenance. This was then followed by many years of missing data due to lack of DRM/DRR agencies. Consequently, new Climate Monitoring / Early Warning System entities will be created in Puntland and Somaliland while the existing Somali Disaster Management Authority in South Central (functioning only for one year) will be reinforced.

5. In Component 2, Output 2.1 also includes the development of Natural Resource Management and Integrated Water Management options and strategies. Output 2.3 is the former Output 2.2 from the PIF and the new Output 2.2 is a contextualized version of Output 2.3 identified in the PIF. The revised Output 2.2 reinforces both district and community capacities on Disaster Risk Management. Community-based DRM plans will be generated with the support of newly created District Disaster Management Committees to reduce identified risks associated with flooding and droughts.

6. Finally, an additional output focusing on strengthening women's livelihoods was deemed required by Stakeholders under Component 2. By having a separate Output (2.4) to emphasize gender, funds will be secured to support women to have diversified livelihoods. Women-based groups will be trained on adaptation technologies and supported to market the technologies to the rural populations. By providing women-based groups with business opportunities, this will increase women's asset bases and effectively, their resilience to climate change.

A.1 National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e.] NBSAPs, national communications, TNAs, NCSA, NIPs, PRSPs, NPFE, Biennial Update Reports, etc.

7. The proposed project relates to and will contribute towards Somalia's National Adaptation Plan (NAP) process by implementing activities in line with the recommendations of NAP. The proposed project is focused on building

³ For questions A.1 –A.7 in Part II, if there are no changes since PIF and if not specifically requested in the review sheet at PIF stage, then no need to respond, please enter "NA" after the respective question

resilience by addressing policy and institutional issues as well as building capacities for local actions. Specifically, the project will have a strong synergy with the NAP process for desertification. Somalia is part of a regional project supporting 20 GEF Eligible Parties to align their National Action Programs and Reporting Processes with the UNCCD (UNEP). The regional project goal is to contribute to better targeted investments in Desertification Land Degradation and Drought (DLDD). The LDCF1 project will complement the NAP process by taking concrete actions (such as reforestation) to combat land degradation. Also, the development of Land Use Policies will create a legal framework to support sustainable land management practices. Furthermore, the LDCF1 project will contribute data (such as baseline DLDD information) into any NAP monitoring and assessment systems and any future dryland strategies.

A.2. GEF focal area and/or fund(s) strategies, eligibility criteria and priorities.

8. The proposed project has been prepared fully in line with guidance provided by GEF and the LDCF Trust Fund. The project follows the guidance from the ‘Programming Paper for Funding the Implementation of NAPAs under the LDC Trust Fund’ (GEF/LDCF 2006). The project focus is also aligned with the scope of expected interventions as articulated in the LDCF programming paper and decision 5/CP.9. As climate impacts fall disproportionately on the poor, the project recognizes the links between adaptation and poverty reduction (GEF/C.28/18, 1(b), 29). The project has been endorsed by the national UNFCCC and GEF focal points in Somalia.

9. Component 1 of the project is in line with LDCF/SCCF Focal Area Objective 1 by reducing the vulnerability of communities to the adverse impact of Climate Change. Component 2 of this project support LDCF/SCCF Area Objective 3 by promoting the transfer and adoption of adaptation technologies. The technologies to be adopted in this project include adaptation technologies/packages to increase the productivity of farmers and pastoralists (Component 2).

10. Component 2 of this project supports LDCF/SCCF Area Objective 2 by increasing the adaptive capacity to respond to the impacts of climate change, including variability, at local and regional levels.

11. Moreover, Outcomes 1 and 2 of this project are aligned with the GEF/LDCF Portfolio Level Outcome/Output, “Capacity development at the local level to implement climate-related disaster prevention measures.”

A.3 The GEF Agency’s comparative advantage:

12. UNDP has a strong comparative advantage to implement this project, both corporately, based on its extensive experience and knowledge in the field of climate change adaptation and development, and locally on the ground based on its ongoing activities in the country. UNDP is one of the most active agencies supporting the Somali government in the area of climate change, having supported its first climate-related planning exercise vis-à-vis the development of the NAPA.

13. Since the collapse of the State institutions in 1991, UNDP together with around 23 other UN agencies in Somalia, has been helping Somalis recover from years of conflict and set Somalia on the path to development. It supports Somalis to build peace, reconstruct their infrastructure and rebuild institutions. In all its activities, UNDP encourages the protection of human rights and the empowerment of women. UNDP is an important and active member of the United Nations County Team in Somalia.

14. Given the long-standing commitment and experience in Somalia, UNDP has been able to develop partnerships with governments, local institutions and communities. This strong network places UNDP in an excellent position to lead this LDCF-funded project. It has been implementing projects under four programmatic areas, which include:

15. Through its Poverty Reduction and Environment Programme (PREP), UNDP has increased livelihood opportunities and improved natural resource management in vulnerable communities across Somalia. Under PREP, the UNDP has recently launched the UN Joint Programme for Sustainable Charcoal Production and Alternative Livelihoods, which is expected to make significant contributions to increasing the resilience of communities in Somalia.

16. As a trusted development partner and co-sponsor of UNAIDS, UNDP’s main focus is to build national capacities of government at all levels and work closely with civil society to support a coordinated and effective response to the HIV & AIDS epidemic.

17. UNDP's Rule of Law and Security Programme works towards improved security and protection under the law for all Somalis. As such, it seeks to advance human development by strengthening national and local capacities to prevent, mitigate and cope with the impact of violence.

18. UNDP is expanding its work to promote gender equality and women's empowerment by providing strategic support to relevant Somali stakeholders. It aims to empower Somali women to be able to determine and lead their own agendas, as well as inspire others, and holds leadership training and provides mentoring services to women active in government, civil society and the private sector. Meanwhile, through a wider engagement with young people, communities, and institutions, UNDP boosts efforts to promote gender equality and women's rights.

19. With the recent positive developments in Somalia and greater stability, UNDP has taken swift actions to relocate its office for Somalia from Nairobi to Mogadishu and intends to continue with a strong presence in the capital. Due to more peaceful conditions in Puntland and Somaliland, the UNDP offices are well established in the capitals of both regions respectively.

A.4. The baseline project and the problem that it seeks to address:

20. To escape the current trend into extreme poverty, Somalia's farmers and pastoralists urgently require resiliency to the impacts of extreme weather and climate change, as well as the means and know-how to more sustainably manage their limited natural resources. Currently, the concentration of population and economic activity is located in flood-prone areas and in conflict-ridden areas, in which climate-induced resource scarcity could escalate violence and political instability. Much of the country in the North is arid and semi-desert making it relatively unproductive for agriculture, with nomadic pastoralism the only potential livelihood option.

21. To support sustainable land management and preparedness for natural risks, climate risk management must be institutionalized from national down to local levels in Somalia. At the national level, the environment, water, agriculture and livestock ministries require significant technical and operational capacity reinforcement to support their mandates. After 20 years of civil strife, ministries and institutions are weak and there is little environmental coordination at a policy or regulatory level.

22. From a programme perspective there is currently no knowledge or practical experience on planning and implementing climate resilient development. Existing plans and strategies do not consider the risks associated with climate change, and there are no modalities to facilitate such transformational change in development planning. The broad absence of (or very weak) governance structures, particularly on decentralized levels, has allowed civil society to take on many roles of the government, particularly in Federal Somalia, generally in an ad-hoc and uncoordinated manner.

23. From a policy perspective, there are no legal means to promote and enforce sustainable natural resource practices. There are different environment related policies in place (e.g., the National Policy on Environment in Somaliland and a Disaster Risk Reduction Framework in Puntland). Despite their operationalization, the policies have remained largely inadequate in establishing an enabling environment for institutional capacity development, which would promote sustainable natural resource management, disaster preparedness and simultaneously entrench poverty reduction programming.⁴ Ministries simply do not have the capacity to formulate appropriate, relevant policies. For instance, there are currently no policies for sustainable forest management, watershed management and land-use management.

24. Inappropriate or absent regulation is reflected in the unsustainable Natural Resources Management (NRM) and rangelands that threaten the livestock trade. In fact, land issues and conflicts between farmers and pastoralists are common due to the lack of policies on land tenure and water rights.⁴ Most critically, in the absence of effective strategies to link NRM with livelihood generation and job creation, Somalia's interlinked crises of unemployed youth, forced displacement, contested land, drought and natural resource depletion presents a risk to Somalia's peaceful development.⁴

25. Exacerbating the lack of governance are severe constraints in financial resources, which can support qualified technical personnel. Trained technical personnel often leave ministries to join international NGOs or leave Somalia for

⁴ African Research Initiative for Somalia 2013, Country Report on the Millennium Development Goals (MDG Report)
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more lucrative positions abroad.⁵ Consequently, the government lacks technical capacities to manage water resources effectively; e.g. hydrologists and meteorologists. Lack of borehole maintenance and inappropriate borehole design has resulted in low water tables and poor groundwater quality.⁴

26. The lack of manpower to support environmental management conflicts with the fact that, at present, Somalia has 73 percent of its population below the age of 30, the highest in the country's history. Youth often have a stronger awareness of environmental issues and a greater stake in long-term sustainability, particularly as agents of change.⁶ Nevertheless, there is no long-term strategy to train the youth to be the next workforce to improve natural resource management. Consequently, many young people are trapped in an environment of violence, fear, unemployment and poverty. Experiences from Somalia and elsewhere show that when large numbers of young people are jobless and have few opportunities for positive engagement, they become a ready pool of recruits for extremists (e.g., al Shabaab).

27. Similar to the limited budget for technical personnel, the proportion of budget allocated to conservation expenditure and adaptation actions is also negligible. Most government budget lines are used to support short-term priorities such as drilling boreholes when shallow wells (berkads) become dry. Consequently, farmer and pastoralist communities in the regions of highest rainfall variability largely depend on humanitarian aid to buffer risks during drought periods (such as during the drought of 2011).

28. On the local level, proactive, community-based natural resource management and disaster preparedness is limited. Communities lack knowledge of effective rainwater harvesting techniques and are unable to efficiently capture and store runoff during heavy rains for use during the dry season.⁷ A small number of villages capture and store rainwater, but this is not done systematically. Water sources and reservoirs have also deteriorated from silting due to weak community and government level management. Furthermore, rural communities are also unable to practice sustainable rangeland/pasture management, so as to ensure sufficient food and fodder supplies during periods of drought.

29. Marginalization of the women and youth is furthermore exacerbating the potential to use natural resources sustainably in Somalia. Women in rural areas are identified as one of the most vulnerable groups in Somalia. Within the female headed household, women are obliged to grow food, to gather fuel and water, to cook, and to rear children.⁸ The sexual division of labour, unequal access to both material and non-material resources and women's diminished participation in decision-making in both political and private domains generally result in increased vulnerability of women to the impacts of climate change. In Somalia, women are found to be responsible for finding solutions to feed their families during crisis situations. Gender inequality is alarmingly high at 0.776 out of a value of 1 (complete inequality), with Somalia at the fourth lowest position globally on the Gender Inequality Index (GII), if internationally comparable data were available.⁹

30. Exacerbating the adverse impacts of unsustainable land and water management on communities and women, is the fact that the government lacks hydro-meteorological infrastructure to monitor and assess the weather, the climate and water levels, so as to forewarn Somalis of impending natural disasters. The situation is dire for Federal Somalia, because no hydro-meteorological stations exist to assist in generating weather warnings. Consequently, limited drought and flood warnings are communicated to rural populations.

31. It is predicted that extreme weather risks are expected to increase in Somalia. Climate change prediction analyses have been derived from the FAO Somalia Water and Land Information Monitoring (SWALIM, 2002-2012) programme database, the NAPA (through the support of the IGAD Climate Predictions and Assessments Centre, ICPAC) as well as from neighbouring countries in the Greater Horn of Africa (GHA) region. Based on the IPCC Global Climate Models (GCMs) and the new generation of the Earth System Models (ESMs) from the Fifth Phase of Coupled Model Inter-comparison Project (CMIP5) and Regional Climate Models (RCMs), the most recent global projections

⁵ Somalia Ministry of National Resources 2013. National Adaptation Programme of Action on Climate Change for Somalia (NAPA 2013)

⁶ UNDP 2012. Somalia Human Development Report 2012: Empowering Youth for Peace and Development

⁷ Somalia Ministry of National Resources 2013. National Adaptation Programme of Action on Climate Change for Somalia (NAPA 2013)

⁸ African Research Initiative for Somalia 2013, Country Report on the Millennium Development Goals (MDG Report)

⁹ UNDP 2012. Somalia Human Development Report 2012: Empowering Youth for Peace and Development

show that Somalia is expected to experience a steady future increase in temperature, rising to 3.2 °C by 2080.¹⁰ A gradual increase in total rainfall is expected in Somalia with increasing seasonal variability, as well as an increase in the frequency and severity of future droughts and flash flood events.¹⁰

32. Without any intervention, management and planning to address the aforementioned problems related to land/water use management and flood/drought preparedness, particularly for the long-term, will become more challenging. Climate change will invariably act like a threat multiplier that will most severely impact the rural populations dependent on climate-sensitive agriculture and pastoralism in Somalia. With a population growth rate of at least 2.3%,¹¹ vulnerabilities will only be exacerbated by the rural populations' pre-existing problems such as conflict, poverty and unequal access to scarce resources.

33. The institutional, financial, technological and informational barriers in Somalia include the following:

- Political disintegration/lack of coordination;
- Absence of, and lack of, coordination and decentralization among natural resource policies;
- Limited technical and operational capacities to support adaptation on national levels;
- Limited knowledge and capacity to respond to climate change on national and local levels;
- Unsustainable water and natural resource management practices;
- Limited climate monitoring and weak disaster risk preparedness capacities;
- Limited national financing and ad hoc, uncoordinated donor responses for long-term climate change adaptation measures; and
- Limited socio-economic development and diversification of livelihoods to build resilience to climate change for women.

34. Other baseline projects have tried to address these barriers and problems. LDCF1¹² funds will complement other on-going and planned adaptation-related projects listed below. Details on how LDCF funds will be used to build off and complement the baseline projects are included in the boxed text below the project descriptions.

35. ***The New Deal Compact*** (*Government co-financing through Federal and Regional Level Plans - USD 8,000,000*): On the 30th of November 2011, at the 4th High Level Forum on Aid Effectiveness, the New Deal for Engagement in Fragile States ("The New Deal") developed through the forum of the International Dialogue for Peace-building and State-building was presented and widely endorsed. While bilateral and multilateral agencies in Somalia have been providing humanitarian support, the New Deal calls for a shift, and for support to be provided by international organizations for long-term development needs. During the consultative process leading to the Compact, the FGS and development partners made specific reference to the lack of environmental protection and lack of coping capacities to respond to climate change, and how these constrain and negatively impact the development of the primary production sectors, namely agriculture, livestock, fisheries and infrastructure.

36. The LDCF-funded project will ensure that projects are in-line with the key objectives of the New Deal and other relevant zonal plans. For example, stemming from the New Deal, the Somaliland government developed a ***National Development Plan (NDP)*** for 2012-2016, for which it employs its own funds and seek development assistance from donors for implementation. The plan includes sectors, namely, environment, rural development, agriculture, livestock and disasters management, that are directly linked to the LDCF1 project. The NDP allocates USD 36.92m for the Environment and Rural Development sector and USD 5.92m for Disaster Preparedness and Management. Similarly, Puntland has completed its 5-year Development Plan and Federal Somalia is in the process of preparing a national development budget.

¹⁰ Somalia Ministry of National Resources 2013. National Adaptation Programme of Action on Climate Change for Somalia (NAPA 2013)

¹¹ Verner, Dorte, 2012. *Adaptation to a Changing Climate in the Arab Countries*, MENA Development Report, The World Bank

¹² As this is Somalia's first LDCF-financed project, it will be simply referred to as the LDCF1 project.

37. LDCF1 project outputs will directly support the goals stated in the zonal development plans and will have specific activities aligned with the federal-level plan. Most notably, the infrastructure and grazing restoration activities identified during project development were prioritized by the Ministry of Environment, and will address part of the unfunded required actions by the NDP.

LDCF funds will be used to enhance the New Deal initiatives and zonal development plans by developing policies for sustainable land-use and reinforcing the appropriate institutions to enforce environmental protection. The proposed project will also support Somalia's core productive livelihoods, agriculture and pastoralism by providing farmers and pastoralists capacity reinforcement on best practices for sustainable Natural Resource Management.

38. **UN Joint Programme for Sustainable Charcoal Production and Alternative Livelihoods (PROSCAL)** (2013-2015, co-financing USD 12,320,000): The UN Joint Charcoal Reduction Programme (CRP) is in response to the UN Security Council resolution 2036 (2012) that seeks international cooperation to ban illegal exports of charcoal from Somalia. The successful implementation of the Joint Programme will contribute towards the protection of Somali natural resources endowments, which is critical to ensure the livelihoods of the large pastoral/agro-pastoral Somali population. The specific objectives of the programme are: 1) Support Somalia, as well as countries in the Horn of Africa and the region, to produce pertinent legal instruments and strengthen enforcement mechanisms at national, regional and local levels; 2) Promote alternative sources of energy to reduce local charcoal consumption; and, 3) Provide alternative livelihoods to the Charcoal Value Chain Beneficiaries (CVCBs) involved in the charcoal production and trade.

LDCF funds will be used to provide alternate livelihoods such as by empowering women to sell adaptation technologies (e.g., rainwater harvesting equipment). Also, the land use policies to be developed in each zone and reforestation activities will restore ecosystem services required to improve present agro-pastoral livelihoods.

39. **UNDP Poverty Reduction and Environment Protection (PREP) Programme** (2013-2015, co-financing USD 1,500,000 from UNDP Trac funding and USD 9,000,000 from the PREP programme budget): UNDP-Somalia Poverty Reduction and Environment Protection Programme (PREP) supports vulnerable communities by providing pro-poor social services towards achieving the MDGs and by creating an enabling environment for reconstruction and development. It strives to increase local community's income, improve their ability to manage natural resources, and prevent or mitigate the impact of disasters, both natural and man-made. The programme specifically focuses on community support, with a broad range of partners at the community level and in the private sector.

40. The goal of local economic development in PREP is primarily achieved by investing in the productive infrastructure (e.g. feeder roads, markets, irrigation systems, agricultural land reclamation, slaughter houses, fishery facilities and water catchments for livestock use), and social infrastructure and community facilities (e.g. water networks, waste water treatment plants as well as health and education facilities). The geographical focus of these fast-track early recovery schemes is in areas where there is high probability of achieving peace and stability, and / or generates significant short-term employment opportunities. LED projects have included the installation of gabion, water diversion infrastructure and earth dam construction.

With the support of the LDCF, efforts will be made to construct and rehabilitate water mobilization infrastructure (e.g. replacing open water irrigation canals with piping systems) and making ecosystems more climate resilient (e.g., through water diversion and gabion construction). Such activities will significantly reduce downstream maintenance costs and offer more sustainable solutions to cope with extreme climatic events in Somalia. Also, the proposed project will develop policies and reinforce institutional capacities to enforce NRM. Simultaneously, the proposed project will build off the water mobilization and diversion designs and techniques tested in the Local Economic Development projects under PREP. It will take lessons learned as to how to engage NGOs and CBOs in project implementation and then upscale interventions with the revitalization of CBOs in the target areas.

41. **MDG initiative for Somalia- Reducing hunger and food insecurity in Puntland region through improved and sustainable use of rangeland resources** (2013-2019, USD 34,000,000). The EU's **SHARE Initiative - Support to Horn of Africa Resilience** includes two baseline projects: 1) the MDG initiative and 2) the Economic Development

Programme for Growth and Resilience (see Section 2.3.2). The *MDG initiative* targets Puntland due to the recurrent drought and land degradation in Puntland, the fact that there are fewer initiatives to improve food security in Puntland relative to Somaliland and that environmental degradation in Puntland has reached levels of very serious concern among the international community, Puntland stakeholders and the regional Government. Through the MDG initiative the EU aims to help plan, implement and monitor the programme by using local authorities and communities and by building their capacities in a sustainable way. The MDG initiative aims to combat rangeland degradation by improving the sustainable use of rangeland resources and bringing over 1.5 million pastoralists, agro-pastoralists and other vulnerable rural people earning less than a dollar/day, above the poverty line (thereby contributing to improving Millennium Development Goals (MDG) 1 (food security and water infrastructure development) and MDG 7 (managing rangelands). Moreover, restored rangelands are planned to provide full and productive employment to rural populations through revived rangeland-based livelihoods and Cash for Work¹³ opportunities. Furthermore, the initiative is making local development have greater impact by harmonizing traditional rules (Xeer) with the government objective to promote conservation of the environment. The MDG initiative is facilitating the adoption of community plans at local level and supporting the interaction among communities toward the management of conflicts based on disputed natural resources.

42. In the MDG initiative, a new set of economic activities will stand on the side of traditional ones. These activities – in both environmental protection and rangeland monitoring - will strengthen the local management of rangelands, will provide vocational training and will increase the number of people that will have decent, socially recognized work. It will also focus on Integrated Water Resource Management (IWRM). In order to establish appropriate Monitoring and Evaluation, the communities will first assess the natural resources that are available in their area of influence. Next, communities will prepare a plan for the general management and conservation of the natural resources. Each plan will be budgeted and the community will contribute to the budget. A committee formed within the community supervised by the project will implement the plan.

43. Specifically, the MDG initiative has similar objectives as the LDCF1 project in the Puntland area and will provide full support in the following aspects:

- Combating rangeland degradation and improving the sustainable use of rangeland resources;
- Providing employment to rural populations by i) reviving rangeland-based livelihoods, ii) creating jobs linked to environmental monitoring and protection and iii) providing Cash for Work opportunities;
- Empowering communities to manage small funds for projects to mitigate drought or to improve their livelihood with a Community Driven Development (CDD) scheme; and
- Strengthening institutional, policy and legal frameworks for rangeland protection.

