Part I: Project Information

GEF ID
10792

Project Type
FSP

Type of Trust Fund
MTF

CBIT/NGI
CBIT **No**
NGI **No**

Project Title
Adaptive Agriculture and Rangeland Rehabilitation Project (A2R2) - Somalia

Countries
Somalia

Agency(ies)
IFAD

Other Executing Partner(s)
Ministry of Agriculture and Irrigation of the Federal Republic of Somalia [Sadar Development and Resilience Institute (SADAR)]

Executing Partner Type
Government

GEF Focal Area
Multi Focal Area

Sector
Mixed & Others

Taxonomy

Focal Areas, Biodiversity, Biomes, Rivers, Grasslands, Mainstreaming, Agriculture and agrobiodiversity, Infrastructure, Climate Change, Climate Change Adaptation, Mainstreaming adaptation, Climate resilience, Community-based adaptation, Ecosystem-based Adaptation, Livelihoods, Least Developed Countries, Climate Change Mitigation, Renewable Energy, Agriculture, Forestry, and Other Land Use, Land Degradation, Land Degradation Neutrality, Land Productivity, Carbon stocks above or below ground, Land Cover and Land cover change, Food Security, Sustainable Land Management, Integrated and Cross-sectoral approach, Community-Based Natural Resource Management, Sustainable Pasture Management, Improved Soil and Water Management Techniques, Ecosystem Approach, Sustainable Agriculture, Restoration and Rehabilitation of Degraded Lands, Sustainable Livelihoods, Income Generating Activities, Sustainable Forest, Influencing models, Strengthen institutional capacity and decision-making, Demonstrate innovative approache, Stakeholders, Beneficiaries, Private Sector, Individuals/Entrepreneurs, Civil Society, Community Based Organization, Non-Governmental Organization, Type of Engagement, Participation, Partnership, Consultation, Information Dissemination, Communications, Behavior change, Awareness Raising, Education, Local Communities, Gender Equality, Gender Mainstreaming, Sex-disaggregated indicators, Women groups, Gender-sensitive indicators, Gender results areas, Participation and leadership, Access to benefits and services, Access and control over natural resources, Capacity Development, Knowledge Generation and Exchange, Capacity, Knowledge and Research, Knowledge Exchange, Enabling Activities, Knowledge Generation, Learning, Theory of change, Adaptive management, Indicators to measure change

Rio Markers

Climate Change Mitigation

Significant Objective 1

Climate Change Adaptation

Principal Objective 2

Biodiversity

Significant Objective 1

Land Degradation

Significant Objective 1

Submission Date

1/17/2023

Expected Implementation Start

4/1/2023

Expected Completion Date

3/31/2028

Duration

60In Months

Agency Fee($)

1,533,550.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
CCA-1	Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation	LDCF	8,841,368.00	16,056,713.00
CCA-3	Foster enabling conditions for effective and integrated climate change adaptation	LDCF	154,537.00	142,065.00
BD-1-4	Mainstream biodiversity across sectors, landscapes and seascapes through Sustainable Use of Plant and Animal Genetic Resources	GET	5,794,546.00	3,285,780.00
LD-1-1	Maintain or improve flow of agro-ecosystem services to sustain food production and livelihoods through SLM	GET	1,294,588.00	2,807,721.00
LD-2-5	Create enabling environments to support scaling up and mainstreaming of SLM and LDN	GET	954,411.00	1,437,721.00
		Total Project Cost($)	**17,039,450.00**	**23,730,000.00**

B. Project description summary

Project Objective

Enhancing the climate resilience of poor rural households in Somalia through sustainable natural resources management on multiple levels: improved water resources and rangelands management; eco-agriculture and climate-proof livelihoods; forest/habitat rehabilitation; improved governance and information systems for land degradation and biodiversity

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 1. Adaptive climate-resilient hydraulic infrastructure and productive livelihoods	Investment	**1.1 Climate-resilient hydraulic infrastructure profitably and sustainably operated by vulnerable communities** ***Indicator**:* # Households (HHs) reporting improved access to water or water bodies for production purposes ***Target:*** 15,000 HHs (50% women)	LDCF: 100% 1.1.1 Water infrastructure built or climate-proofed (e.g. shallow wells, surface water retention dams, household cisterns and floodwater spate irrigation structures, solar pumping schemes, multipurpose water systems, drip irrigation, etc.) based on site-specific technical studies 1.1.2 Community management, operations and maintenance groups created/ strengthened to effectively manage the water	LDCF	3,500,000.00	900,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
			infrastructure and prevent conflicts over water resources			
Component 1. Adaptive climate-resilient hydraulic infrastructure and productive livelihoods	Technical Assistance	**1.2 Vulnerable smallholders diversify livelihoods and increase incomes through improved access to microfinance mechanisms** ***Indicator:*** # HHs reporting using rural financial services ***Target:*** 5,000 HHs, 50% of whom are female-headed HHs; 30% youth (overlapping with beneficiaries of outcomes 2.2 and 1.4)	LDCF: 100% 1.2.1 Partnership developed with MFIs and NGOs to support access to credit and market linkages for poorest households 1.2.2 Poor households trained, equipped and coached to undertake new income-generating activities as micro entrepreneurs	LDCF	2,320,307.00	5,100,314.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 2. Landscape approach to an integrated management of rangeland and forest ecosystems for land degradation neutrality and biodiversity conservation	Investment	**2.1 Rangeland biodiversity and landscape restoration enhanced** ***Indicator****: #* ha of land brought under climate-resilient management ***Targets****:* -12,550 ha restored -61,500 ha under improved practices ***Indicator:*** Greenhouse gas emission mitigated ***Target:*** ~2,042,873 tCO2-e	GEF TF-BD-72,5% GEF TF-LD-27,5% 2.1.1 Participatory climate-resilient landscape investment plans developed and implemented including biodiversity-positive measures to protect native species 2.1.2 Grievance and conflict resolution mechanisms functional to prevent land and water use-related conflicts	GET	4,494,490.00	5,584,699.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 2. Landscape approach to an integrated management of rangeland and forest ecosystems for land degradation neutrality and biodiversity conservation	Technical Assistance	**2.2 Vulnerable households implement nature-based solutions and climate-resilient technologies and practices across productive landscapes (farm and pasture lands)** ***Indicator:*** Households reporting adoption of environmentally sustainable and climate-resilient technologies and practices ***Target:*** 12,000 HH, 50% women	LDCF - 92.9% 2.2.1 Farmers and pastoralists trained, supported and equipped to facilitate adoption of climate-smart, productive agroecological approaches and techniques 2.2.2 Adapted and productive agroecological approaches and techniques (for soil, water and biodiversity conservation) identified, based on indigenous knowledge 2.2.3 Sustainable pasture management	LDCF	2,600,000.00	9,290,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
			plans mainstreaming biodiversity designed and implemented			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 2. Landscape approach to an integrated management of rangeland and forest ecosystems for land degradation neutrality and biodiversity conservation	Technical Assistance	**2.2 Vulnerable households implement nature-based solutions and climate-resilient technologies and practices across productive landscapes (farm and pasture lands)** ***Indicator:*** Households reporting adoption of environmentally sustainable and climate-resilient technologies and practices ***Target:*** 12,000 HH, 50% women	GEF TF-BD - 7.1% 2.2.1 Farmers and pastoralists trained, supported and equipped to facilitate adoption of climate-smart, productive agroecological approaches and techniques 2.2.2 Adapted and productive agroecological approaches and techniques (for soil, water and biodiversity conservation) identified, based on indigenous knowledge 2.2.3 Sustainable pasture management plans mainstreaming biodiversity	GET	200,000.00	

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
			designed and implemented			
Component 2. Landscape approach to an integrated management of rangeland and forest ecosystems for land degradation neutrality and biodiversity conservation	Investment	**2.3 Degraded forest ecosystems restored through ANR and reforestation of native species** ***Indicator:*** Area of forests restored through agroecological techniques ***Target:*** 850 ha	GEF TF-BD - 100% 2.3.1 Tree nurseries set up and management cooperatives established and supported 2.3.2 Community capacity on sustainable forestry management and tree monitoring strengthened	GET	1,650,000.00	100,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 3. Institutional strengthening to support land degradation neutrality and biodiversity protection	Technical Assistance	**3.1 Strengthened institutional capacity and enabling environment to achieve land degradation neutrality and conserve biodiversity** ***Indicator:*** LDN and biodiversity M&E system functional, generating policy-relevant information	GEF TF-BD-26,5% GEF TF-LD-73,5% 3.1.1 Institutional actors? capacity to document SDG-related LDN and biodiversity indicators and coordination mechanisms strengthened	GET	864,514.00	785,400.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 4. Knowledge sharing for systematization and scaling up	Technical Assistance	**4.1 Project progress and results systematized to improve management, promote learning, and support upscaling of best practices** ***Indicator:*** Project monitoring and KM system developed	LDCF - 24.6% 4.1.1 Effective monitoring and evaluation plan implemented 4.1.2 CCA, SLM and community-based conservation and agricultural production best practices and challenges collected systematically and KM products disseminated	LDCF	147,178.00	317,595.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 4. Knowledge sharing for systematization and scaling up	Technical Assistance	**4.1 Project progress and results systematized to improve management, promote learning, and support upscaling of best practices** ***Indicator:*** Project monitoring and KM system developed	GEF TF - BD - 30.2% GEF TF - LD - 45.2% 4.1.1 Effective monitoring and evaluation plan implemented 4.1.2 CCA, SLM and community-based conservation and agricultural production best practices and challenges collected systematically and KM products disseminated	GET	451,559.00	532,922.00
			Sub Total ($)		**16,228,048.00**	**22,610,930.00**

Project Management Cost (PMC)

GET	382,982.00	528,201.00
LDCF	428,420.00	590,869.00
Sub Total($)	**811,402.00**	**1,119,070.00**

Project Management Cost (PMC)		
Total Project Cost($)	**17,039,450.00**	**23,730,000.00**

Please provide justification

The split of PMC among the different trust funds: 52.8% LDCF // 34.0% GEFTF BD // 13.2% GEFTF LD. The PMC is equal to 5% of the Project Cost.

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
GEF Agency	IFAD	Grant	Investment mobilized	23,000,000.00
Civil Society Organization	SADAR	In-kind	Recurrent expenditures	500,000.00
Recipient Country Government	Ministry of Agriculture and Irrigation	In-kind	Recurrent expenditures	230,000.00
			Total Co-Financing($)	**23,730,000.00**

Describe how any "Investment Mobilized" was identified

The investment mobilized consists of a financial support from the GASFP to the implementation of the IFAD umbrella Rural Livelihoods Resilience Programme (RLRP) through the funding of the SIRAP Project. The RLRP and the SIRAP projects are described in Part II, Section 1a.2. In addition, IFAD allocated USD 7,000,00 from its internal fund called ASAP + Programme to co-finance the project. Furthermore, subject to fulfillment of IFAD conditions for lending to Somalia and IFAD Board approval, IFAD may allocate regular resources from its Programme of Loans and Grants (PoLG) to Somalia for the RLRP.

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
IFAD	LDCF	Somalia	Climate Change	NA	8,995,905	809,631	9,805,536.00
IFAD	GET	Somalia	Biodiversity	BD STAR Allocation	5,794,546	521,509	6,316,055.00
IFAD	GET	Somalia	Land Degradation	LD STAR Allocation	2,248,999	202,410	2,451,409.00
			Total Grant Resources($)		**17,039,450.00**	**1,533,550.00**	**18,573,000.00**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount ($)

300,000

PPG Agency Fee ($)

27,000

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
IFAD	LDCF	Somalia	Climate Change	NA	178,407	16,057	**194,464.00**
IFAD	GET	Somalia	Biodiversity	BD STAR Allocation	77,014	6,931	**83,945.00**
IFAD	GET	Somalia	Land Degradation	LD STAR Allocation	44,579	4,012	**48,591.00**
				Total Project Costs($)	**300,000.00**	**27,000.00**	**327,000.00**

Core Indicators

Indicator 3 Area of land and ecosystems under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
12550.00	12550.00	0.00	0.00

Indicator 3.1 Area of degraded agricultural lands under restoration

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
Cropland	2,200.00	2,200.00		

Indicator 3.2 Area of forest and forest land under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
850.00	850.00		

Indicator 3.3 Area of natural grass and woodland under restoration

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
Natural grass	9,500.00	9,500.00		

Indicator 3.4 Area of wetlands (including estuaries, mangroves) under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
61200.00	61200.00	0.00	0.00

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
55,200.00	55,200.00		

Indicator 4.2 Area of landscapes under third-party certification incorporating biodiversity considerations

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
6,000.00	6,000.00		

Indicator 4.4 Area of High Conservation Value or other forest loss avoided

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4.5 Terrestrial OECMs supported

Name of the OECMs	WDPA-ID	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)

Documents (Please upload document(s) that justifies the HCVF)

Title	Submitted

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)	2922412	2042873	0	0
Expected metric tons of CO?e (indirect)	0	0	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)	2,922,412	2,042,873		
Expected metric tons of CO?e (indirect)				
Anticipated start year of accounting	2023	2023		
Duration of accounting	20	20		

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)				
Expected metric tons of CO?e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)

Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	223,200	216,650		
Male	223,200	208,150		
Total	446400	424800	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Targets against the GEF core indicators were estimated based on aggregate unit costs for comparable past operations implemented by IFAD. While the number of beneficiary households remained the same as when the PIF was developed, the total number of direct beneficiaries has been revised downward (from 446,400 to 424,800) due to the decrease in the average number of persons/household (5.9 persons/households) according to 2020 statistics. IFAD used the ExAct (Ex-Ante Carbon Balance Tool) methodology to estimate GHG sequestration and emission reductions (see Annex H). The project contributes to the Aichi targets, as described in Section II-6 (Global Environmental Benefits). In addition, despite the absence of the final version of the Post-2020 Global Biodiversity Framework and its targets, it is already possible to simulate the potential contribution of the project to the draft targets under negotiation.

Meta Information - LDCF

LDCF true
SCCF-B (Window B) on technology transfer false
SCCF-A (Window-A) on climate Change adaptation false

Is this project LDCF SCCF challenge program?
false

This Project involves at least one small island developing State(SIDS). false

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This Project involves at least one fragile and conflict affected state. true

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This Project will provide direct adaptation benefits to the private sector. true

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This Project is explicitly related to the formulation and/or implementation of national adaptation plans (NAPs). true

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This Project has an urban focus. false

This Project covers the following sector(s)[the total should be 100%]:*

Agriculture	**30.00%**

Natural resources management	**30.00%**
Climate information services	**0.00%**
Coastal zone management	**0.00%**
Water resources management	**40.00%**
Disaster risk management	**0.00%**
Other infrastructure	**0.00%**
Health	**0.00%**
Other (Please specify:)	**0.00%**
Total	**100%**

This Project targets the following Climate change Exacerbated/introduced challenges:*

Sea level rise false

Change in mean temperature false

Increased climatic variability true

Natural hazards true

Land degradation true

Coastal and/or Coral reef degradation false

Groundwater quality/quantity true

Core Indicators - LDCF

CORE INDICATOR 1

Total

Male

Female

% for Women

Total number of direct beneficiaries

424,800

208,150

216,650

51.00%

CORE INDICATOR 2

Area of land managed for climate resilience (ha)

73,750.00

CORE INDICATOR 3

Total no. of policies/plans that will mainstream climate resilience

0

CORE INDICATOR 4

Male
Female
% for Women
Total number of people trained
96,200
46,377
49,823
51.79%

To calculate the core indicators, please refer to Results Guidance

OBJECTIVE 1

Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaption

OUTCOME 1.1

Technologies and innovative solutions piloted or deployed to reduce climate-related risks and / or enhance resilience

View

OUTCOME 1.2

Innovative financial instruments and investment models enabled or introduced to enhance climate resilience

View

OBJECTIVE 2

Mainstream climate change adaption and resilience for systemic impact

OUTCOME 2.1

Strengthened cross-sectoral mechanisms to mainstream climate adaption and resilience

View

OUTCOME 2.2

Adaptation considerations mainstreamed into investments

View

OUTCOME 2.3

Institutional and human capacities strengthened to identify and implement adaptation measures

View

OBJECTIVE 3

Foster enabling conditions for effective and integrated climate change adaption

OUTCOME 3.1

Climate-resilient planning enabled by stronger climate information decision-support services, and other relevant analysis, as a support to NAP process and/or for enabling activities in response to COP guidance

View

OUTCOME 3.2

Increased ability of country to access and/or manage climate finance or other relevant, largescale, pragmatic investment, as a support to NAP process and/or for enabling activities in response to COP guidance

View

OUTCOME 3.3

Institutional and human capacities strengthened to identify and implement adaptation measures as a support to NAP process and/or for enabling activities in response to COP guidance

View

Part II. Project Justification

1a. Project Description

Executive summary

The A2R2 Project goal is to contribute to land restoration, biodiversity conservation of degraded ecosystems, and improvement of adaptive capacity of vulnerable smallholder households through climate resilient sustainable natural resource management. **The Project Objective** is ?Enhancing the climate resilience of poor rural households in Somalia through sustainable natural resources management on multiple levels: improved water resources and adaptive farm and pastureland management; eco-agriculture and climate-proof livelihoods; forest/habitat restoration; improved governance and information systems for land degradation and biodiversity?. The attainment of the project objective will be measured through the relevant outcome indicators stated in the next section.

Target landscapes. Subject to security and access constraints, the project will intervene in five selected districts of Belet Weyne (Hirshabelle State), Baydhaba, Gaalkacyo and Dhuusamarreeb (South West State), and Cabudwaaq (Galmudug State), where natural resources are seriously degraded.

Target groups. The three states have an estimated total population of 12.3 million, of which about 23 % is sedentary rural agro-pastoralists and 33 % nomadic. The nomadic HHs reside temporarily in areas known as Temporary Nomadic Settlements for as long as they can access pasture and water in these locations, mainly determined by the amount of rain and duration of the rainy season. The A2R2 Project will target 72,000 HHs. The ASAP+ Project will target 11,000 HHs in Baydhaba District of South West State, as part of the overall target of 72,000 HHs for A2R2. The target groups are poor people who have the potential to take advantage of improved access to assets and opportunities for agricultural production, IGAs and CCA to increase their resilience against the uncertainty caused by climate change on food security and nutrition. The ASAP+ target groups will comprise vulnerable smallholder producers ? mainly agro-pastoralists, pastoralists, and fishers ? in the villages, peri-urban areas and IDP camps in Baydhaba District. The project will reach the IDP segment that qualifies as smallholder producers. The rest of the population of the district comprises mainly urban and peri-urban dwellers who dropped out from pure pastoralism due to climate-related shocks and conflicts; peri-urban agro-pastoralists practicing a mixed farming system; and villagers who are largely agro-pastoralists.

Based on the experience of previous IFAD and ASAP projects, the **targeting strategy** for this project is guided by the following principles: (i) *climate change scenario projections*, recognizing that climate vulnerability contributes to the tension among sedentary agro-pastoralists and nomadic pastoralists, through competition for scarce land and water resources; (ii) *mainstreaming gender, youth, nutrition and environmental and climate issues* into project operations; (iii) *moving towards gender transformative* that addresses gender inequality and women?s empowerment in climate responses; (iv) *adopting consultative and participatory approaches to targeting*; (v) *empowering and building the capacity of those who have less voice* and fewer assets, mainly women and youth; and (vi) *ensuring complementarity with the other interventions under A2R2* as well as other related projects.

The project is structured into **four** interlinked technical components.

Component 1. Adaptive climate-resilient hydraulic infrastructure and productive livelihoods. The objective of Component 1 is to improve sustainable access to water for vulnerable smallholders and increase their incomes through improving access to microfinance mechanisms. This objective will be reached through two outcomes.

Outcome 1.1: Climate-resilient hydraulic infrastructure profitably and sustainably operated by vulnerable communities. The project will improve sustainable access to water for domestic, livestock, and small?scale irrigation in target districts by increasing water coverage and access, will establish and

professionalize institutional arrangements for reliable water service delivery, and improve integrated water resources management to promote conflict prevention and optimization of water resources at the district and village level.

Outcome 1.2: Vulnerable smallholders diversify livelihoods and increase incomes through improved access to microfinance mechanisms. The outcome supports the rural communities, mostly pastoralists and agro-pastoralists improve their livelihoods through equipping them with the right tools, skills and knowledge of how to yield greater returns from their livelihoods, and use community saving and lending methodologies to grow their own financial intermediation systems.

Component 2: Landscape approach to an integrated management of rangeland and forest ecosystems for land degradation neutrality and biodiversity conservation. The objective of Component 2 is to promote a climate-resilient landscape approach to an integrated management of rangeland and forest ecosystems for land degradation neutrality and biodiversity conservation. This will be achieved through two Outcomes:

Outcome 2.1: Rangeland biodiversity and landscape enhanced. This outcome will be achieved by reseeding degraded rangelands with drought-tolerant native species, reforesting and undertaking assisted natural regeneration (ANR), and the development of SLM practices to combat erosion and land degradation.

Outcome 2.2: Vulnerable households implement nature-based solutions and climate-resilient technologies and practices across productive landscapes (farm and pasture lands). Vulnerable households are more affected by the effects of climate change, particularly because the lack of knowledge on water and soil conservation techniques leads to land degradation and a consequent decrease in production and productivity. In addition, these farmers cannot afford to purchase enough seeds for each growing season. This outcome aims to strengthen the resilience of vulnerable households to the effects of climate change, through the establishment of Farmers Field Schools to build their capacity in terms of sustainable land and resource management, and through the introduction and promotion of agroecological techniques and ecosystem-based adaptation measures.

Component 3: Institutional strengthening to support land degradation neutrality and biodiversity protection

This Component will provide institutional strengthening to support land degradation neutrality and biodiversity protection, through one outcome.

Outcome 3.1 Strengthened institutional capacity and policy environment to achieve land degradation neutrality and conserve biodiversity. Under this outcome the GEF/LDCF project will design and implement, from the local to the level of the Ministry of Environment of Somalia, a monitoring and evaluation system for land degradation and biodiversity, including the development of a Geographic Information System (GIS).

Component 4 Knowledge sharing for systematization and scaling up. Outcome 4.1: Project progress and results systematized to improve management, promote learning, and support upscaling of best practices. The project will implement an effective monitoring and evaluation system to determine the extent to which the project is on track in efficient use of resources, and to evaluate the extent to which the project has had the desired impact. The project will monitor and evaluate GEF Core key indicators to provide a portfolio level understanding of progress towards the GEF Global Environmental Benefits (GEBs).

1a. Project Description.

1) The global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)

Somalia, on the Horn of Africa, extends from just south of the Equator northward to the Gulf of Aden. Somalia is bordered by Kenya, Ethiopia, and Djibouti to the West. Somalia has a population of over 15.8 million people (2020), of which 60% live in rural areas as nomadic or semi-nomadic pastoralists. The country's natural resources are under intense pressure from degradation and pollution due to overexploitation, conflict, and climate change impacts such as droughts, floods, and recurrent cyclones. The key environmental problems are land degradation and deforestation due mainly to the unsustainable use of charcoal, pollution (water, air), unsustainable land management and loss of biodiversity.

Socio-economic context. The Somali economy is based largely on its natural resource endowments of agricultural and rangeland, livestock and fisheries, which are all susceptible to the impacts of climate change. In 2018, Somalia?s GDP of US$ 4.7 billion ranked 158 out of 196 countries, while its GDP per capita of US$315 ranked 195 out of 196 countries[1]1. About 70% of Somalis live under the international poverty line of US$1.90 per day, with 70% of youth being unemployed[2]2. The Gender Inequality Index of 0.778 places Somalia in the fourth-worst position globally[3]3. Culture and norms, reinforced by partial and scant law enforcement, confer low social status to women and constrain their access to productive resources, jobs, and social services. About 55% of women lack access to education, compared to 40% of men and labour force participation rate is only 19% for women, versus 74% for men[4]4.

Agriculture sector. Agriculture is the most important economic sector, accounting for 65% of GDP and workforce, but crop productivity is very low (for example, the average yield for maize is 0.6 MT/ha). Livestock used to account for about 60% of GDP and over 50% of export earnings, but this contribution is declining due to conflict and export restrictions. Other agricultural exports include fish, hides and skin and sesame. Maize, sorghum, cowpea and sesame are the main staples. Fishing has a significant potential in the economy but the lack of regulation raises the risk of unsustainable over-fishing. The major risks for the agriculture sector include: (i) the impacts of climate change; (ii) unpredictable livestock and crop markets; and (iii) insecurity. Investments are needed to ramp up crop productivity through better production methods and climate-resilient techniques, enhanced animal health and nutrition, and strengthened value chains.

Water resources. The southern part of the country hosts the only two permanent rivers (Juba and Shabelle), flowing from Ethiopia to the Indian Ocean. High flows are experienced during the wet seasons (April-June and September?November), and the rivers occasionally break through the weak embankments and flood the adjacent land. In the dry season river flow volumes are reduced significantly[5][5]. A number of seasonal rivers, ?toga?, exist in Somalia and flow during the rainy season. In the dry seasons, these rivers remain dry.

In general, only 52% of the population in Somalia have access to a basic water supply[6]6. Outside the Juba and Shabelle regions, the Somali population depends on groundwater for domestic water supply, livestock and small-scale irrigation. The main groundwater sources of Somalia are boreholes (depth of most boreholes in the country is in the range of 90m to 250m), shallow wells (the majority of the shallow wells are less than 20m deep), and springs. Surface water collection is also practiced in natural depressions (balley), artificial dams (waro) and man-made cisterns (berkeds) for domestic and livestock use. However, the majority of the groundwater sources have high salinity as measured through conductivity (as a proxy), reaching levels above 2,000?S/cm, which is over the required standard for drinking water (SWALIM). Currently, irrigation for agriculture account for over 90% of water use.

As a result of the civil war, a lack of community organisation and weak public institutions, hydraulic infrastructure has not been maintained or repaired and is extremely deteriorated. Lacking access to watering and irrigation infrastructure for agriculture and livestock is threatening the ability of these sectors to recover and respond to increasingly extreme and frequent droughts[7]7.

Biodiversity. Somalia forms part of the Horn of Africa biodiversity hotspot and is one of the areas with particular concentration of species diversity and endemism. The country is home to some 3,028 species of higher plants, of which 17 are known to be threatened. Somalia is considered a center of floral endemism and of the known species, 700 (17 %) are endemic. Areas under natural woody vegetation closed to open is 52.7% with 336,612 km2 area and natural woody vegetation sparse or herbaceous is 30% with 191,751 km2 area. Vegetation is dry deciduous bushland and thicket and the country is dominated by the Acacia and Commiphora ecoregion. Main species of this dense bushland include *Acacia bussei, Acacia mellifera, Acacia nilotica, Balanites rotundifolia, Boscia coriacea, Boswellia sacra, B. frereana, Commiphora myrrha,* and *Commiphora Africana****[8]8***. Closer to the Somali coast, the Hobyo grassland and shrubland ecoregion comprises perennial dune grasslands and sedges. The wetlands of the Shebelle river comprising swamps and floodplains have high significance for biodiversity and the meeting point of the Shebelle and Juba rivers is characterised by the largest area of mangroves in Somalia. Closed forest cover occupies only about 2.4 % of the country[9]9.

Considering that approximately 70 % of Somalis are pastoralists or agropastoralists and that livestock and agriculture represents the large majority of GDP, healthy ecosystems and related services, effective management of natural resources and protection of biodiversity, including that of soils, are crucial for drought, flood, disease and pest control and ultimately the livelihoods of rural communities (World Bank, 2020)[10]10. However, Somalia?s ecosystems are seriously degraded, threatening the resilience of people that derive their livelihoods from the land. The key direct drivers behind biodiversity degradation are habitat degradation and fragmentation, unchecked hunting/poaching, overgrazing, deforestation for charcoal making and other uses, urbanization, agricultural expansion and mining. In turn, climate change and its associated extreme events (floods, droughts, storms, etc.), invasive species, conflict and the post-conflict situation constitute the indirect drivers of biodiversity loss[11]11.

Some of these species have been listed in the, International Union for the Conservation of Nature (IUCN) Red listing as critically endangered, endangered and/ or vulnerable. For example, IUCN has placed Acacia bussei on Red List of threatened species due to pressure associated production of charcoal. This species was traditionally used for fodder to pastoralists especially during periods of drought. Some of the notable fauna include; Dorcas gazelle, Beisa oryx, gerenuk, the Somali wild ass Equus africanus somaliensis and the Somali warthog, Phacochoerus aethiopicus delamarei. Despite of the pressure and extinction threats, the endemism in the country is high. Reptiles, plants and Amphibians have faced relatively low losses as compared to other taxonomic groups. The country?s endemism is high and is comparable to other East African countries.

Table 1. Endemism of biodiversity in Somalia.

Taxonomic Group	Species present in Somalia	Endemic Species	% of Endemism
Plants	3165	800	25
Mammals	220	20	9.1
Birds	697	24	3.4
Reptiles	285	93	32.6
Amphibians	30	6	20
Fresh water Fishes	100	10	10

Source: From World Bank, 2020

The country therefore has a rich wealth of biodiversity. The native and endemic species are particularly important for medicinal and other uses by the local communities. The following table presents the various uses of native trees in Somalia.

Table 2. Uses of Native Trees in Somalia

	Tooth bush	Tool handles	Timber	Tannins	Soil improvements	Shelter belts	Sandune fixation	Poles	People shade	Nitro fixat
Acacia albida			?	??	??			?		?
Acacia bussei				?					?	
Acacia nilotica		?	?	?				?		
Acacia senegal		?		?	?		??	?		?
Acacia tortilis		?					??	?		?
Balanites aegyptica		?	?							
Boswellia frereana										
Commiphora myrrha				?						
Canacarpus lancifolins			?		?	??		??	??	
Cardeauxia edulis										
Cordia sinensis		??								
Dobera globra									??	
Hyphaene compressa			?					?		
Juniperus excelsa			??		?			??		
Phoenix dactylifera			?			?		?	??	

Despite of their importance, Somalia?s ecosystems are seriously degraded, threatening the resilience of people that derive their livelihoods from the land. According to Conservation International, the horn of Africa is the most degraded with only 5% of its original habitat remaining. This degradation has been by aggravated by prolonged conflict and rapid environmental degradation in the region.

Forest growth in general is limited due to poor soils and low rainfall. Closed forest cover occupies only about 2.4 % of the country but, if the *Juniperus* forests and evergreen tracts in the mountains in the north are included, the total forest coverage would probably amount to around 14 % (90,000 km2) of the land. Virtually all of the tropical floodplain forest that once existed along the Shabelle River has been cleared for smallholder agriculture together with sugar and banana plantations, except for a small patch set aside as a reserve at Balcad by the Somali Ecological Society. The annual rate of deforestation for Somalia (1.03%) is three times that of neighbouring Kenya (0.3%) and almost twice the average rate of loss for Africa (0.62%).

It has been noted that the primary causes of de-vegetation and deforestation are overgrazing, shifting cultivation and unregulated charcoal production. Deforestation related to shifting cultivation is prominent particularly in the South. Overgrazing and charcoal production in particular have had a profound impact on species composition, ground cover and the structure of vegetation. Indeed, Charcoal production is the main reason for large scale deforestation of rangelands and is mostly destined for export to Gulf States although it does also fulfil the energy requirements of a significant share of the population. Due to deforestation, the invasive species *Prosopis juliflora* has been able to colonise large areas of Somalia and the International Union for Conservation of Nature (IUCN) has placed *Acacia bussei* - an evergreen, drought-tolerant indigenous tree species that provides fodder to pastoralists - on the Red List of threatened species. Together with climate change, inappropriate land use practices have fragmented and decreased animal habitats and forage not only for livestock but also for wildlife such as hyenas, foxes, leopards, lions, warthogs, ostriches, small antelopes, and a large variety of birds in the south of Somalia.

Somalia is one of the world?s biggest exporters of frankincense and myrrh. *Boswellia sacra* and *B. frereana* trees of the Acacia - Commiphora bushlands provide Frankincense whilst the widespread *Commiphor myrrha* and *C. guidottii* provides myrrh. However, overexploitation and poor harvesting practices by a new generation of tree owners and managers have significantly damaged or killed many trees. If managed sustainably, the gum and resin subsector have potential for value addition and exports[12]12. Somalia?s shrubland also comprises the *Yeheb nut*, a multipurpose evergreen shrub the seeds of which are consumed by nomads. The bush also provides forage for livestock, firewood and dye. As with many of Somalia?s other endemic woody species, the Yeheb bush?s number is in decline and efforts need to be made to promote its recovery.

Somalia?s arid and semi-arid landscape is at a high risk of desertification (International Institute for Sustainable Development, 2015) and is prone to extreme variations in weather conditions (Somalia NAPA, 2013). The unpredictability of these variations includes high diurnal temperature ranges, torrential rains, periods of extended drought, highly erratic rainfall, and strong winds (International Union for Conservation of Nature, 2006). As a result, Somalis are in a constant flux between two extremes: adapting to prolonged droughts and coping with recurring flooding. This creates a dual effect whereby drought degrades vegetation cover (biological degradation), leaving the soil exposed (wind and water erosion) to variable and torrential rain that washes away remaining nutrients causing chemical erosion through soil degradation (FAO SWALIM, 2007). In southern Somalia, lower elevations and river floods further exacerbate the situation. Land degradation contributes to loss of vegetation, gully erosion, loss of topsoil, siltation of surface dams and irrigation canals, invasive non-palatable plant species and loss of plant nutrients in areas with agricultural potential (NBSAP, 2015). Most of the endemic species of animal and plant are associated with dry habitats, but the riverine habitats along the Juba and Wabi Shebele support two strictly endemic birds, the Degodi lark (*Mirafra degodiensis*, Vulnerable) and the Bulo Burti bush-shrike (*Laniarius liberatus*, Critically endangered), qualifying as an Endemic Bird Area. The Abyssinian yellow-rumped seedeater (*Serinus xanthopygius*), the short-billed crombec (*Sylvietta philippae*, Data Deficient (DD), and Sidamo bushlark (*Heteromirafra sidamoensis*, Vulnerable) are all

restricted to this ecoregion as well, while the sombre chat (*Cercomela dubia*), white-winged collared-dove (*Streptopelia reichenowi*), Salvadori?s weaver (*Ploceus dicrocephalus*), and the scaly babbler (*Turdoides squamulatus*) are considered near-endemic.

State of biodiversity in the project area

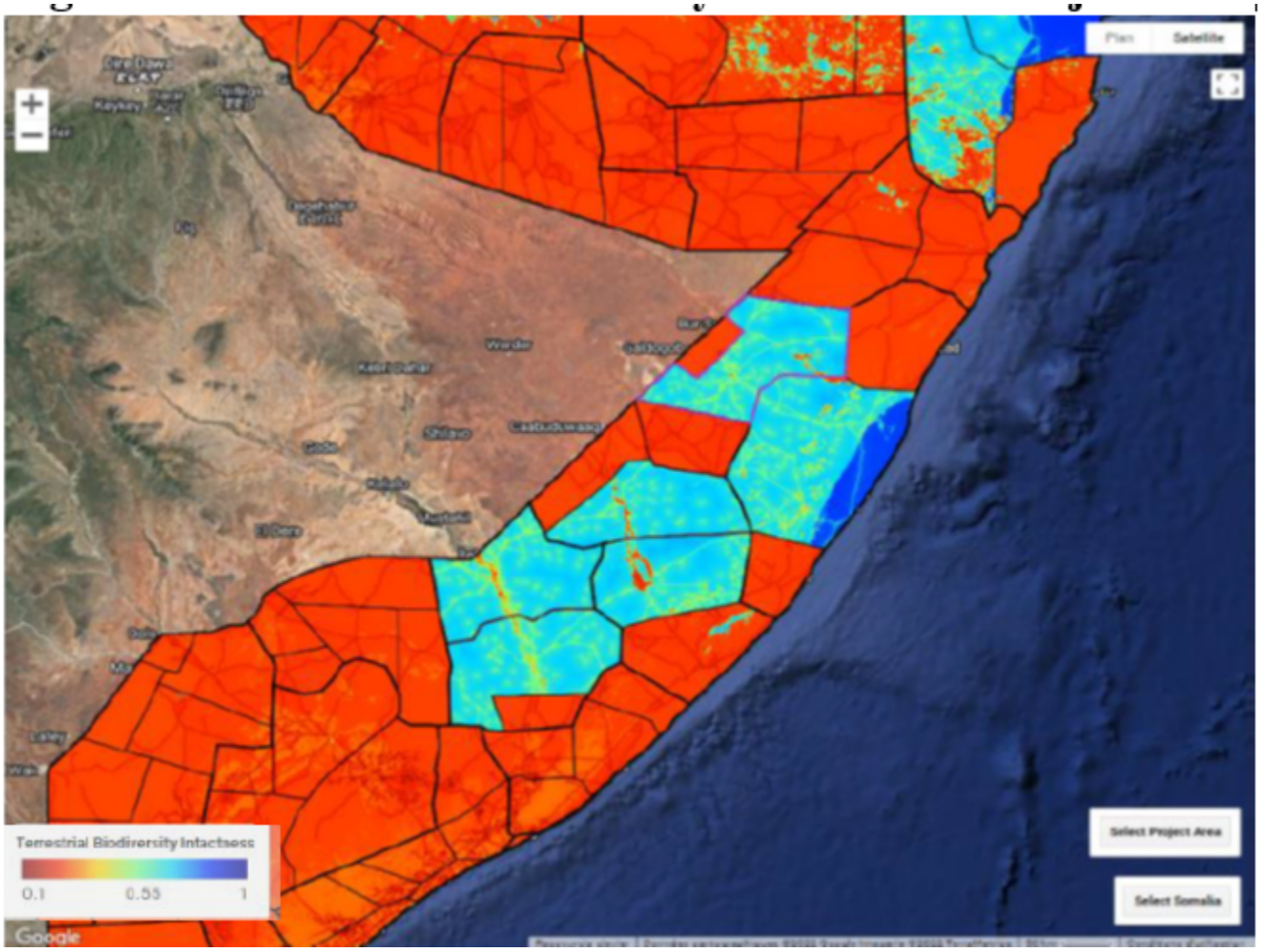


Figure 1. Terrestrial Biodiversity Intactness - Project area

Source: https://wocatapps.users.earthengine.app/view/dss-somalia

Hirshabele State, Beledweyne District. Beledweyne has a semiarid climate and a mean annual rainfall of 330 mm. Most of the rains fall in the months of April and May and October and November. Temperatures are high, over 20?C throughout the year, and are the main factor responsible for the high evapotranspiration rate in this region. Most of the natural vegetation in this area is open and very open shrubs of Acacia species. The morphology of this area varies on both sides of the river resulting in an asymmetric valley with a much steeper side on the west. Settlements are located very close to the river for easy access to water which brings a big risk of flooding.

The area is therefore characterized by rivers which are perennial while non-perennial in some areas. The woodlands mostly coniferous and woodlands that are also scattered. There are occasional swamp bogs. There are also areas of grasslands and grass thickets. Where the grass thickets are low there are established crop lands.

According to the National Development Plan 9, Hiraan region has the largest livestock population in Somalia, estimated in 2018 at almost 5 million animals. Further, Beledweyne district is a major source

of agricultural produce and this is the primary earner of income for most of the local population. According to the Integrated Territorial Development Plan (ITDP) 2021 ? 2024, for Hirshabelle State, a number of interventions were proposed. However, initiation and implementation of community- based environmental protection interventions that address land degradation, surface water erosion, gully formation and deforestation were prioritized.

South west State, Baidoa District. The area is generally located at altitude of approximately 390 ? 490m above sea level on the edge of the Shebelle River Basin to the east and the Juba River Basin to the west. The weather is hot and calm between the monsoons (April and September). Somalia experiences 2 rainy seasons; the main April to June and the October to December. Its landform is clearly distinguished between the alluvial plain in the west, and the floodplain in the east, which is mainly semi-arid, with shrub and little vegetation. This also corresponds to two different land use systems. On the east, agro pastoralism is concentrated along the riparian areas of the seasonal rivers, while the remaining shrub land is used for animal rearing. The whole territory, though, suffers from limited soil conservation activities, lack of irrigation schemes and tillage capacity. Although Baidoa have one of the large cities, the region has the lowest urbanization rate in the country, where 58.5% population live in rural areas, 24.7% are nomads and only 11.7% are the urban population. However, the hinterland is among the ones with the highest density of settlements in Somalia. Deforestation caused by charcoal burning, fencing and vegetation clearing by overgrazing are very common and cause soil erosion. As a result, exposed and loosened soils can be washed downstream, resulting in gulley formation. Firewood and charcoal are still important sources of energy used in Baidoa and constitute an important economic sector that employs a big number of people in collection, production and delivery. Among the many challenges highlighted and prioritized in the ITDP, 2021-2024 South West State include the inter-clan conflicts and disputes over land, grazing land, pasture and water.

***Galmudug State and Its Districts of Herale, Guricel and Galkacyo South*.** The state including the 3 districts of focus, Herale, Guricel and Galkacyo South are characterized by extensive shrublands and woodlands. Prosopis juliflora has been reported to be widespread and the entire region is prone to erosion from wind. Charcoal production in the state and the districts is high. The entire area is arid with estimated mean rainfall estimated at 108mm. Temperatures range from 14oC to 34oC. The dry soil that characterizes the area, with poor absorption ability, cause the runoff of heavy rains to collect in gullies and streams and, as they join to form larger volumes, often form a fast-flowing water and debris. Vegetation clearing due to overgrazing have a negative environmental impact which in turn affects the farming and grazing land as it causes soil erosion, deforestation, reduced rainfall, and droughts. As a result, exposed and loosened soils can be washed downstream leading to gulley erosion. As highlighted in the Integrated Territorial Development Plan (ITDP) 2021 to 2024 developed by the Ministry of Planning, Economic Development and International Development for the State of Galmudug, several challenges were identified especially for the inland pastoral territories including the district of Guricel. Drought ?induced vulnerabilities ranked high due to the semi-arid nature of the territories. This is compounded by environmental issues such as extensive charcoal production and the recurrent droughts which more often leads to loss of livestock and widespread food insecurity. Historical communal conflicts due the control of water points, grazing lands and settlements leading to inter-clan fights. This was noted has hindered local development. However, with the support of donor community and the administration reconciliation has been achieved. The following were proposed by the ITDP to s support environmental initiatives; imposing ban on tree cutting and charcoal production, exploring alternative sources of energy and sustainable rangeland management interventions and management of urbanization.

Land degradation. Assessments by Somalia Water and Land Management (SWALIM) have revealed that for the period 1980 to 2009, the most prevalent types of land degradation in Somalia were loss of vegetation, topsoil loss, and the decline of soil moisture. The central and north-east areas of Somalia are most affected by loss of vegetation cover (approximately 1.4% per year). Whilst soils in Somalia are high in pH, potassium and sulphur, they lack nitrogen, phosphorus and organic matter, which restricts crop production and perpetuates food insecurity.

Recent studies have shown that land degradation is increasing in both severity and extent in many parts of the country. Factors contributing to the type, duration, or intensity of land degradation include the environmental and biophysical condition of land; the socio-economic uses of land; the type of land-use

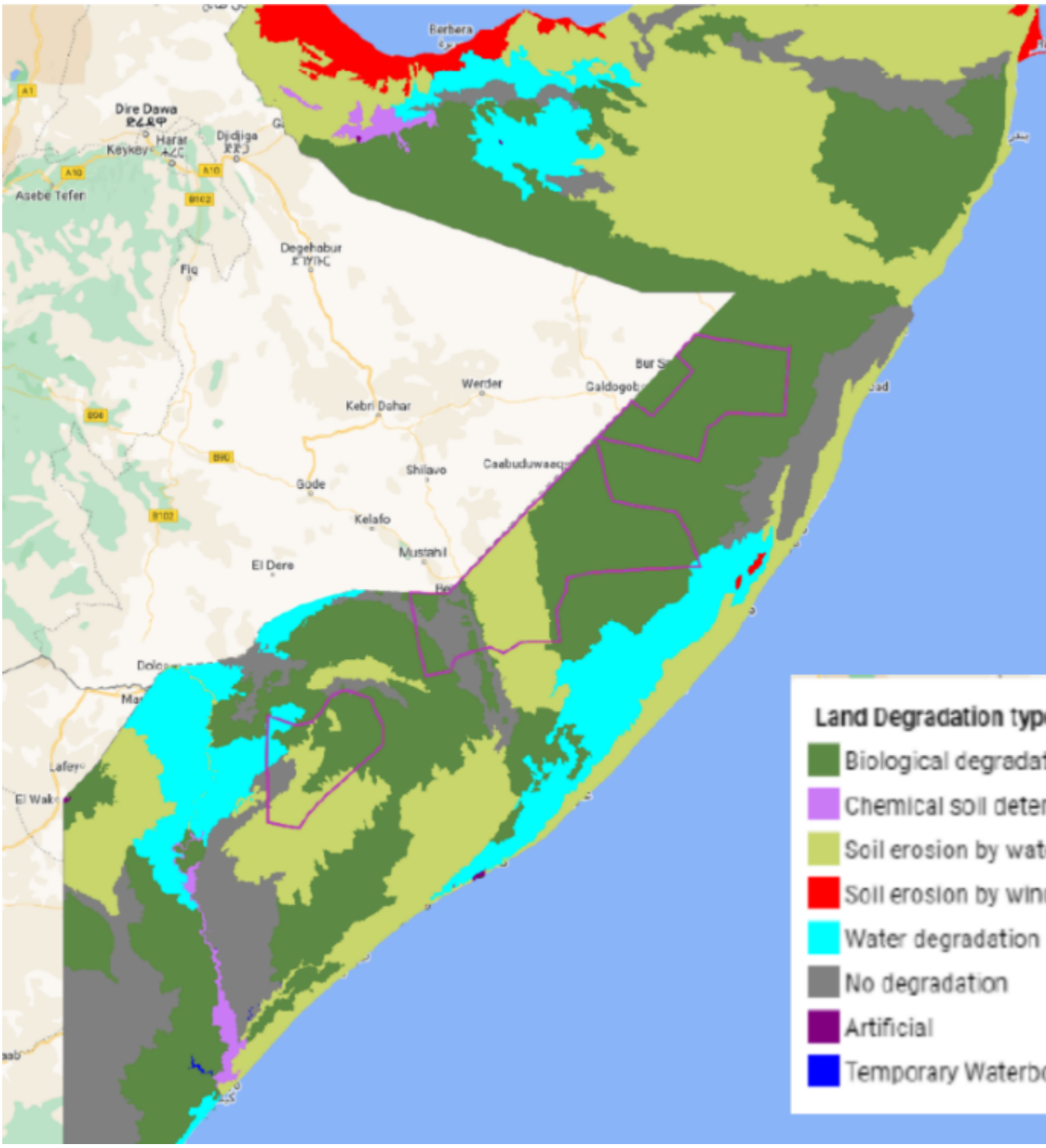
management system; and the formal or informal regulatory framework. The most prevalent types of land degradation include the following:

? Soil degradation through water, wind, and chemical erosion

? Water degradation, resulting in aridification and a decline in surface water quality

? Biological degradation, which includes the loss of biomass, vegetation cover, and biodiversity

Figure 2. Land degradation types in Somalia



Source: https://wocatapps.users.earthengine.app/view/dss-somalia

There are direct and indirect causes of land degradation. Direct causes include human activity such as overgrazing, tree cutting for fuel wood and charcoal production, and poor agronomic practices such as

down-slope tillage and burning of animal manure (instead of incorporating it into the soil), and limited use of soil and water conservation practices in crop-production areas. The free/overgrazing has led to habitat degradation in multiple ways leading to stunted growth of vegetation and hampering natural regeneration of the woody vegetation[13]13. The indirect causes of land degradation include land tenure, illiteracy, poverty, war and conflict, weak governance, and high population density[14]14. Due to increased insecurity, pastoralist clans are unable to move freely in the rangelands, leading to concentration of grazing and resulting degradation in certain areas. Climate change, as detailed below, is an aggravating factor of land degradation.

Land degradation is a direct threat to the livelihoods of the rural (including farmers) and pastoral communities of Somalia who make up of 49% of the population. Livestock sector which is directly dependent on rangeland resources supports over 70% of the population of Somalia. It is estimated that more than 31% of the land in Somalia is biologically degraded, and most of the degradation is caused by soil degradation through water, wind and chemical erosion; water degradation resulting from aridification and decline in surface water quality; and biological degradation which includes loss of biomass, vegetation cover and biodiversity. In general, 37.89% of land in Somalia is biologically degraded and 34.1% of soil erosion in Somalia is caused by water. Mismanagement and natural occurrences like droughts have been the major contributors to land degradation, and in the 2016/2017 droughts it was estimated that 18% of the total national landmass in natural standing vegetation on average was lost leading to 93,000 tons of topsoil being eroded[15][15].

The baseline for monitoring and evaluating the Project?s contribution to the achievement of the Somalia LDN targets.

The 2015 land degradation status in Somalia has been adopted as the baseline for measuring whether the land degradation neutrality target has been achieved[16][16]. The potential contribution of the A2R2 project to the achievement of the LDN targets called for the identification of the baseline at the start of the project. to this end, a ?LDN & Biodiversity Decision Support System (DSS)? has been conceived during the PPG phase. The current version of the **Somalia A2R2 ? LDN & Biodiversity Decision Support System** can be accessed via this link: https://wocatapps.users.earthengine.app/view/dss-somalia and is presented in Annex Q.

This interactive platform aims at supporting decision-making and site selection in the technical design of Somalia A2R2 Project. The system assists in identifying priority areas for the implementation of sustainable management practices and the integration of qualitative and quantitative indicators relevant to the monitoring and evaluation of land degradation and biodiversity.

The DSS, a multi sources and multi layers system, aims at building synergies between SDG 15 targets (related to Forest, Mountain and Land Degradation), SDG 2 targets (increasing cropland area under sustainable agriculture and the average income and livelihood of farmers) and SDG 13 targets (Strengthen resilience and adaptive capacity to climate change) in the context of A2R2 Somalia Project. Helping with selection of implementation sites, monitoring and evaluation of project activities and will serve as the base for the future National monitoring, reporting and DSS tool to be designed and implemented by the Federal Ministry of Environment and Climate Change.

In this context key information on the Project area are listed in the table below.

Table 3. Key information about the A2R2 Project area

Name	A2R2 Project Area
Area	6,211,085.13 ha
Vegetated area	6,183,989.02 ha

Declining productivity	788,790.16 ha (12.76%)
Increasing productivity	244,336.64 ha (3.95%)
SOC Mean	24.27 t/ha
SOC Stock	150,142,987.59 t
Protected Area	0.00 ha. (0.00%)
Key Biodiversity Area	512,432.23 ha. (8.25%)
Mountain Coverage	0.00 ha. (0.00%)
NPP 2021 (total)	9,319,768.61 tC

Source: https://wocatapps.users.earthengine.app/view/dss-somalia

With regard to land cover the DSS provides the following data for the project area:

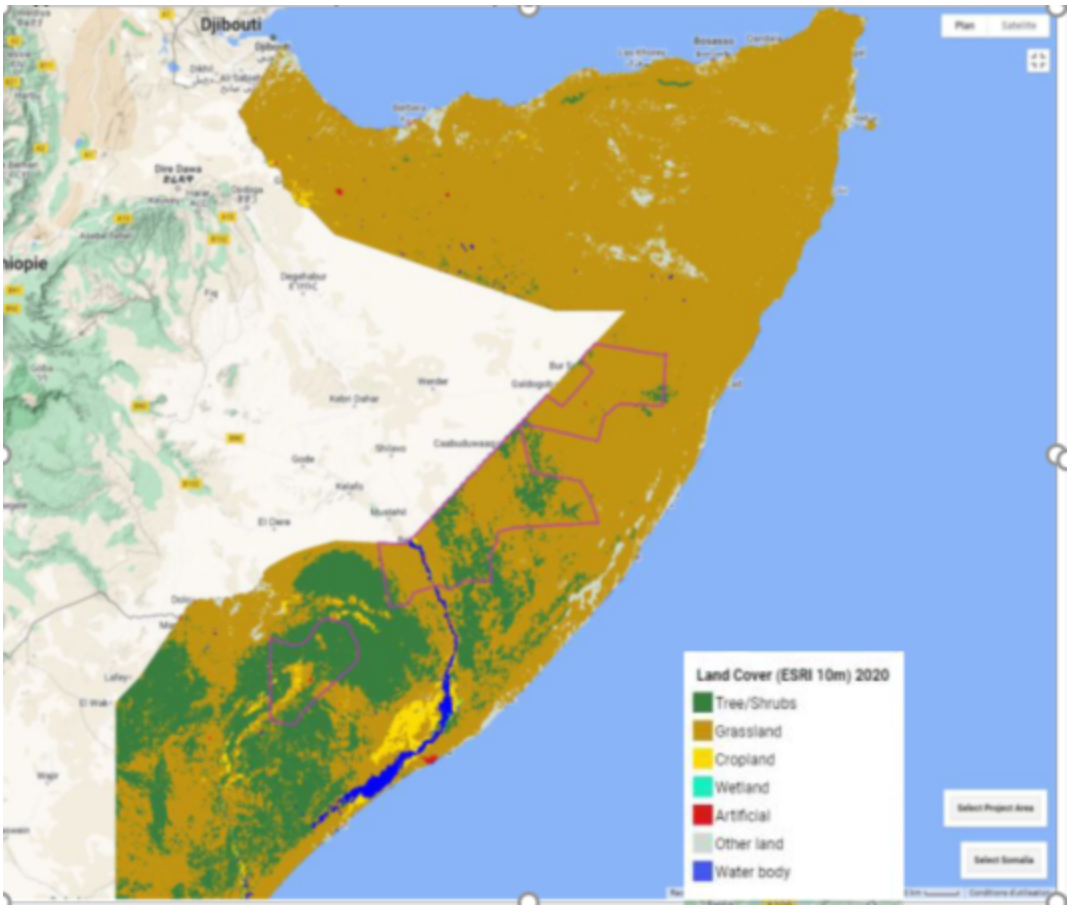
Table: Land Cover (ESRI 10m) 2020 ? Project area

	Area (ha)	Percent of the Project area
Grassland	4,180,132.626	67.6%
Tree/Shrubs	1,888,610.282	30.56%
Other land	9,585.881	0.2%
Cropland	92,686,143	1.5%
Artificial	12,244.184	0.2%

Source: https://wocatapps.users.earthengine.app/view/dss-somalia

The DSS tool provides also the spatial repartition of land cover, as follow:

Figure 2a Land Cover (ESRI 10m) 2020



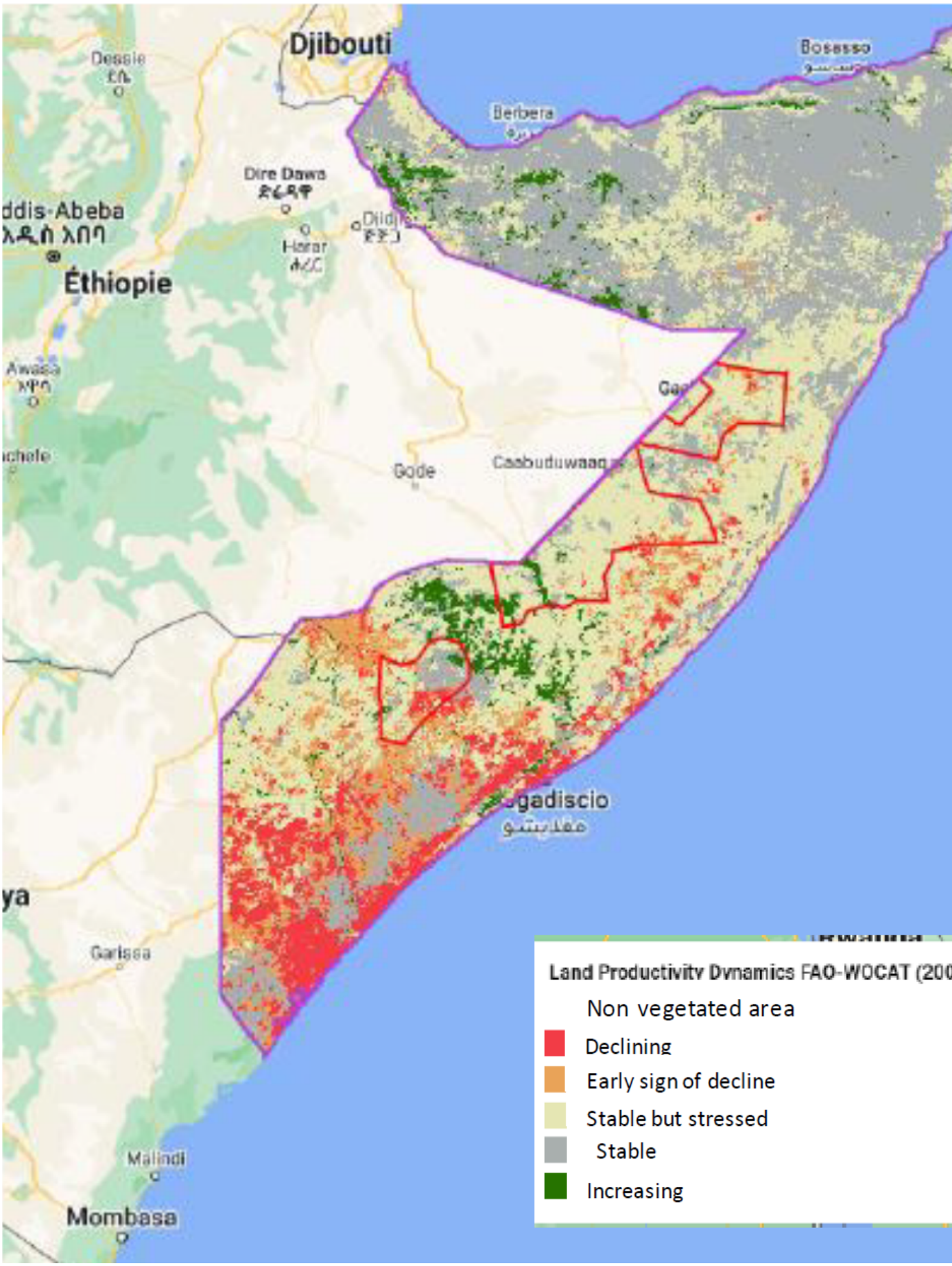
Source: ***https://wocatapps.users.earthengine.app/view/dss-somalia***

Productivity dynamics
The productivity dynamics has been evaluated as follow:

Table 4. Land Productivity Dynamics FAO-WOCAT (2001-2021) ? Project area

	Area	%age of the Project area
Stable	1,221,915.974	19.8%
Stable but stressed	3,928,946.24	63.5%
Early sign of decline	569,328.896	9.2%
Declining	219,461.263	3.5%
Increasing	244,336.642	4%

Figure 3. Land Productivity Dynamics FAO-WOCAT (2001-2021)


Djibouti
Dessie
Bosasso
Berbera
Dire Dawa
Hawar
Éthiopie
Awasa
Gode
Mogadiscio
Garissa
Malindi
Mombasa
Land Productivity Dynamics FAO-WOCAT (200
Non vegetated area
Declining
Early sign of decline
Stable but stressed
Stable
Increasing

Source: https://wocatapps.users.earthengine.app/view/dss-somalia

In the current version of the **Somalia A2R2 - LDN & Biodiversity decision support system**, individual categories from more than 9 different layers can be combined in any type of arrangement. This functionality allows for the strategic selection of potential intervention areas to avoid, reduce or reverse degradation, based on the user's interest, thus facilitating land use planning and the realization of LDN.