44. The MDG Initiative Result (bullet point 4 above) includes strengthening institutions and policy frameworks. Specifically, the Initiative includes the development of an overall Rangeland Policy based on updating enacting and implementing existing relevant policies. For instance, a law that rescues traditional values and codes with regards to rangeland management is planned to be developed, discussed with civil society and approved by the Parliament. As a baseline project providing cofinancing for the LDCF1 project, lessons learned from the MDG initiative will support successful development of a National Climate Change Policy.

As the MDG is only concerned with Puntland, lessons learned and successful on-the-ground activities from the MDG initiative will be expanded in the proposed project in Somaliland and South Central. Concepts to be upscale include using policy development, Cash for Work, restoring rangelands and building on the natural resource dispute resolution process at the local level. In return, the adaptation alternative provided by the proposed project will create and enforce land use policies which will be directly relevant to all rangeland activities by the MDG. It will also create an over-arching National Climate Change Policy to guide adaptation activities and mobilize funds for future adaptation measures (based on lessons learned from the Rangeland policy to be developed by the MDG initiative). LDCF funds will also support ministries, institutions, CBOs and communities by increasing their awareness on climate change adaptation and disaster preparedness.

¹³ "Cash-for-work" is a short-term intervention to provide temporary employment in public projects - such as repairing roads, clearing debris or re-building infrastructure - to the most vulnerable segments of a population.

45. The following two projects/programmes by AfDB and FAO are considered baseline but will not be providing cofinancing. The AfDB DRSLP programme is still under development, so it cannot provide co-financing at this stage. Similarly, rather than provide cofinancing, FAO will sign an inter-agency agreement with UNDP so that their extensive expertise can be used to support activity implementation. It is planned that FAO will provide direct support by assisting with Agro-Pastoral Field School development.

46. The *Drought Resilience and Sustainable Livelihoods Programme in the Horn of Africa (DRSLP)*, African Development Bank (46.5m USD, 2013-2017, AfDB, including external resources from SDC Swiss and a pending GEF – LDCF initiative). The *DRSLP* is aimed at building resilience and sustainable livelihoods for pastoral and agro-pastoral communities in drought-prone areas in all zones of Somalia (Somaliland, Puntland and South Central). The *DRSLP* programme will be focusing on Somalia and Chad, and will be implemented by the Ministry of Environment in Puntland. The *DRSLP* plans and target areas have not yet been finalized. The programme foresees the following general objectives:

- Providing water mobilisation schemes (e.g., boreholes, Berkads, infiltration galleries);
- Improving rangeland management;
- Building technical capacities on the national level for the Environment and Water ministries; and
- Providing training to communities on water resources management and community infrastructure maintenance.

A strong collaboration between the AfDB and UNDP will ensure that trainings are consolidated and that water mobilisation efforts are complementary in Somalia for i) Natural Resources Management (NRM); soil and water, sand dunes, ranges and grazing lands; ii) Market access; roads, feeder and access roads, markets, iii) Livelihoods; income generating activities and iv) Capacity building for relevant line ministries. Once AfDB plans and target areas are finalized, LDCF funds will be used to enforce sustainable NRM activities on the ground by developing integrated land-use policies in each zone of Somalia, and to empower CBOs to share knowledge with the communities on sustainable grazing practices and flood and drought preparedness.

47. *Somalia Water and Land Information Management (SWALIM)* service (currently in Phase V): This service gathers significant weather and climate data, as well as data on land and water resources, to support donor interventions. SWALIM manages 80 manual rain gauges, 6 Automatic Weather Stations (AWS) and synoptic stations in Somaliland and Puntland. Data is collected every month or every 5 days if there is urgency, such as an impending flood event. Data is sent to Nairobi, the headquarters of SWALIM, where the data is treated and analysed. Through the SWALIM initiative, FAO is therefore responsible to act as a data centre supporting each ministry's mandate. After data treatment, data is transferred back to the ministries in the form of monthly bulletins, 5-day forecasts and crop forecasts for Somaliland and Puntland. SWALIM is also ensuring that capacities are transferred to the national ministries; FAO SWALIM has a Letter of Understanding (LoU) with the pertinent line ministries to provide a Capacity Development Programme over 5 years. Ministries of Agriculture, Environment and Water in all zones are currently being seconded to FAO for training and access to data treatment/analysis equipment. Two ministry representatives from each ministry are being trained. Every 6 months there is an inter-ministerial coordination committee to discuss monitoring needs/issues. An issue is that after training, the trained individuals often leave for NGOs.

48. Currently, alerts are disseminated by weekly and monthly bulletins, and via email/radio. Due to monitoring constraints, downscaled forecasts for flood and seasonal droughts are required. Also, stakeholder consultations indicated that alerts would be more effectively communicated with SMS.

49. SWALIM has created a drought tool to quantify which areas are most vulnerable. They have also conducted a land degradation assessment (LANDA), including detecting land-use changes over time using satellite images. Within SWALIM, they have also created a working group to establish a flood risk and response information management system. FAO is also training NGOs to develop contingency plans for floods and droughts. Furthermore, in South Central Somalia, FAO works mainly with NGOs using Cash for Work (CFW) schemes.

50. Most relevant to this project, FAO is leading Farmer Field Schools throughout Somalia. The technical experts provide guidance on Soil and Water conservation practices in addition to sustainable grazing practices.

The LDCF financed project will be used to build off the capacity building work by FAO SWALIM, most notably in the development of in-house Climate Monitoring and Early Warning System (CM/EWS) centres for Puntland and Somaliland. LDCF funds will be used to do additional testing to improve alert dissemination in each zone and to decentralize disaster preparedness capacities with the development of District Disaster Management Committees (DMCs). Due to their significant experience in building capacities for farmers in Somalia, an inter-agency agreement between UNDP and FAO will be signed. Through this agreement, technical experts from FAO will be consulted during the establishment of Agro-Pastoral Field Schools. Similarly, in developing ASAL adaptation plans, the proposed project will exploit FAO SWALIM's drought tool.

A. 5. Incremental /Additional cost reasoning: describe the incremental (GEF Trust Fund/NPIF) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF/NPIF financing and the associated global environmental benefits (GEF Trust Fund) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project:

Outcome 1: Policies, plans and tools reviewed, revised, developed, adopted and implemented by government to mainstream and enhance adaptive capacity and mitigate the risks of climate change on vulnerable communities and critical ecosystem services

Without LDCF Intervention (Baseline) Component 1:

51. Ministries active in the environmental sector, such as the Ministries of Water, Planning, Agriculture and Livestock and Women in all zones of Somalia, have limited understanding of climate change and its impact on ecosystem services. For instance, no ministry has ever conducted a climate change impact assessment to be able to outline potential adaptation options. Consequently, other than the NAPA (2013), there are no policies, strategies or development plans which address how to effectively adapt to climate risks. Only ad-hoc, general policies on the environment and disaster risk management exist, such as the National Policy on Environment in Somaliland and a Disaster Risk Reduction Framework in Puntland. Cross-sector, coordinated institutionalization of climate risk management has yet to take place.

52. Moreover, rural populations rarely profit from and abide by the existing environmentally-related policies and regulations because they are unaware of their existence. During government consultations, it was pointed out that a major barrier to implementation of existing policies is the lack of awareness and communication of the policies to key stakeholders, namely local authorities, the private sector, communities and NGOs.

53. In addition to having limited, unenforced and unrecognized policies, institutions also lack the technical and human resource capacities to fulfil their mandates due to lack of financing and often frequent restructuring. With no training curriculum in place and a lack of training materials available for environmental fields, the availability of skilled local trainers is limited. Universities currently have no mention of climate change in any of their curricula for agriculture, water resources engineering and other related disciplines. The concept of climate change is essentially absent from any formal educational institutions at all levels from primary to higher education. Additionally, key implementing ministries require assistance in project planning, implementation and monitoring. Without such capacity, ministries have no autonomy in carrying out projects and works and often rely on donor management.

54. The process of environmental integration into community planning through donor support is on-going (e.g., JPLG district planning for water and EU MDG land use initiatives). Communities and government stakeholders are well aware that climate change is affecting the environment and the ecosystems services that it provides. However, there is a notable lack of awareness and planning on what actions are required to specifically address the impacts of climate change, so as to improve ecosystem services.

55. Furthermore, disaster risk preparedness is extremely weak in all zones. Knowledge on disaster preparedness and management is minimal for all relevant Disaster Risk Management (DRM) institutions from national down to district level outlets. Technical and operational capacities are weak and even absent in some cases (the centralized agency for DRM in South Central has only been functional for one year). Although droughts and floods are becoming more

frequent in Somalia, there is no national institution which can provide forecasts (forecasts are provided by FAO SWALIM, FEWSNET and IGAD's ICPAC). Monitoring infrastructure is also scarce due to the destruction and theft of equipment during periods of civil unrest since 1991.

56. Key ministries involved with the environment, natural resource management and land planning in each zone are subsequently discussed. Their inadequacies and needs are detailed. Disaster risk management capacities and needs are, likewise, discussed in a subsequent section.

Environment, Natural Resource Management and Land-Planning

South Central

57. Since the initial stages of the NAPA process there have been several restructurings of the cabinet and ministries of the Federal Government of Somalia (FGS). The new and current focal point has been designated by the President as the Ministry of Petroleum, Mineral Resources and Environment (MPME). This ministry is also the new focal point appointed for GEF. The Environment Department of the MPME is fully mandated to address environment issues, and to serve as the coordinating body for all environment related policies and programs.

58. The previous Ministry of National Resources, which was formerly responsible for environmental management, drafted the National Environmental Policy, which has yet to be finalized. The policy specifically addresses climate change as a major challenge, and refers to the NAPA as the guiding document for taking further action. The National Environmental Policy prioritizes three areas with respect to climate change: 1) to develop capacity and institutional strengthening for stakeholders in respect to climate adaptation, climate change, and climate variability, 2) to encourage demonstration of new ideas and techniques through field based interventions that improve resilience of the population and ecosystems, and 3) to set up information, education and communication campaigns for stakeholders on the risks due to climate change and climate variability. In addition to the National Environmental Policy, a National Environmental Action Plan (NEAP) has also been developed. The NEAP is an important guiding document, which this LDCF-funded project builds upon by aligning the project activities with the priority actions listed under the NEAP. The NEAP has a section on climate change and recommends the development of policies and frameworks in three main areas, which include climate change, flood management, and drought management.

59. With the overarching role of coordinating development in South Central, the Ministry of Planning and International Cooperation (MoPIC) is responsible for cross-sectoral planning and ensures that activities are in line with government development plans and are not duplicated by other development partners. The MoPIC is also responsible for the coordination of the Federal Government's Annual Work Plan (AWP), whereby each ministry at the Federal level has submitted a detailed work plan for 2014 to inform the Government programme of work in line with this Constitutional requirement. Under the AWP, the Ministry of Planning and International Cooperation has three main tasks which include: 1) Development of a 5 year National Development Plan (NDP) and poverty reduction strategy, 2) Improve national statistical systems and institutional capacity in statistics, and 3) Conduct Social Economic Survey.

60. Coordination issues, particularly in funding and management of ministry-level initiatives, remain serious challenges to the execution of the Federal Government's peace- and state-building goals. To address these issues, the Ministry of Planning and International Cooperation coordinates efforts across ministries and streamlines aid planning and delivery. This arrangement more efficiently brings together ministries and potential foreign donors and international financial institutions in implementing the government's peace- and state-building goals.

61. Another institution that is concerned with Climate Change is the Ministry of Water and Energy. The Ministry of Energy and Water's key priority is to identify areas of weaknesses in the energy sector, and to develop policies that address energy and water challenges. The Ministry maps out Somalia's national resources, infrastructures and facilities to ensure the government reclaims them, especially in cases where they have been misappropriated for private use. The Ministry understands the importance of sustainable energy resources that are essential to economic recovery strategies as outlined in the government's Economic Recovery Plan. The Ministry of Energy and Water Resources had, in the past, offices for 18 regional water authorities across the country. The 1991 civil war brought destruction on a massive scale, and since then no rehabilitation or reconstruction works have taken place, leaving the buildings abandoned for many years. In the AWP, the Ministry of Energy and Water plans to develop master plans for urban water, sanitation

and solid waste management for major towns. The Ministry of Energy and Water also aims to enhance Somali water and land information management and is a key stakeholder in the Land-use policy development activities.

62. As agriculture plays a very important role in the economy of the South Central region, the Ministry of Agriculture also has a critical task of addressing climate change adaptation. Somalia's farming areas are concentrated in the southern part of the country, in the Gedo, Middle Juba, Lower Juba, Lower Shebelle, Middle Shebelle and Hiran regions. The Juba River and Shabelle River pass through these regions, rendering the soil more conducive to crop cultivation than the comparatively arid north, where agriculture is a less dominant livelihood source. The Ministry of Agriculture aims to rehabilitate vital crop production and infrastructure in South Central Somalia through building livelihood strategies for agricultural production and widening access to the agricultural market for producers.

63. The semi-arid and arid environmental conditions of much of the country make pastoralism the most viable livelihood for most Somalis. The Ministry of Livestock, Forestry, and Range is responsible for supporting pastoralist livelihoods in South Central Somalia. The majority of Somalis rely on livestock production for their subsistence and basic economic livelihood. The Ministry is plagued by low capacity due to very few new young livestock professionals, who have graduated from technical schools and universities to replace near-retirement professionals in the Ministry. This problem is compounded by the fact that there is an insufficient budget for livestock development programs. Under the AWP, the Ministry of Livestock, Forestry and Range plans on creating productive infrastructure for livestock. To this end, the ministry will a) review and update the regulatory and policy framework, b) construct and rehabilitate laboratories, a central drug unit, veterinary clinics and warehouses. The second major goal of the Ministry is to improve the management of forests and rangelands through a widespread forestry program.

Somaliland

64. Amongst the national institutions in Somaliland, two stand out with particularly important functions in relation to environment, natural resource management and land use planning. These include the Ministry of Environment and Rural Development (MERD) and the Ministry of Planning and Development (MoPD). Other important institutions at the Somaliland zonal level with regard to climate change adaptation include the Ministry of Water, Ministry of Livestock, and Ministry of Agriculture.

65. In accordance with its constitutional directive, the Ministry of Environment and Rural Development (MERD) is best positioned to be the lead agency for taking action on climate change in Somaliland. The mandate of MERD is to develop the pastoral sector and to protect and conserve the environment through sustainable development aimed at eradication of poverty. The Ministry has a National Policy on Environment, which recognizes the requirements set out in Somaliland's Constitution and provides a framework for the management of Somaliland's environment and natural resources. Other policies and plans that support the work of the Ministry of the Environment include the National Environmental Action Plan & Strategy to Combat Desertification and the Rangeland Management Policy. MERD is an emerging ministry that has been operating in the past in an environment characterized by inadequate financial, technical and managerial capacities and a weak legal framework. The ministry is particularly ill-equipped in regard to knowledge and capacity to analyse, plan for and manage the impacts of climate change.

66. With the overarching role of coordinating development in Somaliland, the Ministry of Planning and Development, MoPD, plays a crucial role in climate change adaptation, particularly in regard to cross-sectoral planning for climate change. The mission of the MoPD is to achieve rapid sustainable development in order to improve the quality of life for people of Somaliland. The key functions of the institution are to 1) provide accurate, relevant and timely information about people and economy; 2) prepare national and regional development plans; 3) formulate policy guidelines; 4) mobilize domestic and external resources; 5) register local and international NGOs; 6) coordinate development activities and 7) ensure efficient allocation of resources.

67. The MoPD has developed a National Development Plan (NDP) for 2012-2016 for which it will employ both government allocated budget and development assistance from donors for implementation. The plan includes sectors that are directly linked with the LDCF1 project including environment, rural development, agriculture, livestock and disasters management. The NDP discusses the scarcity of water resources, soil erosion, loss of biodiversity and natural resource depletion. However, the plan fails to describe in detail how it will address such climate change issues and does not allocate any budget for adaptation activities.

68. Other institutions that need to address climate concerns include the Ministry of Water, the Ministry of Agriculture, the Ministry of Livestock and the Ministry of Labour and Social Affairs (the latter of which considers gender issues). The Ministry of Water has established a framework for the management of water resources which includes a Water Policy, Water Strategy, Water Act and water regulations. The Ministry of Agriculture is also at an advanced stage with regard to the development of policies and frameworks, namely, the Somaliland Agricultural Policy, the Agriculture Master Plan, Draft Agricultural Rules and Regulations, Agricultural Land Registration Action and Agricultural Land Ownership Law, and a Food Security Act. The Ministry of Livestock also has a National Livestock Policy. Agricultural and veterinary extension services are extremely limited, as is the maintenance of water infrastructure.

Puntland

69. In recognition of the need for an institutional approach to the environment, the Ministry of Environment, Wildlife and Tourism (MoEWT) in Puntland was established in 2009, to undertake the huge task of bringing environmental issues under one umbrella for better coordination of policies, strategies and programs. However, since its creation, serious technical and human resources gaps, as well as problems with the administrative organization at all levels, and particularly at the regional and district levels, have not been resolved. The Ministry remains ill equipped, understaffed, and lacks the technical expertise to implement the policies and objectives required to fulfil its mandate. Recently, a new minister was appointed to the MoEWT and the ministry has accelerated its development significantly in the past year. Tasks in progress include development of an environmental policy, a capacity needs assessment and a human resource system for improved performance; however, none of these have been completed or approved. With regard to climate change, the MoEWT is keen to integrate climate concerns into its policies and plans, but currently has limited capacity to do so. According to Stakeholder Consultations, integration of environmental concerns into the State planning and management processes and provision of guidelines for environmental sustainable development is seen as crucial in Puntland.

70. With the overarching role of coordinating development in Puntland, the Ministry of Planning and International Cooperation has the mission to play a pivotal role in attaining and sustaining high socio-economic development through enhancing partnerships and promoting the effective use of international and national resources. One of the key roles of the Ministry, is to maximize the benefits from foreign assistance to finance programs and projects in an efficient way. The Ministry plays a key role in ensuring that activities are in line with government development plans and are not duplicated by other development partners.

71. Other institutions that need to address climate concerns include the Puntland State Agency for Water, Environment, and Natural Resources (PSAWEN), the Ministry of Agriculture, the Ministry of Livestock and the Ministry of Women's Affairs and Family Development. PSAWEN was created in December 2000 under the Presidential Decree of Law No. 2 and approved by both the Cabinet and Ministries. It became fully operational in 2001 as the sole institution responsible for water, energy and minerals and was established as an autonomous agency under the Office of the President. The agency was mandated to report on water supply status, plan locations for service delivery, implement project funding by external resources, and monitoring of water quality standards. With a monitoring role, PSAWEN has the features of a regulatory body, but in practice it engaged in direct service delivery through technical assistance and minor repair of systems in rural areas owned by local governments. This agency has had serious financial constraints and has not played an active role in either service delivery or regulation and requires major capacity development.

72. As a decentralized body, PSAWEN is extended up to the regional level through the Regional Water Authorities. The Authorities and their staff are professionally responsible to PSAWEN and under its technical guidance, while being administratively responsible to the governor or the region. The regional level Water Authorities play a critical role in the operation and maintenance of water infrastructure and are important stakeholders for capacity building activities. The total staff of PSAWEN at the regional level is 96 consisting of engineers, drillers, mechanics, electricians, plumbers, finance officers, revenue collectors and watchmen¹⁴.

¹⁴ JPLG Sector Functional Assessment - FINAL REPORT - April 18 2012, <http://jplg.org/documents/Documents%5CJPLG%20Documents%5CPuntland%20-%20Sector%20Functional%20Assessment%20-%20FINAL%20REPORT%20-%20April%2018%202012.pdf>

73. The Ministry of Agriculture is responsible for agriculture in Puntland. While farming is very marginal in Puntland, it is increasing in popularity as a livelihood in some areas; agriculture is beginning to play a key role in providing alternative livelihoods to charcoal producers and promotion of agro-forestry is seen as a key strategy for reducing deforestation. As such, the Ministry of Agriculture's role in food security and local livelihoods is increasing every year and provides a critical coping mechanism to hedge against droughts. Additionally, the linkages between livestock, water resources, forest resources and agriculture are very closely linked in Puntland.

74. In spite of its growing mandate, the Ministry of Agriculture is characterized by a lack of financial resources, natural resource management institutions, and agricultural inputs and services. This has affected their ability to support agricultural development. Furthermore, there are no extension services and no training curriculum to improve the understaffed ministry. As with other ministries, availability of skilled local trainers or training materials is limited.

75. The Ministry of Livestock and Animal Husbandry is responsible for provision of livestock-related services. Existing livestock institutions include a network of veterinary services, the chamber of commerce, the Puntland Board of Livestock Traders and the Livestock Transporters Association. In spite of its mandate, necessary husbandry-related policies and regulations are lacking in Puntland due to the ministry's lack of technical and operational capacities.

76. As previously stated, in all zones, disaster preparedness capacities are also weak. The following details the capacities and needs of the relevant DRM institutions throughout Somalia.

Disaster Risk Management

South Central

77. Weather monitoring ceased as soon as the civil war erupted in 1991. This saw the loss of all the monitoring systems through vandalism and lack of maintenance. The collapse of the monitoring system was then followed by many years of missing data when the FAO Food Security Analysis Unit (FAO-FSAU) in collaboration with some NGOs and UN agencies re-established a few rainfall stations in Somalia in 1997 with the hope of reviving the network of weather observations. Unfortunately this network did not last long due to lack of maintenance and prevailing insecurity. Though SWALIM has made an effort to re-establish the monitoring network, only the rainfall monitoring network has been rehabilitated to match with the pre-war network.