The Annex S presents the baseline data for the three LDN indicators and, in addition, provides relevant information on the biodiversity status in each of the five Districts covered by the Project (Dhuusamarreeb, Cabudwaaq, Gaalkacyo, Belet Weyne, and Baidoa).

Climate profile. The country is generally arid and semi-arid with bi-modal rainfall. The NAPA delineates four climatic zones in Somalia: the desert zone in the north-east; the arid zone in the central area of the country; and the semi- arid and the humid zones in the south and parts of north-west.

Annual mean temperature is close to 30?? throughout the country. Average monthly temperatures reach their maximum during the months of April through June. June to September are the hottest months in the north, while December to March mark the hottest weather for the south. Since the 1960's, a warming trend has been observed in Sub-Saharan Africa[17]17. Analysis of 1901-2005 global data shows a 1.0?C increase in temperature over a century[18]18.

The rainfall is influenced by the Inter-Tropical Convergence Zone (ITCZ), the north-south movement, which results in two rainy seasons and two dry seasons in a year:

? The ?Gu? rain season starts as early as the second half of March. Relatively wet and hot conditions prevail, Gu being considered as the major rainy season in the country. Occasionally the Gu season extends into June or July because of the Haggai rains, which are produced by the onset of moist onshore winds.

? The ?Hagaa? dry season runs from July to September, and is associated with cool sea breezes from the Indian Ocean that results in light coastal rains in July and August. The South-west monsoon dominates, bringing relatively cool conditions, with showers along the coast but dry inland.

? The ?Deyr? light rainy season is characterized by a shorter duration and less amounts of precipitation in the months of October to the end of November.

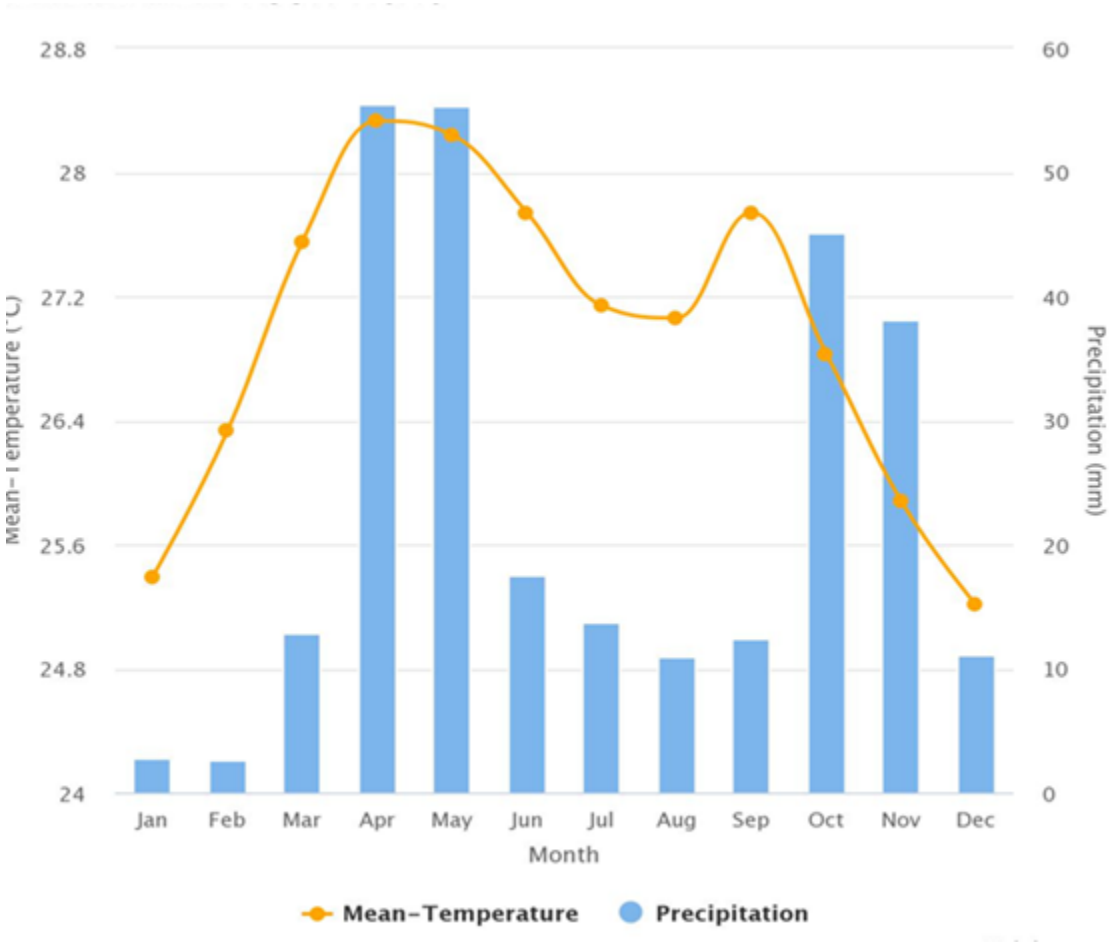
? January to March is the longest dry season known as ?Jilaal?. This season results from ITCZ emerging from the dry Arabian Peninsula.

Total annual average rainfall is 280 mm and the highest annual rainfall is about in about 500-600 mm in high rainfall years[19]19. The northern maritime plains are extremely hot and arid with average annual rainfall less than 200 mm. Rainfall in the south is higher at approximately 400 mm and highest in the southwest with around 700 mm rainfall on an annual average[20]20. Droughts occur every 2-3 years and are often followed by devastating floods, particularly in the south where the Shabelle and Jubba are vulnerable to heavy rains in the Ethiopian highlands[21]21.

The temporal patterns of high rainfall variability over Somalia can be directly associated with an upward trend in recent years of extreme events such as floods and droughts impacting the country. The occurrences of extreme events happens when the Indian and Pacific Oceans experience anomalous sea temperatures and circulation anomalies during El Ni?o/La Ni?a, together with Indian Ocean Dipole events. These include the recent droughts of 2000, 2004, 2008 and 2010-2011; and floods of 1997/1998[22]22.

Climate change observed historical trends. Observed average annual temperatures of Somalia increased by 0.2oC between 1901 and 2021[23][23] with most remarkable spike over the last three decades. The high annual mean temperature of close to 30C has significant implications: increased minimum and maximum temperatures have been experienced in the Lower Juba region of Somalia, aggravating poor households in an already vulnerable region through increased shortages of water and pasture and increased desert locust infestation, with increased temperatures also favoring the faster breeding of disease vectors.

Figure 4 Monthly climatology of mean temperature and precipitation from 1991-2020



Climate change rainfall and temperature trends under current and future scenarios. Climate change is projected to cause increasing temperatures and inter annual rainfall variability. Average mean temperatures are expected to increase across all areas of Somalia between 3.2?C and 4.3?C by 2080;

On the shorter term, all regions in Somalia will experience an increase in annual temperature of 1?C to 2.5?C for the period 2036-2065 compared to the 1971-2000 period.

Annual rainfall especially in the North-East will increase under scenarios RCP 4.5 and RCP 8.5. Increases in rainfall and temperature may in turn increase the risks of both prolonged flooding and drought respectively. Indeed, there will be increased rainfall and temperature from the current climatic condition to both future scenarios as shown in *Figure 2 and*

Figure 5 Relative monthly trends of rainfall currently and into the future scenarios of RCP 4.5 and RCP 8.5

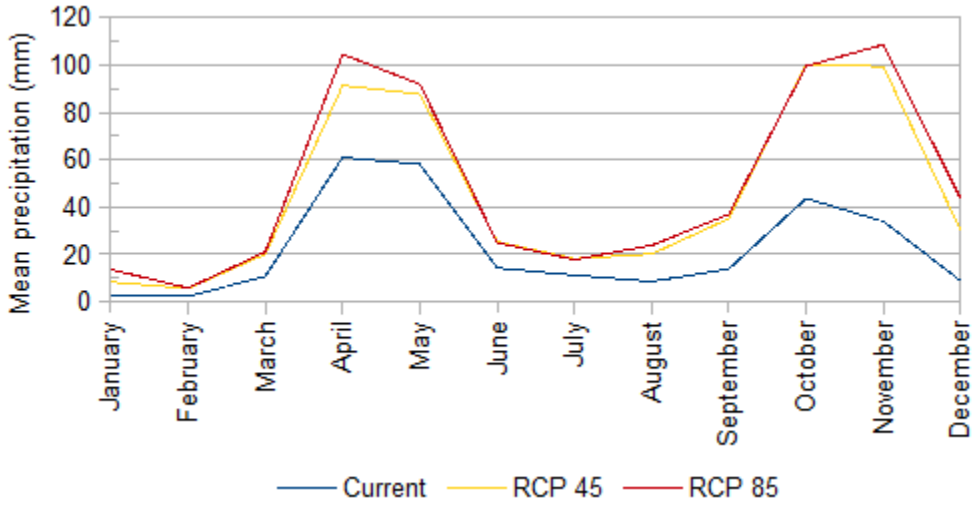
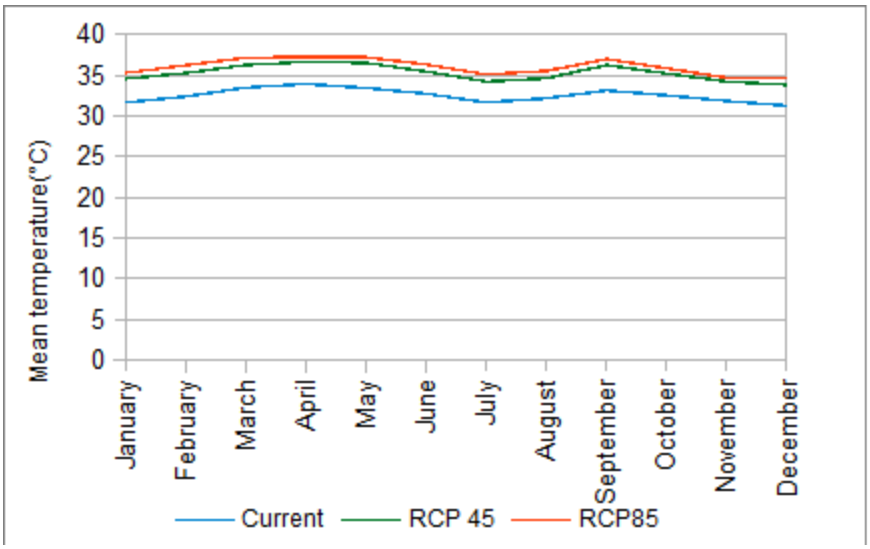


Figure 6 relative monthly trends of temperature currently and into the future scenarios of RCP 4.5 and RCP8.5



Extreme weather events due to climate change. In Somalia, climate change impacts from droughts and floods pose the most severe hazards to the country. For the water sector, declining ground water levels drive up water prices and increase the likelihood of a conflict over water.

Recurrent and severe droughts. More than 80 % of Somalia is arid and semi-arid, fragile ecosystems that make it very vulnerable to climate change impacts. Somalia has been experiencing recurrent droughts for the last 60 years, and their frequency and severity have been on the rise, especially in the last few decades. Historically, Somalia?s drought trends indicate that they occurred at intervals of between 2 to 3 years during the Deyr (October-December) season and 8-10 years in consecutive Deyr and Gu (April-June) seasons, prolonging seasonal hardships for millions that are dependent on rain-fed agriculture, livestock and fisheries.[24]24 Between 1918 and 1975, only 10 major droughts were registered in Somalia with significant escalation experienced in the last three decades although droughts also occurred in 1979-80, 1983-86, and 1989-1990 leading to loss of life, livelihoods and displacements.

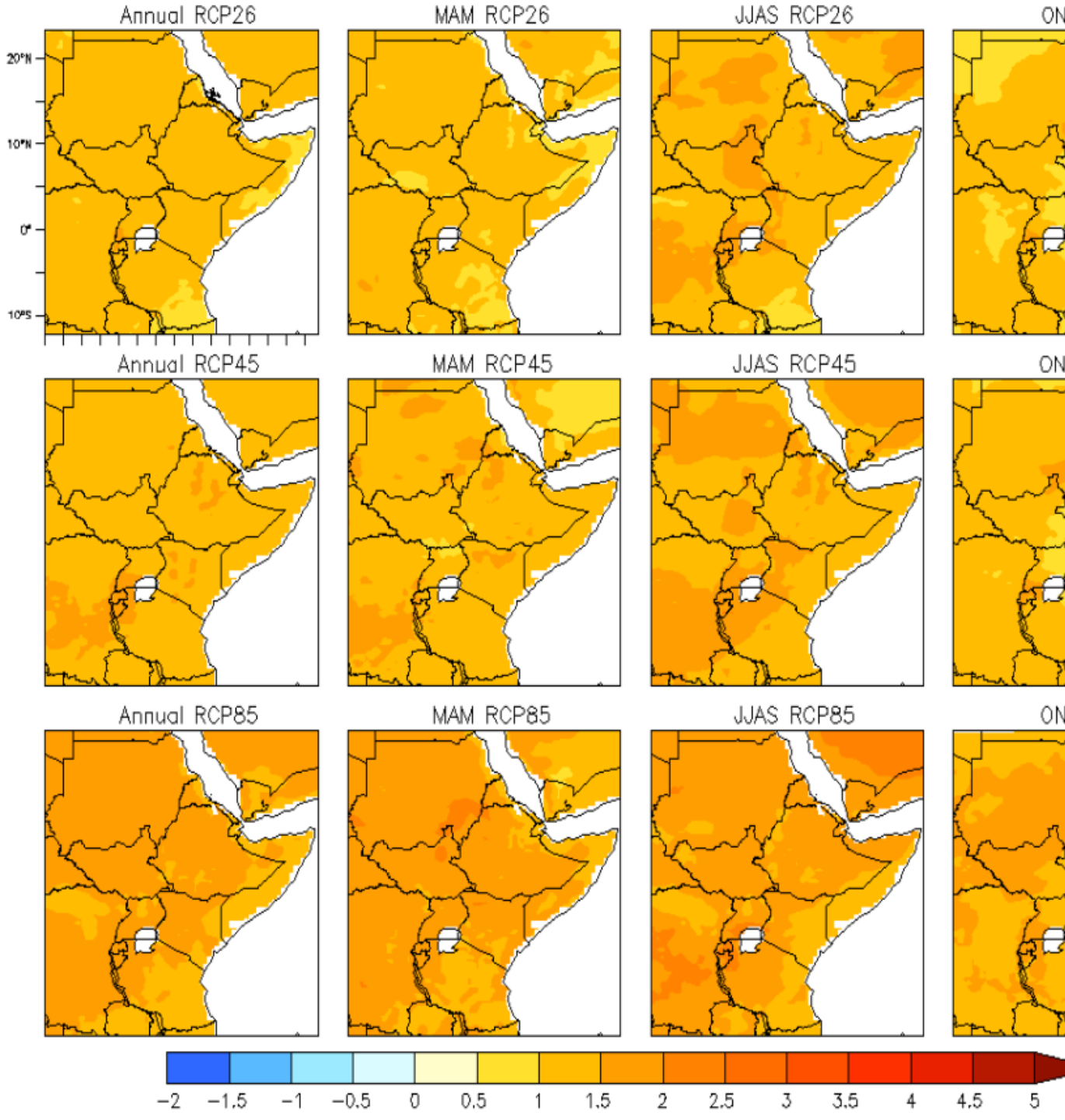
Flooding. Somalia has been experiencing climate extremes since the 1960s leading to loss of lives and destruction. Climate change-related floods were experienced in as early as 1961, 1977, 1981, 1997-98, 2005, 2006 and 2009, 2011, 2013, 2015, 2016, 2018 and 2019.[25][25] Although floods are experienced in many parts of the country, especially during heavy rainy seasons, many occur during the Gu rainy season, particularly in Middle Shabelle and Hiran regions. This has led to massive displacement, loss of lives and infrastructure destruction. The increased frequency of floods is of significant concern, especially since the *El Ni?o* years of 1997-1998, with flooding increasingly wreaking havoc in different parts of the country. In 2018, torrential rains and river flooding was estimated to have affected more than 770,000 people and displaced 230,000 persons from their areas of residence, with residents of Belet Weyne town accounting for the majority of the displaced.[26][26]

Climate data projections. Key projected climate trends are summarized below:

Temperature. Global and Regional models show that mean temperatures are expected to increase across all areas of Somalia between 3.2?C and 4.3?C by 2080[27]27. On the shorter term, all regions in Somalia will experience an increase in annual temperature of 1?C to 2.5?C for the period 2036-2065 compared to the 1971-2000 period. As shown in the figure below for the Greater Horn of Africa (GHA), greater

increase is between March and September (when current temperatures are already very high) compared to that for October, November and December[28]28.

FIGURE 7: PROJECTED MINIMUM TEMPERATURE CHANGES OVER GREATER HORN OF AFRICA BY 2036-2065



Precipitation. The figure below shows projections for percentage change in precipitation for the Greater Horn of Africa (GHA) under three different scenarios for the period 2036-2065 compared to the 1971-2000 period. It can be concluded that for Somalia, there will be a general increase in annual rainfall especially in the North-East under scenarios RCP 4.5 and RCP 8.5 compared to a negligible change under RCP 2.6. Monthly precipitation show different patterns. Summer months (June, July, August and

September) show decreasing trends in rainfall under all scenarios in almost all areas. On the other hand, October, November and December show significant increases all over Somalia[29]29. This will increase the risks of both prolonged drought and flooding.

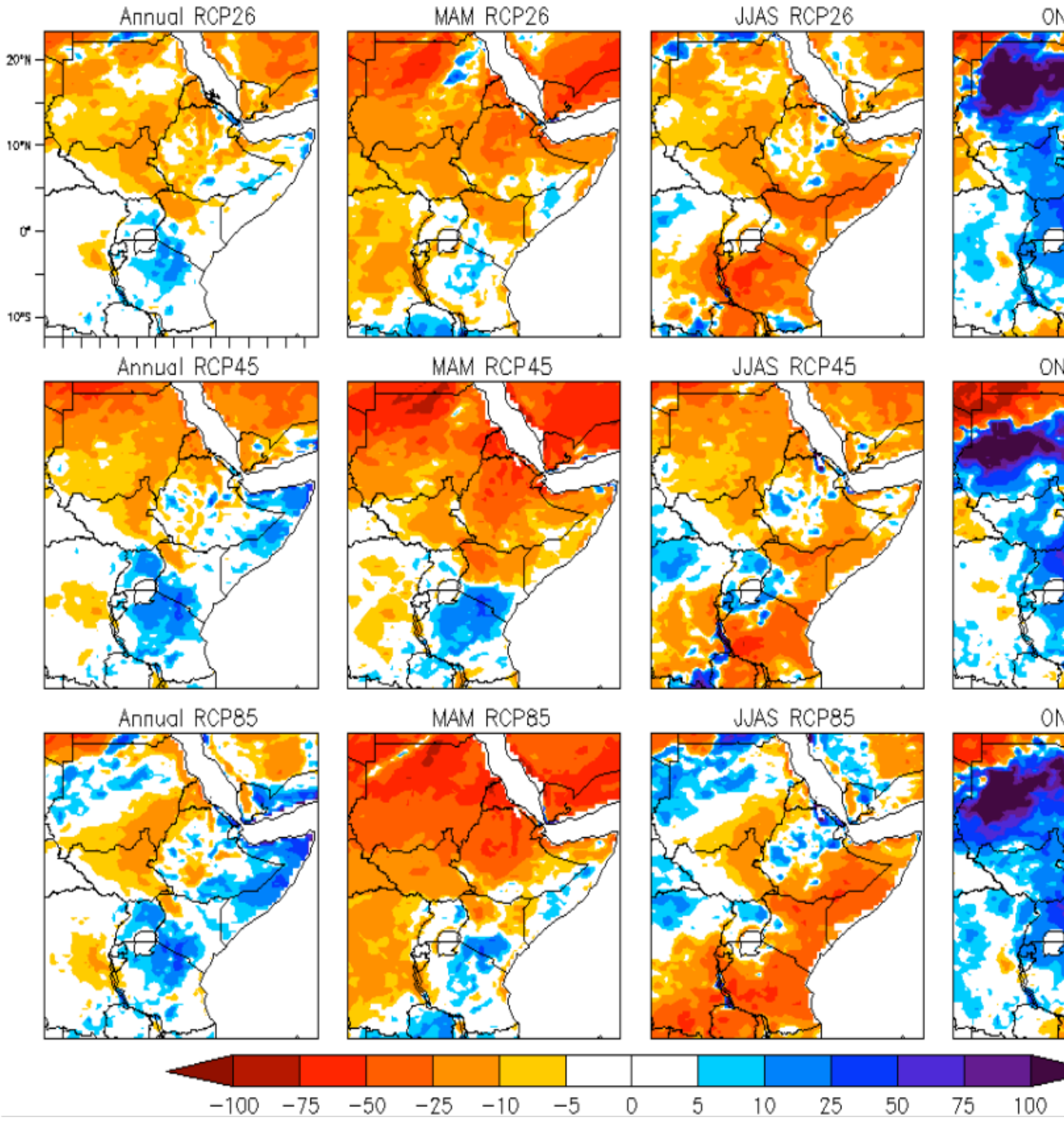
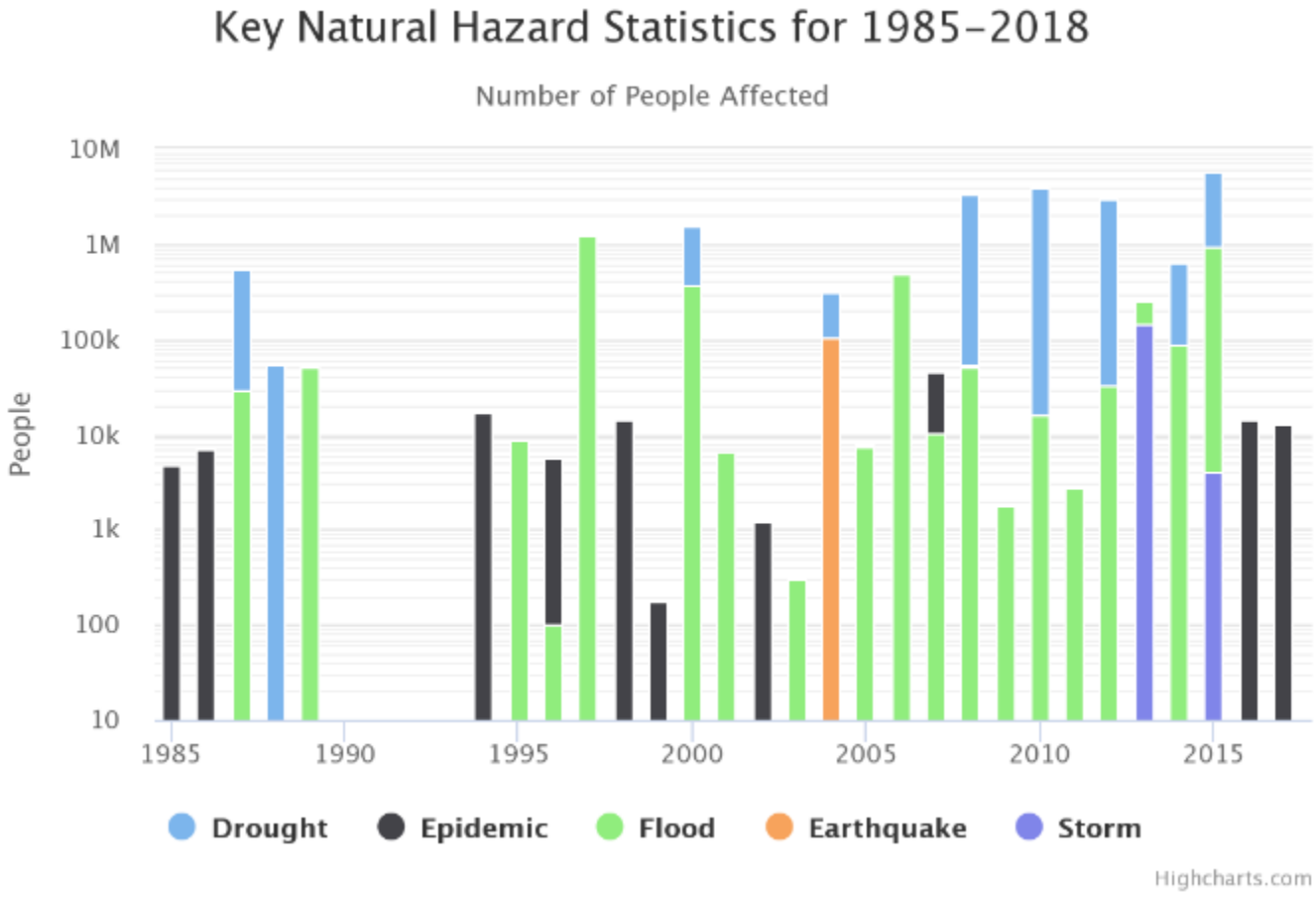


FIGURE 8: PROJECTED PRECIPITATION CHANGES OVER GREATER HORN OF AFRICA BY 2036-2065

Extreme weather events. Drought is the most important, devastating and recurrent natural disaster affecting the country with more frequency and greater intensity in the recent decades. Severe droughts are often alternating with overwhelming floods causing dramatic food crises, reaching famine levels, and massive death of livestock[30]30. Between 1961 and 2004, 12 droughts killed 19,600 people and 18 floods killed 2,600 people[31]31. It is estimated that in year 2004, 200,000 pastoralists in the northern and central regions were threatened by a drought considered to be the worst in 30 years when about 500,000 were reported to be in humanitarian emergency or livelihood crisis in drought-affected areas[32]32. In 2011, drought resulted in 258,000 deaths in Somalia[33]33. Flooding frequently occurs in during the Gu rainy season in the Hiran and Middle Shabeelle regions where the situation was described as ?precarious?, with several thousand households being forced to flee riverine villages[34]34. The figures below show that droughts and flooding have been the dominant natural hazards in Somalia alongside epidemics since the start of the 20th Century. However, between 1985 and 2018, floods and droughts have become by far the leading risks in terms of the number of people affected.



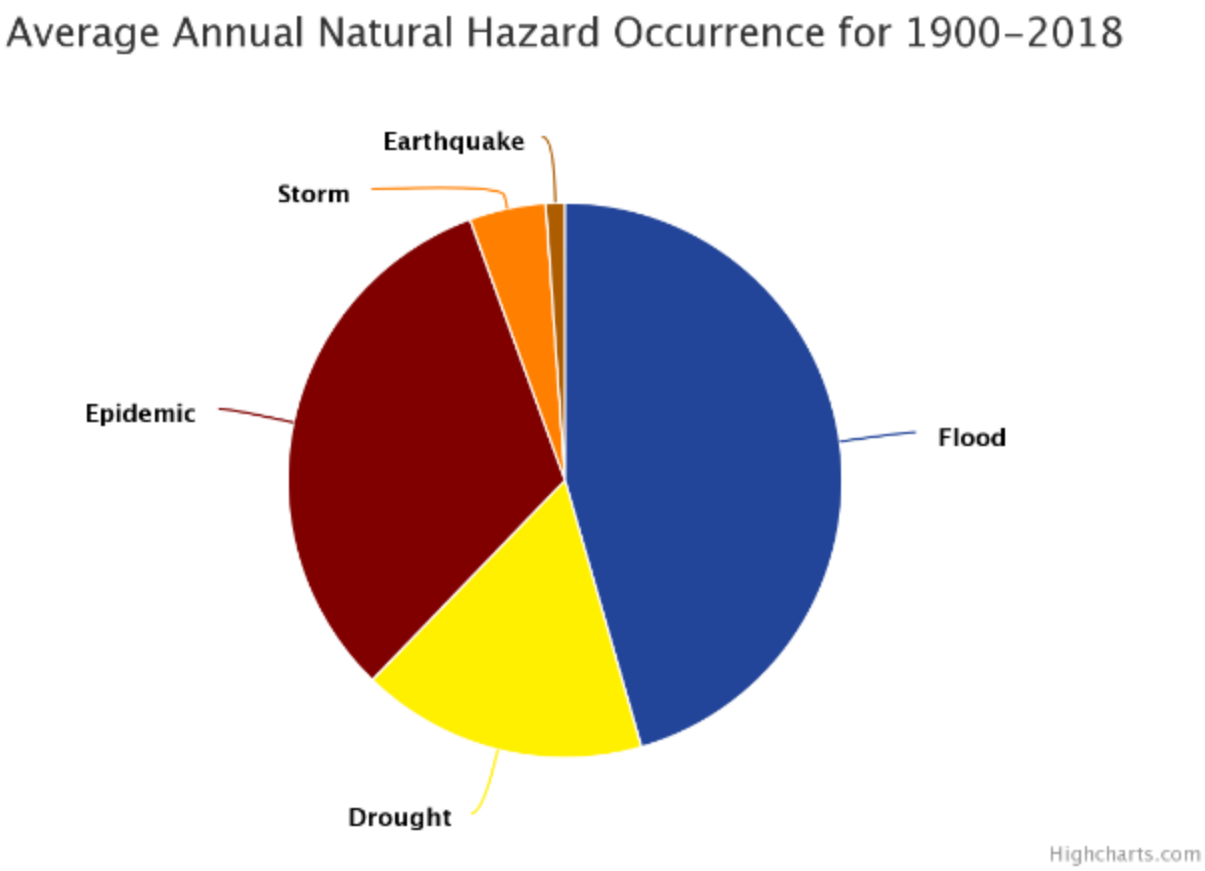


Figure 9: Natural hazard statistics in Somalia

As for future predictions, Somalia is currently considered under high risk of flooding due to increase in intense precipitation and high risk of coastal flooding due to projected increase in sea level rise[35]35.

Somalia is likely to experience extreme precipitation events at an increasing frequency. For example, days with very low precipitation are projected to increasingly occur for the same time period. On the other hand, an increase in the number of very wet days is predicted as we move towards the end of the century under scenarios RCP 4.5 and RCP 8.5. The figures below shows a projected increase of 24.17% in number of very wet days for the period 2040-2059 under RCP 4.5 (4A) compared to 14.11% under RCP 8.5 (4B)[36]36.

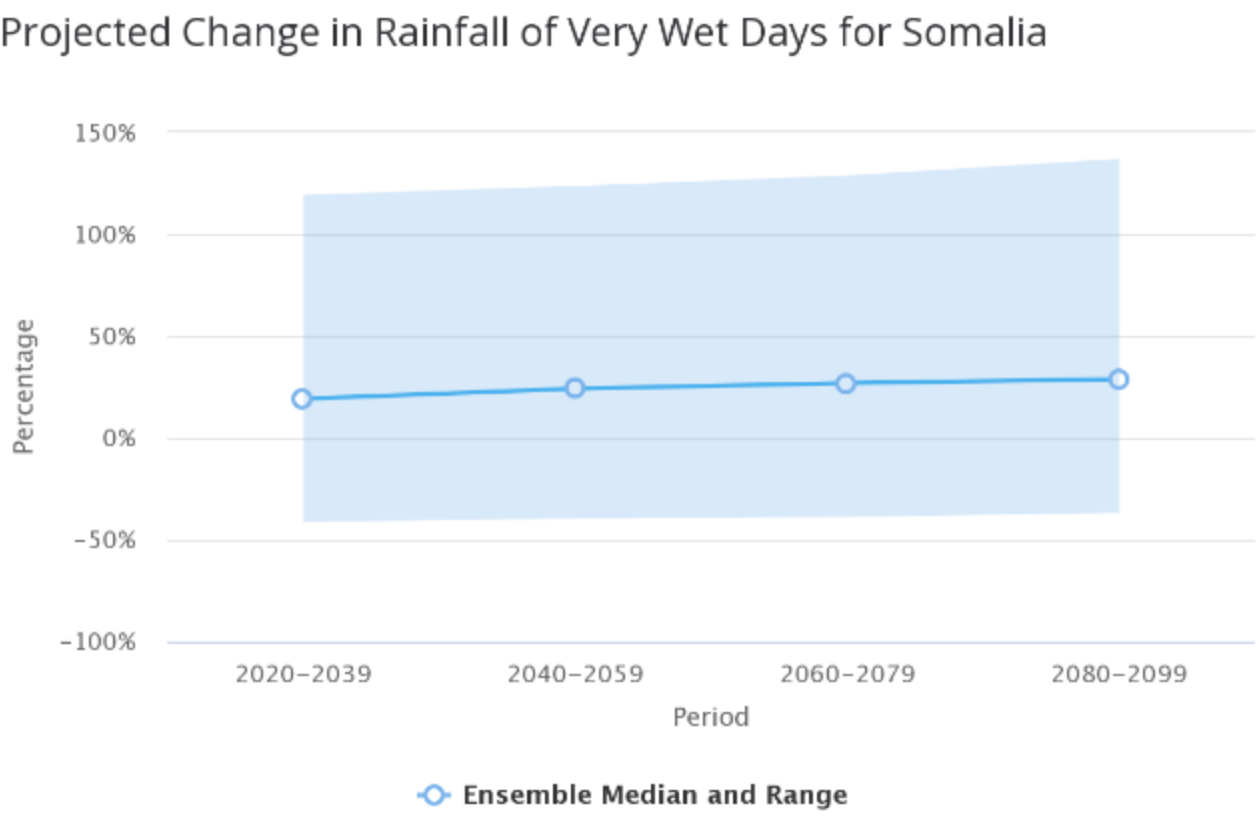


FIGURE 10A: PROJECTED CHANGE IN RAINFALL OF VERY WET DAYS FOR SOMALIA BETWEEN 2020 TO 2099 UNDER RCP 4.5

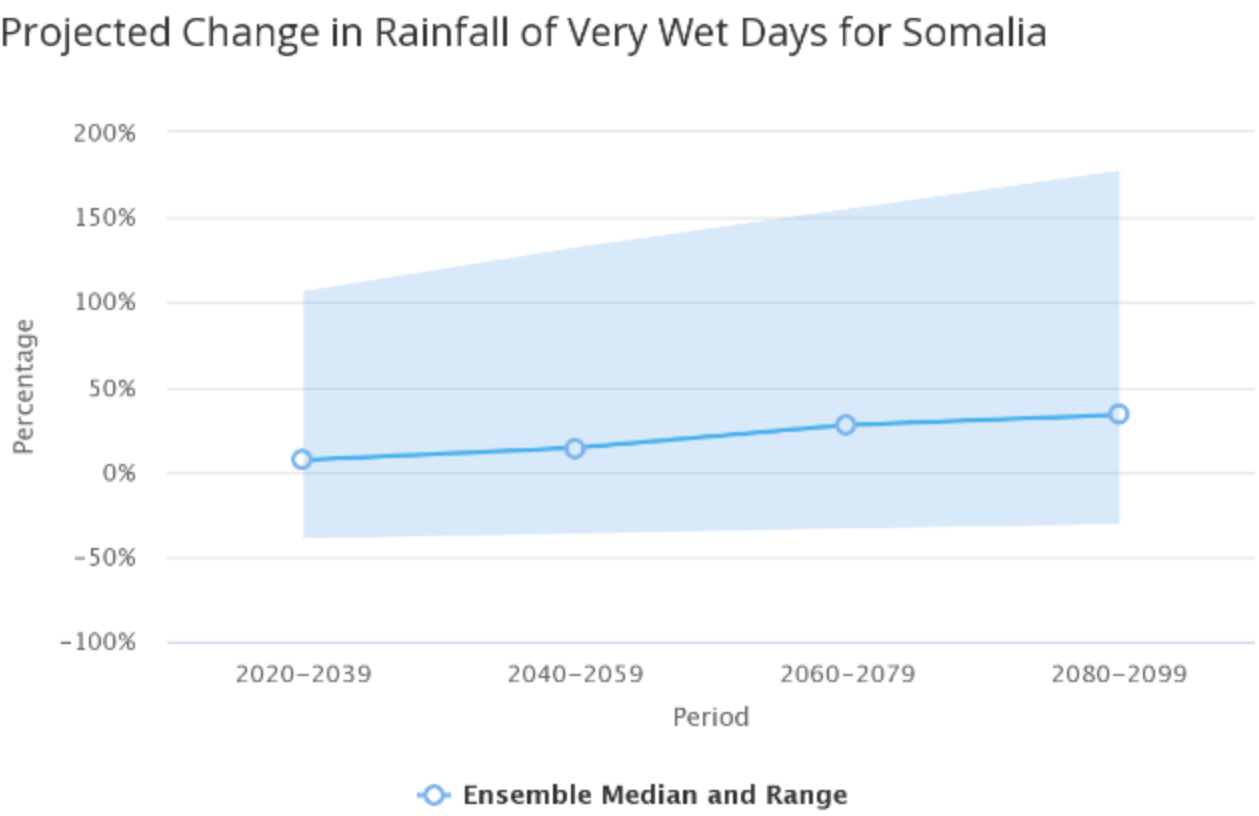


FIGURE 10B: PROJECTED CHANGE IN RAINFALL OF VERY WET DAYS FOR SOMALIA BETWEEN 2020 TO 2099 UNDER RCP 8.5

The probability of droughts is also likely to increase as shown in the maps below comparing Projected Change in Severe Drought Likelihood for Somalia for 2040-2059 to 1986-2005 under RCP 4.5 (5A) and RCP 8.5 (5B)[37]37.

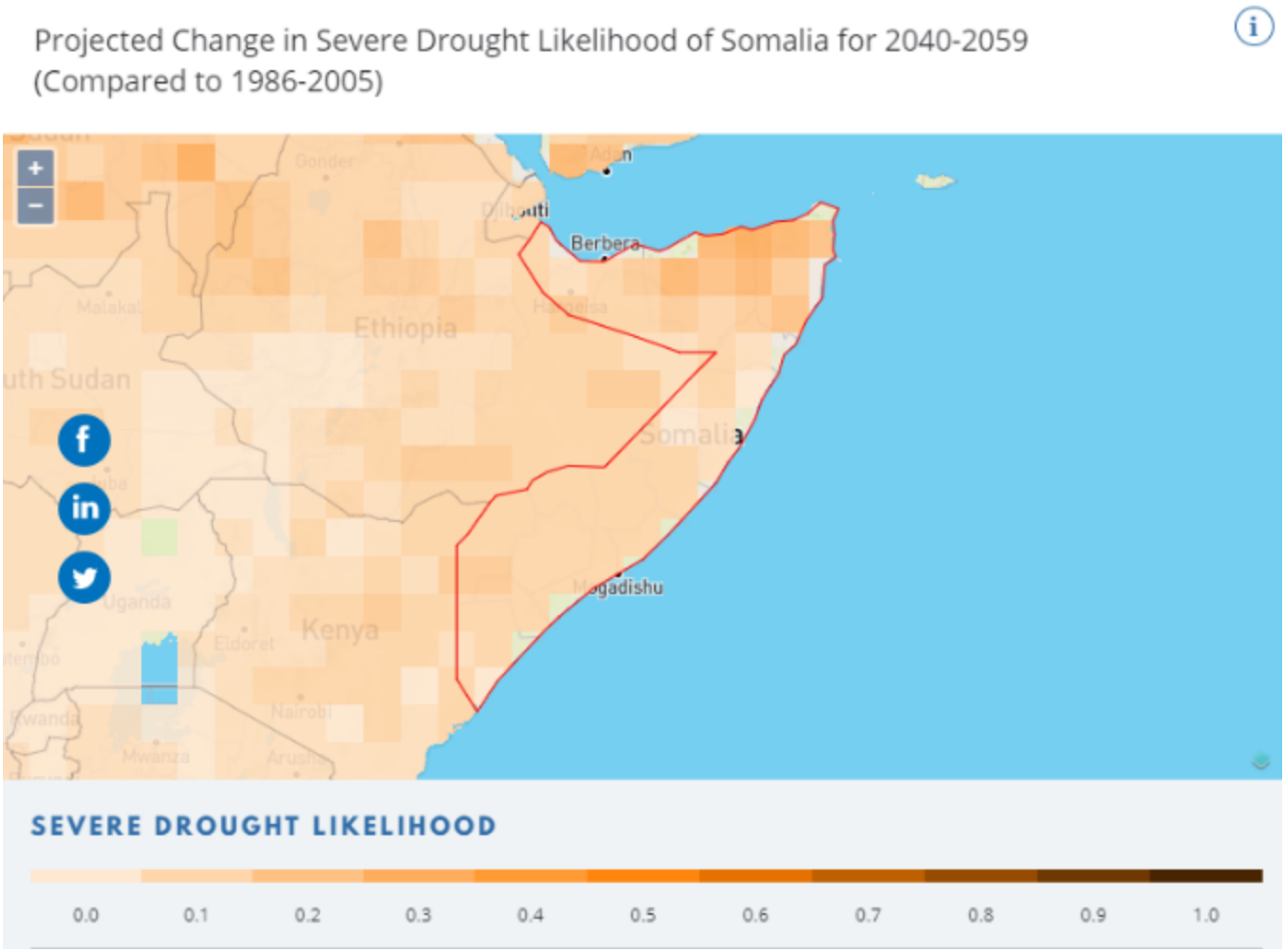


FIGURE 11A: PROJECTED CHANGE IN SEVERE DROUGHT LIKELIHOOD FOR SOMALIA FOR 2040-2059 UNDER RCP 4.5

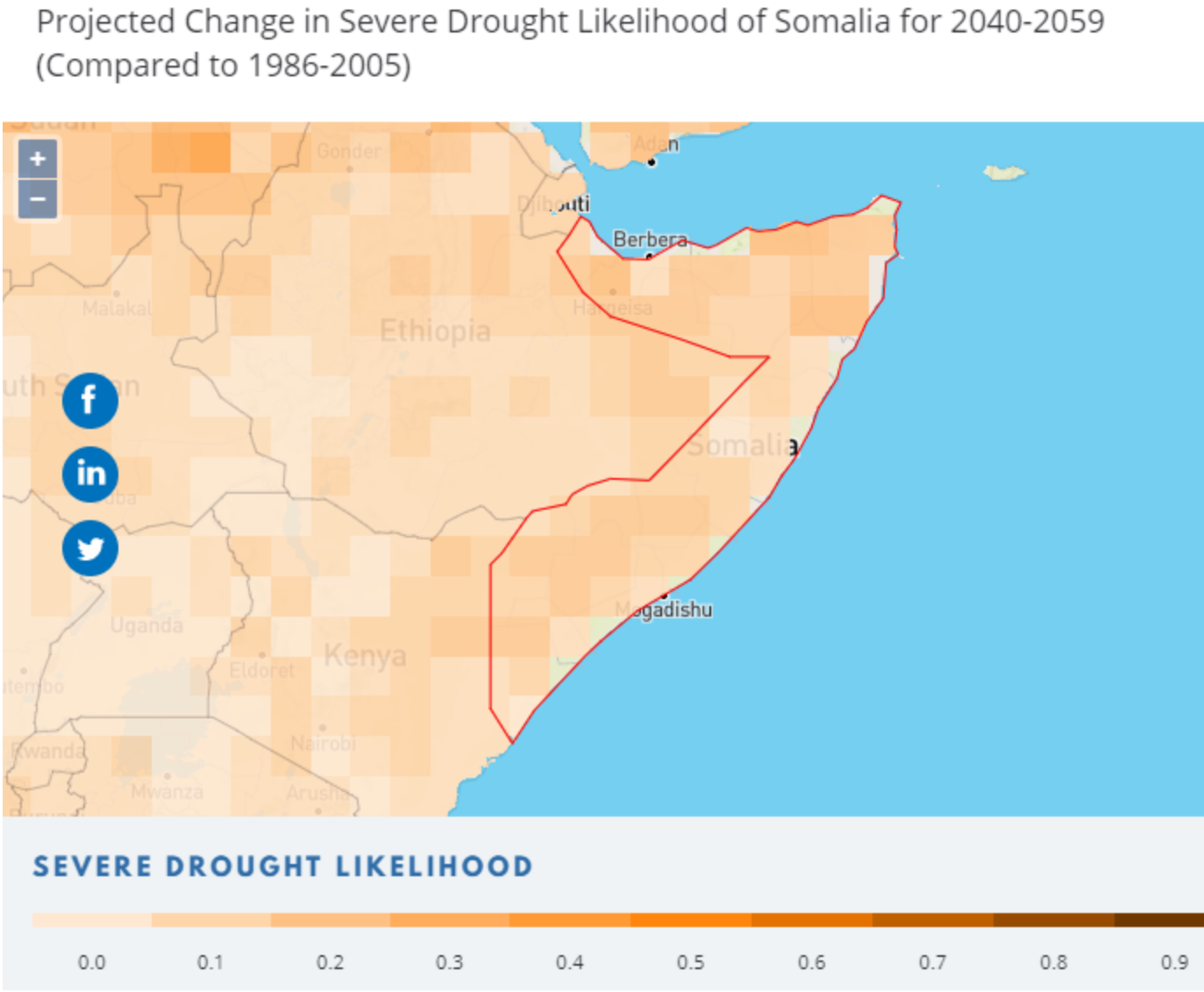


FIGURE 11B: PROJECTED CHANGE IN SEVERE DROUGHT LIKELIHOOD FOR SOMALIA FOR 2040-2059 UNDER RCP 8.5

The Severe Drought Likelihood is likely to reach its highest towards the end of the century with a steady increase under RCP 8.5. The figure below shows the projected change in the likelihood of drought for 4 periods starting 2020 until 2099 under both RCP 4.5 (6A) and RCP 8.5 (6B)[38]38.

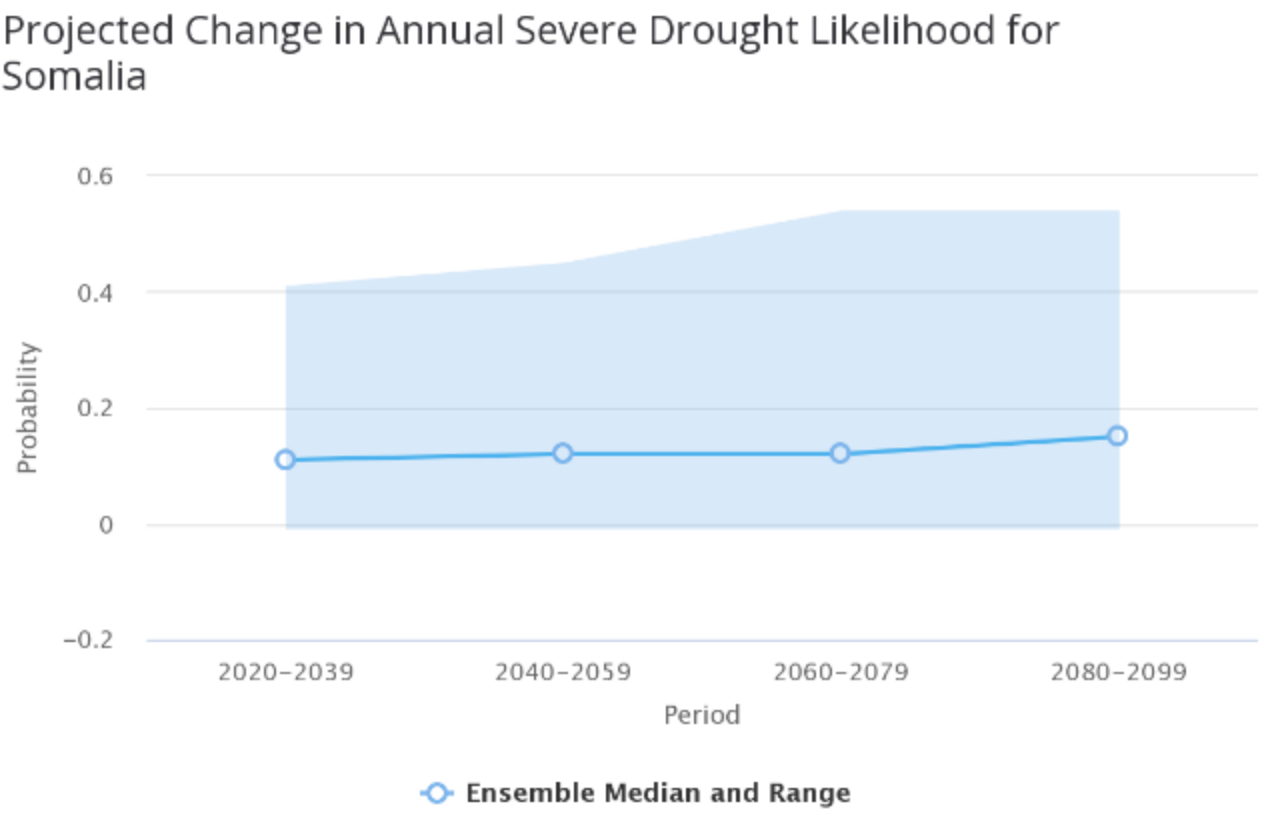


FIGURE 12A: PROJECTED CHANGE IN SEVERE DROUGHT LIKELIHOOD FOR SOMALIA FOR 4 PERIODS BETWEEN 2020 TO 2099 UNDER RCP 4.5

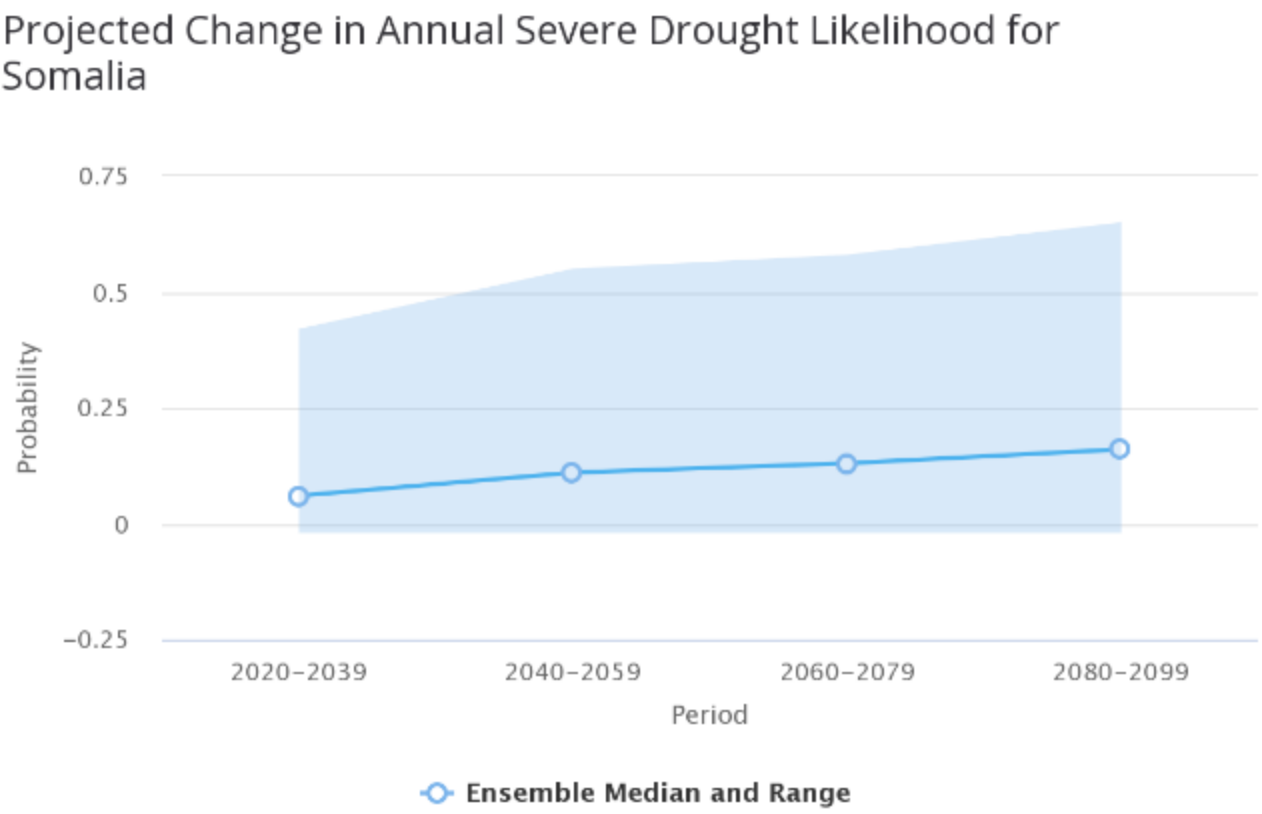


FIGURE 12B: PROJECTED CHANGE IN SEVERE DROUGHT LIKELIHOOD FOR SOMALIA FOR 4 PERIODS BETWEEN 2020 TO 2099 UNDER RCP 8.5

Climate change projected impacts[39][39]. During the NAPA participation process the consulted communities identified drought and flooding events as the main important hazards. Table 4 is adapted from the NAPA document and presents the sectoral vulnerabilities to each of these hazards. Between 1960s and 2013, Somalia has experienced at least one major climate extreme event in each decade. Major floods that have been experienced since 1960 include; 1961, 1977, 1981, 1997-98, 2005, 2006 and 2009. While major drought events were experienced in 1969, 1976, 1984, 1987, 1999, 2001, 2004, and 2010. Between 2001 and 2010, the country has been alternating from drought to floods within the years. The observed pattern shows increasing variability in rainfall for Somalia suggesting an increase in the frequency and severity of future droughts and flash flood events[40]40. The reported increase of droughts and flood events has already affected different sectors in Somalia. Community consultations found that drought has already caused a decrease in agricultural and livestock productivity; an increase in food prices; an increase in internal displacement where women are most vulnerable to violence; a decline in access to clean water and accelerated the depletion of groundwater; an increase in conflict between livestock herders and nomadic groups over resources; an outbreak of diseases for humans and livestock; and loss of livelihoods. As for flooding, there has been death incidents due to flood events; an increase in disease outbreaks such as malaria and cholera; an increase in incidents of crop loss; an increase in soil erosion and gully formation; a decrease in productivity due to water-logging in soil; and damage to infrastructure[41]41.