78. South Central recently established a focal disaster management organization. Less than a year ago, the Federal Government of Somalia announced that the Cabinet had approved draft legislation on a new Somali Disaster Management Agency (SDMA), which had originally been proposed by the Ministry of Interior. The secondment of skilled national staff to SDMA by the International Organization for Migration (IOM), improved the capacity of the institution to coordinate emergency response. SDMA led Technical Working Groups under the Mogadishu IDP relocation Task Force, before the relocation plan stalled in July 2013. SDMA also played a key role in coordinating IDP profiling exercises in some IDP settlements in Mogadishu, in collaboration with UNHCR and Save the Children UK.

79. However, SDMA's capacity for long-term preparedness on climate impacts such as droughts and floods remains extremely limited. Based on Stakeholder consultations, it is critical to mainstream DRR into the policies and plans of existing and well-established ministries including livestock, agriculture, women's affairs and water ministries. Also, local NGOs and civil society organizations have taken a lead role in responding to disasters in the past and must be considered as important implementing agents for DRR activities in South Central, particularly considering the institution is still nascent and has the weakest capacities of all zones.

Somaliland

80. The National Environment and Research and Disaster Preparedness and Management Authority (NERAD) received its mandate through a disaster management law/policy passed in 2007. NERAD is supported at the national level by the National Disaster Council (NDC) and the Disaster Management Steering Committee (DMSC). At the regional and district levels, Regional Disaster Management Committees (RDMC) and District Disaster Management Committees (DDMC) respectively will form part of the DRM system.

81. NERAD carries the key functions of disaster preparedness and disaster response in Somaliland. The goal of NERAD is to prevent frequent occurrence of disasters and reduce vulnerability of communities by improving sustainable coping capacities to decrease the overall impact of disasters on lives and livelihoods of Somaliland communities. Given that the frequency of both floods and droughts are expected to increase across Somalia due to global climate change, NERAD will be a key institution for enhancing resilience of Somaliland communities.

82. However, NERAD suffers from serious capacity gaps including inadequate qualified staff; inadequate staff recruitment; low level of staff skills and knowledge on disaster management; limited access to information due to inadequate skills on Information Communication Technology (ICT); lack of adequate physical assets/infrastructure and transport; and lack of capacity building for Disaster Preparedness and Management Committees (DP&MCs) at all levels. With regards to climate change, there is little or no knowledge on even the basics of climate change and its impacts, particularly with regard to disasters such as droughts and floods.

Puntland

83. HADMA is the focal agency for Disaster Risk Management. It is an autonomous organization under the auspices of the presidential office, supporting the Puntland communities in time of humanitarian need and disaster management. Line Ministries are required to work closely with HADMA to ensure the effectiveness of all humanitarian assistance provided by the different stakeholder during the occurrence of disasters. With assistance from UNICEF, in September 2012 a Puntland Disaster Preparedness Contingency Plan was developed. This Contingency plan makes several references to climate change and its impacts on disasters. Recommendations put forward in this plan are supported by the Puntland government and international community.

84. With support from UNOCHA, in June 2011 Puntland developed a Disaster Risk Reduction Framework, which set the foundation for development of a comprehensive policy. Subsequently, a Puntland Disaster Risk Reduction and Management Policy was developed. Currently in a finalized and translated into Somali draft form, this policy needs to be urgently adopted by Cabinet. Legislation to implement key provisions of the policy, including contingency funding for disaster response, funding for preparedness and the formalization of disaster response structures, needs also to be urgently drafted and enacted.

Gender

85. Finally, continued socio-economic and political constraints faced by women including gender inequality in education and other areas of Somali life removes important women voices from the public sphere and limits their coping capacity. The Somali Compact acknowledges that women have been disproportionately affected by discrimination and have been denied full participation in all aspects of Somali life. At the heart of the Somali Compact is that the rebuilding and governance of Somalia requires broad participation by all Somalis, including women. The Ministry of Women and Human Rights Development, which is a newly created ministry, is responsible for reversing this inequality and protecting the rights of women, children, and other disadvantaged groups of people. Under the AWP, the Ministry of Women and Human Rights Development is responsible for establishing social protection frameworks for vulnerable groups. However, the Ministry of Women and Human Rights Development requires significant capacity development on gender-sensitive climate change adaptation measures, as well as training on how to increase women's representation in adaptation decision-making and strategy development.

With LDCF Intervention (Adaptation Alternative) Component 1

86. To address the aforementioned needs, activities under Component 1 will focus on creating an enabling environment for Climate Change Adaptation (CCA) by addressing NAPA priorities 1 and 3 recommending land management and disaster risk management activities respectively. Given the serious capacity constraints and lack of existing institutional policies, regulations, plans and mechanisms to carry out basic functions, the first activity will focus on training and building capacities to plan implement and monitor climate adaptation projects. This will include training of 60 government officials from the MPME, SDMA, MoSPIC, Ministry of Agriculture and the Ministry of Water and

Energy (South Central), the MoEWT, HADMA and the Planning and International Cooperation (Puntland), the Ministry of Planning, Environment and Rural Development and NERAD (Somaliland) in addition to the Ministry of Women's Affairs in all zones on public administration topics such as project planning, management and monitoring, performance monitoring systems, budget processes, accountability mechanisms, etc. A Public Administration Specialist experienced in reinforcing the capacities of multi-sectors will be hired to build institutional capacity on facilitating cross-sectoral management of CCA activity planning, management, monitoring and accountability. The Public Administration Specialist will develop a capacity building plan, which will include workshops, on-the-job training, and development of project management tools, development of HR policies, etc. related to CCA. This activity will enable these ministries to rely less on donor management in the future and take the lead in the planning, implementation and monitoring of CCA projects in the next phases of LDCF and future CCA projects as well as other development projects.

87. It is important for all relevant ministries and other government institutions in South-Central Somalia to have a basic understanding of climate change and adaptation before further action can be taken. Under Component 1, staff from all relevant line ministries will be invited to attend a series of interactive training workshops to enhance their knowledge of climate change. This is a key activity to build the foundation for further policy action such as the integration of climate into policies. These workshops will also help to provide international best practices on how to mainstream climate change into policies. It is envisioned that this activity will help bring climate change into policy discussions and formulation processes in the future. In order to carry out this training program, a Climate Change Specialist will be positioned within the environment ministries in each zone at the MPME, MoEWT and MERD in South-Central, Puntland and Somaliland respectively, who will develop training materials, conduct workshops and prepare and disseminate materials such as briefing notes, fact sheets, presentations, guidelines for mainstreaming climate change into sectoral policies and climate risk screening tools.

88. After completing the basic trainings, key technical staff from each of the above mentioned ministries will carry out sectoral studies of the impacts of climate change on their departments. The LDCF financed project will provide experts in land-use planning, climate vulnerability and risk assessment and economics. These will be positioned within the environment ministries in each zone, but will provide extensive support to other ministries in the zones to complete their sectoral studies. The Climate Change Specialist in each zone will coordinate with each other and the respective line ministries to ensure that all the sectoral studies use the same methodologies for assessment. The MPME will be responsible for compiling all the sectoral studies into a South-Central Climate Impact Assessment Study that will form the basis for development of a National Climate Change Policy. Similarly, the Ministries of Environment will be responsible for compiling all the sectoral studies into the Puntland and Somaliland Climate Impact Assessment Studies which will take into account Arid and Semi-arid Land (ASAL) analyses. The ministries of Planning in Puntland and Somaliland will use this study to create adaptation plans, from which aspects will be incorporated into Puntland's next 5-year National Development Plan, Puntland's 5 Year Agricultural Strategic Plan and Somaliland's National Development Plan.

89. A federal National Climate Change (NCC) Policy will be developed, taking into account cross-sectoral vulnerabilities, impacts and costs for adaptation. The Policy will streamline the coordination of Climate Change / Disaster Risk Management related programmes/projects to have coherent on-the-ground programming. It will act as the over-arching, prominent policy to guide the current patchwork of sectoral policies related to the environment which cannot be easily decentralised to address all levels of governance. The policy will have the capacity to identify and resolve any transversal climate change issues across Somalia, particularly when policies conflict between zones. Although the policy will not address climate change mitigation at this stage of its development, additional financing for mitigation is planned to be mobilized by the Office of the Prime Minister.

90. In order to ensure sustainability in facilitating adaptation activities, the NCC Policy will specify how to channel future diversified funding for climate change adaptation and disaster risk management. Financing schemes will be designed to serve cross-sectoral agendas so that support will grow for adaptation- and mitigation-related activities across sectors. Development of the NCC Policy will be based on successful demonstrations in other African countries such as Zambia.¹⁵ The development of the NCC Policy will mandate representation of Somalia in international and regional climate negotiations, conferences and events that promote South-South cooperation. Nine relevant and LDCF

¹⁵ Government of the Republic of Zambia, Ministry of Tourism, the Environment and Natural Resources, *National Climate Change Response Strategy*, December 2010.

trained government officials (3 from each zone) will be supported to attend, participate and represent Somalia's interests in climate discussions and negotiations.

91. The Ministry of Petroleum, Minerals and Environment in South Central and the Ministries of Planning in Somaliland and Puntland will also be supported to carry out a study to identify a mix of financing sources to fund sectoral climate priorities by exploring both the international climate change financial landscape as well as domestic financial resources from taxes. With more than 50 international public funds and 6,000 private equity funds providing climate change financing, Somalia has no capacity to access and channel these funds to address the climate and development needs identified by the NAPA.¹⁶ To empower Somalia to access this available financing, a study will be carried out by preferably, a qualified professional of Somali origin or an international expert, and national expert on financing needs, global and local resources and modalities for accessing financial capital. The final deliverable will include information on investment, financial flow and adaptation economic analysis of different medium- to long-term adaptation options to assess the burden of climate change on the public budget by conducting a Climate Public Expenditure and Institutional Review (CPEIR) and assessing the barriers for financing adaptation in the country. Scenario analyses will analyse cross-sectoral impacts, the sources of funds (e.g. private, public, donor, etc.) and the maximization of co-benefits (e.g. employment creation and adaptation needs).

92. In order to support the understaffed ministries and their need to recruit university graduates with relevant technical expertise, a climate module, with sector-focused sub-modules, will be developed and integrated into the curriculum of universities in each zone offering educational degrees on environment, natural resources, public planning and administration, agriculture, etc. The modules will include lessons on basics of climate change, Ecosystem based Adaptation, sectoral impacts, integrated land and water management principles, and international best practices on climate adaptation. The sub-modules will be designed in collaboration with faculty and will be subject specific. For example, for agricultural courses; a session on the impacts of increasing temperature on crop growth can be developed. In addition, linkages with an international University will be evaluated to broaden the exchange and to build sustainability for the programme.

93. This approach will be taken in light of the fact that a separate course on climate change may not be successful due to low awareness and demand for such education. However, existing curricula touch upon environmental issues without going into climate change. A climate change module would enhance the knowledge and capacity of young academics and future professionals to address climate change impacts across different disciplines. A Climate Education Expert will be hired to develop the modules. Consultations with faculty from key departments will first be carried out to gather information on existing curricula and to ensure contextualized modules. Relevant teaching materials on Climate Change Adaptation best practices will be developed. A lead faculty member will be selected from the existing staff at the University and trained to deliver the course contents.

94. One of the underlying causes for vulnerability in Somalia is the lack of management of natural resources and ecosystem services, which stems from poor land-use policies. Land degradation resulting from soil erosion, deterioration of physical and chemical properties of the soil, long-term loss of natural vegetation and conversion of forest to non-forest areas pose major threats to pastoralist and agro-pastoralist livelihoods. Present vulnerabilities will be exacerbated by temperature rise,¹⁷ increased flooding and droughts and other climate impacts. The lack of institutional policies to deal with resource based challenges further exposes communities to climate change. Thus, building resilience of both human and ecological systems is an optimal way to deal with future uncertainties. Policies are required to institutionalize resiliency. Stakeholders in all three regions identified the need for an integrated policy which considers land and water resources as well as the various livelihood strategies that depend on the use of land, water and forestry resources. Thus, it is recommended that Land-use Policies be developed and implemented by a range of stakeholders. Land-use policy and planning offers a no-regrets approach to climate change. The key to successful implementation will be a broad consultative design process for the policy, community mobilization and participation from the policy formulation stage, legal and regulatory frameworks, and clear roles and responsibilities. Each zone will have its own

¹⁶ UNDP Sep 2011. *Blending Climate Finance Through National Climate Funds A Guidebook for the Design and Establishment of National Funds to Achieve Climate Change Priorities*

¹⁷ Hartmann, I., Sugulle A., Awale, A., Nov 2009. *The Impact of Climate Change on Pastoral Studies of Somaliland*. Candlelight Report on the Environment.

land-use policy. The LDCF1 project will ensure that these and all policies create or updated integrate the role of climate change on vulnerability, particularly on women.

95. A reactive emergency response approach has remained the predominant way of dealing with disasters in Somalia till now. The awareness and coordination of policy makers, media, civil society, NGOs, UN agencies and other stakeholders remains low about disaster risk management. There is no national policy for DRR in South-Central, a major hindrance to effective action. The other two zones have draft frameworks and contingency plans, but these are yet to be put into effect. In order to effectively reduce drought and flood risk, a disaster risk reduction policy will be developed in South-Central zone and a resource mobilization plan for its implementation initiated by developing a comprehensive Project Proposal. Similar to the development of the UN Joint DRM program prepared for Somaliland, a holistic document that clearly defines the capacity needs and investments required would help the Federal Government to mobilize international funding for DRM. Through the LDCF, an interagency, multi-sectoral capacity assessment will be carried out and will put forward clear measurable actions to strengthen and maintain preparedness capacity. A systematically coordinated and comprehensive capacity analysis will be completed, focusing on high risk and climate vulnerable areas. The assessment will include stakeholders from government and civil society.

Federal Somalia Disaster Risk Management

96. In the selected districts in South-Central of the LDCF1 project, the major hazard is flooding around the Shabelle River and also recurrent drought. Given the very limited capacity of the SDMA, the LDCF1 will not only build the capacity of SDMA, but will focus on strengthening DRR capacities in the line ministries of Water and Energy, Agriculture, and Livestock. Disaster preparedness and mitigation training will include addressing man-made hazards that exacerbate climate hazards. For example, the deterioration of infrastructure along the Shabelle, which are almost all dysfunctional have contributed to increased flood disasters causing socio-economic and environmental devastation. Moreover, poor regulations on forest protection have led to heavy losses of topsoil and thereby increased erosion and siltation of canals and riverbeds. Sectoral studies undertaken will provide the basis for each ministry to create DRR strategies. A DRR Specialist, who will be based at SDMA, will work with each line ministry to provide workshops and training materials on topics such as hazard assessment tools, vulnerability mapping methodologies, disseminating climate information, and climate-proofing of infrastructure and investments.

Somaliland and Puntland Disaster Risk Management

97. For Puntland and Somaliland, the ministerial staff at regional and district level will be trained in drought and flood impact indicators. As mentioned previously OXFAM and FAO will establish commonly agreed indicators for drought and flood impact monitoring. Those commonly agreed indicators will be used for training the ministerial staff at regional and district level. There will be weather indicators and impact indicators. Weather indicators shall include: rain, wind and temperature. Impact indicators shall cover: i) food and nutrition, ii) water, iii) fodder, iv) human disease/HMIS data, v) animal disease, vi) locust attacks/invasions, vii) education and school attendance, viii) rangeland/pastor conditions, ix) displacement/migration, x) market prices of food and fodder, and xi) coping mechanisms.

98. To put drought warnings into action, a Climate Monitoring and Early Warning Systems Centre (CMEWS) will be established at HADMA and at NERAD to produce early warning products and communicate them to stakeholders in a timely manner. Given that most natural hazards in Somaliland and Puntland are climate oriented, with drought being the most severe and slow-on-set disaster, the government led early warning systems require significant improvement in order to minimize risks of such disasters. Currently, HADMA and NERAD use rudimentary methods to warn the Puntland and Somaliland communities such as with occasional messages by telephone and radiophone; however, communication is inadequate in terms of coverage and speed. There appears to be significant work on disaster risk and monitoring of potential hazards amongst the traditional communities in Puntland and Somaliland, however there is no centralized unit where this information can be brought together to determine a multi-hazard risk assessment, look at economic impacts, and support the issuing of early warning alerts and declarations of states of emergency. Links between the scientific community and traditional knowledge and at-risk communities need to be strengthened.

99. The CM/EWS Centres in Puntland and Somaliland and SDMA in South Central would consolidate hazard monitoring information and bring this to the attention of appropriate government officials, as well as to communicate reliable early warning messages to at-risk communities. The units will also be charged with receiving inputs from communities who are monitoring traditional early warning indicators at ground level. Testing of early warning systems

and message dissemination systems will also be conducted, and linkages to regional early warning mechanisms will be developed. This institution could also be charged with conducting lessons learnt exercises and disaster response reviews on a systematic basis.

100. Critical technical staff will be provided to the CM/EWS Centres and to support SDMA, including one hydro-meteorological expert. A crucial role of the experts will be to produce risk analysis, early warning, and perform coordination functions; e.g. organize contingency planning and post disaster assessments. They will also design DRR policies, guidelines and conduct DRR trainings for ministries, regional disaster management committees and communities. Initially these specialized experts will be deployed for the programme implementation period with gradual absorption of these experts in the government institutional setup. Based upon results of negotiations with the government and situation on the ground, decisions for absorbing these experts in the government system will take place during the course of project implementation. A gradual tapering out of this support will also help in ensuring that institutional sustainability is achieved over the course of the project.

Empowering Somali Women (All zones)

101. Component 1 will also be used to increase the representation of women in decision-making and strategy development. Training and workshops on managing climate adaptation projects and on the basic principles of climate change and gender-sensitive adaptation will be provided to women. Women will also be supported to represent Somalia in international and regional climate negotiations, conferences and events. University women will be able to gain knowledge on climate change and gender-sensitive adaptation. In fact, women from each zone will be supported financially to attend programmes with updated climate modules.

102. Furthermore, the National Climate Change Policy and National Disaster Management Policy to be developed will account for the gender dimensions of climate change. Also, each ministry will be responsible for placing an emphasis on the gender aspects of adaptation into existing sectoral policies, plans, laws and regulatory frameworks.

Outcome 2: Models of community and ecosystem resilience developed and implemented in pilot areas selected in consultation with government and community stakeholders

Without LDCF Intervention (Baseline) Component 2:

103. Water is one of the most crucial natural resources for the communities in Somalia. A study in 1998 by UNICEF on access to water in Somalia underscored that, —a relatively small proportion - probably less than 20% of the total population - was believed to have access to water throughout the year; albeit with significant regional variations. The target districts for the proposed project, at present, are water starved, and climate change threatens to create greater water scarcity during times of drought. NAPA consultations in 2013 indicated that the major underlying cause of poverty and the leading hazard faced by all zones is the rising frequency of drought. In fact, a majority of settlements (e.g., up to 92% in the target districts) have reported loss of assets due to drought. Additionally, the pattern of the rainy seasons is changing with time and the frequency and amount of precipitation is becoming more unpredictable. Prolonged periods of rain and flash floods are frequently experienced. According to a UNDP survey, 73.5% of households in the Lower Shabelle region of South Central were affected by floods between 2000 and 2010.¹⁸

104. In spite of experiencing rainfall, none of the target communities have the knowledge and capacity to harvest and store the water for use during the dry season. Women and youth often have to walk for long distances in search of water and pasture for their livestock. This has resulted in boys and girls not attending school and women having to leave their children alone at home. Women and youth are also often attacked while in search of water and while fetching firewood.

105. Overall, stakeholders of the NAPA consultation sessions indicated that there is an awareness amongst communities that climate has been changing in the past few decades. Most community members cited the increasing frequency of droughts and floods, and rising temperatures as indicators of climate change. However, communities do not understand how poor land and water management can exacerbate climate change impacts. Rural populations simply

¹⁸ Community Census: on Poverty Versus Socio-Economic Indicators, South Central Zone, Report 3, UNDP, 2010.
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do not know how to respond to the uncertainty in the climate. Though some limited sustainable land management practices are taking place in surrounding communities due to initiatives such as PROSCAL, the EU MDG programme and PREP (see Section A.4), for the most part the communities lack the knowledge and capacity to protect and manage their natural resource base and the ecosystems upon which their lives and livelihoods depend.

106. Land degradation due to overgrazing, deforestation and poor land-use planning has exacerbated the impacts of droughts significantly. The most common sustainable land management practices include soil bunds, water harvesting, and gully stabilization. Most of these responses are located around the main agro-pastoral systems where loss of topsoil, nutrient decline, and water scarcity are predominant issues. For example, through the MDG initiative funded by the EU, Adeso, an NGO acting as one of the implementing agents, has begun work in 30 villages across Puntland to rehabilitate rangelands and promote soil and water conservation practices. Through the MDG initiative, community based projects are being implemented including reforestation of the grazing lands with suitable and adapted tree species, construction of barriers, small dams and soil bunds to slow down water flow leading to erosion, rehabilitation of existing dams and water ponds, control of growing gullies and rehabilitation and reduction of grazing pressure on pastures. Similarly, the UN Joint Programme for Sustainable Charcoal Production and Alternative Livelihoods is one of the key programs helping the government and communities of the region to curb deforestation through sustainable land use management.

107. However, in spite of such examples by the EU and the UN as well as other organizations and donors tackling the issue of land degradation, sustainable land management practices are scattered and insufficient to cover the considerable breadth of damage throughout Somalia. In fact, according to the Country Report on the Millennium Development Goals 2013, there has been an 18.5% decrease in land area covered by forest between 1990 and 2010.

108. Additional hazards faced by the communities include the inability to prepare for droughts and floods. There are no district level, or community level, disaster management capacities. Currently, if early warning information in communities, it is usually passed on in a very ad-hoc manner by leaders to others through SMS or word of mouth. There are also no disaster committees or plans for preparation of droughts and floods. Consequently, communities are rarely forewarned about extreme events. For instance, the Burao district in Somaliland reported that 27% of the settlements in the district were affected by unforeseen floods which caused significant displacement of people and loss of livestock. A prime example is the flood of October of 2007, along the Shabelle River in South Central where the flood swept through thirty villages, destroying significant farm land and crop stores and causing hundreds of families to flee their homes. Without any community-based warning system, many small villages in the vicinity were completely cut off.

109. Another hazard voiced by respondents to a UNDP survey carried out in 2008 included the lack of high agricultural input costs.¹⁹ Drought resistant seedlings are limited in all zones, in spite of the fact that all zones are drought-prone.

South Central

110. The South-Central region is largely characterized by three distinct physio-geographic zones which include: 1) the central coastal plains, with a wide sand dune system; 2) a broad limestone-sandstone plateau covering all of central and southern Somalia; and 3) the flood plains of the Juba and Shabelle rivers in the south, which provide the highest agricultural potential. Both these rivers, as well other main Somali drainage networks, have their headwaters in the neighbouring countries of Ethiopia and Kenya, and are most affected by the rainfall from these territories.

111. Land use in most of central Somalia consists mainly of grazing and wood collection for fuel and building. In the south both rainfed and irrigated agriculture are practiced, especially in the riverine areas of the Juba and Shabelle rivers. Current estimates are that over 70 percent of the arable lands are utilized for rain-fed crop production. The Juba and Shabelle rivers flow year round and their seasonal flooding enable South-Central Somalia to be the main crop producing area and support the highest concentration of livestock. Small scale subsistence farmers use spate and controlled irrigation and grow crops on receding flood waters, while larger commercial farms employ irrigation systems that rely on pumps and storage reservoirs that are filled during periods of peak flow. Crops are also grown under rainfed conditions in the region. It is estimated that 1.25m ha is reasonably suitable for cultivation (FSNAU)²⁰. Crops grown under in the area include sorghum, millet, maize, groundnuts, cowpeas, beans and cassava. Access to inputs and extension services has been disrupted in many areas. Historically, the state has been the source of agricultural inputs

¹⁹ UNDP Poverty Profile 2008: Participatory Community Census for Poverty Assessment and Mapping: Nugaal.

²⁰ Food Security and Nutrition Analysis Unit: Somalia: www.fsnau.org

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with the private sector not willing / able to compete. With the collapse of the central government the private sector has become more active though still on a limited basis. Policy, regulations and management are weak or absent and access to credit and markets is difficult thus limiting returns to productivity.

112. Even though most of Somalia's fresh water resources exist in the Juba and Shabelle rivers, both river basins are water deficient. Water supplies for domestic purposes are unreliable and not well distributed due to poor infrastructure. Groundwater potential is limited due to limited recharge rates. Water supplies since the outbreak of the war in 1991 are run by unregulated private entities with no common vision or coordination. Water management, on and off-farm, is weak in the absence of water use planning, regulation and management. Small irrigation groups practice a low level of localized on-farm water management but in the absence of a central authority with a sound strategy and management framework, authority and manpower capacity, the region will remain prone to flooding, inefficient water use, salinization and water logging. Commercial irrigated farming has been greatly affected by the security situation. On-farm infrastructure has not been used nor maintained and some has been destroyed by floods. The once thriving banana (formerly the second largest export), melon and fruit production/export business has disappeared although there have been attempts to revive it.

113. Other surface water mobilization infrastructure includes earthen-lined dams. Unlike northern Somalia where berkads are very common, southern people prefer to use wars²¹ for rainwater harvesting. The main reason for this is the favourable clayey soil type for the construction of wars. Clayey soils favour the construction of wars, however, they sometimes have to be lined up with plastic sheets to prevent water loss through seepage. In cases where the source is lined, the storage period is known to increase by up to two months due to reduced seepage. The sizes of wars vary depending on manpower available in villages for their construction. Water can last up to six months, depending on the lining material and consumption rate.²²

114. Water resources management of the two rivers involves two major issues, namely flood management and irrigation water supply. The high floods in the Juba and Shabelle Rivers inundate scarce cultivated land along the river course regularly. The continuing deterioration of the flood control and river regulation infrastructure, coupled with unregulated settlement in flood plains and the recent practice of breaching river embankments to access water for wild flood irrigation, have increased the vulnerability of the riverine communities to progressively smaller peak flows. The deposition of high sediment yield of the river course confined within embankments has raised the bed level over the years. Hence, the river banks are regularly breached and the areas surrounding the river courses both in the Juba and Shabelle Rivers are flooded every other year.

115. The current degradation of the environment started in the post-independence early years when government management and regulation weakened or stopped. Degradation accelerated with the collapse of the central government, the influx of "refugees" from less secure regions, changing weather patterns, unsustainable land use and increasing poverty. Over more than twenty years of disrupted governance and insecurity, the already inadequate management and protection of natural resources has collapsed almost entirely.

116. It should be noted that in some parts of South-Central continue to experience sporadic armed conflict, and have minimal access to basic services. The new Federal Government is making efforts to re-establish services, yet the regions of the South-Central zone remain as some of the poorest and vulnerable areas of the country.

Puntland

117. The Puntland State of Somalia is a semi-arid region where livestock production constitutes most of the economy - over 60% of the population is sustained by pastoral livelihoods.²³ In 2005 UNDP estimated the population of Puntland to be approximately 6.8 million (out of whom around 350,000 were considered internally displaced). Pastoral livestock production systems, which contribute at least 90% to the total value of commercial and subsistence

²¹ Wars are unlined dug-out 2-3 meter deep water catchment structures with surface areas ranging from hundreds to thousands of square meters. They are dug by an excavator, which drops the materials to create a wall on the downstream part of the excavated area. Water is led by ditches to the war. Water retention time in a war is dependent not only on water usage, but soil type and condition as well. Proper site selection is therefore necessary for the war to be able to hold water for longer periods. Generally, wars have been somewhat unsustainable water sources because of siltation and maintenance problems. They are also not easy to organize and maintain at community level, especially when initially constructed by outsiders.

²² Rural Water Supply Assessment, FAO-SWALIM, 2007

²³ http://eeas.europa.eu/delegations/somalia/documents/press_corner/20131023.pdf

production,²⁴ are mostly found in Puntland's vast arid areas. These areas are characterized by marked rainfall variability, and associated uncertainties in the spatial and temporal distribution of water resources and grazing land for animals. Pastoralists have developed management systems based on strategic mobility, which are well adapted to these difficult conditions, but are increasingly becoming futile due to rapid environmental degradation, climate change and growing urbanization. The last 8 rainy seasons in Central Somalia have been below average,²⁵ resulting in severe droughts that have had devastating effects on pastoral livelihoods, hence, the rising numbers of malnourished children and hunger. Recurrent droughts in the region, combined with pervasive poverty, means that communities barely recover from one shock before being subjected to the next. Without sustainable resource management, it has been difficult to increase productivity to reduce the poverty and food insecurity of nomadic populations.

118. Puntland has some of the highest levels of land degradation in the country (FAO), and recent analysis shows that tree cover has reduced by an average of 2.8% per year between 2001 and 2006 (SWALIM), with 70% of total landmass affected²⁶. Degradation of land and other natural resources is manifested in desertification, soil erosion, secondary salinization and waterlogging. In addition to the pressures on natural resources by pastoralist livelihoods, the underlying causes of land degradation include lack of awareness on the rate of desertification, charcoal trading and unregulated settlements, all of which have also put a heavy strain on local woodland resources, making them more vulnerable to the effects of climate change. In recent years, gully erosion has destroyed important valleys creating deep gorges that often restrict mobility of both pastoralists and their animals.

119. Water is also a critical resource that is under threat in Puntland by a combination of factors including poor management, lack of infrastructure, degradation and climate change. Water scarcity has been one of the main traditional sources of social conflict in Puntland. Puntland is considered seriously water-stressed zone because of its arid environment. The people of Puntland rely heavily on groundwater for most of their water needs, due to a lack of reliable surface water sources and no perennial rivers. However, both permanent and seasonal water sources exist. The permanent water sources include natural springs, oases, boreholes and some relatively deep hand-dug wells, while seasonal sources comprise man-made earth dams (waars), berkads and natural depressions.

Somaliland

120. In Somaliland, agro-pastoralism and pastoralism are the most important sources of livelihoods. Agro-pastoralism ranges from farmers owning large herds but keeping only a few resident animals on the farm to small scale-farmers owning only a few animals. Agro-pastoralists are increasing in number because traditional nomads can no longer rely on livestock alone for their livelihood, given the fact that pasture land has diminished and deteriorated over the years.

121. The agricultural system in Somaliland is predominantly subsistence in nature. The principal crops are sorghum and maize grown mostly for household consumption. Fruit and horticultural farming, which is relatively small, is mainly commercial. Rain-fed farming accounts for 90% of the total area cultivated, while the area under irrigation constitutes only 10%. The sector is dominated by smallholder farmers who tend small farms ranging from 2 to 30 hectares in area. The size of the average farm is approximately 4 hectares.

122. Pastoralism is the dominant livelihood in arid regions. In spite of dwindling grazing areas, the pastoral livelihood contributes significantly to the Somaliland economy. Livestock production has historically and culturally been the mainstay of livelihood for the majority of the people in Somaliland. Livestock production contributes 60% of the GDP and about 85% of foreign export earnings. According to Somaliland in Figures (Ministry of National Planning and Development), there were 18,570,000 head of livestock in the country as a whole in 2009.²⁷ It is assumed that this figure is only a rough estimate given the porous borders and considerable internal and cross-border movement.

123. Due to their dependence on natural resources, both pastoralism and agro-pastoralism are climate sensitive and have proven to be extremely vulnerable to climate change. The impacts of climate change have compounded land degradation due to overgrazing, deforestation and poor land-use planning. The impacts of land degradation on the

²⁴ Ministry of Environment, Wildlife and Tourism, Invitation to Puntland Environmental Conference, April 2014.

²⁵ EU-funded Food Security and Nutrition Analysis Unit (FSNAU) - Emergencies and relief type operations in Somalia rely on the information that is provided by FSNAU. The programme has been financed by the EU since 1994, though is now a multi-donor programme.

²⁶<http://adesoafrika.org/wp-content/uploads/2012/09/Your-Environment-Is-Your-Life-Project-Profile-Final-October-2013.pdf>

²⁷ National Development Plan, 2012-2016, Somaliland Ministry of National Planning and Development.

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ecosystem services are significant and include loss of animal/plant products, food and livelihood security, soil cover, regulation of water, and biodiversity. According to the NRM Survey Baseline Report carried out by the EU, the Nugaal district of Somaliland is severely affected by land degradation; 46% of the land has been degraded due to overgrazing of pasture land, 28% due to deforestation, 22% due to soil and gully erosion, and 4% due to invasive species. Massive deforestation has also taken place throughout Somaliland, particularly in search of trees to produce charcoal.

124. Water availability in Somaliland is primarily more dependent upon underground reservoirs rather than on surface water bodies, as there are no major rivers or other permanent surface waters in the country. Earth dams are commonly used to trap surface runoff while springs and berkads are prevalent for water supply. Surface water supply in Somaliland is mainly dependent on rainwater during the two rainy seasons (April to June, and September to November).

125. The local communities in Somaliland have adopted different means of coping with water shortages. In addition to the above-mentioned surface water sources, some agro-pastoralist households harvest and store rainwater in underground ditches with capacities of about 6 m³, resembling berkads. The ditch is lined with a plastic sheet to prevent water from percolating into the soil. The water is used for household consumption and in some cases for irrigation. Twenty-litre jerry cans are also commonly used to store water in rural areas, as opposed to big plastic drums common in towns.

126. Investigations done by Faillace (1986) and Sogreah (1983) classified Somaliland into four hydrogeological zones, namely the mountainous zone, coastal belt, sloping plain and the plateau zone. Government consultations indicated a need in the plateaus for water and land management. The Hawd plateau was selected for the focus of the LDCF1 project interventions in Somaliland. The Hawd plateau has potential for some of the best grazing lands in the region and rehabilitation of these areas would have a large impact on pastoral and agro-pastoral livelihoods. The selected region falls within three drainage basins, including the Gulf of Aden, Toghdeer/Nugal, and Ogaden Basins.

127. Berkads are the major water sources in the Hawd plateau since there are no permanent water sources there. There are thousands of berkads of various sizes in Wooqooyi Galbeed and Togdheer regions, with more than 5,000 in the latter.²⁸ Evaporation accounts for significant water loss from berkads due to the high temperatures experienced in Somaliland. To reduce loss, local people cover berkads with locally available material e.g. tree branches and shrubs. The rate of berkad failure is very high. It is reported that in almost all districts less than 50% of berkads are functioning, and this is by and large attributed to poor construction practices.

128. The Hawd plateau and the northern water basins in general area characterized by a large number of small streams (toggas) which are mostly ephemeral and originate from the mountainous areas in the north-west (above 2000 m elevation) and flow to the coastal areas of the Gulf of Aden. This water can be used by communities through simple gabion-type structures (check dams) that divert the water into adjacent lands for infiltration or surface storage.

129. The Haud south of Hargeisa is covered mostly by a semi-arid woodland of scattered trees, mainly acacias, underlain by grasses that include species especially favoured by livestock as forage. The growing market for charcoal, most notably in the Gulf States, couple with domestic demand for fuel wood, has led to massive deforestation in Somaliland as a whole, and especially in the Hawd plateau. Even without this burgeoning industry, Somalia's forests have come under threat in the last 20 years: since 1990, forest cover has been continually shrinking over time, while natural forest regeneration has been slow due to the arid climate and weak public policy support. More recently, the use of acacia trees for charcoal production has put stress on forest-related resources on which pastoral livelihoods depend. This economically-driven deforestation is likely to continue as long as the charcoal industry serves as a lucrative livelihood. The increasing loss of the natural resource base throughout Somalia is a key contributing factor in causing humanitarian crises in the country. The centuries old coping strategies employed during periods of drought in the arid/semi-arid climate of Somalia are increasingly become impractical as resource depletion removes the natural resource assets which are heavily relied upon during drought events. The evergreen drought-tolerant indigenous vegetation species that provide feedstock to pastoralists has been lost to the demands for charcoal.

Choice of sites

²⁸ FAO SWALIM Rural Water Supply Assessment (2007)
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130. Using a number of selection criteria and government priorities, eight districts have been selected for implementation of projects. The selection criteria included the extent of land degradation, flood extent, high population, existence of other development partners, security situation and access. Government consultations further narrowed down the geographical focus of the project. Many of the interventions will benefit entire hydrogeological zones, while pilot activities such as district level adaptation plans and demonstration sites for soil and water conservation and other sustainable land management practices will be implemented in the selected districts. Given the high vulnerability, coupled with the much larger land area of South-Central as compared to the other two zones, LDCF funds will be used to support 4 of the 8 districts in this zone. Details on these districts are provided in Annex 7 of the Project Document.

With LDCF Intervention (Adaptation Alternative) Component 2:

131. To address the various problems that the communities within all zones are faced with, activities under Component 2 will focus on building the resilience of communities and ecosystems through community development and planning and implementation of ecosystem based adaptation measures. The activities will address all top four NAPA priorities on land management, water mobilization, disaster risk management and water diversion. The regions aforementioned (Nugaal and Bari in Puntland; Togheer and Wooqi Galbeed in Somaliland; Galgaduud, Middle Shabelle and Lower Shabelle in South Central) and described in detail in Annex 7 will benefit through the demonstration of planning tools, technologies and approaches for Ecosystem based Adaptation. Awareness on climate change and its likely impacts will be developed and communities will be supported to understand risks and methods for addressing them, encouraging a more proactive and less response-oriented approach to climate hazards. The three regions will serve as models for climate sensitive investments into water mobilization, agriculture, forestry, and management of climate and disaster risks.

132. As a first step in the LDCF1 project, grassroots Community Based Organizations (CBOs) will be supported, established or re-established where they have become defunct. This will build the crucial foundation required for implementing all of the activities under Component 2. The delivery of goods and services by local NGOs, through the support they receive from international NGOs that nearly always involve local NGOs or local CBOs in their activities, have resulted in a greater legitimacy of local organizations in front of communities, and in their capacity to gain their support. In all the regions, there exist various functional and non-functional social groups. Many of these groups provide a platform for community-based decision making and deliver governance functions or provide other social and economic support mechanisms.

133. Many of these groups do not have the knowledge and capacity for planning and managing an organization and require capacity building in basic organizational management. Also, these groups may not be socially inclusive, and it is important to set-up inclusive and representative entities with which the LDCF1 project implementation team will primarily interface with for planning, implementation and M&E. The LDCF1 project will require a focal institution with which to work with on community based adaptation strategies, and one that represents all members of the communities. These CBOs will also be crucial for the long-term sustainability of the project activities. A local NGO will be hired to either revive or create CBOs that represent villages and settlements that are stakeholders of the LDCF1 project. Existing institutions will either be strengthened or combined to create the CBO. Consultations with stakeholders, including both men and women indicated that a CBO with both women and men members is culturally acceptable, and in fact desired. The project will assist the CBOs in registration, setting up a Board, constitution and other governance and administrative structures. Training will be provided on basic organizational management, training methodologies, consensus building, and community-based, gender and socially equitable participatory natural resource management planning. This activity will be one of the first activities to be implemented under the LDCF to ensure community participation in design, implementation and monitoring of the LDCF activities.

Agro-Pastoral Field Schools (APFS)

134. Much of the ecosystem degradation and vulnerability of Somali communities stems from a lack of awareness and knowledge on natural resource management of grazing areas. Though these communities have in the past employed a range of effective practices, with the introduction of new socio-economic forces, population growth, climate change and changing sociocultural patterns – many of these methods are no longer appropriate. A field school approach is an ideal way to adapt existing knowledge with new insights, as it is designed for community managed learning and experimentation which provides an adaptation platform where groups of pastoralists systematically discuss their social,

economic and ecological issues on a regular basis. The overall Agro-Pastoral Farmer Field School (PFS) process is guided by a learning curriculum developed in participatory approach tailored to seasonal livelihood activities and challenges. In its application, the APFS concept is envisaged to contribute to improved livelihoods of the pastoral communities through creating unity, poverty reduction and strengthening of pastoral institutions thus leading to improved preparedness and reduced vulnerability to drought and other crises like flooding etc.

135. APFSs will focus on developing people's capacities through season-long participatory training. Areas for training include water conservation, subsurface dams, shallow wells, valley catchment, drought resistant crop varieties, backyard gardening, bunds and infiltration channels for retention of rain water, animal diseases control, livestock production systems, amongst many other topics.

136. The initial activities will involve training of facilitators and development of curriculum in partnership with the communities. The curriculum and training will ensure that knowledge on climate impacts and adaptation best practices are included. A local NGO, government extension workers, or community member will be trained as the facilitator for each APFS. Meetings with the pastoralists must take place regularly and for an extended period of time for the APFS to be successful. Other activities will include NRM planning workshops, baseline mapping of civil society and extension services, experience sharing workshops and other training as identified by the APFS such as in livestock diseases, marketing of livestock products, etc.

137. Other activities will include NRM planning workshops, baseline mapping of civil society and extension services, experience sharing workshops and other training as identified by the APFS such as Soil and Water Conservation practices. Once the APFS are set-up, the CBOs in the area will work with the APFS to select, design, construct and maintain small-scale community infrastructure that will improve livelihoods and maintain ecosystem services. The communities will contribute 20% of the project costs through financial or in-kind contributions. The infrastructure will include irrigation canals, soil bunds, gabion walls, etc. as per community identified needs and in line with adaptation strategies.

Technical Studies (all zones)

138. Given that there is very little technical information for the regions, technical studies at the watershed and sub-watershed level are required to inform land-use planning, infrastructure design and ecosystem based adaptation. A detailed study with up-to-date information on the Shabelle River basin is required. Studies will look at geomorphology, surface water runoff and infiltration rates, water quality, etc. and will also do an accounting of existing infrastructure and the status. An international engineering firm preferably having experts of Somali origin and with expertise in hydrological modelling will be employed to carry out the studies. The consulting firm will work closely with FAO-SWALIM and use their expertise and information where possible. These studies will provide an informed foundation upon which to develop water harvesting infrastructure, land-use plans and adaptation plans. The design of the studies will be carried out in collaboration with MoEWT, Ministry of Water, Hargeisa Water Supply and Ministry of Agriculture (Somaliland); MoEWT and PSAWEN (Puntland); and MPME and Ministry of Water and Energy (South Central) to ensure that the informational gaps are filled. The studies will then be used to develop Climate Adaptation Plans such as for the Shabelle Basin in South Central. This will be led by an International Expert (with preference given to an expert of Somali origin) in Climate Adaptation, who will be hired for a period of one year to compile the technical information, as well as carry out stakeholder consultations for developing the watershed level adaptation plan.