Somalia has remained susceptible to climate change and resultant shocks due to its geographical setting with over 80% of the country considered Arid and Semi-Arid Lands (ASALS). Much of the impacts have been recorded in the agriculture and livestock sector which together account for more than 70% of livelihood base for majority of the population.

The projected changes in temperatures and rainfall combined with increased recurrence of extreme events will have serious implications for the agriculture and livestock sector, affecting countless livelihoods and foreign exchange earnings. Also, other critical sectors including water, health, disaster risk management, and environment, and vulnerable populations such as women, children, and internally displaced persons, risk experiencing extended droughts, intermittent floods, storms, and diseases among other climate shocks, further increasing vulnerability in the country.[42][42] Indeed based on the ND-Gain Index, Somalia is the second most vulnerable country ranking as 172 out of 182 with increasing vulnerability over the last two decades. It is also the 120th most ready country with great need for investment and innovations to improve readiness and a great urgency for action[43][43].

Climate change and its devastating effects on all sectors of the economy in Somalia has significant gender dimensions. Women and youth, and especially those in rural areas, are most affected due to their vulnerabilities, their reliance on natural resource and climate-dependent livelihoods, their responsibilities toward their families, and their role in safeguarding community survival. Women are on the frontline of confronting the challenges posed by climate change to livelihoods and the health of their families, and yet they are often poorly equipped and resourced to respond to the challenge.

The 2016-2017 drought resulted in a shortage of water for livestock and agricultural production thus leading to loss of livestock and crop production. The drought extended to 2018, exacerbating food insecurity and malnutrition especially among children under five years. In 2019, Somalia experienced another drought, which reduced crop and livestock productivity in the country. In 2020, Somalia witnessed floods and droughts in different parts of the country coupled with insecurity, a swarm of desert locusts and COVID-19 pandemic, undermining overall food security targets in the country. Rainfall variability during Gu and Deyr rainy seasons are reducing the extent and productivity of agricultural land, while increased frequency of droughts is resulting in reduced food security following poor rainy seasons. Flooding frequently occurs in during the Gu rainy season in the Hiran and Middle Shabeelle regions where the situation was described as ?precarious?, with several thousand households being forced to flee riverine villages.

Table 6 of the Annex I- ESCMF further outlines the refinement of sectoral vulnerabilities climate change and include impact pathways under different climatic scenarios. These conciderations follow STAP guidance on climate mainstreaming[44][44] and have been taken into account in the design of list of activities.

Barriers that the project will address

Multidimensional and interlinked aspects of land degradation, loss of natural resources, climate change, food insecurity, malnutrition, political instability, prolonged conflict and rural poverty hamper sustainable development of Somalia.

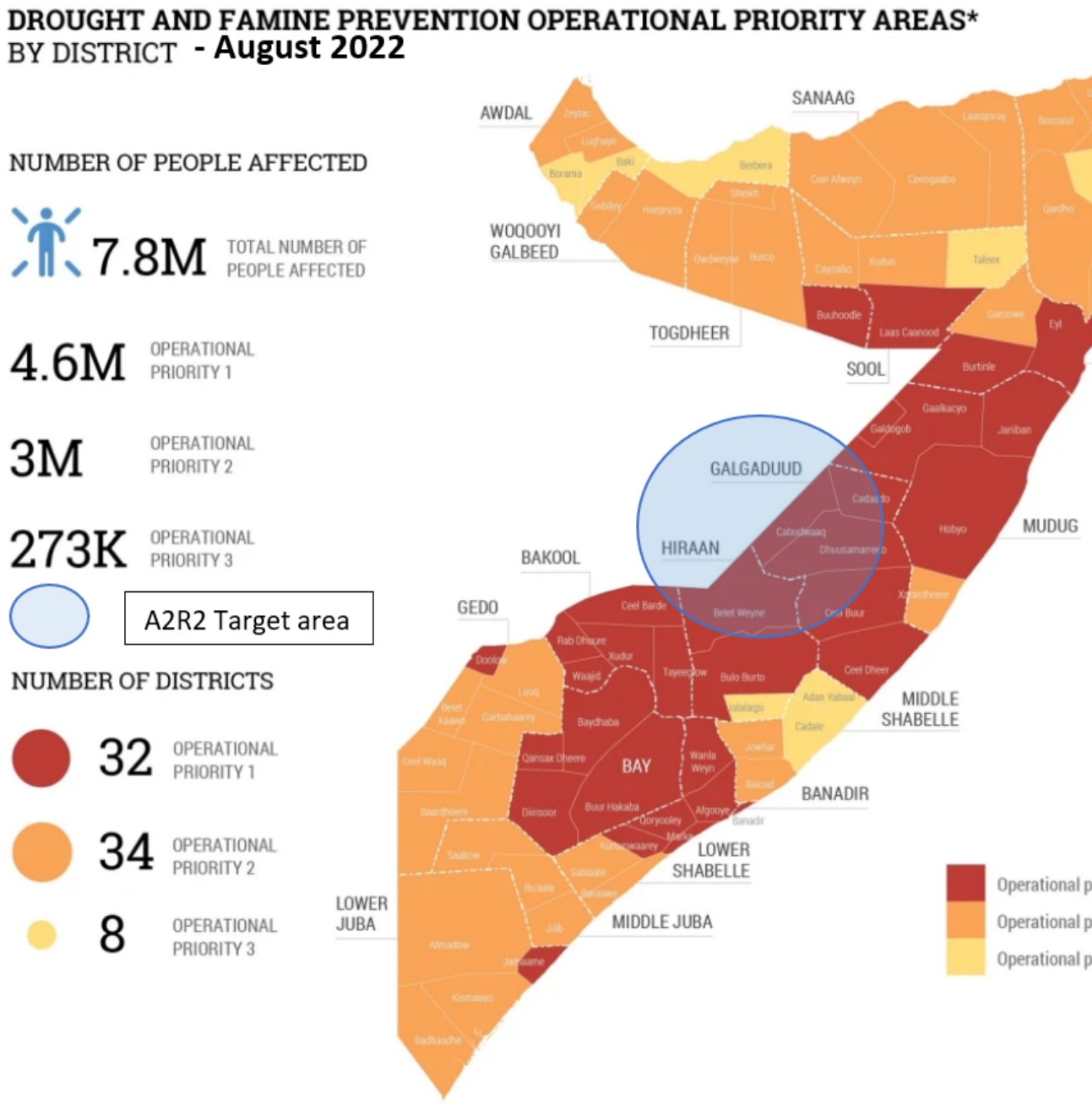
There are a number of major barriers that rural communities face to enhance their climate change adaptive capacity, increase the resilience of productive landscapes and eventually to reverse the cycle of environmental degradation, declining land productivity and increasing vulnerabilities. These includes the following:

Vulnerability to climate change. Climate variability affects water resources management and availability for both domestic and agricultural activities. Somalia experiences cyclic droughts every 2-3 years accompanied by devastating floods, particularly in the South Western regions. The floods occur when the Shabelle and Jubba rivers burst their banks and, in the process, cause displacement of people, collapse of water sources, and destruction of properties. Floods in these regions affect the livelihoods of about 1.8 million people (AFDB, 2016). SWALIM in collaboration with FAO has been monitoring river

levels to provide a flood early warning system but the mitigation measures are not working as most of the flood relief channels have been closed or silted due to a lack of management system. Apart from the people living along the Juba and Shabelle Rivers, the Somali population depends on groundwater for domestic water supply, livestock, and small-scale irrigation. Boreholes are the most strategic water sources in Somalia as they can provide water throughout the year with a depth range from 90m to 250m. During drought periods, pastoralists often converge around the few strategic boreholes where they operate round the clock increasing the frequency of breakdowns.

The key climate change adaptation problem the proposed A2R2 project will address is that livelihoods of Somali communities are vulnerable to the impacts of increasing climate variability and climate change. Livelihoods of the majority of the population are sensitive to climate-related shocks, especially droughts and floods because of the reliance on rain-fed agriculture, transhumant pastoralism, and natural resources. Climate change is likely to exacerbate the impacts of degradation of the country?s environmental resources, including arable land, water, pasture and forest, all of which are connected to Somali?s food and water security. Acute food insecurity has continued to worsen across Somalia, with an estimated 5.2 million people (or 33% of the total population) already experiencing Crisis or worse (IPC Phase 3 or higher) outcomes, including 38 000 people likely in Catastrophe (IPC Phase 5), as of May 2022, despite the ongoing delivery of humanitarian food assistance.[45][45]It is worth noting that the project target area covers the regions the most affected by drought and famine.

Figure 13 Drought and famine prevention operational priority areas ? August 2022



Source: adapted from OCHA. Situation report (31 August 2022)

Lack of information and awareness on climate change, biodiversity loss and extent of land degradation. Climate change has caused frequent incidences of drought and floods. Drought on the hand

causes all other challenges including hunting, migrations of wildlife, increased charcoal production and bush fires among others, leading to land degradation. Accessing to information on future weather and natural events such as drought will help communities to better adapt to the changes. There will be need to upscale the reach to information and increase awareness among the public and other stakeholders.

The impacts of weather variability and climate change differ across the diverse ecoregions and agro-ecological zones of Somalia owing to its varying topography, rainfall patterns and temperatures. These influence the livelihood patterns of communities and the level of exposure to climate related risk. Changes in the weather patterns marked by greater variability are imposing additional risks to human development in Somalia.

Inaccessibility to adequate water and low adoption of conservation technologies. According to humanitarian assessments, by the end of April 2022, an estimated 4.2 million people were facing severe water shortages, particularly vulnerable households living in rural areas of the country. The lack of rainfall is preventing herders from meeting the water needs of their livestock. This has increased waterborne diseases (cholera and diarrhea) which cause 23% of deaths in children under 5 and are strongly correlated with child malnutrition (Alexander, 2020).

In the project area, the Household Rapid Assessment, carried out during the design phase, highlighted that 74% of households interviewed have no access to free quality water throughout the year. In addition to the drought it is noted, as in the state of Hirshabelle, that a significant number of water points are currently requiring an urgent rehabilitation activity. In South West most water points that are fed by rainwater (earth dams), or shallow wells, are at risk of running dry. In Galmudug droughts are becoming more frequent and more prolonged, linked to the global climate crisis. Furthermore, the weak technical capacity of farmers impedes their access to water conservation and sustainable land management technologies, increasing their vulnerability to climate change.

Development of improved water sources has traditionally been designed to supply water for drinking and hygiene purposes. However, with erratic rainfall, pastoralists, and agro-pastoralists lack water for their livestock, which is their main source of livelihood. In addition, communities are now increasingly engaged in small?scale irrigation for agriculture production but are undermined by inadequate water.

Unsustainable management of vulnerable or degraded landscapes. A number of serious environmental challenges in Somalia are caused by the unsustainable management of vulnerable or degraded landscapes. Large-scale environmental degradation across large parts of Somalia is disrupting ecosystem processes and services. This process of degradation will be accelerated by climate change. Communities often rely on landscape level ecosystem services to cope with climate change thus that further exacerbate the impact of climate change creating a downward spiral of unsustainable and destructive use of resources and loss of resilience that natural systems provide.

Assessments by Somalia Water and Land Management (SWALIM) have revealed that for the period 1980 to 2009, the most prevalent types of land degradation in Somalia were loss of vegetation, topsoil loss, and the decline of soil moisture. The central and north-east areas of Somalia are most affected by loss of vegetation cover (approximately 1.4% per year). Whilst soils in Somalia are high in pH, potassium and sulphur, they lack nitrogen, phosphorus and organic matter, which restricts crop production and perpetuates food insecurity.

The low productivity is mainly due to the decrease in water availability for agriculture in recent years, combined with soil erosion processes (due to deforestation, pests and weeds). According to the Household Rapid Assessment, most farmers do not maintain soil quality except through crop rotation (by lack of technical capacity). As a result, agro-pastoral practices are poorly developed in the context of climate change, leading to low productivity and a lack of diversification of products in order to spread the risks over several seasons.

Unsustainable forest and rangeland management practices. Forest growth in general is limited due to poor soils and low rainfall. Closed forest cover occupies only about 2.4 % of the country but, if the Juniperus forests and evergreen tracts in the mountains in the north are included, the total forest coverage would probably amount to around 14 % (90,000 km) of the land. Virtually all of the tropical floodplain that existed along the Shabelle River have been cleared for smallholder agriculture together with sugar

and banana plantations. The annual deforestation rate in Somalia (1.03%) is almost twice the average rate loss for Africa (0.62%). The country?s weak institutions and governance frameworks are failing to deal with unsustainable forest and rangeland management practices. This has led to overgrazing, shifting cultivation, deforestation, unregulated charcoal production, and agricultural practices on soil and water conservation.

According to a World Bank Report Somalia has lost about 686,000 ha of forest between 2000 and 2017. This represents an annual loss of 40,000 ha of forestland, due to inappropriate land uses and economic livelihoods. FAO estimates that the annual deforestation rate is Somalia is 76,757 ha. In addition, the breakdown of traditional participatory approaches for management of forests and rangelands have worsened the situation.

Weak governance structures for management of environment, biodiversity and climatic changes. Weak governance structures and absence of robust institutional framework for management of environment, biodiversity and climatic changes including frequency of droughts in the rangelands and forest areas present the biggest barriers to sustainable natural resource management. There is limited capacity for environmental and natural resource management. Generally, there are few policies and laws at federal, state and local level and therefore limited oversight over biodiversity management and developments affecting the environment. There is also generally limited capacity in the implementation of the laws. To address the challenge there is need to have a robust capacity of the environment and natural resources in the identified states and local authorities.

Unfavorable conditions of access to credit for the rural poor households. Loan conditions do not allow poor rural households to secure loans, especially for women. The Household Rapid Assessment conducted during the design phase in April 2022 indicated that over 70% of respondents were not able to access finance whenever they needed it, due to the restrictive criteria that most could not meet. Under these conditions, most rural people who were able to get loans used land to secure the loan. According to the Household Rapid Assessment, 90% of the households interviewed were not a member of any group, organization or association, while 61% gained little or no useful knowledge or means to improve their households? livelihood from being a member of the groups. In addition, it is essential to be sensitive to religious and cultural values. It may be culturally and religiously unacceptable in Somalia to implement an interest-based financing system given the religious affiliation to Islam. Hence, the establishment of the microfinance framework under this program will take into consideration the religious beliefs, customs and traditions and develop and/or recommend instruments that will make microcredit available to borrowers in a way that is compatible with Shari?ah Principles.

The projected increase in temperature and rainfall variability due to climate change will lead to increased and more intense drought and flood events and will further threaten agricultural livelihoods as well as rangelands, forests and biodiversity. Water and irrigation infrastructure for agriculture and livestock generally face a lack of proper maintenance and repair due to failure of public institutions and community organisations, aggravating the impact of climate change on water scarcity. Adaptive capacities of local communities are further weakened by poverty, conflict and lack of access to climate smart agriculture technologies and techniques. Social tension, marginalization of women and youth, and the breakdown of traditional participatory approaches to the management of forests and rangelands are accelerating deforestation and loss of biodiversity. Finally, the absence of a robust system for monitoring and evaluation of land degradation and biodiversity makes it more difficult to develop local plans for sustainable natural resources management and is a barrier to effective decision-making at policy level.

Lack of gender responsive solutions for addressing adaptative capacity of women and vulnerable groups to impacts of climate change. This leads to the most vulnerable members of communities being bypassed in terms of understanding their adaptation needs and formulating and implementing strategies to address these needs. Based on the findings of the gender analysis and action plan, the A2R2 project will support gender-specific adaptation measures through site-specific needs assessments leading to identification and prioritization of gender-responsive adaptation options. Capacities of local institutions and partners will be built in planning and prioritizing gender-sensitive adaptation interventions with provisions for their implementation.

Gender responsive climate change adaptation is not mainstreamed into key policies and programmes at the local level. Key policies and programmes lack strategies that mainstream gender-

responsive climate change adaptation in their on-ground implementation. There is limited exposure to approaches, tools and methodologies for selecting adaptation interventions that address unique needs of women and vulnerable groups and while remaining suitable to local level socio-economic conditions and environmental contexts. There is also a lack of gender-disaggregated, quantitative indicators which would enable the monitoring and reporting on CCA interventions. Somalia also suffer from chronic lack of resources to implement adaptive measures in alignment with the NDC. The project will provide a resilience monitoring framework to measure the impact of on-ground activities in CCA related projects including mechanisms for feedback on activities and adaptive learning and management. This will improve the efficacy of projects aimed at addressing climate risks. At a national level, it will ensure the integration of climate change concerns into policies, strategies, plans and budgets for addressing Somalia?s development needs.

2) The baseline scenario and any associated baseline projects

Somalia has adopted a set of legal instruments on the socio-economic development and the management of natural resources, which are listed in the below sections. Somalia is a signatory to several environmental conventions, including the UNFCCC, the UNCCD and the CBD. It implements them through its own instruments: the NAPA and the NDCs (UNFCCC), the NAP (UNCCD) and the NBSAP (CBD). The 9th National Development Plan relies on a formal decentralized Federal Governance system and the National Water Resources Strategy 2021- 2025 foresees to establish institutional arrangements for the protection and management of water resources in the country and for water service delivery at federal, member states, and regional governments. However, despite the efforts made to fulfil their international commitments and the support provided by international partners, as described below, it is acknowledged that the water sector will continue being under pressure in the future: with erratic rainfall, pastoralists, and agro-pastoralists will lack water for their livestock, which is their main source of livelihood. The lack of institutional arrangements for water service delivery has also undermined quality and pace of service delivery to communities, particularly in rural areas. Traditional systems for managing the river basins and the rangelands have been eroded due to the existing fragility in the country. This will lead to increased riverbed siltation, breaching levees to irrigate the land, encroachment of the natural flood plains, unplanned closures of natural flood relief channels, breakdown of the existing irrigation infrastructure, degradation and deforestation of the rangelands, shortages of water, and inadequate availability of pasture as commercial fodder and feed. If rural water sources are not professionally managed, water charges will not consider the differentiated needs of the population to ensure equitable access to water. Furthermore, without a microfinance mechanism that is adapted to the needs of poor smallholders, women and youth in particular, they will continue to lack access to credit and microfinance due to the lack of collateral, and will not have the opportunity to diversify their income sources.

Despite this political will expressed by the new Government, the weak governance structures and the absence of robust institutional framework for management of environment and biodiversity presents the biggest barrier to environmental management. Degradation of land and water resources will increase, ecosystem services, biodiversity, and livelihoods will be affected, and land degradation neutrality will not be achieved due to continued loss of soil nutrients and lack of knowledge about sustainable pasture management and water and soil conservation techniques and practices.

In support of the National Development Plan, a number of projects are ongoing or under development by IFAD and other development partners, and constitute the projects baseline of the present proposal.

Baseline projects (IFAD financing)

The Rural Livelihoods Resilience Programme (RLRP)

The primary baseline project of the present GEF proposal, accounting for the proposed co-financing, is the Rural Livelihoods Resilience Programme (RLRP), an umbrella Programme which is being developed with the Government. The investment mobilized consists of foreseen supplementary contributions by development partners, with whom IFAD is negotiating based on their planned assistance programs for Somalia. The first funding acquired so far is the GASFP funding of the SIRAP project, for an amount of

USD 16,000,000. In addition, IFAD decided to co-finance the A2R2 Project with an additional fund of USD 7,000,000 from the IFAD ASAP+ Programme, as described below. In addition, subject to fulfilment of IFAD conditions for lending to Somalia and IFAD Board approval, IFAD may allocate regular resources from its Programme of Loans and Grants to Somalia during the A2R2 first years of implementation.

The RLRP Programme Development Objective is to increase the participatory decision-making and productive capacities of small-scale producers, and agro-pastoralists for sustainable, resilient and profitable agricultural livelihoods and food and nutrition security. The IFAD RLRP Programme is key to IFAD?s re-reengagement in the country and is foreseen to be financed from IFAD core resources should the ongoing efforts for debt clearance reach a successful outcome. Additional funding from bilateral donors is also being negotiated. The RLRP has two technical components to which the A2R2 is mirrored:

Component 1. Community development and conflict risk management has been designed to facilitate communities to understand their environment, natural resources, food security and nutrition needs, and develop and implement costed Community Development Plans (CDPs) to address these challenges.

Component 2. Support to sustainable agricultural livelihoods aims at an increased and sustainable production and productivity of crop and livestock livelihoods, leading to positive impacts on food and nutrition security, and household asset ownership.

Component 3. Coordination and capacity building, knowledge management and M&E.

The RLRP is being developed in a fragile context of persistent insecurity and nascent and very fragile institutions. In this context, marked by the extreme fragility of the populations, particularly women, children and the number of internally displaced persons, the approach of development partners is to attempt to reconcile humanitarian aid with development concerns. Thus, the RLRP will devote the bulk of its resources to meet the urgent needs of the poor in terms of improving their income and strengthening their involvement in the decision-making process. The A2R2 GEF funding project will complement this development objective with an additional focus on global environment benefits and adaptation. At this stage, the RLRP include 2 funded projects, in addition to the A2R2 Project: the Somalia Integrated and Resilient Agricultural Productivity Project (SIRAP) financed by the GASFP, and the ASAP+ funded by IFAD.

The Somalia Integrated and Resilient Agricultural Productivity Project (SIRAP)
(An IFAD project funded by the Global Agriculture and Food Security Program (GAFSP); Duration: 2023-2027, amount contributed: USD 16,000,000)

The project development objective is to contribute to the reduction of small-scale producers? vulnerability, enhance their resilience to COVID-19 and other shocks on their livelihoods and improve their nutrition security and incomes in the project areas. SIRAP will be implemented through three Components:

Component 1. Community resilience, climate and conflict risk management, which aims at increasing resilience of supported communities to manage fragility factors in their environment. This will be reached through 3 subcomponents: Subcomponent 1.1. Strengthening community-based institutions and services; Subcomponent 1.2. Community Resilience Investment Fund (CRIF); Subcomponent 1.3. Contingency, disaster and risk mitigation.
Component 2. Support to sustainable agricultural productivity and livelihoods aims an increased and sustainable production and productivity of crop and livestock livelihoods, leading to positive impacts on food and nutrition security, and household asset ownership. This component comprises 3 subcomponents: Subcomponent 2.1. Improved crop production; Subcomponent 2.2. Improved livestock production; Subcomponent 2.3. Improved value addition, agro-processing and market linkage.
Component 3. Support Coordination, Policy and Regulatory Framework support, and Capacity Building, in view of an efficiently and effectively managed Project with the integration of gender, youth, environment, climate change, M&E, knowledge management and communication (KMC) considerations

in all aspects of the Project. The 2 subcomponents are Subcomponent 3.1. Project Coordination unit (PCU); Subcomponent 3.2. Institutional capacity building.

In terms of geographic targeting the SIRAP will be national in coverage but area specific, adopting a modular approach in coverage with a quick kick-off in the most affected states by fragility drivers including COVID 19 consequences such as Galmudug, South West, Hirshabelle, and Jubaland and will start in less conflict-prone areas of Somaliland and Puntland.

The Enhanced Adaptation for Smallholder Agriculture Programme (ASAP+) (an IFAD funded Programme; Duration: 2023-2027, amount contributed: USD 7,000,000)

ASAP+ focuses on addressing the climate change drivers of food insecurity by: 1) Increasing resilience of vulnerable communities ? including women, youth, indigenous people and other marginalized groups - to the uncertainty caused by climate change on food security and nutrition; and 2) by reducing greenhouse gases through win-win interventions that also yield significant food security benefits, particularly for vulnerable groups.

The ASAP+ co-financing will contribute to the objective of A2R2 of ?enhancing the climate resilience of poor rural households in Somalia through sustainable NRM on multiple levels: improved water resources and rangelands management; eco-agriculture and climate-proof livelihoods; forest/habitat rehabilitation; and improved governance and information systems for land degradation and biodiversity?. More specifically the ASAP+ co-financing will support the following A2R2 components and outcomes:

Component 1. **Adaptive climate resilient hydraulic infrastructure and productive livelihoods**: Outcome 1.2 - Agroecological productive technologies and practices adopted by small-scale farmers and pastoralists; Outcome 1.4 - Increased household incomes for the poorest households,

Component 2. **Landscape approach to an integrated management of rangeland and forest ecosystems for land degradation neutrality and biodiversity conservation**: Outcome 2.2 - Sustainable management of rangelands.

Component 4. **Knowledge Management (KM) and M&E**: Outcome 4.1 - Project progress and results are captured in real time and capitalized to improve management, promote learning and support upscaling of best practices.

The Food Security and Sustainability in Fragile Situations Project (FSSFS), (IFAD, EU, Duration: 2018 ? 2022; Total Cost: USD 4,390,459)

The overall goal of the project is to sustainably improve food security, nutrition and livelihoods and to build resilience among vulnerable households and their communities, in Putland and Yemen.

It is estimated that the project will reach at least 15,000 households, or 90,000 individuals. At least 20% of the total number of HHs are women headed households. Project activities prioritize internally displaced people (IDPs). The project is built on 3 components: 1) Water and Climate-Smart Technologies; 2) Sustainable Agriculture and Livestock; 3) Developing and Sharing Best Practices. Despite the fact that the target area of the FSSFS is not overlapping with the A2R2 project zone, this IFAD project is of particular interest to A2R2 because the FSSFS has implemented similar activities in other regions of Somalia and can share its experience with the A2R2 Project.

Contribution to the A2R2 Project: The GEF project will seek for complementarity with the FSSFS, this latter having similar objectives, but implemented in another region of Somalia. This programme provides replicable and scalable models for future IFAD and other donor interventions in Somalia, and the A2R2 project will build on the models developed by the FSSFS project with regard to conflict management, rehabilitation of hydro infrastructures, and alternative water sources. A2R2 will benefit from lessons capitalized by the NGO Comitato Europeo per la Formazione e l'Agricoltura (CEFA) on the above subjects. Furthermore, A2R2 will see to what extent the NGOs active in the FSSFS project (AgriTechTalk Africa (ATTA), V?t?rinaires Sans Fronti?res - Germany (VSF-G) could be service providers for the same type of activities that will be carried out by A2R2 in other regions of the country. This will include coaching local communities.

The Resilient Livelihood Action to COVID-19 project (RLAC-19) IFAD grant from IFAD?s Rural Poor Stimulus Facility (RPSF): 1st allocation : USD 626.064 (duration: 2020-2021); 2nd allocation: USD 1.07 million, (duration: 2022-2023)

The project development objective is to contribute to the reduction of small-scale producers? vulnerability, enhance their resilience to COVID-19 shocks on their livelihoods and improve their incomes. With the available initial allocation from IFAD under the RPSF, the project target about 1,000 households or 6,000 direct beneficiaries. The project targets participating communities located in pastoral and agro pastoral areas in *three districts of each state of Puntland (Qardho, Northern Galkayo and Iskushuban districts) and Galmudug (Southern Galkayo, Adado District and Bacadweyne Hobyo districts).*

The project aims specifically at: (i) maintaining and improving agricultural productive capacity of small-scale producers in the targeted areas and (ii) enabling safe and sustainable food systems and market linkages supported through continued and improved supply chains and market access. The project is being implemented through the SADAR Development and Resilience Institute as the Grant Recipient. Specifically, the component supports the following: i) **availing post-harvest equipment and facilities to reduce post-harvest losses** including threshers, silos, hermetic bags to prevent pest damage and maintain grain quality for a longer time etc.; ii) **training of small-scale farmers in post-harvest practices to ensure quality products**; and iii) **organized local purchases from targeted smallholder farmers? groups.**

Contribution to the A2R2 Project: The GEF project will build on experience from RLCA-19 regarding support and training of small-scale farmers in post-harvest practices to reduce post-harvest losses amongst the target communities and to ensure quality products (grading, storing, drying, etc.).

Other technical baseline projects/programmes[46][46]

The Water for Agro-pastoral Productivity and Resilience Project (WAPR) (World Bank project, duration: 2019-2023, total amount: USD 42 million)

The development objective of the Water for Agro-Pastoral Productivity and Resilience Project for Somalia is to develop water and agricultural services among agro-pastoralist communities in dryland areas of Somalia. The project focuses primarily on: i) improving access to multiple-use water resources (for human consumption, livestock and small-scale irrigation) in dry lands of Somalia; ii) strengthening capacity of communities and local, state and national-level institutions; iii) supporting community-led investments in sustainable land management; iv) promoting the uptake of productivity-enhancing innovations among target rural communities; thereby v) strengthening the adaptive capacity of rural communities in Somalia and their resilience to the impacts of climate change.

The project comprises the following technical components: 1) Support development of multiple use water sources (USD 15 Million IDA); 2) Institutional and Capacity Development (USD 6 Million IDA; 3) Supporting Sustainable Land Management and Livelihoods Development Around Water Points (USD 9.5 million IDA). One hundred (100) community sites are being developed with a combination of small-scale water, agriculture and livestock interventions, forty (40) in Puntland and forty (40) in Somaliland. In Galmudug and South West states, twenty (20) water points are being developed, ten (10) in Galmudug and ten (10) in South West States.

Technical contribution to/Cooperation with the A2R2 Project: The GEF Project will build partnership with the World Bank WAPR project and will coordinate its activities on the field, in Galmudug and South West states, where twenty (20) water points are being developed by WAPR for agriculture and livestock interventions.

The Sustainable Charcoal Reduction and Alternative Livelihoods project (a joint UNDP, UNEP, and FAO project; Duration: 2016-2022, amount contributed: USD 7,410,000)

The project aims to reduce demand for charcoal while also providing Somalis with alternative options for clean energy and sustainable livelihoods. The first major component of the project is to build the capacity of those in power, and to build awareness of the environmental issues associated with charcoal production. The project has worked with all levels of government, supporting the development of a charcoal policy, but also strengthening the capacity of Somalia?s sub-federal states. The second component is to reduce demand for charcoal inside Somalia through producing and distributing fuel-efficient stoves. The final component of the project, led by the Food and Agriculture Organization (FAO) is promoting alternative livelihoods, such as livestock raising, horticulture, and bee-keeping, for those currently working in charcoal production.

Technical contribution to/Cooperation with the A2R2 Project: The GEF project will work closely with FAO and UNEP to draw lessons from the project experience in promoting alternative livelihoods (such as horticulture, and bee-keeping) for those currently working in charcoal production.

Strengthening national capacities for improved decision-making and mainstreaming of global environmental obligations Project (UNDP, duration: 2018-2022 total amount: USD 2,550,000.00, including a GEF project grant of USD 1,000,000.00)

The GEF funded project provides an opportunity to strengthen Somalia?s institutional capacities to meet and sustain Rio Convention obligations. This project directly addresses three main categories of articles under the three Rio Conventions: 1) building of capacities of relevant individuals and organizations (i.e., resource users, owners, consumers, community and political leaders, private and public sector managers and experts); 2) developing capacities of individuals and organizations to plan and develop effective environmental policy and legislation, related strategies, and plans based on informed decision-making processes for global environmental management; 3) strengthening environmental governance, specifically, to strengthening capacities of individuals and organizations to enact environmental policies or regulatory decisions, as well as plan and execute relevant sustainable global environmental management actions and solutions. At the end of the project, each of the three project components will result in an expected outcome, namely: 1) Environmental governance is improved through strengthened policy coordination, 2) Global environmental governance is decentralized, and 3) Environmental attitudes and values for the global environment are improved.

Technical contribution to/Cooperation with the A2R2 Project: The GEF project will coordinate with UNEP for the activities foreseen to mainstream LD and BD into the decision-making processes from local to Federal levels, particularly with regard to the LDN and Biodiversity M&E system the GEF project will set up.

The Rural Livelihoods' Adaptation to Climate Change in the Horn of Africa - Phase II (RLACC II) A*f*DB, Duration: 2017-2021 total GEF grant: USD 17,067,592)

The GEF project, implemented by the A*f*DB, is a multinational project that covers Sudan (USD 7,082,407) and Somalia (US$ 9,985,185). IGAD is the executive agency for Somalia. The program activities are country-driven and are implemented through two Projects respectively in Sudan and Somalia. The Somalia component targets Somaliland (Awal region, villages of Quljeed, Ton and Salawley-Cheikh Hared), Puntland (Bari and Nugaal region), and South-Central Somalia (Galguduud and Hiraan States), for a total of USD 9,985,185.

The project is expected to improve the resilience of pastoral and agro-pastoral communities to climate change through: (i) introducing adaptation strategies to reduce the negative impacts of climate change and strengthen the capacity of pastoral/agro-pastoral households to cope with climatic hazards, (ii) enhancing the capacity of communities to not only absorb shocks, but to also effectively adapt their livelihoods to harsher climatic conditions, (iii) helping pastoral and agro-pastoral households manage drought risks, (iv) supporting community-led initiatives to protect, conserve and restore natural resources in a sustainable and climate-resilient manner, (v) strengthening the participation of pastoral communities in planning and implementing activities pertaining to their development.

Technical contribution to/Cooperation with the A2R2 Project: The RLACC II for Somalia is notably implemented in South-Central Somalia (Galguduud and Hiraan States). The exchange of experience with this project executed by IGAD will be highly beneficial for the GEF project for all the activities related to adaptation to climate change and on how to improve the resilience of pastoral and agro-pastoral communities to climate change (such as introducing adaptation strategies to reduce the negative impacts of climate change; enhancing the capacity of communities to adapt their livelihoods to harsher climatic conditions and to manage drought risks; supporting community-led initiatives to protect, conserve and restore natural resources in a sustainable and climate-resilient manner.

The Support for Integrated Water Resources Management to Ensure Water Access and Disaster Reduction for Somalia?s Agro-Pastoralists (UNDP, Duration: 2019-2023; total amount: USD 78,575,000; GEF funding: USD 8,831,000; total co-financing: USD 68,244,000)

Working with a range of development partners, as well as traditional leaders, women?s groups, local NGOs and community-based organizations, the four-year project (2019-2023) aims to increase Somalia?s capacity to manage water resources sustainably in order to build the climate resilience of rural communities. The project focuses on: 1) National policy reform and development of integrated water resource management (IWRM); 2) Capacity-building at the national, state, district and local levels; 3) Infrastructure for improved climate and water monitoring; 4) Capture and sharing of best practices on IWRM.

Technical contribution to/Cooperation with the A2R2 Project: The IWRM planned physical investment in water resource retention infrastructure. IFAD will coordinate with UNDP on the location and consistence of the water resource retention infrastructure to be built. In addition, the 2 projects aim at providing support to Water Users Associations in terms of maintenance of water resource infrastructure: it is intended to share experience on technical approaches and benefit from the experience of each project. The A2R2 Project will provide available data on water resource retention infrastructure and water extraction technologies, with documentation, to feed the Water Resources Knowledge Management Database (WARKM DB) mentioned in the UNDP Project. The A2R2 Project will document the UNDP WARKM DB with the training materials that will be developed on water resource management and will benefit from the already training materials produced in the UNDP Project.

Build Resilience for Food & Nutrition Security (BREFONS) Project (A*f*DB, Duration: 2022-2024, amount: USD 27,360,000 (including a grant of USD 15,000,000 million from A*f*DB).

The Program to Build Resilience for Food and Nutrition Security in the Horn of Africa (BREFONS) is designed as a follow-on phase of the Drought Resilience and Sustainable Livelihoods Program (DRSLP) supported by the A*f*DB and implemented by IGAG member States. DRSLP. The project objective is to build resilience to food and nutrition insecurity and climate change in the Horn of Africa. The specific objectives are to: (i) increase the productivity of agropastoral production systems; (ii) increase incomes from agropastoral value chains; and (iii) enhance the adaptive capacity of the people to better prepare for and manage climate risks and variation.

The Component 1 of the BREFONS Project, ***Strengthening Pastoral and Agropastoral Production Systems? Resilience to Climate Change,*** is of particular importance for the A2R2 Project as it has similar activities envisaged. The outcome ***1.1 Development of Climate Resilient Infrastructures for Agropastoral Production Systems*** foresees the construction of 42 small earth dams (water pans) with 20,000 - 25,000 m3 volume, 23 community Berkeds (covered water pans), the upgrade/equipment of 3 boreholes, as well as the training of management committees (30% of women) for water and other infrastructures. The outcome ***1.2 Sustainable Management of Agropastoral lands*** will establish six (6) State infrastructures for rangeland monitoring and drought early conflicting systems, as well as the mapping of state pasture and rangeland, degraded areas for restoration, and livestock routes. The outcome **1.3 Climate Smart Technologies and Innovations** will support the deployment of climate smart/improved varieties for livestock feed sector and support to the establishment of fodder banks in six locations (Somaliland, Puntland, Galmudug, Hirshabelle, Southwest and Jubbaland). The Component 2 ***Supporting Agribusiness Development*** will notably Facilitate Access to Market (improvement of 1000 km of Stock Routes and construction of livestock markets) and will provide Support to Livelihood

Diversification: provision of inputs, and access to finance for alternative income generating activities in renewable energy for women and youth groups. The Component 3 ***Strengthening Agropastoral Communities? Capacity to Adapt to Climate Change*** includes a regional activity implemented by IGAD and related to the Development and improvement of weather and climate services.

Technical contribution to/Cooperation with the A2R2 Project: The Federal Ministry of Livestock, Forestry, and Range (MOLFR) is responsible for the overall management and coordination of the BREFONS Somalia project. The A2R2 Project will work in close collaboration with the MOLFR on the location and consistence of the different hydraulic infrastructure (small earth dams, community berkeds, boreholes) planned by both project in the 3 regional states where A2R2 will be implemented: Galmudug, Hirshabelle and Southwest. The project will collaborate with the rangeland monitoring and drought conflict early warning systems to be established by the BREFONS project in the A2R2 target areas, particularly under the A2R2 Component 3 establishing a biodiversity and land degradation neutrality M&E system. The exchange of information between the 2 projects will include the exchange of data for the mapping of the states' pastures and rangelands, and degraded areas to be restored. The A2R2 project will also benefit from the experience of the BREFONS project on livelihoods diversification, particularly with regard to supporting the financing of alternative income-generating activities in the field of renewable energy for women and youth groups.

Somalia - Water for Agro-pastoral Productivity and Resilience (Biyoole Project), (World Bank, Duration: 2020-2023; total amount; USD 42 million)

The Biyoole project is part of the World Bank?s long-term approach to deepen and diversify water infrastructure and livelihoods support. The project aims to develop water and agricultural services among agro-pastoralist communities in dry-land areas of Somalia. By 2023, the project endeavors to scale up water delivery in the arid northern regions and expand operations in the south. The project comprises four components: 1) **Component 1- Support development of multiple use water sources**, will finance investments in key water management infrastructure for the harvesting, storing and delivering water for people, livestock and agriculture; 2) **Component 2 - Strengthening Integrated Landscape Management for Productive and Resilient Livelihoods**, will support agro-pastoral livelihood activities that contribute to the rehabilitation of the natural resource base on which livelihoods depend, as well as the infrastructure, capacity building and technologies needed to increase productivity ; 3) **Component 3- Institutional and Capacity Development**, will strengthen local, state and national institutions and capacities for building the foundation of a gradual transition to more integrated and sustainable agriculture and water development; 4) **Component 4-Project Management, Monitoring & Evaluation, and Knowledge Management and Learning**, will support the cost of the Project Management Unit, as well as the Project M&E and the knowledge management strategy. It is noted that, in the A2R2 Project area, the **Biyoole Project** twenty water points will be developed in Galmudug and ten (10) in South West States.

Technical contribution to/Cooperation with the A2R2 Project: The GEF Project will build a partnership with the Biyoole project and will coordinate its activities on the field in South-central Somalia. The project will coordinate and share experiences on the development & management of new water infrastructure, reaching beneficiaries with agricultural services, sustainable landscape management practices, and promoting climate-smart technologies among target rural communities. The GEF project will also utilize the pre-feasibility study undertaken by the Biyoole project for developing wadis in Galmudug and South West states for the site selection of sand dams and sub-surface dams.

Somalia Resilience Partnership (SRP); USAID, Duration: October 2019 - September 2024; Total amount: $2 million

SRP is a collaboration platform bringing together development and humanitarian organizations to coordinate efforts to promote household and community resilience to recurrent crises in Somalia. This project is part of USAID's five-year strategy program (2020 - 2025) for Somalia.

Technical contribution to/Cooperation with the A2R2 Project: The GEF project will use the platform to share learnings and experiences and coordinate activities with other development and humanitarian partners in the target districts.

Somalia Market-Based Resilience for marginalized Populations (MB-RMP); USAID, Duration: 2022- 2027; Total amount: USD 65,000,000)

The USAID/Somalia Market-Based Resilience for Marginalized Populations (MB-RMP) activity will build social, economic and climate resilience in Somalia, including by promoting and facilitating drought-resistant agriculture, livelihood diversification for rural and urban households, and robust private sector engagement that helps expand inclusive economic opportunities for marginalized groups. Among other priorities, MB-RMP will provide targeted technical support and capacity-building to strengthen resilience to climatic shocks for agriculture systems, increase the capacity of the private sector to integrate and supply opportunity to urban migrants and internally displaced persons (IDPs), and increase access to finance and domestic remittances among marginalized citizens, households, and businesses.

Technical contribution to/Cooperation with the A2R2 Project: The A2R2 project will coordinate closely on activities related to strengthening resilience to climatic shocks for agriculture systems and increasing access to finance among vulnerable populations.

3) The proposed alternative scenario with a brief description of expected outcomes and components of the project

Theory of change. This section presents the A2R2 project?s Theory of Change (ToC), which sets out the causal logic and relationships between the project?s outputs (goods and services delivered by the project) and immediate project outcomes (changes resulting from the use of project outputs by key stakeholders), medium and longer-term changes and states, and the project?s ultimate desired impact (fundamental, durable changes in environmental and social benefits). The ToC diagram (see below) outlines the project influence pathway arising from the project activities and leading to impact. The ToC follows the STAP Primer on the Theory of Change[47].

As described above, the central problem the project seeks to address is the increasing pressures in the productive landscapes of five selected districts of Belet Weyne (Hirshabelle State), Baydhaba, Gaalkacyo and Dhuusamarreeb (South West State), and Cabudwaaq (Galmudug State). This is causing the loss of important ecosystem goods and services and global environmental values, which is undermining the basis for local agriculture and forestry, and livelihoods ? where 23% of the population are sedentary rural agro-pastoralists and 33% nomadic, social equity, food security and the sustainability of economic development. The main causes and drivers of this degradation are detailed in the section above and include poor adoption of conservation technologies, Low profitability and few microfinance and saving groups, low capacities and inadequate qualities, amongst others, also exacerbated by climate change.

The project aims at enhancing the climate resilience of poor rural households in Somalia through sustainable natural resources management on multiple levels: improved water resources and rangelands management; eco-agriculture and climate-proof livelihoods; forest/habitat rehabilitation; improved governance and information systems for land degradation and biodiversity line with LDN principles.

Specifically, the project aims to overcome the barriers identified above which act against achievement of LDN, and thereby address the threats to the target landscapes through three interlinked approaches/strategies. Each of these is reflected in a specific project Component comprising sets of project activities and outputs that will deliver the immediate project outcomes. Also, the achievement of the project outcomes and progress the project objective and longer-term impacts depends on a number of wider assumptions[48] (bottom right in the ToC diagram), operating over different scales

and at different points along the causal chain, being met. In terms of assumptions that directly relate to achievement of the project?s immediate outcomes these are that:

1. Good governance. No major natural disasters and/or epidemics.

2. Local communities understand the importance of climate resilience-building measures to be implemented.

3. State/district authorities and community leadership support the proposed management structures.

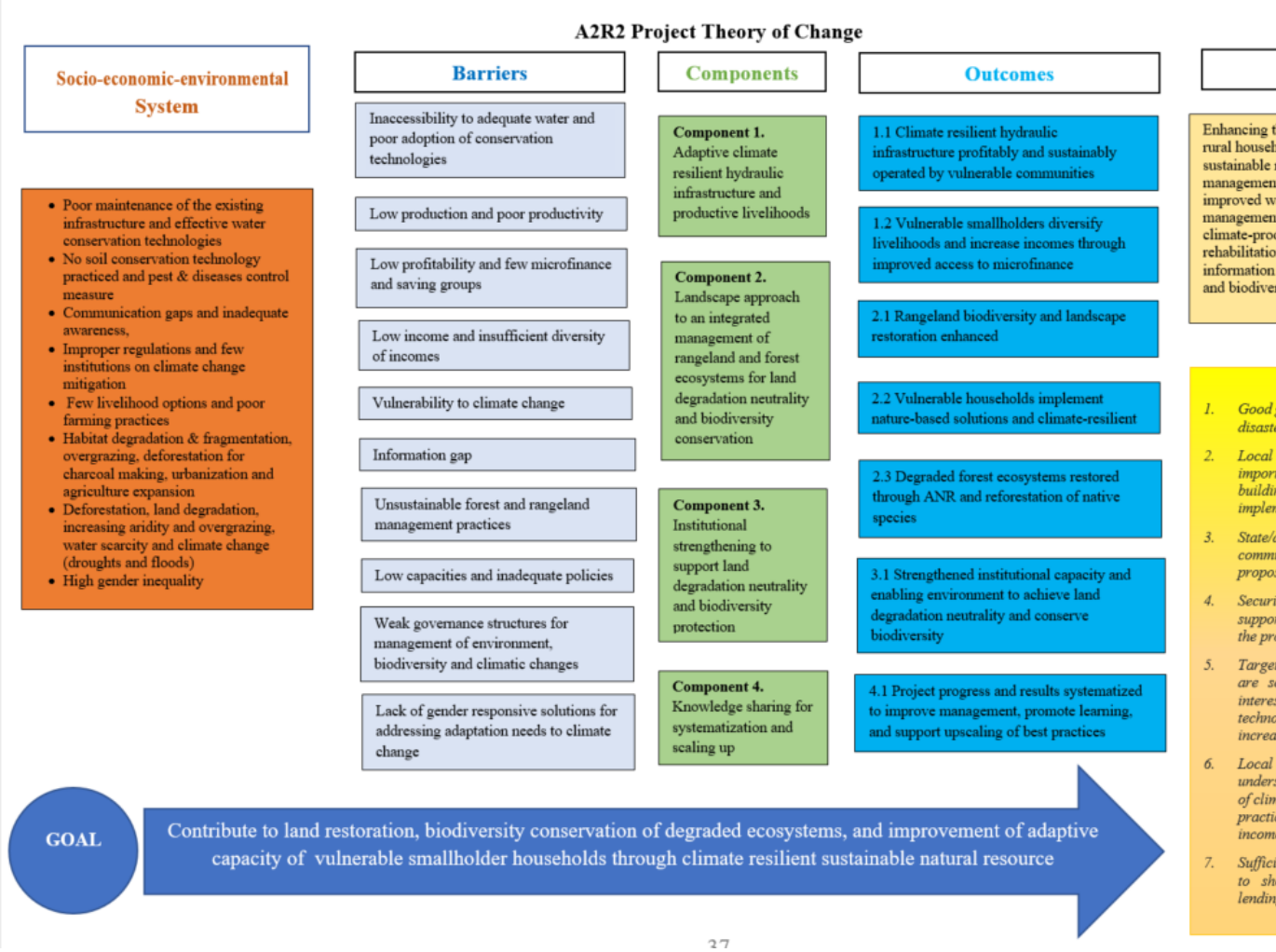
4. Security situation will be stable and supportive to the implementation of the project.

5. Targeted farmers and pastoralists are sensitized and aware of the interest of using adaptation technologies / practices so as to increase the household incomes.

6. Local pastoralist communities understand the interest of adoption of climate resilient technologies and practices for increasing their incomes.

7. Sufficient numbers of MFIs continue to show commitment to expand lending to smallholders.

A2R2 Project Theory of Change



The A2R2 project will be delivered through the implementation of 4 components with GEF/LDCF financing.

Component 1. Adaptive climate-resilient hydraulic infrastructure and productive livelihoods

The objective of Component 1 is to improve sustainable access to water for vulnerable smallholders and increase their incomes through improving access to microfinance mechanisms. This objective will be reached through two outcomes.

Outcome 1.1 Climate-resilient hydraulic infrastructure profitably and sustainably operated by vulnerable communities.

The project will improve sustainable access to water for domestic, livestock, and small?scale irrigation in target districts by increasing water coverage and access, will establish and professionalize institutional arrangements for reliable water service delivery, and improve integrated water resources management to promote conflict prevention and optimization of water resources at the district and village level. The water facilities developed would provide multiple-use water to support the local production system while better management of the floods and run-off from the water catchments areas will lead to an improved regeneration of vegetation and pasture for livestock, and better utilization of flood water for crop and fruit production. It?s expected that the action will enhance the resilience of communities to the effects of cyclic droughts and floods, reduce water-borne diseases, increase the availability of milk, meat, and income from livestock among pastoralist populations as well as improve land productivity and food production by riverine farmers and agro-pastoralist communities. The project will improve inclusivity

and equitable access to water services among the different segments of the communities and enhance the participation of women and youth in decision-making in the management of water services and resources. The following outputs will be undertaken.

Indicator

Households reporting improved access to land, forests, water or water bodies for production purposes

Output 1.1.1 Water infrastructure built or climate-proofed (e.g. shallow wells, surface water retention dams, household cisterns and floodwater spate irrigation structures, solar pumping schemes, multipurpose water systems, drip irrigation, etc.) based on site-specific technical studies

The project will carry out detailed feasibility studies to site and design the various climate-resilient hydraulic infrastructure proposed under the project and put in place mechanisms for sustainable operation and maintenance of water services and sound water resources management. The output will prioritize the construction and rehabilitation of climate resilient infrastructure that can provide a continuous supply of water for domestic and productive purposes even during the worst drought periods which are principally deep high yielding boreholes. The project will, in addition, assess and identify potential sites for groundwater recharge structures to store run-off water below the sand of ephemeral rivers and above the impervious ground, layers to mitigate water loss to evaporation and seepage. The output will also site and design weirs, check dams and dykes to divert run-off water and river floods to the smallholder farms and to the rangeland to regenerate pastures and for livestock, fruit tree growing, and promote crop production. The initiative would also climate-proof strategic shallow wells, so they are deepened to provide continuous water throughout the dry season and protect against seasonal floods. Finally, to reduce carbon emissions associated with diesel systems and reduce the cost of operations, the project will prioritize the solarization of the constructed and rehabilitated water facilities.

Indicator

 # water related infrastructure built or climate-proofed disaggregated by type

Output 1.1.2: Community management, operations and maintenance groups created/ strengthened to effectively manage the water infrastructure and prevent conflicts over water resources

The output will come up with established institutional structures for water catchment conservation and a professional water service provider to operate and maintain the infrastructure built or climate proofed by the project. In each village, a water resource user association will be formed comprising domestic water consumers, water service providers, livestock owners, agro-pastoralist, farmers, riparian landowners, clan elders, and district authorities to provide a decentralized, conflict sensitive, participatory, and blended traditional management of water resources utilization to support the local production system. For water service provision, the villages will be clustered, and a registered Water Service Provider (WSP) established to be responsible for the operation and maintenance of the facilities. The WSPs will employ key staff for professional operation and maintenance of the water services including technical services manager, commercial manager, revenue collector, and technician. The WSP will have a Board of Directors (BoDs) constituted from the key stakeholders and the district authority and would operate on a commercial basis to profitably run the water schemes. The revenue generated from commercialization will be ring-fenced for operation and maintenance cost recovery and expansion of services within the WSP service areas. A detailed study under output 1 will inform the best options for strengthening the WSPs including setting up a cost reflective tariff and business plan for sustainability. The WSPs will be trained on water utility management and provided with initial tools and spare parts to support operation and maintenance.

Indicators

 # Water Resources User Association (WRUAs) established or strengthened and trained on Operations and Maintenance

Outcome 1.2: vulnerable smallholders diversify livelihoods and increase incomes through improved access to microfinance mechanisms.

The outcome supports the rural communities, mostly pastoralists and Agro-pastoralists improve their livelihoods through equipping them with the right tools, skills and knowledge of how to yield greater returns from their livelihoods, and use community saving and lending methodologies to grow their own financial intermediation systems. The community saving and lending methodology used will be the Village Saving and Loans Association (VSLA) methodology which will be developed within the farmer field schools in order to take advantage of the various trainings and services that will be provided by various partners. The main objective of organizing communities into VSLAs is to support the communities learn, adapt and build resilience towards the various shocks posed by climate change, among others. With VSLAs at farmer field schools? level, members will be exposed to both financial literacy and climate proof income generating activities. They will learn how to intermediate their savings and loans within their established VSLAs, as well as access more funding from partners like banks other funding partners.

The project will also support Micro, Small and Medium Enterprises that contribute directly to the project success. These will be input supplies, Processors, Off-takers and Exporters. Among other support systems of the projects, Community Based Trainers will be recruited to support in the deepening of training interventions, monitoring and reporting of the statuses of the project.

Indicator

 # Households reporting using rural financial services

Output 1.2.1: Partnership developed with MFIs and NGOs to support access to credit and market linkages for poorest households

In order to achieve the Microfinance subcomponent objectives, the project will be implemented with and through partners to deliver efficient and sustainable Microfinance among the target communities. Each partner category will be oriented on the project objectives and goal, as well as their role in enabling the achievement of the overall vision. Banks, Microfinance institutions, FinTech?s and Insurance companies will be brought on board as enablers of the financial intermediation for the VSLAs. These institutions will be supported to design pro-poor products, tailored to the needs of the poor households. Other partners like SomRep and BRiCs will facilitate knowledge sharing as well as developing a data bank that will enable tracking the effectiveness of the A2R2 project interventions.

Indicators

 # Rural producers? organizations (saving groups) engaged in formal partnerships/agreements or contracts with public or private entities

Output 1.2.2 Poor households trained, equipped and coached to undertake new income-generating activities as micro entrepreneurs

According to the A2R2 Household Rapid Assessment, 90% of the households interviewed were not a member of any group, organization or association, while 61% gained little or no useful knowledge or means to improve their households? livelihood from being a member of the groups. By employing and mainstreaming the Gender Action Learning System (GALS), the challenge will be addressed by promoting inclusivity and member driven learning initiatives. The GALS is a change management process that utilizes Information, Education and Communication tools in order to offer the literate and illiterate an equal opportunity to learn and transfer information through what is called the ?the pyramidal peer-sharing system?. In order to achieve the objectives of the project, champions at each farmer field school will be trained in the various thematic areas in order to facilitate training among members in the language they are most comfortable with and in settings that are convenient for all. This member driven training and capacity building approach helps sustain knowledge and information sharing, hence facilitating gradual and sustainable transformation.

In bid to sustainable channels of equipping poor households with the knowledge and skills that will enable them undertake new climate proof income generating activities, the project will aim at easing access to training materials, tools, information and community-based trainers. The project will facilitate development and printing of training manuals and tools, have in place translated Information, Education

and Communication (IEC) Charts/materials to ease information dissemination, as well as recruit, facilitate and equip community-based trainers with the necessary tools to enable them continue supporting the VSLAs.

The project will facilitate training of individual members of the farmer field schools on different value chains and link them to both input and output markets through aggregators and aggregation centers. The trained individuals/households that also double as members of the VSLAs, will be facilitated to form successful group business units to take advantage of the revolving loans fund facility. Overall, this activity seeks to provide business skills to individuals as well as build capacity of the VSLAs to effectively serve their members interests. The primary strategic initiatives undertaken by the project will mainly revolve around strengthening the production capacity of groups and individuals focused on agricultural and renewable energy enterprises through a market systems development approach.