Community based DRM (all zones)

139. District Disaster Management Committees (DDMCs) will be established in each of the project districts. Master trainers will be trained within the DDMCs who will be responsible for training village level CBOs in disaster risk management. The DDMCs will also be responsible for developing district level DRM plans, stockpiling emergency supplies, setting up a transparent resilience fund, and disseminating early warnings to the village level. LDCF funds will be used to establish eight DDMCs to serve as examples for replication and scaling up by the relevant authorities. An NGO will be hired to establish committees with equitable representation of the community, ensuring adequate outreach and representation for women within the committees at decision-making levels. The NGO will provide the DDMCs with training on community-based early warning systems, climate change impacts, carrying out damage and needs assessments, carrying out vulnerability assessments and other relevant topics. The DDMCs will be responsible for developing district level DRM plans with climate change integrated into the plans. The DRM plans would build upon 1) results from technical studies, 2) local government and community consultations for adaptation planning, 3) hazard

maps for each district and 3) a detailed baseline study and survey carried out by the local NGO for both districts on the socioeconomic conditions, infrastructure and services, livelihoods, gender roles, land-use patterns, climate vulnerability (exposure, sensitivity and adaptive capacity) and an inventory of ecosystem functions. Each disaster authority will ensure linkages and communication systems between the committees at the district level and their regional and national offices.

Feasibility assessments for project interventions (all zones)

140. Through the LDCF1 project, a feasibility study and environmental impact assessment will be carried out to ensure suitability of the sites and to mitigate any environmental impacts. Many regions in all zones have high evaporation rates, and this will be taken into consideration while carrying out the feasibility assessments and designing the water mobilization infrastructure. Soil tests will be conducted to determine permeability. Other factors that will be considered will be to design appropriate dam depth to compensate for evaporation and leakage, well-compacting retaining walls and spillways, and placing protection on water sources to avoid contamination by animals or during flood events.

Flood management and water mobilization infrastructure (zone specific)

141. The LDCF1 will also invest in the rehabilitation of flood control and water management infrastructure and the improvement of flood control mechanisms with a view to reducing the incidents and scale of flood-induced humanitarian emergencies while also preparing for droughts.

142. The activities would include the following in each zone:

South Central

143. LDCF funds will be used to support the rehabilitation of 4 irrigation canals, rehabilitation and expansion of dams in all 4 target districts within South Central, and construction 8 new water diversion/flood routing structures, 2 in each district. Existing boreholes also need to be repaired, so funds will be used to rehabilitate 2 boreholes in Balanbale and 2 in Guriel.

144. The community consultations identified rehabilitation of canals in village Dayactirka Kanaalada of Afgooye and 2 major canals in Jowhar. These sites will be considered during the feasibility assessments. The diverted floodwaters will support activities such as tree nurseries, fodder production, crop production, livestock watering points, etc. These structures will have multiple impacts on reducing vulnerability and enhancing resilience, including improved livelihood opportunities, flood protection and increased availability of water.

145. In South Central, the rehabilitation, new construction and maintenance would be managed by the Ministry of Water and Energy, but would have community ownership integrated into the project interventions. The LDCF1 project will work closely with the Ministry to ensure that infrastructures rehabilitated under the LDCF1 window are complementary to the work being carried out by the Ministry. The community will help to identify the sites for flood control, and will also contribute 20% of the cost either through financial contribution or in-kind through labour. This would ensure true ownership and the long-term sustainability of the projects.

146. With improvement in water provision technologies, a participatory design phase, and strong ownership by the Ministry of Water and Energy, it is expected that dams, with their high water holding capacities, will be much more sustainable than the current use of shallow unlined water catchments and berkads. Moreover, water availability will be improved for a large number of the population and is expected to drastically enhance the resilience of rural communities, particularly in drought prone areas.

Puntland

147. Dams are also in high demand in the Puntland region. Both the government and community see the construction of medium to large scale dams as a top priority for enhancing resilience. Similar to South-Central the use of wars and berkads have proven to be less reliable for the various reasons described above.

148. Communities and the MoWET have worked together to select two potential sites for construction of dams. In Bandar Bayal district, they have identified an area near Labagarday, which is located 45 kilometres west of Bela, and falls in between Bela town and Dhodo. In Dangoroyo, community representatives suggested a site near Libaho, located 25 km west of Dangaryo town. Through the LDCF1 project, a feasibility study and environmental impact

assessment will be carried out to ensure suitability of the sites and mitigate any environmental impacts. The region has high evaporation rates, and this will be taken into consideration while carrying out the feasibility assessments and designing the structure. Soil tests will be conducted to determine their permeability. Other factors that will be considered will be to design appropriate dam depth to compensate for evaporation and leakage, well-compacted retaining walls and spillways, and protections of the water source to avoid contamination of use by animals. Moreover, clear plans for operation and maintenance of the facilities will be developed. This may also require training of the communities or relevant government staff.

149. Another important intervention will be the construction of erosion control/gully reclamation structures using cash for work in line with MoEWT supported rangeland management plans. Structural measures will include check dams and gabions that include loose rock, gabion and pole/brushwood constructed across the floor of the gully to reduce the channel gradient and then to slow runoff and to trap sediment. They will be constructed to facilitate the establishment of vegetation in the gully, which will eventually stabilize the gully and protect it from further erosion and rehabilitate the gully. Water diversions will support activities such as tree nurseries, fodder production, crop production, livestock watering points, etc. These structures will have multiple impacts on reducing vulnerability and enhancing resilience, including improved livelihood opportunities, flood protection and increased availability of water.

Somaliland

150. The Construction of small to medium earthen dams was prioritized by the communities in Somaliland. However, in general dams are not very common in Somaliland. This is mostly due to lack of suitable dam construction sites where leakage will be minimal, high costs of construction, limited machinery for construction, high maintenance costs due to silt removal and land degradation due to overgrazing as dams then to attract settlement in the surrounding areas. Thus, all of these factors must be taken in consideration when carrying out the detailed feasibility studies and environmental impact assessment, and the LDCF1 project will ensure appropriate measures to tackle these challenges are put into place.

151. The MERD has identified the construction of 2 earthen dams along with distribution infrastructure (i.e., pumps, pipes, channels, etc.), both at approximately 50,000 m³ in size. The locations include Baligubadle in Hargeisa District and Heere village in Burao District. The design will be based on detailed technical studies, Environmental Impact Assessments and consideration of future climate projections.

152. Flash-flooding is also a common occurrence in parts of Somaliland. In particular, the sole source of water for all of Hargeisa town, a large borehole plant, is under threat due to an adjacent seasonal river which is prone to flooding. Thus, a flood control project at Geed Deble in Hargeisa District involving the construction of gabion at Hargeisa water sources will be built. The design will be based on detailed technical studies, Environmental Impact Assessments and consideration of future climate projections. The project will be managed by the Hargeisa Water Authority (HWA). The project team will be composed of the project manager, civil engineer, field officer and three cashiers and will be led by the Project Manager who will be overall in charges of project implementation.

153. Smaller scale flash-flooding is also a serious climate impact faced by communities in Somaliland. Communities discussed the need for flood water diversion structures, which would also help increase livelihood opportunities due to water mobilization. Under the project, construction of 5 water diversion structures to control soil erosion and enhance livelihoods at 5 sites will be undertaken in the villages of Duruqsi, Balidhiig, Warabaye, Dhoqoshay and Warcibran in the Hawd plateau of Togdheer region. Water diversions will support activities such as tree nurseries, fodder production, crop production, livestock watering points, etc. The project will divert floodwaters from streams and spread them onto adjacent land that will be used as either a farm, grazing reserve, agro-forestry plot or tree nursery. This entails the construction of a simple check dam across seasonal streams to block run-off and force its water to spread to neighbouring farms. Stones collected from nearby hills will be dumped on the riverbed mixed with material to fill spaces between stones and thus obstruct the runoff. The implementation will be carried out by an NGO and local communities. The NGO and the community will develop criteria for targeting participants and will develop a plan of action and timelines for implementation. Each water-diversion structure is expected to benefit 300 households.

Reforestation (all zones)

154. Reforestation activities in appropriate areas, particularly around the newly constructed infrastructure and in severely degraded areas will also restore important ecosystem services and enhance the resilience of communities. The

LDCF will support the planting of seedlings throughout the target watershed, and along river channels. The community capacity building carried out under the various outputs of the LDCF1 will help make this initiative sustainable through awareness raising and improved knowledge on natural resource management. LDCF funds will be used to reforest areas that have experienced the most deforestation. CBOs in the target area will be identified and supported to establish tree nurseries and raise plant saplings on a cost-share basis. Inputs and training will be provided to women and youth to establish business to raise plants. The LDCF1 project will purchase the saplings from the community members and the community will be engaged to plant them in the field on a cash-for-work basis. The CBOs will be tasked to care for the young plants in the field. The CBO may seek the help of forest guards and police to halt the illegal tree felling. The per tree payment rate will be mutually decided by the LDCF1 project team and CBOs. Besides local species and other native or exotic fast-growing, multi-purpose fodder shrubs or trees will also be promoted.

Building the Resilience of Women’s Livelihoods (All zones)

155. Similar to increasing the representation and capacity of women in climate change adaptation decision-making at the national level under Component 1, Component 2 will support women’s power and presence in community-based decision-making. Small grants will be provided for implementation of small-scale, community-based EbA and NRM measures based on priorities identified by women. Also, women representation will be required in the District Disaster Management Committees (DDMCs). The Disaster Risk Management plans to be developed by the DDMCs will be gender-sensitive.

156. Component 2 will focus on supporting women’s groups from each of the eight districts to build resilient livelihoods. Women’s groups will be selected from each zone for training to lead the piloting of innovative businesses aimed at adopting climate adaptation technologies (e.g., drip irrigation systems, and solar water pumps). In Somalia, women are more often than men, involved in operating small businesses due to variety of historical and cultural reasons. Women work on farms, and they may be best placed to operate equipment, such as solar pumps for shallow wells, which can be used to improve crop and vegetable production. Women can also be involved in the sale of water, as is the current practice, through private berkads. An expert will be hired to carry out a study that looks at the various options for climate adaptation technologies that can be set-up as sustainable businesses in the target districts. Key technologies will be prioritized based on the study and consultations with stakeholders. An NGO will be hired for implementation. The NGO will select 30 Women’s Organizations that will select members who want to jointly start an enterprise. The NGO will be guided by the Ministry of Women and Human Rights Development to effectively enhance the livelihoods and incomes of vulnerable women. The women will be provided with trainings on value-chain analysis and marketing, initial capital and assistance with setting up the business.

A.6 Risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and measures that address these risks:

157. Risks and recommended countermeasures were identified during bilateral consultations during the project preparation phase. Key risks and mitigation measures underlying project development are indicated in Table 1.

Table 1: Key risks and assumptions

Risk	Rating	Risk Mitigation Measure
A low level of cooperation between executing institutions due to political divisions and the existence of distinct zones of Federal Somalia, Puntland and	Medium	Management arrangements include one clear focal point for implementation, the Ministry of Environment and Petroleum which also houses the GEF operational focal point. Each zone will have a Project Officer who will be in charge of activity implementation on a day to day basis. Programme outcomes will be maximized by having three clear Regional Committees (led

Risk	Rating	Risk Mitigation Measure
Somaliland makes the coordination of policy development challenging.		<p>by the zonal Project Officer) which will include relevant government representatives, district officers and NGO/CBO representatives for each zone. The Regional Committees will be responsible for implementing the zone's adaptation priorities.</p> <p>To unify climate change responses and facilitate fund mobilization for adaptation for Somalia, one federal Climate Change policy will be generated. In contrast, since land-use varies from one zone to the next based on the different climate zones present in Somalia and the different prevailing livelihoods, each zone will develop its own land use policy. This will avoid any inter-zone conflict and will target the adaptation needs in each zone. Similarly, Climate Monitoring / Early Warning System centres will be developed in each zone due to the varying capacities for disaster preparedness in each zone (DRM capacities are strongest in Somaliland and weakest in South Central).</p> <p>As evidenced by the New Deal Compact, the recent efforts of the international community to build consensus among the zones and reunify Somalia are positive. It is expected that positive progress will be made in this direction and political environment will become conducive for implementing the LDCF financed project. UNDP Somalia furthermore has excellent relationships with all the key partners and will play an active role in facilitating coordination.</p>
Security risks could affect project implementation, particularly clan-based conflicts over competing uses of natural resources.	Medium	<p>The target areas within the eight districts have been chosen based on the criteria of having a stable security situation. To ensure security, the project will work through local NGOs/CBOs, who have experience in project implementation, for project delivery. The security situation in the selected districts will be monitored closely and if necessary, project activities will be shifted to more secure areas or districts.</p> <p>Similar to the NAPA and LDCF preparation, project implementation will ensure that customary dispute resolution mechanisms are used to resolve any conflicts. For instance, traditional elders, religious leaders and clan leaders will continue to be consulted on any major implementation decisions for ground-based activities. Project implementation will also ensure an inclusive, participatory approach involving all key stakeholders including women and youth and an equitable distribution of benefits.</p>

Risk	Rating	Risk Mitigation Measure
		<p>The recognition of the new federal government by the EU and USA and supportive resolution of the UN Security Council to strengthen the national institutions is already having positive impacts for peace building in Somalia. LDCF funds will further support security by empowering the youth. Funds will be used to provide technical knowledge on climate change adaptation to current and prospective students (e.g., incorporating climate modules into existing degree programmes and offering scholarships for university degrees with climate modules). Also the security situation will be improved by creating clear, publicized land used policies and by improving the ecosystem services which support agriculture and pastoral livelihoods (e.g., through water mobilization and reforestation).</p>
<p>Limited climate monitoring inhibits forecasting capabilities and the ability to develop detailed spatial mapping to allow for adequate adaptation and risk reduction planning.</p>	<p>Low</p>	<p>Since national forecasting capacities are absent in Somalia, regional forecasting products generated by FEWSNET, ICPAC and FAO SWALIM will be exploited by the Climate Monitoring /Early Warning System (CM/EWS) centres / focal points to be developed / supported in the proposed project. (The regional forecasts make use of the limited monitoring network in Somalia as well as data from neighbouring countries in the region and/or satellite images.) Such forecasts will be appropriate for the climate risk management approaches to be employed with LDCF funds that will not be highly dependent upon precise climate change scenarios. Rather, LDCF funds will focus on building the capacities of the CM/EWS centres in Somaliland and Puntland and the CM/EWS focal points in South Central to use the existing products for disaster risk reduction planning in the context of uncertainty. Funds will also support ministries and districts to generate development plans and adaptation decisions in the face of uncertainty. In such a manner, the proposed project will focus on building the capacities of the ministries/institutions to deliver adaptation and risk reduction planning with existing data. This is seen to be more critical than expanding the monitoring network when the CM/EWS and relevant ministries will not yet have the required human resources and technical expertise to maintain additional stations. Similarly, for early warning development, the project will support enhanced communication of existing forecasts and the development of district level Disaster Management Committees (DDMCs) so as to focus on the delivery of risk information to the communities.</p>

Risk	Rating	Risk Mitigation Measure
<p>The project could encounter delays due to the lack of nationally-available expertise and human resources and sustainability may be at risk if trained individuals leave government ministries/institutions for more lucrative private, international or non-governmental positions.</p>	Medium	<p>Universities will be supported to introduce climate modules into existing degree programmes so that students can be trained in the most up-to-date relevant climate change adaptation practices relative to their respective discipline (e.g., water and soil conservation methods for agricultural studies, optimal water mobilization infrastructure for civil engineering studies, etc). Students will be incentivized to follow fields where there is a climate change emphasis because LDCF funds will be used to offer scholarships in each relevant discipline. This approach will generate technically-savvy graduates who will then provide the required technical expertise to the understaffed ministries.</p> <p>The issue of the unavailability of requisite human resources will also be mitigated by recruitment of international experts (with preference given to those of Somali origin) who will work closely with in-country counterparts and will provide targeted capacity building activities (e.g., sustainable forestry, agronomy, water mobilization) in Component 1.</p> <p>Furthermore, an international fund mobilization expert will be engaged to ensure that the ministries have the necessary budget lines to keep the staff base or to enhance the technical expertise required if there are weaknesses in particular areas.</p>
<p>Water and natural resource management strategies are made ineffective by an unanticipated increase in the frequency of flood events and continued drought which jeopardizes agricultural and pastoral production</p>	Medium	<p>The project will take into account region-specific current climatic variability in the selection of the adaptation technologies. For instance earth dams will be placed in regions where significant water must be mobilized. Water diversions will be placed in areas to mitigate flood risks for downstream farmers/pastoralists. Water storage will be provided in the event that additional drought events occur. Project beneficiaries will also gain training in resiliency-building approaches such as soil and water conservation methods. The choice of adaptation technologies to be implemented will be contextualized based on the targeted needs (e.g., women, youth) so that all members of the rural populations can build resilience to climate shocks.</p> <p>Furthermore, the project will support women to have sustainable businesses in promoting adaptation technologies so as to diversify their livelihoods and provide them access to capital.</p>
<p>Targeted farmers and pastoralists are sceptical and unwilling to use adaptation technologies /</p>	Low	<p>In Component 2, LDCF funds will be used to provide field demonstration sites in the form of the Farmer and Pastoral Field Schools. These sites will provide extensive training on the appropriate adaptation technologies for the target areas. LDCF</p>

Risk	Rating	Risk Mitigation Measure
<p>practices so as to diversify their livelihoods and/or income diversification strategies do not significantly increase household incomes.</p>		<p>funds will then be used to provide small grants to the farmers and pastoralists so that they can use the adaptation technologies in their respective farms/grazing lands to improve their productivity.</p> <p>Funds will also be used to support women to promote adaptation technologies. The idea is to promote women-based groups to have sustainable businesses focused on the sale of adaptation technologies. Such an approach will build on the entrepreneurial spirit of Somali women, use existing women-based groups and provide women with alternate livelihoods and sources of income.</p>
<p>Water ministries have limited capacity to design, construct and perform maintenance on water mobilization infrastructure</p>	Low	<p>With large physical infrastructure planned in Component 2, a Chief Technical Advisor (CTA) and water mobilization expert will be recruited to assist the Ministries of Water with proper design and construction of water mobilization infrastructure in each zone. The CTA and expert will be tasked in training the Water ministries on proper Operation and Maintenance (O&M). The CTA will provide O&M assistance throughout the entire project.</p>
<p>There is insufficient technical and operational capacity within the regional governments to coordinate drought and flood preparedness and to implement unfamiliar Ecosystem-based Adaptation actions</p>	Medium	<p>In Component 1, LDCF funds will be used to provide significant training for the ministries on climate change adaptation. A Climate Change expert will be seconded to each zone's Environment Ministry for the entire duration of the project. The expert will be tasked with familiarizing the ministries on Ecosystem-based Adaptation actions and how they contribute to supporting the livelihoods of pastoralists and farmers. Similarly, a Disaster Risk Management expert will be recruited to support the CM / EWS centres to be developed in the proposed project. The DRM expert will be tasked with reinforcing the drought and flood preparedness of the CM/EWS centres. The centres will be responsible for building the capacity of the District Disaster Management Committees (DDMCs) to be formed in the proposed project. The DDMCs will be trained to develop targeted disaster preparedness plans based on their district's vulnerabilities.</p>
<p>The lack of politically recognized Environmental Impact Assessment procedures causes unforeseen adverse</p>	Low	<p>During project preparation, an Environmental and Social Screening Procedure was used to identify any potential social/environmental risks and their required mitigation measures. The mitigation measures have been integrated into the project design. As only Somaliland has a formalized EIA</p>

Risk	Rating	Risk Mitigation Measure
social/environmental impacts		procedure which is not as rigorous as international approaches, an international EIA team (preferably with experts of Somali origin) will be recruited to conduct an internationally-recognized EIA assessment procedure during the first 6 months of the project. With such an approach, particularly with the physical infrastructure to be built in the all zones, this will avoid any hazards such as potential downstream impacts.

A.7. Coordination with other relevant GEF financed initiatives

158. The LDCF financed project will also coordinate with related initiatives. Details on how LDCF funds will be used to complement the related initiatives are included in the boxed text below the descriptions of the initiatives.

159. The *Economics of Land Degradation (ELD) Initiative* in Somalia (2014, UNDP and GIZ, \$67,000). The ELD is an initiative for a global study on the economic benefits of land and land-based ecosystems²⁹. The initiative is financed by the *Drylands Development Centre (DDC)*, a thematic centre of UNDP, and GIZ. The *DDC*'s development objective is to contribute to rural poverty reduction and increased food security for the communities living in rural drylands. DDC contributes to their objective by i) mainstreaming drylands issues into development frameworks leading to budgetary allocation for implementing livelihoods options on the ground; ii) strengthening the rural economy and creating and implementing livelihood opportunities; and iii) improving capacities of local communities for governance and sustainable management of local resources.

160. Along with the support of DDC and GIZ, the ELD is increasing the political and public awareness of the costs and benefits of land and land-based ecosystems by developing a methodology and tool to assess the Economics of Land Degradation (ELD) in Somalia (i.e., a tool to highlight the value of sustainable land management). The tool will provide detailed mapping exercises to help contextualize the ELD initiative by analysing existing findings concerning the economic valuation of natural resources.

The LDCF financed project will collaborate closely with the Drylands Development Centre. Consultations during project development indicated that in order to improve dryland development, the DDC must be implicated from the beginning and throughout project implementation. DDC will be consulted on Land-Use policy development, improving pastoral livelihoods and reinforcing community-based NRM in the dryland regions of Somaliland and Puntland. Findings from ELD will be incorporated into the Arid and Semi-Arid Land (ASAL) adaptation plans for Somaliland and Puntland. The plans will then guide adaptation activities for all zones in the future.