Indicators

 # Rural producers? organizations supported (trained, equipped and coached
 # Gender Action Learning Systems (GALS) developed and implemented

Component 2: Landscape approach to an integrated management of rangeland and forest ecosystems for land degradation neutrality and biodiversity conservation

The objective of Component 2 is to promote a landscape approach to an integrated management of rangeland and forest ecosystems for land degradation neutrality and biodiversity conservation. This will be achieved through three Outcomes:

Outcome 2.1: Rangeland biodiversity and landscape enhanced

This outcome will be achieved by reseeding degraded rangelands with drought-resistant native species, reforesting and undertaking assisted natural regeneration (ANR), and the development of SLM practices to combat erosion and land degradation. Lessons from other Sahelian countries show that regenerating trees in rangelands and on-farm fields for crop production has socio-economic and biophysical impacts, but is also a means of adapting to climate change. The project activities will include the community-based development of an inventory of the state of and multiple uses by the communities of rangeland plant genetic resources, including related underlying causes and the identification of particularly threatened native species; participatory analysis and planning of the ecosystem restoration practices (e.g. ANR, resting of rangeland, reforestation) to be implemented by the communities, particularly women and youth; training of the communities in rangeland restoration and participatory monitoring, especially related to biodiversity conservation. As a result, the project will contribute directly to restoring the productivity of depleted rangelands and farmland.

Indicators

 # ha of land brought under climate resilient management

Greenhouse gas emission mitigated

Output 2.1.1: Participatory climate-resilient landscape investment plans developed and implemented including biodiversity-positive measures to protect native species

This output will be achieved through three main activities. The first activity will be done by undertaking and or conducting a participatory inventory of native species and training of community to characterize species present in different habitats taking note of presence of species of ecological and economical importance. These will include species that are used by the people in the area for food, feed and medicine. Given their reduction, what options do the communities have and whether such species are sought from outside the community where harvesting may be unsustainable.

The second activity will involve developing ecologically sound practices for control of invasive species and problematic species which are poisonous species that may have become established due to changes in climate. Special focus will be given to species that have an impact on human and animal health.

The third activity will be achieved through conducting a participatory analysis and planning of the ecosystem restoration practices (e.g. ANR, resting of rangeland, reforestation) to be implemented by the communities, particularly women and youth. In addition, communities will be trained in rangeland restoration and participatory monitoring, especially related to biodiversity conservation. This will be achieved through a set of a set sub activities including: Identification and map degraded sites for restoration; Development of rangeland restoration action plans for rehabilitation (tree planting, ANR, grass bunds) and training communities and farmers in rangeland restoration and participatory monitoring; Conducting environmental & social impact assessment / screening of project interventions will also be done; Implement rangeland rehabilitation and management actions through over-sowing, reseeding and controlling bush encroachment.

Indicator

 # Participatory Community Land use and Pasture Plans developed and implemented

Output 2.1.2 Grievance and conflict resolution mechanisms functional to prevent land and water use-related conflicts

The project will support the establishment or the reinforcement of conflicts resolution mechanisms on use of land and water. Based on a comprehensive conflict analysis (related to pasture, water and human/ wildlife conflicts) the project will establish a grievance redress mechanism at local level (including exploring traditional Somali customary systems ?xeer? for conflict resolution) linking to peace building initiatives. In this context, the project will establish resource user committees. IFAD considers community-level institutional development as key to engendering participation in and ownership of rural community interventions, building resilience and enhancing sustainability. The project will establish umbrella Community Development Association (CDA) for each defined community A2R2 will operate in. A2R2 will support the development of a by-law template for the CDA; adaptation of a relevant existing community institution or the formation of a new one; the formal registration/recognition of the CDA by the relevant district authority; and capacity building of the CDA Executive in areas such as group dynamics and management, financial management, strategic planning, conflict management, project monitoring, and basic reporting skills.

Indicator

 # Community development Associations (CDA) focusing on Land and NRM created disaggregated by sex, age and activity group

Outcome 2.2: Vulnerable households implement nature-based solutions and climate-resilient technologies and practices across productive landscapes (farm and pasture lands)

Vulnerable households are more affected by the effects of climate change, particularly because the lack of knowledge on water and soil conservation techniques leads to land degradation and a consequent decrease in production and productivity. In addition, these farmers cannot afford to purchase enough seeds for each growing season. This outcome aims to strengthen the resilience of vulnerable households to the effects of climate change, through the establishment of Farmers Field Schools to build their capacity in terms of sustainable land and resource management, and through the introduction and promotion of agroecological techniques and approaches. The project will also design and implement sustainable pasture management plans that integrate biodiversity and take gender into account.

Indicator

 # Households reporting adoption of environmentally sustainable and climate-resilient technologies and practices

Output 2.2.1: Farmers and pastoralists trained, supported and equipped to facilitate adoption of climate-smart, productive agro-ecological approaches and techniques

This will be done through the development of participatory water and pastoral plans managed by pastoralist community organizations. In particular, a participatory action training in practices and

technologies for sustainable rangeland management ? such as those tested and documented in other countries and existing on WOCAT database. This will include development of training guidelines, integration of indigenous knowledge, training of TOTs and FFS training. In particular, special focus will be on to support/strengthen community access to meteorological information through establishment of state level climate information centers to enhance informed decision-making. This may also extend to supporting the Meteorological Agency to improve its capacity to generate forecast data.

Indicator

 # persons/groups supported to sustainably manage natural resources and climate-related risks, disaggregated by gender

Output 2.2.2: Adapted and productive agroecological approaches and techniques (for soil, water and biodiversity conservation) identified and disseminated across productive landscapes, based on indigenous knowledge

The project will carry out an assessment of resiliency and agro-ecological performance of target landscapes. This will be serving as the basis for piloting and disseminating climate smart and agro-ecological approaches using the FFS approach (tested and proven technologies from WOCAT will be disseminated). To this end the project will establish 50 Farmer Field Schools (FFS), and will train trainers of trainers (TOTs). The FFS will include farmers and agropastoralists and will be the main tool for promoting a sustainable approach of natural resources management, for developing an agroecological approach strengthening the resilience to climate change.

The FFS will be used to popularize and disseminate of multi-stress tolerant (diseases, drought & heat) crop varieties. The FFS will also support community-based seed production and production of quality declared seeds by FFS with linkage to private sector.

The project will establish sites and undertake testing tolerance for ecological systems for which the crops are intended (where have these tolerate been demonstrated) as such test field don?t exist.

In link with the activities developed under the outcome 1.2 ?Vulnerable smallholders diversify livelihoods and increase incomes through improved access to microfinance mechanisms?, the FFS will promote gender responsive climate resilient livelihood opportunities such as apiculture and small ruminants.

To maximize the impact of FFS actions and ensure their sustainability there will be a rollout of training by ToTs to communities, and the project will provide support to institutionalize the FFS methodology in government extension system at district and state level, and in academia

Indicator

 # hectares of land brought under climate resilient management

Output 2.2.3 Sustainable pasture management plans mainstreaming biodiversity designed and implemented

Land use plans will be developed using participatory and gender-sensitive approaches and communities will be trained on the importance of ecosystem restoration, the identification of the challenges faced and the joint development of socio-culturally acceptable solutions. This will include activities such as the participatory methods for the communities to implement and monitor them. The following activities will be considered;

- Develop and support implementation of participatory community land use plans and pasture action plans
- Implement action plans through multiplication and dissemination of drought and heat tolerant pasture and fodder species in response to climate change and promotion of pasture conservation and utilization technologies.
- Support women and youth in commercial fodder production, conservation and marketing

? Provide for wildlife grazing areas for especially wild ungulates sharing grazing areas with livestock

Indicator

 # Participatory community land use plans and pasture action plans implemented

Outcome 2.3: Degraded forests ecosystems restored through ANR and reforestation of native species

This outcome will be achieved through the establishment of native species nurseries, managed by local cooperatives and/or private entrepreneurs. The project will support local communities to restore the degraded forests by providing coaching, strengthening management capacities and direct and indirect incentives that will be defined according to specific context. Through the nurseries' production and subsequent reforestation as well as ANR by local communities, the project will restore degraded forests and rangelands in the project area. This project activity could in particular represent job opportunities for both women and youth.

Indicator

Area of forest and forest land restored (ha)

Output 2.3.1: Tree nurseries set up and management cooperatives established and supported disaggregated by location/district/region

This will be done by undertaking and or conducting a participatory community engagement in the identification of priority native and commercial tree species for multiplication and assess their market demand. Assessing the market demand is important so that that once the trees are raised, they would be market for the products. A species site matching for mixed species plantations using native species is important for example in the timber production. The interaction between species needs to be identified so as to minimize chances of dominance and suppression by particular species and to maximize on the wood. This may require a study to generate understanding of performance of species in mixed plantations. Once all the requisite factors for siting nurseries are explored the community will be supported to establish four community nurseries.

Indicator

 # Tree nurseries set up and management cooperatives established and supported disaggregated by location/district/region

Output 2.3.2: Community capacity on sustainable forestry management and tree monitoring strengthened

As in nursery management, a training needs assessment on sustainable forest management will be conducted. This will be followed by developing training guidelines to be used in training communities. Finally, the communities will be trained both pastoral and Agro-Pastoral communities on sustainable forest management. This will include impacts of climate change, agricultural expansion into forest areas and sustainable firewood and charcoal production. As a result, the project will support the establishment and management of 850 Ha of forests. The project will seek to promote at community level initiatives that would decrease the pressure on forests such as use of efficient and energy saving cook-stoves and flexible bio-gas systems to reduce community dependence on forests. Community led initiatives for regeneration of degraded areas will be given focus.

Indicators

 # CDA ? SFM Activity groups trained, disaggregated by gender

Component 3: Institutional strengthening to support land degradation neutrality and biodiversity protection

This Component will provide institutional strengthening to support land degradation neutrality and biodiversity protection, through one outcome.

Outcome 3.1 Strengthened institutional capacity and policy environment to achieve land degradation neutrality and conserve biodiversity

Under this outcome the GEF/LDCF project will design and implement, from the local to the level of the Ministry of Environment of Somalia, a monitoring and evaluation system for land degradation and biodiversity, including the development of a Geographic Information System (GIS). Baseline assessments which will contribute to informing the selection of areas for restoration and reforestation will be carried out and benchmarks for monitoring and review will be put in place, in line with the NBSAP and the Somalia National Action Programme to Combat Desertification.

Indicator

LDN and biodiversity M&E system functional, generating policy-relevant information

Output 3.1.1: Institutional actors? capacity to document SDG-related LDN and biodiversity indicators and coordination mechanisms strengthened

The first activity will be to develop and deploy a web based/GIS tracking tool for land degradation and biodiversity assessment which has been designed during the project design phase (*the Somalia A2R2 - LDN Decision Support System ? https://wocatapps.users.earthengine.app/view/dss-somalia*). This led to the evaluation of the baseline for the three LDN indicators: land cover, productivity and soil organic carbon, as presented in the above section (cf. Part1a; The global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)). This platform will support decision-making and site selection in the technical design of Somalia project A2R2. The system will assist in identifying priority areas for the implementation of sustainable management practices and the integration of qualitative and quantitative indicators relevant to the monitoring and evaluation of land degradation and biodiversity. In addition, assessment of biodiversity related impacts of a specific area and type of activities and estimation of value of BD will be done using B-intact computational tool.

Participatory Biodiversity Monitoring will be done by local communities- after training with the help of local research center, NGO or Public Institutions. Assessment, monitoring and evaluation of biodiversity during project implementation, participatory biodiversity monitoring would be an appropriate methodology as it is more cost-effective and sustainable than hiring biodiversity experts and at the same time provides employment opportunities for local communities. A further advantage of participatory monitoring is that local communities are actively involved in biodiversity conservation and decision-making on resource management. In order to ensure good quality monitoring, training and guidance through a competent local research centre, NGO or public institution should be provided.

Institutional actors' capacities at local and state levels, as well as at the Ministry of Environment level, will be strengthened on M&E of biodiversity as well, through the characterization of the biodiversity status and its evolution. This will contribute to enhancing decision-making at local, national and Federal levels. This will be done by contributing to review and update Somalia?s LDN and biodiversity baseline indicators and targets, and by the assessment of the project contribution to the targets of both SDGs and the Proposed Post 2020 Global Biodiversity Framework.

Under this output the project will strengthen the Coordination Mechanisms on Natural Resource Management at federal, national and local level, considering that sustainable management of natural resources is included as a development goal, through the 9th National Development Plan (NDP-9). In the same perspective of strengthening the institutional management of natural resources the project will also support the mainstreaming of land degradation and biodiversity objectives into the relevant local, national and federal strategies and plans, notably the NDP-9, and promote participation of farmers and agropastoralists organizations in policy processes.

Indicators

Georeferenced tracking system for land degradation and biodiversity established

 # Institutions strengthened to document SDG-related LDN and biodiversity indicators disaggregated by gender and age

Component 4 Knowledge sharing for systematization and scaling up

Outcome 4.1: Project progress and results systematized to improve management, promote learning, and support upscaling of best practices

The project will implement an effective monitoring and evaluation system to determine the extent to which the project is on track efficient use of resources, and to evaluate the extent to which the project has had the desired impact. The project will monitor and evaluate GEF Core key indicators to provide a portfolio level understanding of progress towards the GEF Global Environmental Benefits (GEBs). The project monitoring, evaluation and the knowledge management unit will put systems (knowledge management system) in place for the projects to systematically capture, codify and disseminate experiences and lessons for the project improvement and future programing.

Indicator

Project monitoring and KM system operational

The outcome will include through 2 outputs:

Output 4.1.1 Effective monitoring and evaluation plan implemented

The M&E system will provide information on progress and performance that monitors the implementation process and contributes to effective Project management, decision making and reporting, including to government, IFAD and the GEF. Monitoring will focus on collecting data on the status of planned activities in the Annual Work Plan and Budget, and on creating a cumulative overview of the direct results (deliverables/outputs) from project start-up until completion (the baseline survey will be carried out at the inception phase). A M&E plan has been developed and budgeted. Relevant Core indicators have been included to provide a portfolio level understanding of progress towards the GEF Global Environmental Benefits (GEBs).

Indicator

Project M&E Plan implemented

Output 4.1.2 CCA, SLM and community-based conservation and agricultural production best practices and challenges collected systematically and KM products disseminated

The KM system, integrating planning, M&E and communication will have the following objectives: (i) continuous information to improve project performance; (ii) identification, analysis, documentation and dissemination of best practices; (iii) interactive and inclusive communication with all stakeholders; and (iv) visibility for policy dialogue and advocacy. To this end the project will establish the overall results-based M&E/KM strategy in accordance with M&E/KM plans outlined in the project document.

The project will disseminate appropriate knowledge products using print media (flyers, brochures, reports, working papers, monographs, manuals); electronic/digital media (radio, television, and internet - emails and websites) for project videos, success stories, studies, and reports to enhance information flow, learning and sharing at different levels of governance, stakeholders, beneficiaries and staff. For these to be achieved, the project will invest in ICT technologies to enhance knowledge management and dissemination, specifically on platforms that foster knowledge sharing and provide easy access to knowledge, such as an online discussion for communities of practice and knowledge networks.

Indicators

# of knowledge products disseminated

The table below presents an indicative list of activities per component, outcome and output.

Table 5. A2R2 indicative activities per component, outcome and output

Project Outcome	Project Output	Summarized Activities
Component 1. Adaptive climate resilient water infrastructure and productive livelihoods		
Outcome 1.1: Climate-resilient water infrastructure profitably and sustainably managed by vulnerable communities	**Output 1.1.1: Water infrastructure built or climate-proofed (e.g. shallow wells, surface water retention dams, household cisterns and floodwater spate irrigation structures, solar pumping schemes, multipurpose water systems, drip irrigation, etc.) based on site-specific technical studies**	o Conduct Environmental Impact Assessment (EIA) and develop specifications for borehole drilling and test pumping. o Conduct geophysical survey and site high yielding multiple use boreholes for 21 villages, considering the renewal capacity of the water table in the context of climate change, o Drill and test pump 21 deep boreholes for Multiple Use System for agro-pastoral & pastoralist villages, considering the renewal capacity of the water table in the context of climate change o Deepen and protect existing strategic shallow wells against floods in 20 selected sites o Construct 21 sub-surface dams or Sand dams for run-off storage below the ground complete o Rehabilitate or construct flood and run-off control structures (Weirs/ dykes/ check dams) and relief channels for spate irrigation along Shabelle river, ephemeral rivers and lagas for 26 agro-pastoral, riverine and pastoralist villages o Construct infiltration galleries and wells along Shabelle river for Multiple Use water System for five riverine villages o Procure and install drip irrigation kits for key contact farmers in 26 villages o Conduct industry and market analysis on supply chain for solar pumping equipment and services o Procure and install solar pumping system complete for 21 new boreholes and 5 infiltration gallery wells for multiple Use water System (MUS) o Train WSPs technical staff on solar pumping equipment sizing, operation, and performance monitoring

Project Outcome	Project Output	Summarized Activities
	Output 1.1.2: Community management, operations and maintenance groups created/ strengthened to effectively manage the water infrastructure and prevent conflicts over water resources	o Facilitate consultation and consensus building at state and district level for commercially viable water management system and support formulation of guidelines for water service provision by professional Water Service Providers (WSPs) including clustering of villages for sustainability. o Establish or strengthen Water Resources User Association (WRUAs) in each of the villages with clear TOR, and support to develop and implement sub catchment conservation and management plans. o Training WRUAs catchment conservation, protection and promotion of conflict sensitive utilization of water resources in 26 villages o Support five district Authorities to establish or strengthen Water Service Providers (WSPs) to operate and maintain the constructed water supply system on a professional and commercially viable basis with Board of Management selected from the community, WRUAs and local authority. o Build capacity of the WSPs to develop and implement viable business plans and service provision agreement with district authorities with clear indicators for quality of service, economic efficiency, and operational sustainability

Project Outcome	Project Output	Summarized Activities
Outcome 1.2: Vulnerable smallholders diversify livelihoods and increase incomes through improved access to microfinance mechanisms	**Output 1.2.1: Partnership developed with MFIs and NGOs to support access to credit and market linkages for poorest households**	o Conduct awareness campaigns for the general public in the selected project sites. This will be done through radio talk shows, community meetings, IEC materials and TV programs (for urban areas). o Conduct workshops for high level partners that will include Government officials, NGOs, Institutions, Partners like SomRep, BRiCs, and local authorities o Form VSLAs from among the participants of the farmer field schools and formalize them with local authorities. o Undertake a comprehensive needs assessment among the members of the VSLAs in terms of financial education and climate-resilient income-generating activities, to inform capacity building initiatives. o Undertake a comprehensive study to inform appropriate product (including those related to environment & CC) design for both Banks and MFIs o Conduct training for VSLAs and partners (Banks, NGOs, Insurance Companies and MNOs) so they develop pro-poor products that will support transformation. o Build capacity of Banks to provide appropriate financial products/ credit terms that match the needs of the VSLAs. o Facilitate the process of new product development/ product reengineering for VSLAs and partners (Banks, NGOs, Insurance Companies and MNOs) to ensure proper product alignment with the needs of the communities. o Conduct training for Champions at each farmer field school, to build their capacity in conducting training using the GALS methodology. o Conduct training for champions in the selected climate proof IGAs to ensure proper integration and delivery using the GALS methodology
	Output 1.2.2: Poor households trained, equipped and coached to undertake new income-generating activities as micro entrepreneurs	o Develop and print training manuals/materials o Develop and translate Information, Education and Communication (IEC) Charts/materials to ease information dissemination o Offer Training of Trainers to community-based trainers to enable them continue supporting the VSLAs. o Facilitate field exposure visits for practical learning sessions

Project Outcome	Project Output	Summarized Activities
Component 2. Landscape approach to an integrated management of rangeland and forest ecosystems for land degradation neutrality and biodiversity conservation		
Outcome 2.1: Rangeland biodiversity and landscape restoration enhanced	**Output 2.1.1: Participatory climate-resilient landscape investment plans developed and implemented including biodiversity-positive measures to protect native species**	*Avoid land and biodiversity loss:* o Establish monitoring centers to gather reliable information on wildlife o Identify and map degraded sites for restoration o Develop and implement Participatory Rangeland Management Plans o Conduct environmental & social impact assessment / screening of project interventions *Reduce land and biodiversity loss:* o Establish effective protected areas o Pilot sustainable rangeland management systems such as demarcation of pasture zones, reintroduce native species, corridors for livestock o Hold public events to communicate innovative approaches in community rangelands management. *Reverse land and biodiversity loss* o Undertake capacity building and awareness creation to strengthen farm management and natural regeneration o Develop and implement rangeland restoration action plans for rehabilitation (tree planting, ANR, grass bunds) and train farmers in rangeland restoration o Develop community catchment/watershed management plans o Implement of rangeland rehabilitation and management actions through over-sowing, reseeding and controlling bush encroachment

Project Outcome	Project Output	Summarized Activities
	Output 2.1.2: Grievance and conflict resolution mechanisms functional to prevent land and water use-related conflicts	o Conduct a comprehensive conflict analysis to identify causes and possible solutions to conflicts (this will include those related to pasture, water and human/ wildlife conflicts) o Develop bye-laws for resource use o Establish/reinforce Community Development Associations (CDA) focusing on Land and NRM o Establish a grievance redress mechanism at local level (including exploring traditional Somali customary systems ?xeer? for conflict resolution) linking to peace building initiatives o Involve all stakeholders including especially youth and women as well as elders of the project progress
Outcome 2.2: Vulnerable households implement nature-based solutions and climate-resilient technologies and practices across productive landscapes (farm and pasture lands)	**Output 2.2.1: Farmers and pastoralists trained, supported and equipped to facilitate adoption of climate-smart, productive agro-ecological approaches and techniques**	o Training of master trainers and facilitators for Farmer Field Schools (training of TOTs to include environment & CC) o Establishing 50 Farmer Field Schools for promoting improved climate-resilient agricultural technologies and practices o Training packages for FFS developed and rollout (to include environment and climate change ? soil water conservation, agroforestry, climate smart agriculture?) o Institutionalize FFS methodology in government extension systems (state and district levels) and academic institutions o Conduct gender responsive value chain analysis to identify priority commodities/value chains to support o Promoting of drought tolerant perennial high value crops o Intensive agriculture production systems such as camels and other livestock and green house production for peri-urban farmers o Support farmers in accessing affordable agricultural insurance schemes o Build community adaptation capacity and provide adaptation grants for farmers through FSS and VSLA?s

Project Outcome	Project Output	Summarized Activities
	Output 2.2.2: Adapted and productive agroecological approaches and techniques (for soil, water and biodiversity conservation) identified and disseminated across productive landscapes, based on indigenous knowledge	o Assessment of resiliency and agro-ecological performance of target landscapes o Piloting and dissemination of climate smart and agro-ecological approaches using the FFS approach (tested and proven technologies from WOCAT will be disseminated) o Support/strengthen institutional mechanisms for national policies and regulations on seeds, plant protection and agrochemicals o Support community-based seed production and production of quality declared seeds by FFS with linkage to private sector o Popularization and dissemination of multi-stress tolerant (diseases, drought & heat) crop varieties through FFS demonstrations o Promoting gender responsive climate resilient livelihood opportunities such as apiculture and small ruminants
	Output 2.2.3: Sustainable pasture management plans mainstreaming biodiversity designed and implemented	o Conduct participatory action training in practices and technologies for sustainable rangeland management o Support/Strengthen community access to meteorological information through establishment of state level climate information centers to enhance informed decision-making o Support Meteorological Agency to improve its capacity to generate forecast data o Develop participatory community land use plans and pasture action plans
Outcome 2.3: Degraded Forest ecosystems restored through ANR and reforestation of native species	**Output 2.3.1: Tree nurseries set up/ rehabilitated and management cooperatives established and supported**	o Undertake participatory community engagement in the identification of priority native and commercial tree species for multiplication and assess their market demand o Conduct a species site matching and appropriate sites for nurseries o Establish and support four cooperatives/ community tree nurseries o Undertake training needs assessment on nursery management o Develop training guidelines and publish o Train communities on nursery management

Project Outcome	Project Output	Summarized Activities
	Output 2.3.2: Community capacity on sustainable forestry management and tree monitoring strengthened	o Undertake training needs assessment o Develop training guidelines and publish o Train pastoral and Agro-Pastoral communities on sustainable forest management. This will include impacts of climate change, agricultural expansion into forest areas and sustainable firewood and charcoal production o Establishment and management of 850 Ha. of forests (identify areas with high pressure) o Promote efficient and energy saving cook-stoves and flexible bio-gas systems to reduce community dependence on forests /c o Train communities on sustainable regeneration techniques (Natural regeneration, ANR) and active regeneration o Develop and support implementation of participatory forest management plans o Support community led initiatives for forest regeneration through capacity building of forest stakeholders (firebreaks, fences, removal of invasives, planting right species) o Set up demonstration sites for community to learn the identified techniques of ANR o Hold events to communicate innovative ways of natural and assisted forest regeneration
Component 3. Institutional strengthening to support land degradation neutrality and biodiversity protection		

Project Outcome	Project Output	Summarized Activities
Outcome 3.1: Strengthened institutional capacity and enabling environment to achieve land degradation neutrality and conserve biodiversity	**Output 3.1.1: Institutional actors? capacity to document SDG-related LDN and biodiversity indicators and coordination mechanisms strengthened**	o A web based/GIS tracking tool for land degradation and biodiversity assessment (based on the A2R2 Decision Support System designed during the PPG phase) developed and deployed o Assessment of AFOLU related carbon fluxes using EX-ACT carbon balance tool o Strengthen the capacity of national institutions in climate change, land degradation and biodiversity assessment o Review and update Somalia?s LDN and biodiversity baseline indicators and targets o Support development and implementation of a Climate Smart Strategy and action plan for Somalia/NDC implementation Plan o Support development of climate investment portfolio for Agriculture, livestock and water sectors o Assess project contribution to the targets of both SDGs and the Proposed Post 2020 Global Biodiversity Framework o Strengthen a coordination mechanism with a lead agency for coordination at the national and state level o Develop education, communication, and awareness materials for climate change adaptation & mitigation, LDN and biodiversity conservation o Support cascading of national environment policy, national climate change policy and NDC Local Biodiversity Strategy and Action Plan (LBSAP) for the three states o Support/strengthen government land registration processes (national/state level) to provide security to rural farmers and herders, women in particular, for their possession of land and their access to resources o Mainstream LDN/climate change and biodiversity into National and State level planning processes
Component 4 Knowledge Management & M&E		

Project Outcome	Project Output	Summarized Activities
Outcome 4.1: **Project progress and results systematized to improve management, promote learning, and support upscaling of best practices**	**Output 4.1.1: Effective monitoring and evaluation plan implemented**	? Design the M&E GIS ? Training and capacity building (20 staff) ? Collecting data on the on-ground activities and documenting the project indicators o Data quality assurance assessment o Production of the annual Project Progress Reports (PPR) ? Conducting the annual ESMP reports ? Conducting the Midterm evaluation ? Conducting Final/terminal evaluation ? Setting-up a Call centre for beneficiary feedback and responses. Installation of toll-free number for beneficiaries to provide feedback
	Output 4.1.2: CCA, SLM and community-based conservation and agricultural production best practices and challenges collected systematically and KM products disseminated	? Establishment of a Communication strategy ? Promotion of knowledge exchange among stakeholders ? Capturing the lessons learned from the project and disseminating them for upscaling ? Identifying and documenting the best practices ? Written, audio and video reports on the Programme innovations and successes, ? Setting-up a Community of practice ? Community exchange visits (30 persons annually) ? Setting-up Knowledge platforms (extranet and other platforms) ? Setting-up the Project website o Transfer of the knowledge and lessons learned from the action to national and federal planning processes for promoting replication through policy and programmes across the country

4) Alignment with GEF focal area and/or Impact Program strategies

The project desing confirmed the aligned with the GEF focal areas as presented in the table below. In recognition of the importance and relative novelty of this joint multi-Trust-Fund programming approach, careful attention has been paid to ensuring full integration and benefits associated with the mainstreaming approach. Several changes made in the wording of Output descriptions reflect this enhanced and integrative logic. Special attention has been paid to ensuring alignment with LDCF guidance, details of which are presented in Table 6 below.