161. The *Joint Programme on Local Governance and Decentralized Service Delivery (JPLG)* (JPLG) (ILO, UNDP, UNHABITAT, UNICEF and UNCDF 2008 – 2015, 54.67m USD) supports regional institutions in Somalia, ensuring local governance contributes to fair delivery of services and stability in the country in eight programmatic areas: decentralization, land management, municipal finance, local economic development, service delivery, social accountability, planning and budgeting and fiscal transfers. JPLG has made significant strides in advancing local governance and in decentralizing services by supporting capacity development for a range of stakeholders from communities, women groups, district departments and line ministries. For instance, JPLG provided technical support to produce a draft policy guide for community engagement on local planning and social accountability with the Ministries

²⁹ For more details see <http://eld-initiative.org/index.php?id=23> .
GEF5 CEO Endorsement Template-December 2012.doc

of Interior in Somaliland and Puntland. JPLG also conducted sector studies in water and natural resource management to assess the opportunities and capacities of key sector ministries and central authorities. At the district level, JPLG supported capacity for participatory and strategic planning to enhance the use of resources. It also supports women to get involved in development, through public meetings, training, outreach and media campaigns.

The LDCF financed project will work with JPLG to ensure that line ministries, districts, women-based groups and CBOs have reinforced capacities on climate change adaptation and disaster preparedness. Lessons learned on effective capacity building will be integrated into the proposed project. Land-use policy development in each zone will draw lessons from JPLG on how to properly engage communities. Also, findings from JPLG's sectoral studies on water and NRM will be integrated into the ASAL adaptation plans and land use plans to be developed with LDCF funds. The adaptation alternative to be provided by the project is to decentralize Natural Resource Management and disaster preparedness. CBOs will be revitalized to ensure sustainable land management and district Disaster Management Committees will be created to support community-based flood and drought preparedness.

162. The *Economic Development Programme for Growth and Resilience* (EUR 42 M) is another project under SHARE of the EU which aims to i) strengthen the livestock sector by boosting its export capacity at all levels and by supporting the *Sheikh Regional Technical Veterinary School*; ii) enhance crop production through small scale irrigation, grain banks and plant genetic resources; and iii) maintain continued support to information networks such as FSNAU and SWALIM to ensure timely information transmission on food, nutrition, livelihood security, land and water.

163. *European Commission's Humanitarian Aid and Civil Protection department (ECHO)* (EUR 40 m): ECHO supports interventions in the areas of protection, food security, health, nutrition, shelter, water and sanitation, hygiene promotion, livelihoods support, and coordination of aid. Assistance and protection actions will focus on the most affected regions of central south Somalia, where needs are still the greatest in addition to vulnerable pockets in Puntland and Somaliland. The Commission focuses on actions that save lives during emergencies such as treatment of malnutrition; emergency preparedness actions including surveillance; and interventions that increase the recovery and resilience of the communities most affected by recurrent crises. The Commission remains dependent on the implementation capacity of its operational partners on the ground, their level of access to populations and their ability to operate while reducing risks to their staff. The International Rescue Committee (IRC) with support from the European Community Humanitarian Office (ECHO) is working with those people who were displaced by the drought in the Mudug region in South Central Somalia. Working in cooperation with displaced communities, the IRC is providing water and sanitation facilities to those living in camps and settlements in Mudug by extending water pipelines and creating water catchment areas so that families, and their livestock, have access to clean, safe drinking water. Five boreholes have been repaired in camps and villages. The IRC has trained community members to maintain these water facilities and communities are responsible for water safety. Community members, in particular women, have been trained on hygiene promotion in order to prevent the spread of water-borne diseases in their families and communities. 40 community hygiene promoters have been trained and they conduct house-to-house visits, emphasising the importance of hand washing with soap and the safe disposal of waste. Over 27 000 people were reached by IRC - ECHO projects in 2012.

LDCF funds will be used to upscale and support timely warnings from ECHO and the Economic Development Programme for Growth and Resilience. The proposed project will also support disaster preparedness on national and local scales. It will build on ECHO's experience in training communities in the operation and maintenance of water facilities.

164. *IGAD Climate Prediction and Applications Centre (ICPAC)*. The ICPAC has a mission of fostering sub-regional and national capacity for climate information, prediction products and services, early warning, and related applications for sustainable development in the IGAD Sub-Region. ICPAC monitors droughts and floods indirectly

through seasonal forecast/outlook forums. The regional forecasts are developed using statistical regressions between seasonal rainfall and Sea Surface Temperatures (SSTs) and other climate indices that affect rainfall characteristics in the region. ICPAC products include, a) analysis of past climate, b) monitoring of current climate, c) prediction products, d) impacts and e) seasonal drought forecasts. ICPAC supported the NAPA preparation process through assessing climate data modelled projections.

165. IGAD is also implementing the *Hydrological Cycle Observing System (HYCOS)* project under IGAD's *In-land Water Resource Management Programme (INWRP)* Through HYCOS, IGAD is maintaining a river gauge network in Somalia to increase flood preparedness. HYCOS includes 30 river gauge measurement stations, 1 Acoustic Doppler Current Profiler (ADCP) and 10 rain gauges. Through the INWRP, IGAD is constructing water mobilisation structures in the Juba watershed between Somaliland and Djibouti.

The LDCF financed project will collaborate closely with the ICPAC while developing Climate Monitoring / Early Warning System (CM/EWS) centres. The centres will be trained in disseminating ICPAC seasonal drought forecasts. Also, the CM/EWS centres will incorporate all HYCOS river gauge monitoring measurements into their databases to enhance flood preparedness. Lessons learned on effective water mobilization construction for dryland areas (e.g., IGAD's work on the upstream Juba watershed in Djibouti) will be incorporated into the proposed project.

166. The *Food Security and Nutrition Analysis Unit (FSNAU)* supports monitoring all over Somalia on agriculture indicators, rainfall measurement, and market prices of food commodities. After every rainy season the field monitors come together with experts in food security and nutrition to analyse the previous season and its impacts on the community. The analysis is summarised in one map representing Integrated Food Security Phase Classification (IPC). The country is then categorised according to the prevailing situation in terms of food security/insecurity. The causes of food insecurity are also highlighted on the map including floods, insecurity, drought and/or population influx etc.

The Climate Monitoring / Early Warning Centers (CM/EWS) Centres and District Disaster Management Committees to be developed with LDCF funds will integrate any lessons learned from FSNAU on causes and means to mitigate food insecurity.

167. *Famine Early Warning Systems Network (FEWSNET)*. FEWSNET is an information system designed to identify problems in the food supply system that potentially lead to famine or other food-insecure conditions in Sub-Saharan Africa, Afghanistan, Central America, and Haiti. It is a multi-disciplinary project that collects, analyses, and distributes regional, national, and sub-national information to decision makers about potential or current famine or other climate hazard, or socio-economic-related situations, allowing them to authorize timely measures to prevent food-insecure conditions in these nations.

The Climate Monitoring / Early Warning Centers (CM/EWS) Centres will link with FEWSNET in early warning dissemination. The CM/EWS Centres to be developed with LDCF funds will exploit the FEWSNET drought forecasts.

168. *Somali Development Fund* (funded by DANIDA, DFID, Sweden for Somaliland) The SDF is a program led by Somaliland ministries to mitigate the impacts of drought. Water harvesting, mobilization, improved forage production, reforestation and livelihood diversification are stressed. According to local NGOs/CBOs, there is limited funding available for decentralized organizations/institutions.

169. *CARE International (NGO)* has several relevant projects to the proposed projects including:

- *Towards Sustainable Pastoralism in Sool and Sanaag*: research project aimed at identifying ways to ensure that pastoralism survives and thrives in the face of increased frequency of droughts, degradation of natural resources and resource based conflicts.

- ***Somalia Youth Leadership Initiative (SYLI)***: a new 5-year project in Somaliland and Puntland aimed at empowering Somali youth to contribute positively and productively to society. The project seeks to increase educational, economic and civic participation opportunities for Somali youth and help them become self-reliant. Project activities will include classroom construction and rehabilitation, improved community discussions on education, vocational training for unemployed youth, support for small business start-ups, and strengthening of youth groups as safe places for open discussions on problems facing the youth.

LDCF funds will be used to implicate youth in climate change awareness building. Funds will be used to empower youth by providing prospective university students with scholarships to study in one of the fields where climate modules will be developed under the proposed project (e.g., in existing agriculture, water resource engineering study programmes). Education for youth in climate-related disciplines will provide a pool of potential qualified recruits for the understaffed ministries.

170. Other related initiatives include:

- On-going work by the ***International Labour Organization***: focusing on land, forestry and water and how the government decentralizes service delivery. They are promoting Soil and Water Conservation methods, water mobilization, storage and harvesting.
- ***Candlelight*** work including nursery development to raise seedlings for reforestation. To date, Candlelight has generated 30,000 seedlings per year.
- ***Somali Institutional Development Project*** (UNDP, USD 5m, 2009 – 2015): Through this project, policy and law-making processes and systems are currently being developed. Human resource skills are also being enhanced in addition to improving public financial management and developing institutional infrastructure.

B. ADDITIONAL INFORMATION NOT ADDRESSED AT PIF STAGE:

B.1 Describe how the stakeholders will be engaged in project implementation.

171. During project preparation, two extensive field consultations with the Stakeholders are planned. Bilateral and multilateral stakeholder consultations also took place to collect information and confirm costs and management arrangements. The overall goal of stakeholder consultations has been to identify relevant agencies involved with supporting 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 will support dryland agro-pastoralists and pastoralists.

172. The following table shows the list of proposed consultations which will take place to develop the LDCF1 project document. The project outcomes, outputs and activities are based upon the recommendations of the stakeholders given the technical, operational and financial constraints of the project. The role and participation of each agency is indicated by the column headings described in the legend.

Legend

Inception Consultations – participated in first mission consultations.

Technical Validation Consultations – participated in the secondary consultations used to confirm project activities and costs.

Validation Workshop – participated in the validation workshop.

Baseline Assessment – consulted to provide baseline situation during project development.

Management Arrangements – identified as a member of the project management arrangements (e.g. Steering Committee, etc.).

Risk/Barrier Analysis – consulted to document their view of specific institutional risks or barriers.

Policy/ Strategic Alignment to Priorities – institution has policies/strategies or implements policies / strategies aligned with project priorities.

Co-financing Identification – institutions / organizations which have other projects or existing material to support and be supported by the project financially.

Gender Representation – organization that is concerned with promoting the involvement of women during project development and implementation.

Upscale / Sustainability planning – responsible for scaling-up (duplicating) the project and reinforcing the sustainability of activities after project completion.

Potential Partnerships – Memorandums of Understanding obtained between ministries and institutions to support project implementation.

173. Furthermore, Somali women have been involved during project development and will continue to be involved during project implementation. Women are an important target group because they are more dependent on natural resources for their livelihoods. Climate change has a strong impact on the female beneficiaries who are living in rural regions and have limited mobility. In addition, women may be excluded from some activities due to cultural norms, or due to lack of capital and ownership arrangements that confer all rights to men in the family (Buhl 2005; Eriksen *et al.* 2005, Eriksen *et al.* 2007). This inequality is compounded by a lack of opportunities arising from limited access to education and information services which prohibit participation in decision-making. Due to all of these reasons, this project is targeting women to develop nurseries and to reinforce their capacities on national and district levels. Relevant gender-focused NGOs/CBOs such as the Somali Women Association will be involved during project design and implementation to facilitate the engagement and empowerment of women.

Table 2: Stakeholder Involvement Matrix

Stakeholder	Inception Consultations	Technical Validation Consultations	Validation Workshop	Involvement in Baseline Assessment	Management Arrangements	Risk/Barrier Analysis	Policy/ Strategic Alignment to Priorities	Co-financing Identification	Gender Representation	Upscale / Sustainability Planning	Potential Partnerships
Government											
Office of the President (South Central)	X	X	X	X	X	X	X	X	X	X	X
Ministry of Petroleum, Minerals and Environment (South Central)	X	X	X	X	X	X	X	X	X	X	X
Ministry of Environment, Wildlife and Tourism (Puntland)	X	X	X	X	X	X	X	X	X	X	X
Ministry of Environment and Rural Development (Somaliland)	X	X	X	X	X	X	X	X	X	X	X
Ministry of Agriculture (all zones)		X		X		X	X	X	X		
Ministry of Water		X		X		X	X	X	X		

Stakeholder	Inception Consultations	Technical Validation Consultations	Validation Workshop	Involvement in Baseline Assessment	Management Arrangements	Risk/Barrier Analysis	Policy/ Strategic Alignment to Priorities	Co-financing Identification	Gender Representation	Upscale / Sustainability Planning	Potential Partnerships
(Puntland and South Central)											
Ministry of Livestock (all zones)		X		X		X	X	X	X		
Ministry of Women and Family Affairs (Puntland)		X		X		X	X	X	X		
Ministry of Planning (all zones)		X		X		X	X	X	X		
National Environment Research and Disaster Preparedness and Management Authority (Somaliland)	X	X	X	X		X	X	X	X		
Humanitarian Affairs and Disaster Management Authority (Puntland)		X	X	X		X	X	X	X		

Stakeholder	Inception Consultations	Technical Validation Consultations	Validation Workshop	Involvement in Baseline Assessment	Management Arrangements	Risk/Barrier Analysis	Policy/ Strategic Alignment to Priorities	Co-financing Identification	Gender Representation	Upscale / Sustainability Planning	Potential Partnerships
Somali Disaster Management Authority		X		X		X	X	X	X		
Ministry of Energy (Somaliland)		X		X		X	X	X	X		
Parliamentarians (Somaliland)		X		X		X	X	X	X		
Technical / Research Institutions											
Hergeisa University		X		X							
Puntland State University		X		X							
Regional/ Sector											
District of Jowhar (community leaders, women representatives, local government)	X	X	X	X		X			X	X	

Stakeholder	Inception Consultations	Technical Validation Consultations	Validation Workshop	Involvement in Baseline Assessment	Management Arrangements	Risk/Barrier Analysis	Policy/ Strategic Alignment to Priorities	Co-financing Identification	Gender Representation	Upscale / Sustainability Planning	Potential Partnerships
officials)											
District of Jowhar, Balan Bale, Guriel, Afgoye, Bandar Bayla, Dangoroyo, Burao, Hargeisa, (community leaders, women representatives, youth representatives, local government officials)		X		X	X	X			X	X	
NGOs/CSOs											
Candlelight	X	X	X	X		X			X	X	X
African Development Solutions (ADESO)	X	X	X	X		X			X	X	X
Somali Women Association	X	X	X	X		X			X	X	X
Havoyoco	X	X	X	X		X			X	X	X

Stakeholder	Inception Consultations	Technical Validation Consultations	Validation Workshop	Involvement in Baseline Assessment	Management Arrangements	Risk/Barrier Analysis	Policy/ Strategic Alignment to Priorities	Co-financing Identification	Gender Representation	Upscale / Sustainability Planning	Potential Partnerships
Care International	X	X	X	X		X			X	X	X
Donor Partners											
UNDP	X	X	X	X	X	X	X	X	X	X	X
European Union / European Commission			X	X				X		X	X
African Development Bank, AfDB			X	X						X	X
Intergovernmental Authority on Development (IGAD)			X	X						X	X
UNDP Drylands			X	X						X	X
UNEP			X	X						X	X
United Nations High Commissioner for Refugees (UNHCR)			X	X						X	X
UN Food and Agriculture			X	X						X	X

Stakeholder	Inception Consultations	Technical Validation Consultations	Validation Workshop	Involvement in Baseline Assessment	Management Arrangements	Risk/Barrier Analysis	Policy/ Strategic Alignment to Priorities	Co-financing Identification	Gender Representation	Upscale / Sustainability Planning	Potential Partnerships
Organization (FAO)											
UN OCHA			X	X						X	X

174. The stakeholders identified during project preparation will continue to be involved in project implementation. A stakeholder involvement plan has been created to provide a framework to guide interaction between implementing partners and the key stakeholders, particularly end-users to validate project progress. All stakeholders involved in the NAPA formulation and LDCF consultations will be continuously involved to track the efficacy of stakeholder capacity building, both operationally and technically. Also, the Women's Organizations, Ministries of Women's Affairs, and female government officials and representatives will continue to be involved and consulted in order to ensure women are properly engaged and are active participants in the planning, implementation and monitoring of the project. A major criteria for selection of NGOs/CSOs for carrying out the baseline study will be the presence or gender capacity within the organization, to ensure that gender disaggregated data is collected and an M&E framework that reflects the gendered dimensions of climate change is developed.

During implementation, the communication and consultation process will be divided into three main phases:

Phase 1 – Developing a strategy and action plan:

175. This is the mobilization phase in the first year of the project. The details of the activities and implementation structures will be designed, partnerships for action will be forged and stakeholder engagement will focus around these design processes. The Environmental Impact Assessment and the Technical Studies will take place simultaneously during this phase. These two types of studies will focus on identifying any negative impacts of the proposed infrastructure projects along with mitigation measures. The technical studies will look at the feasibility of the projects, and will include cost-benefit analysis. Local authorities and communities will be consulted by both the EIA and Feasibility Study teams. Moreover, meetings will be conducted at the district level to gather local level data on climate impacts, trends in natural resource management, and other important baseline information. During these meetings, religious leaders, traditional elders, cultural groups and women's groups will be important stakeholders.

Phase 2 – Consultation through implementation:

176. This is the main implementation phase where investments will be made on the ground in the target areas and stakeholder consultation about engagement will focus on output-oriented actions. During this phase, community stakeholders will be deeply involved through cash, labour and in-kind distributions. The target for these contributions will be 20% of the total project costs where possible. The community will also participate in the implementation phase by facilitating access to the project areas for the project staff and consultants, and also helping to bring together a broad spectrum of the community to participate in any capacity building and awareness raising activities organized under the project.

Phase 3 – Project completion and scale up promotion:

177. The third and final phase represents the completion of the project. The plans for scale-up and long-term sustainability of the LDCF investments will be developed. Consultation will focus on learning, bringing experience together and looking at processes for continued post-project impact.

178. Specifically, in Phase 1, Technical Studies will begin from the project's inception. The studies are planned to take place during the first 2 quarters of the project, in which technicians will collect data from the field and gather indigenous knowledge. After the first quarter, suitable sites for retention basins, micro-dams and diversion structures will be identified. Based on the sites identified, an Environmental Impact Assessment will be conducted at the beginning of the 3rd quarter to validate the appropriateness of the sites and to provide mitigation plans for any expected environmental and social impacts. The local populations in the target districts, as well as surrounding populations, will be consulted to obtain data to conduct the EIA. Ultimate locations for construction works will be determined throughout the third and fourth quarters based on conclusions from the technical studies, EIA, and consensus among the local populations and the technical Ministries.

179. At the beginning of the project, over-arching criteria to determine training beneficiaries will be well-defined. A specific beneficiary selection group composed of community heads and representatives from the technical ministries (Ministry on the Environment, Ministry of Planning and the disaster management authorities) will be created to conduct the field consultations to see how local customs should be used to determine beneficiary selection criteria.

180. The gender-disaggregated survey, to be conducted by women-focused NGOs/CSOs, will also take place during Phase 1. The survey will be used to obtain baseline data, such as for adaptation technology preferences.

181. In Phase 2, public consultations will become more of an ongoing exchange of information where there will be two main purposes:

- 182.
- To gather information from beneficiaries and stakeholders about the impact and effectiveness of the planned water mobilisation (micro-dam, reservoir, cistern, well and shallow well placement) and training strategies (Training of Trainers or lead farmers on-the-farm, demonstration plots); and
 - To provide interested government and donor stakeholders and the general public with information about the progress and impact of the project as it is implemented.

183. Phase 3 will be a process of ensuring completion, hand-over and long-term sustainability of the LDCF investment. Consultation will focus on bringing experience together, sharing key lessons learned (through the UNDP ALM and other forums) and looking at processes for promoting scale-up of this project in order to build the resilience of more rural mountain rain-fed farmers and pastoralists.

184. Overall, the types of consultation mechanisms to be used include:
- Meeting with the members of the newly formed National Climate Change Committee to obtain lessons learned;
 - Discussion with local government authorities and local leaders on their roles in sustaining the project activities
 - Meetings with NGOs/CSOs to confirm their roles in project implementation in the future;
 - Discussions with the trained participants of the FFS to determine the lessons learned and development of case studies
 - An external evaluation of the project that will highlight the successes, challenges and lessons learned for dissemination to NGOs, donors and government stakeholders.
 - Exposure visits for neighbouring districts to the project districts to visually observe and meet with communities that have implemented soil and water conservation principles and are employing adaptation technologies
 - Identifying successful women-led enterprises for adaptation technology and linking them with additional finance and supporting them in gaining recognition

B.2 Describe the socioeconomic benefits to be delivered by the Project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund/NPIF) or adaptation benefits (LDCF/SCCF):

185. The project will have significant adaptation and socio-economic benefits. Overall, the project will provide climate change awareness and support preparedness measures for approximately 43,000 agro-pastorals and pastoralists in all three zones of Somalia (half of which are expected to be female). At least 7,200 households will be beneficiaries of water mobilization and diversion and will also be provided with climate change awareness due to community involvement with construction, infrastructure O&M and working with the CBOs. The LDCF financed project will also provide training on Public Administration for 20 government officials in each zone (60 total) so that they will have the capacity to manage climate adaptation projects. At least 30% of the ministry staff who will receive training will be women. In order to support understaffed ministries, 3 students in each zone will be sponsored to attend environmentally – and Natural Resource Management- focused higher degree programmes which will increase their technical capacity.

186. LDCF funds will also provide training on climate change adaptation for 50 beneficiaries in each zone. Public awareness campaigns on the environment, Climate Change and associated policies, most notably the Land Use Policies to be created in each zone, are predicted to benefit at least 1 million people.

187. In terms of Disaster Risk Management (DRM), a Climate Monitoring / Early Warning System Centre (CM/EWS) will be created in both Puntland and Somaliland. DRM training will be provided for five CM/EWS staff as well as five DRM focal points in the relevant ministries in South Central. A National Disaster Management Policy, with clear roles and responsibilities defined and a comprehensive survey of the capacity needs for managing disaster risks will also be generated. On a local level, each district will be supported to establish Disaster Management Committees (DDMCs). Each committee will consist of 15 people. The DDMCs will be responsible for generating DRM plans specific to the district. It is expected that the DRM plans will benefit at least 20% of the target populations. For example, in Somaliland 120 villages in Hergeisa and 110 villages in Burao are expected to benefit from the DRM plans.

188. Sixteen agro-pastoral Field Schools (APFS) will also be created (2 in each target area) using LDCF funds. The schools will teach both farmers and pastoralists about best practices to help them build resilience to climate change such as Soil and Water Conservation methods. Training will be provided to a Master trainer who will be responsible for training facilitators in each APFS. Two hundred (200) agro-pastoralists in each APFS will be direct beneficiaries trainings.

189. On a local level, two CBOs per district will be supported with grants to implement small-scale, community-based EbA and NRM measures, such as soil bunds, small ponds, etc. As each CBO consists of 10 people (including 3 women), it is estimated that 160 CBO members will benefit from the targeted trainings. In addition to the CBO-led NRM measures, each zone will benefit from 200 hectares of reforestation. The number of rural people who are expected to benefit from improved forest ecosystems is approximately 20,000 per zone.

190. Most significantly, large water mobilization works will benefit the entire population of each district. In Somaliland, it is expected that 30,000 people will be beneficiaries of the water provision and flood control measures. Similarly, in South Central, over 60,000 people are expected to benefit from water mobilization. Significant short-term employment will also be generated during construction using such schemes as Cash for Work.

191. Finally, women are expected to greatly benefit from project interventions by improving their power and presence in national and community-based decision making. Training programmes and workshops will have at least 30% women. At least one woman per zone will also be supported to represent Somalia in international and regional climate negotiations. Also, at least 1 one women per zone will be supported financially to attend university programmes with updated climate modules.

192. In Component 2, at least 40 women (5 per district) will be included as decision-makers in the District Disaster Management Committees to implement community-based adaptation measures based on gender-sensitive priorities. Furthermore, at least 300 women will be recipients of training on value-chain analysis and marketing, initial capital and assistance with setting up the business.

193. To ensure minimal environmental and social impacts, an Environmental Impact Assessment will be conducted during the first 3 months of the project. Due to the fact that only Somaliland has a legally recognized EIA procedure, an EIA process that is recognized by international standards will be funded by the project. During project development, the project has also been designed to adhere to the UNDP Environmental and Social Screening Procedure. The screening classified the project as Category C (See Annex 9). As such, the following mitigation measures are recommended and will be re-visited at the time of the detailed EIA:

194. Environmental safeguards being applied to the LDCF1 project include the following:

- Conducting in-depth hydro-geotechnical studies to ensure that water mobilisation infrastructure will support sufficient water supply, taking into account storage needs during the dry season and downstream water rights;
- Providing on-the-farm and in-the-pasture training on sustainable adaptation technologies (e.g. equipment/practices which reduce erosion and limit degradation) through Farmer and Pastoral Field Schools;
- Training farmers and pastoralists on the value of ecosystem based services and how adaptation measures such as Soil and Water Conservation measures need to be used to ensure the productivity of ecosystems;
- Training locally based district Disaster Management Committees on drought/flood mitigation and preparedness strategies in order to ensure they can transfer such knowledge to surrounding communities after termination of the project (e.g., how to protect water sources);
- Using native plant species for reforestation/afforestation;

195. Social safeguards being applied include the following:

- Engaging a NGO to do a water / land rights study for the eight districts to ensure that there will not be conflicts over natural resource appropriations;
- Recruiting international experts of Somali origin so they can more freely assist with project implementation;
- Consulting elder leaders, religious leaders and clan leaders while designing and implementing adaptation activities to ensure community approval and ownership;
- Support women based groups to diversify their livelihoods and income services by creating businesses to promote adaptation technologies (e.g., sales of solar pumps);

- Implicating youth by incentivizing them to study fields with climate consideration (e.g., agriculture, civil engineering) and providing them employment after technical capacity building to serve in the understaffed environmentally-related ministries;
 - Increasing the representation of women in decision-making, strategy development and climate negotiations;
 - Accounting for the gender dimensions of climate change in policies and plans to be developed or updated;
- Implementing small-scale, community-based EbA and NRM measures based on priorities identified by women.

B.3. Explain how cost-effectiveness is reflected in the project design:

196. With recently established ministries in all zones of Somalia, capacity building needs are great. By surveying the technical support needs for each zone during the project preparation phase, a set of common specialized technical staff was identified, each with particular skills related to the development of climate change awareness and land-use policies, the effective design and implementation of water mobilization infrastructure and reforestation as well as disaster risk management expertise. Technical experts to be recruited will be expected to build the capacity of the relevant institutions in all zones. With this approach, all zones will benefit from the diverse technical support that will be provided. Further benefits include time saved on HR procurement procedures (e.g. for hiring, advertising etc.) and the ability to compare and standardize support across zones where possible. An example of consolidated training will be group workshops for relevant ministries on how to effectively plan, manage and monitor adaptation projects.

197. Another key design element was to consolidate knowledge-sharing activities and mass awareness campaigns to promote the sharing of information and learning and to encourage discussions of best practices i.e. what works, reasons for failure etc. An example will be to send representatives from all zones on a study tour to another African country where they have successfully implemented a National Climate Change policy. The study tour will promote coherent capacity building so that the zones will work in coordination, be involved in policy development and abide by overarching, centralized policies. Similarly, the National Climate Change Policy will synergize the current patchwork of ad-hoc policies related to the environment across all zones which are in need of being coordinated. Although LDCF funds will be used to address adaptation in the NCC policy, the policy will be able to easily integrate measures to address mitigation in the future.

198. In contrast, according to Stakeholder consultations, separate land use policies were seen to be required per zone due to different land types, climate characteristics and livelihood practices. By taking a zonal approach to land use, each region will be able to more effectively address specific conflicts over natural resources, taking into account local land tenure and water rights. Similarly, separate Climate Monitoring and EWS centres will be developed in Puntland and Somaliland due to the fact that it is not practical to have a centralized centre to coordinate alert dissemination; each zone is secular in terms of communication protocols and it is most cost-effective to use existing alert protocols such as radio, TV emissions.

199. Due to the fact that Somalia has no forecasting capability, LDCF funds will take the first steps in building Climate Monitoring / Early Warning Centres in Somaliland and Puntland (where DRM capacities exist). As an initial step towards building national Early Warning capacity, they will be responsible for disseminating ready-made forecast products (e.g., from FEWSNET, ICPAC, etc) to the communities. In the same way, LDCF funds will steer away from supporting the complex process of equipment procurement and associated training. Instead, the ministries will focus on initially having the technical expertise to be able to maintain and operate any equipment to be procured in the future.

200. Along these lines, university curricula will be updated so that climate change is mainstreamed in existing programmes. Students in each zone will be supported with LDCF funding to attend these updated programmes. The technical graduates will then effectively serve as a pool of qualified, skilled personnel to serve the understaffed ministries. As 73% of the population is under 30 years of age in Somalia and the unemployment rate is approximately 67% (61% among men and 74% among women), this approach will build the technical capacities of the youth so that they can be employed.

201. As stated in Section 2.3, the LDCF1 financed project will build on the existing initiatives and exploit successful approaches such as the Cash for Work scheme commonly used in the PREP programme. In terms of water mobilization and farmer field school strategies, an assessment of other ongoing project activities (EU, FAO) has been undertaken, noting the project site and the success or failure of existing strategies (e.g. water diversions, soil and water conservation techniques etc). Furthermore, as indicated in Table 3, the LDCF1 has evaluated various options for water mobilization. The choice of activities is based on the cost, the existence of expertise already housed within the Ministries and environment limitations (e.g., high evaporation rates). Furthermore, by conducting an initial technical hydro-geological study and engaging a water mobilization expert, proper designs for water mobilization and diversion infrastructure are more likely to be ensured so that financial and human resources will not be wasted. Finally, project costs include funding a Chief Technical Advisor to ensure that design and construction is conducted appropriately throughout the project.

202. LDCF funds will also support training by Agro-Pastoral Field Schools so that practical skills can be transferred into sustainable farming and pastoral applications. Agro-pastoralists require on-the-farm/pasture training using continual mentorship during critical seasons so that sustainable agro-pastoral capacities can be developed over time. Also, lessons-learned from significant initiatives in agro-pastoralism, pastoralism and reforestation must be continually integrated. As a result, the project uses a staggered approach to training over the duration of the project and will provide intensive training sessions for when agro-pastoralists require the most guidance.

203. It was also deemed most cost-effective to support CBOs/NGOs to implement ground-based adaptation measures. Local CBOs/NGOs have demonstrated their ability to train, mobilize and build awareness within their communities and have also taken lead roles in disasters in the past. As noted during stakeholder consultations, the community has considerable confidence in NGOs/CBOs. With more capacity reinforcement, NGOs/CBOs will be the best-placed to assist with the implementation of LDCF activities.

204. Due to project budget limitations, it was necessary to select from the long-list of needs to support agro-pastoral development and livelihood diversification and identify those within the scope and cost-effectiveness of the project. As other projects are addressing land-use management and developing sustainable agro-pastoral and pastoralist practices throughout Somalia, the LDCF1 financed project will build on these projects (as indicated in the discussions in Sections 2.3). The chosen set of activities was reviewed in a Validation Workshop in July 2014 involving all stakeholders. Based on group consensus, Outputs/Activities were revised accordingly. The Outputs outlined have been chosen based on their financial feasibility. They have been chosen over alternative ways to address project barriers, as shown in Table 6 below. A summary of the co-financing strategy, indicating sources, purposes and amounts which will be used to support activity implementation is described in Table 3.

Table 3: Demonstration of cost-effectiveness for each proposed output indicating the project barrier addressed by each output

OUTPUTS	Barrier Addressed	Alternatives Considered
<p>1.1 Increased knowledge of national and sub-national institutions in integrated land and water management principles under conditions of climate change and in the ecosystem based approaches to climate adaptation</p>	<p>Limited technical and operational capacities to support adaptation on national and local levels</p> <p>Limited knowledge and capacity to respond to climate change on national and local levels</p>	<p>Alternative 1: Provide no support to ministries on effective project management: LDCF funds will be used to reinforce the capacities on the technical aspects of adaptation measures. However, if the ministries have no capacity to manage and monitor CCA programmes, they will not be able to sustain and upscale the programmes. Consequently, if the ministries cannot manage projects properly, they will receive less support for future interventions.</p> <p>Alternative 2: Rely on existing academic programmes: Research institutions do not have any climate-focused modules. Consequently, there are no new graduates with relevant technical capacities to support the under-staffed ministries (Agriculture, Environment, Water) with climate related projects.</p>
<p>1.2 Government Departments complete sectoral analyses of climate risks and vulnerability to facilitate mobilization of long-term financing for Climate Change Adaptation</p>	<p>Limited knowledge and capacity to respond to climate change on national and local levels</p> <p>Limited technical and operational capacities to support adaptation on national and local levels</p>	<p>Alternative 1: One ministry conducts a climate vulnerability assessment: However, climate change impacts are felt cross-sectorally (across Agriculture, Livestock, Water, Health, Planning etc) and each has specific interests. By promoting ownership to address Climate Change, ministries will gain incentive to find the best proactive measures to address vulnerabilities. They will also coordinate with existing early warning centres (IGAD ICPAC and FAO SWALIM) to provide the most accurate, targeted weather and climate information for the rural populations.</p> <p>Alternative 2: Do nothing. However, there are no existing funds which consider the long-term and which use a transparent, diversified portfolio of financing strategies. Rather, Somalia is at high risk of ad hoc donor initiatives and short-term Government allocation of funds for unsustainable activities can contribute to mal-adaptation (e.g. Charcoal Production).</p>
<p>1.3 Government officials review, revise or draft new policies, regulations and frameworks for the protection, conservation and</p>	<p>Political disintegration/Lack of coordination</p>	<p>Alternative 1: Relying on other national policies / strategies to handle climate change: however, with this option, there would be no central mechanism to coordinate climate-related activities and to standardise disaster prevention strategies. Developing a National CC Policy was deemed the best mechanism for streamlining the coordination of CCA/DRM related programmes/projects, as shown in other African countries such as</p>

OUTPUTS	Barrier Addressed	Alternatives Considered
management of land and water ecosystems under conditions of climate change	Absence of and lack of coordination and decentralization among natural resource policies	<p>Zambia.³⁰ LDCF funds will enhance the capacity of the government to mobilize funds for climate change. Financing for mitigation will be mobilized in the future by the Office of the Prime Minister. Furthermore, having separate climate policies for each zone would be redundant and would only exacerbate the current patchwork of sectoral policies. In order to ensure zonal policies do not conflict with each other (e.g. water and energy, or water and agriculture), a central, prominent national CC policy will have the capacity to identify and resolve the transversal CC issues across Somalia.</p> <p>Alternative 2: No Land Use policies: By defining proper land-use plans this will prohibit the current practice of encroaching on grazing lands and cutting forests for charcoal. Stakeholder consultations indicated that land use issues are the underlying cause of the community's vulnerability to climate change. If land use policies are not developed and enforced, conflict over natural resources will continue.</p> <p>Alternative 3: Do not have a database and information management system for land-use: however, this would prevent a way to measure to monitor the planned and existing interventions on improving land use sustainability (EU MDG project, UNDP PROSCAL programme). A database enables the easy use of data across agencies as well as the ability to share data regionally and internationally with relevant agencies/organizations (e.g. IGAD) so that lessons learned can be documented about how to reduce natural resource conflict on the basis of sound land tenure decisions.</p>
1.4 National and regional Disaster Risk Management institutions are reinforced to produce early warning products and to disseminate early warnings	<p>Limited climate monitoring and weak disaster risk preparedness capacities</p> <p>Limited technical and operational capacities to support adaptation on national and local levels</p>	<p>Alternative 1: No platform to formalize and centralize Climate Monitoring and EWS: this is currently the case in all other EWS and CC-related projects (e.g., SWALIM) which has led to lack of coordination and data sharing among ministries.</p> <p>Alternative 2: Enable each information dissemination agency (including donors) to disseminate alerts directly: With this option, there is no central focal point for all NGOs/CBOs to report to for high level questions and to clarify disaster prevention strategies.</p> <p>Alternative 3: One-time training for technical staff to save financial resources. However, training needs to be provided each year as more personnel are absorbed. Thanks to mainstreaming CC into university programmes, new staff will continually require capacity building in DRR and Early Warning dissemination.</p> <p>Alternative 4: Procure additional monitoring infrastructure to improve EWS/CI, however, there is no meteorological service in any of the zones. LDCF funds will be used to build capacities rather than delivery of hardware. This is because more monitoring</p>

³⁰ Government of the Republic of Zambia, Ministry of Tourism, the Environment and Natural Resources, *National Climate Change Response Strategy*, December 2010.
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OUTPUTS	Barrier Addressed	Alternatives Considered
		<p>hardware will not be able to be maintained and operated and it will not improve the lack of warnings produced.</p> <p>Alternative 5: Have one Climate Monitoring and EWS Centre: However, due to the political situation, it would not be possible to have a centralized centre which could coordinate alert dissemination. Each zone is secular in terms of communication protocols. Existing protocols (radio, TV emissions) will be exploited and built upon.</p> <p>Alternative 6: Develop downscaled forecasts: However, there is no meteorological service in Somalia. As such, no one within the government has the capacity to work with complex forecasting algorithms. In order to produce bulletins, LDCF funds will be used to gradually build the capacity of the Climate Monitoring and EWS centres to be established in Puntland and Somaliland and the Climate Monitoring and EWS focal points within the ministries in South Central. Outside open-source forecasting products, such as NOAA’s CFS forecasting tool will be used until the Climate Monitoring and EWS centres gain sufficient capacity in the years to come. Additionally, regional and international databases (e.g., NOAA’s CFS tools) and regional products from FEWSNET and by IGAD will be exploited.</p>
<p>2.1 Ecosystem-based Adaptation (EbA) plans, Natural Resource Management (NRM) strategies and Integrated Water Management options for critical watersheds, rangelands, agricultural lands and forested areas are developed and piloted jointly by local governments and vulnerable communities at each location</p>	<p>Limited capacities on how to adapt to climate change</p> <p>Unsustainable water and natural resource management practices</p>	<p>Alternative 1: Rely on pastoralism rather than develop agro-pastoralism; however, pastoral systems alone would not allow many of the community members, to diversify their livelihoods through improved farming practices. For instance, cultivating diversified fruits/plants provides alternative Income Generating Activities and the means to spread revenues across seasons, providing greater resilience to climate shocks.</p> <p>Alternative 2: One-time training to save financial resources: however, farming inexperience and lack of continual mentorship will not enable the initiatives to succeed in the long-run. Agro-pastoralists require on-the-farm/pasture training by facilitators during critical seasons each year so that sustainable agro-pastoral capacities can be developed over time. Also, lessons-learned from significant initiatives in agro-pastoralism, pastoralism and reforestation must be continually integrated.</p> <p>Alternative 3: Provide training to Agro-Pastoral Field Schools without grants: The training by the field schools is only a means to the end of transferring practical skills into sustainable farming and pastoral applications. Grants will enable the farmers to have the required tools to multiply the benefits of training. They will have access to capital to put sustainable practices in action, such as soil and water conservation methods.</p> <p>Alternative 4: Build ministry capacities without coordination with other initiatives (e.g., EU, AfDB) will lead to redundant activities and a waste of financial resources.</p>

OUTPUTS	Barrier Addressed	Alternatives Considered
<p>2.2 District Disaster Management Committees are established and Disaster Risk Reduction plans are generated to address community vulnerabilities to climatic change and to facilitate response and preparedness plans to reduce identified risks</p>	<p>Limited climate monitoring and weak disaster risk preparedness capacities</p> <p>Limited knowledge and capacity to respond to climate change on national and local levels</p>	<p>Alternative 1: Limit DRM training to the national level: through the LDCF financed project, the District Disaster Management Committees as well as the community members will gain expertise in preparing for potential droughts and floods and can more easily transfer best practices to communities.</p> <p>Alternative 2: Do nothing: if the districts are not informed on drought/flood preparedness, they will not be able to convey to communities when to prepare for floods and droughts. Through the LDCF financed project, the communities will become empowered to take actions to mitigate floods and cultivate crops in a more drought-resilient manner.</p> <p>Alternative 3: Rely on district councils to implement activities rather than community members: however, NGOs and community members have demonstrated their ability to train, mobilize and build awareness within its community. Local NGOs/CBOs have also taken lead roles in disasters in the past. As demonstrated during stakeholder consultations, the community has considerable confidence in NGOs/CBOs. With more capacity reinforcement, NGOs/CBOs will be able to assist with the implementation of LDCF activities as well as scaling-up the project’s activities in adjacent communities after project completion.</p> <p>Alternative 4: Focus on CC training for communities rather than DRM: Disasters are tangible and familiar to the Somali communities. Communities are motivated to find means to mitigate the impacts of disasters. Due to the links between DRM and CC, by developing DRM preparedness plans, communities will more effectively build resilience to CC and natural risks.</p>
<p>2.3 Suite of physical techniques and adaptation measures including investment in medium and large-scale water infrastructure, reforestation, flood-control infrastructure, and watershed management developed to improve ecosystem resilience of critical watersheds, rangelands and forested</p>	<p>Unsustainable water and natural resource management practices</p> <p>Limited knowledge and capacity to respond to climate change on national and local levels</p>	<p>Alternative 1: If no technical studies are conducted (cost = 0 USD) or not sufficiently informed by hydro-geotechnical experts, it is possible that poor water source locations will be chosen with insufficient capacity and/or poor water quality due to a lack of informed guidance by hydro-geotechnical surveys. Moreover, if water quality samples are not monitored, a baseline of water quality in the regions cannot be established to ensure water quality does not deteriorate.</p> <p>Alternative 2: Boreholes (100,000 USD each); Based on Stakeholder consultations and validation workshops, boreholes cause unplanned sedentarization (i.e., sedentism) of pastoralists which will perturb existing socio-economic patterns and cultural traditions. Boreholes have also adversely impacted water quality due to inappropriate siting and difficult operation and maintenance. The Ministries of Water do not have sufficient capacity to perform O&M as evidenced by the fact that 80% of boreholes in Somaliland are not functioning.</p>

OUTPUTS	Barrier Addressed	Alternatives Considered
areas through government support		<p>Alternative 3: Berkads (5,000 USD each); although relatively inexpensive, berkads are not viable options due to their high evaporation rates. Also, berkads are privately owned by people who want to sell water as an enterprise.</p> <p>Alternative 4: Recharge basins (15,000 USD each); although relatively inexpensive, recharge basins are not viable options due to their high evaporation rates.</p> <p>Alternative 5: A gravity-fed hydropower dam is estimated to cost at least 20 M USD. The high cost, local inexperience with the design and need for imported materials make this an infeasible option. Earth micro-dams are the preferred option due to their simple design and low-cost.</p> <p>Alternative 6: Have pastoralists rely on natural re-vegetation processes. However, the unsustainable use of natural resources and ecosystems limits their ability to curb the impacts of CC and deforestation. It is therefore essential to preserve and protect the existing vegetation, forests, etc so that they can provide the natural resource base necessary for pastoral livelihoods (e.g., preserving natural forage which feed livestock).</p>
2.4 Support for women's livelihood diversification with the introduction adaptation technologies aimed to reduce dependence on dwindling natural resources	Limited knowledge and capacity to respond to climate change on national and local levels	<p>Alternative 1: No baseline study of market: If the market is not well understood, it is more likely a women's business venture is likely to fail. The baseline study will enable the best adaptation technology to be chosen so that maximum resources can be used for training and to facilitate the success of using the technology.</p> <p>Alternative 2: Loans rather than grants for women entrepreneur groups: however, the women require minimal start-up capital for successful enterprise development. Relative to Somali men, Somali women are the best suited to conduct business ventures because they are settled, closer to markets and can take advantage of their preferred status as borrowers of micro-loan products to continue business interventions.</p>

C. DESCRIBE THE BUDGETED M & E PLAN:

205. The project will be monitored through the following M&E activities. The M&E budget is provided in table 6 below. The M&E framework set out in the Project Results Framework in Part III of this project document is aligned with the AMAT and UNDP M&E frameworks.

206. **Project start:** A Project Inception Workshop will be held within the first 2 months of project start with those with assigned roles in the project organisation structure, UNDP Country Office and, where appropriate/feasible, regional technical policy and program advisors as well as other stakeholders. The Inception Workshop is crucial to building ownership for the project results and to plan the first year annual work plan.

207. The **Inception Workshop** should address a number of key issues including:

208. Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of UNDP CO and Regional Coordinating Unit (RCU) staff (i.e. UNDP-GEF Regional Technical Advisor) vis-à-vis the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff will be discussed again as needed.

209. Based on the project results framework and the LDCF-related AMAT set out in the Project Results Framework in Section III of the project document, finalise the first annual work plan. Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks.

210. Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget should be agreed and scheduled.

211. Discuss financial reporting procedures and obligations, and arrangements for annual audit.

212. Plan and schedule Steering Committee meetings. Roles and responsibilities of all project organisation structures should be clarified and meetings planned. The first Steering Committee meeting should be held within the first 12 months following the inception workshop.

213. An **Inception Workshop report** is a key reference document and must be prepared and shared with participants to formalise various agreements and plans decided during the meeting.

214. **Baseline:** a baseline study will be conducted during the first year of project implementation to refine the M&E Framework, develop a strong Performance Measurement Framework, collect baseline data regarding selected indicators, and define roles and responsibilities in conducting monitoring activities throughout the lifespan of the project. This study will also lead to the development of a specific M&E Manual.

215. **Quarterly:** Progress made shall be monitored in the UNDP Enhanced Results-Based Management Platform. Based on the initial risk analysis submitted, the risk log will be regularly updated in ATLAS. Risks become critical when the impact and probability are high. Note that for UNDP-GEF projects, all financial risks associated with financial instruments such as revolving funds, micro-finance schemes, or capitalisation of ESCOs are automatically classified as critical on the basis of their innovative nature (high impact and uncertainty due to no previous experience justifies classification as critical).

- Based on the information recorded in Atlas, a Project Progress Reports (PPR) can be generated in the Executive Snapshot.
- Other ATLAS logs will be used to monitor issues, lessons learned. The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.

216. **Annually:** Annual Project Review/Project Implementation Reports (APR/PIR): This key report is prepared to monitor progress made since project start and in particular for the previous reporting period (30 June to 1 July). The APR/PIR combines both UNDP and GEF reporting requirements.

217. The APR/PIR includes, but is not limited to, reporting on the following:

- Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative)
- Project outputs delivered per project outcome (annual).
- Lesson learned/good practice
- AWP and other expenditure reports
- Risk and adaptive management
- ATLAS QPR

218. **Periodic Monitoring** through site visits: UNDP CO and the UNDP-GEF region-based staff will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the Project Board may also join these visits. A Field Visit Report/BTOR will be prepared by the CO and UNDP RCU and will be circulated no less than one month after the visit to the project team and Project Board members.

219. **Mid-term of project cycle:** The project will undergo an independent Mid-Term Review at the mid-point of project implementation (expected to be in November 2016). The Mid-Term Review will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organisation, terms of reference and timing of the mid-term review will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-Term Review will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit (RCU) and UNDP-GEF. The LD/FC/SCCF AMAT will also be completed during the mid-term evaluation cycle.

220. **End of Project:** An independent Terminal Evaluation will take place three months prior to the final PB meeting and will be undertaken in accordance with UNDP-GEF guidance. The terminal evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term review, if any such correction took place). The terminal evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF. The LD/FC/SCCF AMAT will also be completed during the terminal evaluation cycle. The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response, which should be uploaded to PIMS and to the UNDP Evaluation Office Evaluation Resource Centre (ERC).

221. **Learning and knowledge-sharing:** Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums.

222. 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 project implementation through lessons learned. The project will identify, analyse, and share lessons learned that might be beneficial in the design and implementation of similar future projects. There will be a two-way flow of information between this project and other projects of a similar focus.

223. **Audit:** Project will be audited in accordance with UNDP Financial Regulations and Rules and applicable audit policies.

Table 4: Project Monitoring and Evaluation work plan and budget

Type of M&E activity	Responsible Parties	Budget US\$ <i>Excluding project team staff time</i>	Time frame
Inception Workshop and Report	<ul style="list-style-type: none"> ▪ UNDP Programme Manager ▪ PIT (Project Implementation Team) ▪ UNDP CO, UNDP GEF 	Indicative cost: 20,000	Within first two months of project start-up.
Baseline analysis	<ul style="list-style-type: none"> ▪ Verification of sex-disaggregated baseline values for the indicators in the Results Framework 	Indicative cost: 30,000	Within first three months of project start-up.
Measurement of Means of Verification of project results.	<ul style="list-style-type: none"> ▪ UNDP GEF RTA/UNDP CO will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members. ▪ PIT, esp. M&E expert 	To be finalized in Inception Phase and Workshop. Indicative cost is 30,000	Start, mid and end of project (during evaluation cycle) and annually when required.
Measurement of Means of Verification for Project Progress on output and implementation	<ul style="list-style-type: none"> ▪ Oversight by UNDP Programme Manager ▪ PIT, esp. M&E/KM expert ▪ Implementation teams 	To be determined as part of the Annual Work Plan's preparation. Indicative cost is 40,000	Annually prior to ARR/PIR and to the definition of annual work plans.
ARR/PIR	<ul style="list-style-type: none"> ▪ UNDP Programme Manager ▪ PIT ▪ UNDP CO ▪ UNDP RTA 	None	Annually
Periodic status/ progress reports	<ul style="list-style-type: none"> ▪ UNDP Programme Manager and team 	None	Quarterly
Mid-Term Review	<ul style="list-style-type: none"> ▪ UNDP Programme Manager ▪ PIT ▪ UNDP CO ▪ UNDP RTA ▪ External Consultants (i.e. evaluation team) 	Indicative cost: 40,000	At the mid-point of project implementation.
Terminal Evaluation	<ul style="list-style-type: none"> ▪ UNDP Programme Manager ▪ PIT ▪ UNDP CO ▪ UNDP RTA ▪ External Consultants (i.e. evaluation team) 	Indicative cost : 40,000	At least three months before the end of project implementation.

Type of M&E activity	Responsible Parties	Budget US\$ <i>Excluding project team staff time</i>	Time frame
Audit	<ul style="list-style-type: none"> ▪ UNDP CO ▪ UNDP Programme Manager ▪ PIU 	Indicative cost per year: 5,000 (20,000 total)	Annually
Visits to field sites	<ul style="list-style-type: none"> ▪ UNDP CO ▪ UNDP RTA(as appropriate) ▪ Government representatives 	<p>For GEF-supported projects, paid from IA fees and operational budget.</p> <p>Additional fees of 40,000 included due to security and special charter flight costs</p>	Annually for UNDP CO.
TOTAL indicative COST Excluding project team staff time and UNDP staff and travel expenses		US\$ 260,000 (+/- 5%)	

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

- A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT(S) ON BEHALF OF THE GOVERNMENT(S):** (Please attach the [Operational Focal Point endorsement letter\(s\)](#) with this form. For SGP, use this [OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE(MM/dd/yyyy)
Ahmed-Mohamed Iman	GEF Operational Focal Point and Director General of Fisheries and Environment	MINISTRY OF NATURAL RESOURCES	5 AUGUST, 2013

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for CEO endorsement/approval of project.

Agency Coordinator, Agency Name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Adriana Dinu, Executive Coordinator, UNDP/GEF		Oct. 27, 2014	Tom Twining-Ward	+90 5396532807	tom.twining-ward@undp.org

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

This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD: CPD Outcome 3: Somali women and men benefit from increased sustainable livelihood opportunities and improved natural resources management					
Country Programme Outcome Indicators: CPD Indicator 3b: Improved natural resource management					
Primary Applicable Key Environment and Sustainable Development Key Result Area (same as that on the cover page, circle one): Promote climate change adaptation					
Applicable GEF Strategic Objective and Program: Climate Change Adaptation Objective 2 “Increase adaptive capacity to respond to the impact of climate change, including variability, at local, national, regional and global level”					
Applicable GEF Expected Outcomes: Outcome 2.1: Increased knowledge and understanding of climate variability and change-induced risks at country level and in targeted vulnerable areas Outcome 2.2: Strengthened adaptive capacity to reduce risks to climate-induced economic losses. Outcome 2.3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level Outcome 3.1: Successful demonstration and deployment of relevant adaptation technology in targeted areas					
Applicable GEF Outcome Indicators:					
<ul style="list-style-type: none"> • % of population covered by climate change risk reduction measures 					
	INDICATOR	BASELINE	END OF PROJECT TARGETS	SOURCE OF INFORMATION	RISKS AND ASSUMPTIONS
Project Objective ³¹ Enhanced resilience and improved adaptive capacity of vulnerable	1. % of men and women in targeted community population with awareness of predicted adverse impacts of climate change and appropriate	1. 70% of the rural populations are pastoralists or farmers. Both livelihoods are vulnerable to climate change impacts, most notably droughts and floods. Scarce water resources, depleted forests and unsustainable natural resource management practices (e.g., charcoal production) are exacerbating the	<u>TARGET 1:</u> 60% of target men and women (approximately 43,000 people) have awareness and knowledge on	1. Socio-economic baseline and final evaluation surveys on climate change awareness amongst target populations	ASSUMPTION: Local communities are incentivized to implement climate resilience-building measures due to sufficient sensitization on climate change impacts.

³¹ Objective (Atlas output) monitored quarterly ERBM and annually in APR/PIR.
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Somali communities in pilot areas, and the ecosystems on which they depend, to the adverse impacts of climate change.	responses (AMAT 2.3.1)	impacts of climate change. <u>BASELINE 1:</u> Less than 25% of the rural populations have knowledge on how to respond to and prepare for droughts and floods.	adaptation responses to Climate Change ³²		RISK: Water and natural resource management strategies are made ineffective by an unanticipated increase in the frequency of flood events and continued drought which jeopardizes agricultural and pastoral production
	2. Percentage of targeted HHs with enhanced livelihoods through access to water, improved ecosystem services and reforestation (AMAT 1.3.1.1)	<u>BASELINE 2:</u> 0% of the targeted HHs has livelihoods resilient to climate shocks. Livelihoods need to be strengthened by mobilizing water with physical infrastructure for use during the dry season (e.g., earth dams and retention basins, boreholes, etc). Also, livelihoods need to be strengthened with reforestation/afforestation and sustainable land use practices. Farmers and pastoralists need to be provided technical and applied knowledge on soil and water conservation methods and other sustainable practices to ensure that they can continually make use of productive ecosystem services.	<u>TARGET 2:</u> 100% of all targeted 7,200 ³³ HHs for all zones have enhanced livelihoods through access to water, improved ecosystem services and reforestation	2. Socio-economic baseline and final evaluation surveys on strengthened livelihoods	RISK: Security risks could affect project implementation, particularly clan-based conflicts over competing uses of natural resources.
Outcome 1: Policies, plans and tools reviewed, revised,	1. Number of Land Use Policies and implementation roadmaps developed that support sustainable Natural Resources	<u>BASELINE 1:</u> Land use policies and proper enforcement mechanisms on land-use do not exist in all zones of Somalia. This has led to conflicts over natural resources and exacerbated tensions between grazing nomadic	<u>TARGET 1:</u> A Land Use Policy in each zone (Somaliland, Puntland and South Central) is developed.	1. Review of the Land Use Policies	ASSUMPTION: There is sufficient political support and capacity (including capacity building activities) within the agencies dealing with adaptation for

³² Agro-pastoralists and pastoralists will be provided with climate change awareness due to community involvement with construction, infrastructure O&M and working with CBOs.

³³ 1,000 HHs in each target community in South Central will benefit from large-scale water mobilization (4,000 HHs total approximately). 500 HHs per large-scale water mobilization and diversions and 300 HHs per small infrastructure in Somaliland and Puntland target communities (1,600 HHs approximately in both Somaliland and Puntland).

developed, adopted and implemented by government to mainstream and enhance adaptive capacity and mitigate the risks of climate change on vulnerable communities and critical ecosystem services	Management (AMAT 1.1.1)	pastoralists and sedentary agro-pastoralists. Rural populations are also using land in an ad-hoc manner, cutting trees to produce charcoal and encroaching on grazing lands.			successful execution and implementation of the project. ASSUMPTION: Relevant Ministries have an interest in fully integrating adaptation strategies into their long-term planning.
	2. Number and type of plans and policies in place to address climate risks and include climate-resilient measures (AMAT 1.1.1 and UNDP 2.5.1)	<u>BASELINE 2:</u> Other than the NAPA (2013), there are no policies, strategies or development plans which address how to effectively adapt to climate risks. Policies on the environment and disaster risk management exist, such as the National Policy on Environment in Somaliland and a Disaster Risk Reduction Framework in Puntland, however, none of these address climate risks and includes adaptation measures.	<u>TARGET 2:</u> Development of a gender-sensitive National Disaster Management Policy and at least 3 existing plans/policies are updated to address climate risks	2. Review of the uptake of adaptation measures to climate change in existing plans/policies	ASSUMPTION: The Government of Somalia has sufficient incentive to design funds earmarked to support the environment and climate change that can be effectively targeted towards long-term adaptation-related activities in a transparent manner with appropriate financial management.
	3. Type and level of development frameworks that include specific budgets for adaptation actions (AMAT 1.1.1.1)	<u>BASELINE 3:</u> With the New Deal Compact, Somalia has received over USD 50 million in donor support to address NRM issues through projects such as EU's MDG project, PREP, PROSCAL and FAO SWALIM programmes. However, these projects/programmes have a limited duration (on average 4 years). With climate change proven to worsen in the decades to come, national and regional governments require mobilization of long-term financing. Financing must be earmarked for adaptation measures across sectors to target capacity building, activities,	<u>TARGET 3:</u> Development of the National Climate Change Policy including a fund mobilization strategy to raise public and private financing earmarked for climate change adaptation in all zones	3. National Climate Change Policy and accounting records on financing earmarked for adaptation	RISK: A low level of cooperation between executing institutions due to political divisions and the existence of three distinct zones of Federal Somalia, Puntland and Somaliland makes the coordination of policy development challenging. RISK: The project could encounter delays due to the

		projects or programmes that build resilience to climate change.			lack of nationally-available expertise and human resources RISK: Limited climate monitoring inhibits forecasting capabilities and the ability to develop detailed spatial mapping to allow for adequate adaptation and risk reduction planning
Outcome 2 Models of community and ecosystem resilience developed and implemented in pilot areas selected in consultation with government and community stakeholders	1. Number and type of physical livelihood assets constructed to reduce the impacts of floods and droughts (AMAT 1.2.1.8)	<u>BASELINE 1:</u> The rural populations are at extreme risk because they do not have sufficient water for drinking and irrigation. They are also subject to loss of crops and livestock due to the fact that the most fertile areas are within or adjacent to wadis which are susceptible to flash flooding. Moreover, during the high rainy periods, runoff cannot be effectively stored for use during the dry season. Therefore, there is a need to construct physical infrastructure to mobilize surface water and groundwater.	<u>TARGET 1:</u> Design and construction of 2 50,000 m3 earth dams in Puntland and Somaliland, rehabilitation of 4 dams in South Central, 6, 5 and 8 water diversions constructed in Puntland, Somaliland and South Central respectively, rehabilitation of 4 canals in South Central and rehabilitation of 4 boreholes in South Central	1. Construction log of the Ministries of Water, Agriculture and the Environment	ASSUMPTION: Initial hydrogeological studies and technical assessments are accurate in their predictions of water capture and storage capacities. ASSUMPTION: Local populations, including nomadic pastoralists, will not trespass into protected reforestation and re-vegetation areas due to being informed of the purpose of these areas to restore the natural environment and reduce erosion RISK: Water ministries have limited capacity to design, construct and perform maintenance on
	2. Number of hectares of land reforested and managed sustainably	<u>BASELINE 2:</u> Due to poor natural resource management and significant tree removal for charcoal production,	<u>TARGET 2:</u> 200 ha reforested in each	2. Reforestation/ Afforestation records kept by the	

	under a conservation scheme (AMAT 2.3.1.1, UNDP SP Outcome 1, Indicator 5)	agro-pastoralists and pastoralists are losing their forests. Consequently, agro-pastoralists do not have sustainable livelihoods and the region is subject to significant erosion and climate change impacts.	zone	Ministries of Agriculture and the Environment	water mobilization infrastructure RISK: There is insufficient technical and operational capacity within the regional governments to coordinate drought and flood preparedness and to implement unfamiliar Ecosystem-based Adaptation actions
	3. Number of farmers and pastoralists in the target districts participating in Agro-Pastoral Field Schools (disaggregated by gender) (AMAT 2.2.1.1)	<u>BASELINE 3:</u> The agro-pastoral communities have no capacity to produce diversified crops and develop more sustainable agro-pastoral and pastoral practices (e.g. using soil and water conservation methods, producing drought-tolerant forage). The pastoralists in each region have had no capacity reinforcement on soil conservation measures, re-seeding, veterinary medicine and animal hygiene to ensure more sustainable pastoralist practices.	<u>TARGET 3:</u> 16 Agro-Pastoral Field Schools (APFS) established (2 in each district) with 200 direct beneficiaries per APFS (30% women)	3. Farmer Field School and Pastoral Field School training logs	RISK: The lack of politically recognized Environmental Impact Assessment procedures causes unforeseen adverse social/environmental impacts such as downstream impacts due to water mobilization and retention infrastructure
	4. Number of community driven plans that explicitly address disaster and climate risk management and equity / gender considerations which include Monitoring and Evaluation mechanisms (AMAT 2.2.1 and UNDP SP 5.2.1)	4. There are no district level, or community level, disaster management capacities. If early warning information is provided to communities, it is usually passed on in a very ad-hoc, uncoordinated manner by leaders to others through SMS or word of mouth. <u>BASELINE 4:</u> Disaster Management Committees are required to be developed in each district. The DMCs must be tasked with preparing targeted, community-based, gender-	<u>TARGET 4:</u> One (1) gender-sensitive plan developed by each District Disaster Management Committee to be created (with women representation) in the eight target districts (8 plans total)	4a. Conventions signed, confirming creation of District Disaster Management Committees 4b. Review of the DRM plans of the District Disaster Management Committees	RISK: Targeted farmers and pastoralists are skeptical and unwilling to use adaptation technologies / practices so as to diversify their livelihoods and/or income diversification strategies do not significantly increase household incomes

		sensitive disaster preparedness plans to mitigate the impacts of droughts and floods.			
	5. Number of individuals trained in adaptation technologies in order to establish women-based marketing businesses for the technologies (AMAT 3.2.1.1)	<p>BASELINE 5: Currently, women are particularly vulnerable to climate shocks due to their dependence on natural resources. Women require awareness and training on available adaptation technologies which will enable them to build resilience to climate change (e.g., water harvesting buckets, solar water pumps, drip irrigation systems).</p> <p>Women are more often than men involved in operating small businesses due to their entrepreneurial spirit as well as for historical and cultural reasons (e.g., Somali women are responsible for working on farms.) Women are thus best placed to pilot and market adaptation technologies.</p>	5. 300 women trained in adaptation technologies as a foundation for starting sustainable technology marketing enterprises	5. Baseline and final survey of women-based groups which are promoting adaptation technologies	

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS³⁴

A. DESCRIBE FINDINGS THAT MIGHT AFFECT THE PROJECT DESIGN OR ANY CONCERNS ON PROJECT IMPLEMENTATION, IF ANY:

Project design will be updated based on the hydro-geotechnical studies and the Environmental Impact Assessment to be conducted in the first 6 months of the project. As outlined in the risks section, the project could encounter delays due to the lack of nationally-available expertise and human resources. To mitigate this implementation risk, the project will establish a database of national and international experts able and willing to provide technical support to the project – for instance, to assist with infiltration gallery design and construction. When expertise is not available nationally, regional and international experts will be recruited. Close linkages with co-financing partners and baseline projects will also ensure the availability of technical expertise.

Another design and implementation risk is that water management strategies could be made ineffective by an unanticipated increase in the frequency of flood events and continued drought. To mitigate this risk, diversified and secured access to water resources, combining both surface and ground water, as well as the implementation of adapted cultivation techniques of forage and other crop varieties, will be used. Furthermore, investments will be selected and designed using a community participatory process, thereby allowing local knowledge of climate risks to be incorporated into project design.

B. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES FINANCING STATUS IN THE TABLE BELOW:

PPG Grant Approved at PIF: 200,000			
Project Preparation Activities implemented	Budgeted Amount	Amount Spent To date	Amount Committed
Local Consultants	37,500	30,784	6,716
International Consultants	55,200	48,908	6,292
Travel	35,000	34,326	674
Technical workshops	52,500	27,162	25,338
Supplies / printing	9,800	-	9,800
Consultancy	-	-	-
Service Contracts - Individuals	-	-	-
Bank Charges	-	-	-
Sundry	10,000	3,154	6,846
Learning - training of counterparts	-	-	-
Services - Companies (committed but not paid)	-	-	-
Nex Advance (not liquidated)	-	-	-
Total	200,000	144,334	55,666

³⁴ If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue undertake the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for the activities.

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

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

Not applicable.