Table 6. Alignment with GEF focal areas

GEF Focal Areas	Project outputs
BD 1-4 Mainstream biodiversity across sectors as well as landscapes and seascapes through Sustainable Use of Plant and Animal Genetic Resources	**Output 2.1.1** Participatory climate-resilient landscape investment plans developed and implemented including biodiversity-positive measures to protect native species (15500 ha of degraded rangeland restored; 55,200 ha of rangelands with increased productivity and biodiversity) **Output 2.2.1** Farmers and agropastoralists trained, supported and equipped to facilitate adoption of climate-smart, productive agroecological approaches and techniques **Output 2.3.1** Tree nurseries set up and management cooperatives established and supported **Output 2.3.2** Community capacity on sustainable forestry management and tree monitoring strengthened (850 ha of forest restored and maintained through agroecological techniques) **Output 4.1.2** CCA, SLM and community-based conservation and agricultural production best practices and challenges collected systematically and KM products disseminated
LD-1-1 Maintain or improve flow of agro-ecosystem services to sustain food production and livelihoods through Sustainable Land Management (SLM)	**Output 2.2.2** Adapted and productive agroecological approaches and techniques (for soil, water and biodiversity conservation) identified, based on indigenous knowledge **Output 2.2.1** Farmers and agropastoralists trained, supported and equipped to facilitate adoption of climate-smart, productive agroacological approaches and techniques

LD-2-5 Create enabling environments to support scaling up and mainstreaming of SLM and LDN	**Output 3.1.1** Institutional actors? capacity to document SDG-related LDN and biodiversity indicators and coordination mechanisms strengthened and plans **Output 4.1.1** Effective monitoring and evaluation plan implemented **Output 4.1.2** CCA, SLM and community-based conservation and agricultural production best practices and challenges collected systematically and KM products disseminated
CCA-1 Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation	**Output 1.1.1** Water infrastructure built or climate-proofed (e.g. shallow wells, surface water retention dams, household cisterns and floodwater spate irrigation structures, solar pumping schemes, multipurpose water systems, drip irrigation, etc.) based on site-specific technical studies **Output 2.2.1** Farmers and agropastoralists trained, supported and equipped to facilitate adoption of climate-smart, productive agroacological approaches and techniques **Output 2.2.2** Adapted and productive agroecological approaches and techniques (for soil, water and biodiversity conservation) identified, based on indigenous knowledge
CCA-2 Mainstream climate change adaptation and resilience for systemic impact	**Output 1.1.1** Water infrastructure built or climate-proofed (e.g. shallow wells, surface water retention dams, household cisterns and floodwater spate irrigation structures, solar pumping schemes, multipurpose water systems, drip irrigation, etc.) based on site-specific technical studies **Output 1.1.2** Community management, operations and maintenance groups created/ strengthened to effectively manage the water infrastructure and prevent conflicts over water resources
CCA-3 Foster enabling conditions for effective and integrated climate change adaptation	**Output 1.2.1** Partnership developed with MFIs and NGOs to support access to credit and market linkages for poorest households **Output 1.2.2** Poor households trained, equipped and coached to undertake new income-generating activities as micro entrepreneurs

5) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

Table 7. Incremental cost reasoning and the expected contributions from the baseline

Project component	Baseline scenario	With-project scenario

Project component	Baseline scenario	With-project scenario
Component 1. Adaptive climate resilient hydraulic infrastructure and productive livelihoods	The FGS has adopted the 9th National Development Plan which notably relies on a formal decentralized Federal Governance system. The National Water Resources Strategy 2021-2025 foresees to establish institutional arrangements for the protection and management of water resources in the country and for water service delivery at federal, member states, and regional governments. As part of the response to the gaps in service delivery, the business community has organized itself and came up with public-private partnerships (PPPs) for water service in the urban areas, taking over some of the government infrastructure and assets. In the rural sector, communities are now increasingly	The GEF funds will improve sustainable access to water for domestic, livestock, and small?scale irrigation in target districts by increasing water coverage and access, The project will establish and professionalize institutional arrangements for reliable water service delivery, and improve integrated water resources management to promote conflict prevention and optimization of water resources at the district and village level. The water facilities developed would provide multiple-use water to support the local production system while better management of the floods and run-off from the water catchments areas will lead to an improved regeneration of vegetation and pasture for livestock, and better utilization of flood water for crop and fruit production. It?s expected that the action will enhance the resilience of communities to the effects of cyclic droughts and floods, reduce water-borne diseases, increase the availability of milk, meat, and income from livestock among pastoralist populations as well as improve land productivity and food production by riverine farmers and agro-pastoralist communities. The project will improve inclusivity and equitable access to water services among the different segments of the communities and enhance the participation of women and youth in decision-making in the management of water services and resources. The project will support the rural communities, mostly pastoralists and Agro-pastoralists, improve their livelihoods through equipping them with the right tools, skills and knowledge of how to yield greater returns from their livelihoods, and use community saving and lending methodologies to grow their own financial intermediation systems. The community saving and lending methodology used will be the Village Saving and Loans Association (VSLA) methodology which will be developed within the farmer field schools in order to take advantage of the various trainings and services that will be provided by various partners. The main objective of organizing communities into VSLAs is to support the communities learn, adapt and build resilience towards the various shocks posed by climate change, among others. With VSLAs at farmer field schools? level, members will be exposed to both financial literacy and climate proof income generating activities. The project will also support Micro, Small and Medium Enterprises that contribute directly to the project success. These will be input supplies, Processors, Off-takers and Exporters.

Project component	Baseline scenario	With-project scenario
	engaged in small?scale irrigation for agriculture production. However, the National Water Strategy indicates that 60% of existing water infrastructure is nonfunctional or requires rehabilitation and that is attributed to poor management of water sources. It is acknowledged that the water sector will continue being under pressure in the future: with erratic rainfall, pastoralists, and agro-pastoralists will lack water for their livestock, which is their main source of livelihood. The lack of institutional arrangements for water service delivery has also undermined quality and pace of service delivery to communities, particularly in rural areas. The PPPs are not regulated and there are no	

Project component	Baseline scenario	With-project scenario
	standard benchmarks for service provision. Traditional systems for managing the river basins and the rangelands have been eroded due to the existing fragility in the country. This leads to riverbed siltation, breaching levees to irrigate the land, encroachment of the natural flood plains, unplanned closures of natural flood relief channels, breakdown of the existing irrigation infrastructure, degradation and deforestation of the rangelands, shortages of water, and inadequate availability of pasture as commercial fodder and feed. Communities rely on diesel generators which are expensive to operate and maintain and are prone to breakdowns while contributing to	

Project component	Baseline scenario	With-project scenario
	carbon emissions. Women are not effectively represented in the management of water services or in water resources though lack of access to water has more impact on women than men. As rural water sources are not managed professionally, the water charges do not consider the differentiated needs of the population to ensure equitable access to water. In addition, poor smallholders lack access to credit and microfinance due to lack of collateral and have no opportunity to diversify their income sources.	

Project component	Baseline scenario	With-project scenario
Component 2. Landscape approach to an integrated management of rangeland and forest ecosystems for land degradation neutrality and biodiversity conservation	Institutionally, Somalia is a signatory to several environmental conventions, including the UNFCCC, the UNCCD and the CBD. It implements them through its own instruments: the NAPA and the NDCs (UNFCCC), the NAP (UNCCD) and the NBSAP (CBD). Despite this political will expressed by the new Government, the weak governance structures and the absence of robust institutional framework for management of environment and biodiversity presents the biggest barrier to environmental management. This barrier has resulted in overgrazing, excessive charcoal production unregulated urbanization, bad agricultural practices as well as the breakdown of traditional participatory approaches for	The GEF funding will promote a landscape approach to an integrated management of rangeland and forest ecosystems for land degradation neutrality and biodiversity conservation. It will support rangeland biodiversity and landscape enhancement through the development of participatory climate-resilient landscape investment plans, and by reseeding degraded rangelands with drought-resistant native species, reforesting and undertaking assisted natural regeneration (ANR), and the development of SLM practices to combat erosion and land degradation. The project activities will include the community-based development of an inventory of the state of and multiple uses by the communities of rangeland plant genetic resources and the participatory analysis and planning of the ecosystem restoration practices (e.g. ANR, resting of rangeland, reforestation). As a result, the project will contribute directly to restoring the productivity of depleted rangelands and farmland. Farmers and pastoralists will be trained, supported and equipped to facilitate adoption of climate-smart, productive agro-ecological approaches and techniques, thanks to the establishment of Farmer Field schools (FFS), allowing the_participatory action training in practices and technologies for sustainable rangeland management ? such as those tested and documented in other countries and existing on WOCAT database ?including development of training guidelines, integration of indigenous knowledge, training of Trainers of Trainers and FFS training. To combat desertification in the framework of the National LDN targets land use plans will be developed using participatory and gender-sensitive approaches and communities will be trained on the importance of ecosystem restoration. The GEF fund will support smallholders to adopt adapted and productive agroecological approaches and techniques through__the identification of agroecological techniques and approaches geared towards soil, water and biodiversity conservation. At national and Federal levels, the project will support/strengthen institutional mechanisms for national policies and regulations on seeds, plant protection and agrochemicals. The project will support local communities to restore the degraded forests through the establishment of nurseries and by providing coaching, strengthening management capacities and direct and indirect incentives. The project will seek to promote at community level initiatives that would decrease the pressure on forests such as use of efficient and energy saving cook-stoves and flexible bio-gas systems to reduce community dependence on forests. Community led initiatives for regeneration of degraded areas will be given focus

Project component	Baseline scenario	With-project scenario
	management of forest and rangelands. Degradation of land and water resources will increase, ecosystem services, biodiversity, and livelihoods will be affected, and land degradation neutrality will not be achieved due to continued loss of soil nutrients and lack of knowledge about sustainable pasture management and water and soil conservation techniques and practices.	

Project component	Baseline scenario	With-project scenario
Component 3. Institutional strengthening to support land degradation neutrality and biodiversity protection	The new Government resulting from the presidential election of May 2022 has created, for the first time in the history of the country, a Ministry in charge of Environment and Climate Change. However, this Ministry does not yet function at the federal level and services do not exist in the three States covered by the Project: Hirshabelle, Galmudug and Southwest. The country does not have a robust coordination mechanism to ensure LDN and there are limited interventions that support comprehensive SLM to achieve LDN Furthermore, the country does not have any LDN monitoring or DSS system and as such, will be unable to meet the country?s commitments by 2030.	The project will support the Ministry of Environment to develop and deploy a web based/GIS tracking tool for land degradation and biodiversity assessment which has been designed during the project design phase (*the Somalia A2R2 - LDN Decision Support System ? https://wocatapps.users.earthengine.app/view/dss-somalia*). This platform will support decision-making and site selection in the technical design of Somalia project A2R2. The system will assist in identifying priority areas for the implementation of sustainable management practices and the integration of qualitative and quantitative indicators relevant to the monitoring and evaluation of land degradation and biodiversity. Institutional actors' capacities at all levels will be strengthened on M&E of biodiversity as well, through the characterization of the biodiversity status and its evolution. This will contribute to enhancing decision-making at local and national levels. This will be done by contributing to review and update Somalia?s LDN and biodiversity baseline indicators and targets, and by the assessment of the project contribution to the targets of both SDGs and the Proposed Post 2020 Global Biodiversity Framework. The project will strengthen the Coordination Mechanisms on Natural Resource Management at federal, national and local level, considering that sustainable management of natural resources is included as a development goal, through the 9th National Development Plan (NDP-9). In the same perspective the project will also support the mainstreaming of land degradation and biodiversity objectives into the relevant local, national and federal strategies and plans, notably the NDP-9, and promote participation of farmers and agropastoralists organizations in policy processes.

Project component	Baseline scenario	With-project scenario
	The observed land degradation trends will lead to further loss of ecosystem services and global environmental goods and loss of socio-economic opportunities for local communities.	
Component 4 Knowledge sharing for systematization and scaling up	Traditional knowledge in water, land and rangeland management has been lost, mainly due to recurrent conflicts in Somalia. For knowledge sharing there is no mechanism to build communities? resilience on lessons learned. There is no enabling capacity for people to sustain their livelihoods and adapt to environmental changes or new environments.	The KM system, integrating planning, M&E and communication will serve for the identification, analysis, documentation and dissemination of best practices, and will develop an interactive and inclusive communication with all stakeholders, and promote visibility for policy dialogue and advocacy. The project will disseminate appropriate knowledge products using different media, adapted to the various target groups, to enhance information flow, learning and sharing at different levels of governance, stakeholders, beneficiaries and staff. For these to be achieved, the project will invest in ICT technologies to enhance knowledge management and dissemination, specifically on platforms that foster knowledge sharing and provide easy access to knowledge, such as an online discussion for communities of practice and knowledge networks.

6) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

Climate change adaptation
A total area of 6,850 ha of land will be restored to deliver enhanced ecosystem services.

72,000 Households will have greater resilience to climate change through increased capacity in water infrastructure management, and by acquiring better knowledge of water management and the use of agro-ecological practices.

Water infrastructures will be more resilient to climate change because their engineering design will be adapted to climate change and dimensioned to cope with the risk of intense climatic events, such as floods or droughts. Community capacities will be strengthened to effectively manage and maintain the structures.

The participatory water infrastructure management of surface water infrastructure will increase the resilience of ecosystems and landscapes due to reduced surface water runoff and soil erosion, and reduce the risk of conflict over access to water.

The expected area of landscapes under improved practices will be of 55,200 ha (excluding protected areas).

The diversification of agro-ecological food production systems will contribute to strengthen the resilience to climate change of the local population, improve food security and access to a diversified diet. Resilience of the communities will be also reinforced by the creation of IGAs and ?green jobs?, contributing to the improvement of their livelihoods and living conditions.

Climate change mitigation (co-benefits)

Through notably the improved and diversified vegetative cover, and the use of solar energy, a contribution of 2,042,873 tCO2-e (estimated) to GHG mitigation is expected.

Sustainability of the investments will be supported by strengthening the institutional actors? capacity, from the local to the national level, and by integrating the issues of land degradation, biodiversity and adaptation to climate change within the different socioeconomic development plans, from the federal to the local level.

Land degradation

Through the proposed project, Somalia will develop a M&E system for measuring progress towards LDN and biodiversity targets, and will help global reporting on UNCCD implementation. Specific GEBs can be seen in relation to land degradation; the project will achieve 55,200 ha of landscapes under improved practices through use of agro-ecological techniques and practices that restore land productivity, increase food security, reverse desertification and enhance resilience to disaster, improving groundwater recharge, mitigating soil degradation, enhancing soil development, increasing soil moisture, and enabling soil development and functions.

The **Somalia National Voluntary LDN Targets**[49][49] identified the main corrective measures to be implemented to achieve the Somalia LDN objectives by 2030. The following table presents the various corrective measures to which the project will contribute and the corresponding outcomes and outputs. The M&E system and the DSS that will be implemented by the project will allow for the documenting of the results that are achieved and will feed the national report on the achievement of the LDN objectives by Somalia.

Table 8. A2R2 contribution to Somalia LDN Targets

Change	LDN Targets? corrective measures which A2R2 will contribute to	Corresponding A2R2 Project outcomes and outputs

Conversion of grassland to other land uses with declining productivity	? Rehabilitation of livestock watering & feeding infrastructure on the rangelands, ? Diversification into poultry production and bee-keeping ? Improved land-use planning, allow affected rangelands to recover from overgrazing ? Mainstreaming community-based conservation and management of village-based land	**Outcome 1.1 1.1 Climate resilient hydraulic infrastructure profitably and sustainably operated by vulnerable communities** Output 1.1.1 Water infrastructure built or climate-proofed (e.g. shallow wells, surface water retention dams, household cisterns and floodwater spate irrigation structures, solar pumping schemes, multipurpose water systems, drip irrigation, etc.) based on site-specific technical studies Output 1.1.2 Community management, operations and maintenance groups created/ strengthened to effectively manage the water infrastructure and prevent conflicts over water resources **Outcome 1.2 Vulnerable smallholders diversify livelihoods and increase incomes through improved access to microfinance mechanisms** Output 1.2.2 Poor households trained, equipped and coached to undertake new income-generating activities as micro entrepreneurs **Outcome 2.1 Rangeland biodiversity and landscape restoration enhanced** Output 2.1.1 Participatory climate-resilient landscape investment plans developed and implemented including biodiversity-positive measures to protect native species Output 2.1.2 Grievance and conflict resolution mechanisms functional to prevent land and water use-related conflicts
	? Reclaim the Protected Area Network; strengthening shared, clan or other traditional means of resource management ? Sensitization and awareness creation ? Strengthening the capacity of relevant national and sub national institutions	**Outcome 2.1 Rangeland biodiversity and landscape restoration enhanced** Output 2.1.1 Participatory climate-resilient landscape investment plans developed and implemented including biodiversity-positive measures to protect native species

Conversion of tree covered land (forests) to grasslands with declining productivity	? Sustainable Management of Forest and Woodland ? Afforestation and sustainable forest management, efficiency in energy use ad promotion of renewable energy, ? Intensification of reforestation pilot programs in different soils and climatic environments ? Strengthening the capacity of relevant national and sub national institutions ? Sensitization and awareness creation	**Outcome 2.3 Degraded Forest ecosystems restored through ANR and reforestation of native species** Output 2.3.1 Tree nurseries set up and management cooperatives established and supported Output 2.3.2 Community capacity on sustainable forestry management and tree monitoring strengthened
Conversion of Cropland to grassland with declining productivity of early signs of decline	? Teach and equip communities/farmers with ? Sustainable land management practices/technologies ? Crop Production control; Rehabilitation of pre-war flood control and irrigation infrastructure, Improved access to and adoption of productivity-enhancing and resilient technologies ? Scaling up evergreen agriculture (EGA); integrating with trees-on-farm agroforestry systems ? Agroforestry and soil conservation agriculture ? Integrated soil health management & extension services ? Sensitization and awareness creation ? Strengthening the capacity of national institutions	**Outcome 2.2 Vulnerable households implement nature-based solutions and climate-resilient technologies and practices across productive landscapes (farm and pasture lands)** Output 2.2.1 Farmers and pastoralists trained, supported and equipped to facilitate adoption of climate-smart, productive agroecological approaches and techniques Output 2.2.2 Adapted and productive agroecological approaches and techniques (for soil, water and biodiversity conservation) identified, based on indigenous knowledge Output 2.2.3: Sustainable pasture management plans mainstreaming biodiversity designed and implemented **Outcome 3.1 Strengthened institutional capacity and enabling environment to achieve land degradation neutrality and conserve biodiversity** 3.1.1: Institutional actors? capacity to document SDG-related LDN and biodiversity indicators and coordination mechanisms strengthened

Biodiversity

The GEF fund will support improving rangeland biodiversity and restoring the productivity of depleted rangelands by reseeding and reforesting degraded rangelands with drought-resistant native species, which makes them an essential resource for both maintaining environmental services like biodiversity conservation, soil formation, pollination, hydrological cycle, food, fibre, fodder, other non-timber forest products (NTFP) and as a source of livelihood, especially for rural communities. Among the native species identified are Acacia species, some of which are considered threatened (*Acacia Senegal, Acacia Bussei, Acacia Tortilis, and Acacia Nilotica)* and the Yeheb bush (*Cordeauxia edulus*). *The full list of*

In addition, natural habitat for indigenous flora and fauna will be enhanced through the establishment of nurseries focused on indigenous tree species as well as through reforestation, assisted natural regeneration (ANR) and support for community forestry, to ensure the sustainability of new or enriched shrublands. ANR (tested through IFAD investments on a large scale in Niger) is recognized as a cost-effective forest or rangeland restoration process that can restore biodiversity and ecosystem services in degraded areas, reduce the rate of loss of natural habitats, while also providing income for rural livelihoods. IFAD has significant experience (*inter alia* in Sudan through the GEF-funded Integrated Carbon Sequestration project -ICSP) supporting community forestry that provides reliable income from sustainably managed forests in dryland areas for local populations.

The promotion of agroecology, under the Component 1, Outcome 1.2 aims also at improving and changing production practices to be more biodiversity-positive by promoting soil organic matter and water retention capacities of soils, increasing resource use efficiency, supporting the diversification of farms and the restoration of rangelands through reforestation of native species (particularly endangered species) and improving rangeland management.

In the absence of the final post-2020 Global Biodiversity Framework and targets, the project contributes to Aichi targets as indicated below.

Table 9. Contribution to Aichi Targets

Strategic Goals	Aichi Targets	Corresponding A2R2 Outputs
Strategic Goal A: *Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society*	**Target 1** By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.	**Output 2.2.1** Farmers and pastoralists trained, supported and equipped to facilitate adoption of climate-smart, productive agro-ecological approaches and techniques **Output 4.1.2** CCA, SLM and community-based conservation and agricultural production best practices and challenges collected systematically and KM products disseminated
	Target 2 By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.	**Output 2.1.1:** Participatory climate-resilient landscape investment plans developed and implemented including biodiversity-positive measures to protect native species **Output 3.1.1:** Institutional actors? capacity to document SDG-related LDN and biodiversity indicators and coordination mechanisms strengthened
	Target 4 By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.	**Output 2.1.1:** Participatory climate-resilient landscape investment plans developed and implemented including biodiversity-positive measures to protect native species **Output 2.1.2:** Grievance and conflict resolution mechanisms functional to prevent land and water use-related conflicts

Strategic Goal B: *Reduce the direct pressures on biodiversity and promote sustainable use*	**Target 5** By 2020, the rate of loss of all-natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.	**Output 2.1.1:** Participatory climate-resilient landscape investment plans developed and implemented including biodiversity-positive measures to protect native species **Output 2.3.1:** Tree nurseries set up and management cooperatives established and supported **Output 2.3.2:** Community capacity on sustainable forestry management and tree monitoring strengthened
	Target 7 By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.	**Output 2.2.2:** Adapted and productive agroecological approaches and techniques (for soil, water and biodiversity conservation) identified and disseminated across productive landscapes, based on indigenous knowledge **Output 2.2.1:** Farmers and pastoralists trained, supported and equipped to facilitate adoption of climate-smart, productive agro-ecological approaches and techniques **Output 2.3.1:** Tree nurseries set up and management cooperatives established and supported **Output 2.3.2:** Community capacity on sustainable forestry management and tree monitoring strengthened
Strategic Goal C: *To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity*	**Target 13** By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.	**Output 2.1.1** Participatory inventory of native species in the target area carried out and their multiple benefits characterized **Output 2.1.2** Restoration of degraded rangeland habitat (e.g. assisted natural regeneration, soil and water conservation works) **Output 2.3.1:** Tree nurseries set up and management cooperatives established and supported **Output 2.3.2:** Community capacity on sustainable forestry management and tree monitoring strengthened

***Strategic Goal D**: Enhance the benefits to all from biodiversity and ecosystem services*	**Target 14** By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, considering the needs of women, indigenous and local communities, and the poor and vulnerable.	**Output 1.1.1:** Water infrastructure built or climate-proofed (e.g. shallow wells, surface water retention dams, household cisterns and floodwater spate irrigation structures, solar pumping schemes, multipurpose water systems, drip irrigation, etc.) based on site-specific technical studies **Output 1.1.2:** Community management, operations and maintenance groups created/ strengthened to effectively manage the water infrastructure and prevent conflicts over water resources **Outcome 1.2**: Vulnerable smallholders diversify livelihoods and increase incomes through improved access to microfinance mechanisms **Output 1.2.1:** Partnership developed with MFIs and NGOs to support access to credit and market linkages for poorest households **Output 1.2.2** Poor households trained, equipped and coached to undertake new income-generating activities as micro entrepreneurs
	Target 15 By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 % of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.	**Output 2.2.2:** Adapted and productive agroecological approaches and techniques (for soil, water and biodiversity conservation) identified and disseminated across productive landscapes, based on indigenous knowledge **Output 2.3.1:** Tree nurseries set up and management cooperatives established and supported **Output 2.3.2:** Community capacity on sustainable forestry management and tree monitoring strengthened
***Strategic Goal E:** Enhance implementation through participatory planning, knowledge management and capacity building*	**Target 19** By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.	**Output 4.1.1:** Effective monitoring and evaluation plan implemented **Output 4.1.2:** CCA, SLM and community-based conservation and agricultural production best practices and challenges collected systematically and KM products disseminated

However, the draft post-2020 Global Biodiversity Framework and targets which is currently being negotiated has similar but not identical targets to those of the Aichi Biodiversity targets. The framework covers broad areas where the targets are aligned;

- Reducing threats to biodiversity
- Meeting people?s needs through sustainable use and benefit sharing
- ? Tools and solutions for implementing and mainstreaming

Table 9. Potential contribution to the proposed post-2020 Global Biodiversity Framework targets

Broad Area	Proposed Targets	Project contribution
Reducing threats to biodiversity	Target 1. Ensure that all land and sea areas globally are under integrated biodiversity-inclusive spatial planning addressing land- and sea-use change, retaining existing intact and wilderness areas.	2.2.2 Sustainable pasture management plans mainstreaming biodiversity are designed and approved 2.3.1 Four tree nurseries set up and management 2.3.2 Community capacity on nursery management strengthened 2.3.3 Community capacity on sustainable forestry practices strengthened 2.3.4 850 ha of forest restored and maintained through agro-ecological techniques
	Target 2. Ensure that at least 20 % of degraded freshwater, marine and terrestrial ecosystems are under restoration, ensuring connectivity among them and focusing on priority ecosystems.	2.1.2 Restoration of degraded rangeland habitat (e.g. assisted natural regeneration, soil and water conservation works) 2.3.1 Four tree nurseries set up and management 2.3.4 850 ha of forest restored and maintained through agro-ecological techniques
	Target 3. Ensure that at least 30 % globally of land areas and of sea areas, especially areas of particular importance for biodiversity and its contributions to people, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.	2.2.2 Sustainable pasture management plans mainstreaming biodiversity are designed and approved 2.3.1 Four tree nurseries set up and management 2.3.2 Community capacity on nursery management strengthened 2.3.3 Community capacity on sustainable forestry practices strengthened 2.3.4 850 ha of forest restored and maintained through agro-ecological techniques

	Target 4. Ensure active management actions to enable the recovery and conservation of species and the genetic diversity of wild and domesticated species, including through ex situ conservation, and effectively manage human-wildlife interactions to avoid or reduce human-wildlife conflict.	2.1.1 Participatory inventory of native species in the target area carried out and their multiple benefits characterized 2.1.2 Restoration of degraded rangeland habitat (e.g. assisted natural regeneration, soil and water conservation works)
	Target 6. Manage pathways for the introduction of invasive alien species, preventing, or reducing their rate of introduction and establishment by at least 50 %, and control or eradicate invasive alien species to eliminate or reduce their impacts, focusing on priority species and priority sites.	2.1.1 Participatory inventory of native species in the target area carried out and their multiple benefits characterized 2.1.2 Restoration of degraded rangeland habitat (e.g. assisted natural regeneration, soil and water conservation works)
	Target 8. Minimize the impact of climate change on biodiversity, contribute to mitigation and adaptation through ecosystem-based approaches, contributing at least 10 GtCO2e per year to global mitigation efforts, and ensure that all mitigation and adaptation efforts avoid negative impacts on biodiversity.	

Meeting people?s needs through sustainable use and benefit sharing	Target 9. Ensure benefits, including nutrition, food security, medicines, and livelihoods for people especially for the most vulnerable through sustainable management of wild terrestrial, freshwater and marine species and protecting customary sustainable use by indigenous peoples and local communities.	2.2.2 Sustainable pasture management plans mainstreaming biodiversity are designed and approved 2.3.1 Four tree nurseries set up and management 2.3.2 Community capacity on nursery management strengthened 2.3.3 Community capacity on sustainable forestry practices strengthened
	Target 10. Ensure all areas under agriculture, aquaculture and forestry are managed sustainably, in particular through the conservation and sustainable use of biodiversity, increasing the productivity and resilience of these production systems.	2.2.2 Sustainable pasture management plans mainstreaming biodiversity are designed and approved 2.3.1 Four tree nurseries set up and management 2.3.2 Community capacity on nursery management strengthened 2.3.3 Community capacity on sustainable forestry practices strengthened 2.3.4 850 ha of forest restored and maintained through agro-ecological techniques
Tools and solutions for implementing and mainstreaming	Target 14. Fully integrate biodiversity values into policies, regulations, planning, development processes, poverty reduction strategies, accounts, and assessments of environmental impacts at all levels of government and across all sectors of the economy, ensuring that all activities and financial flows are aligned with biodiversity values.	Output 2.2.1: Pastoral community organizations trained in sustainable rangeland management Output 2.2.2: Sustainable pasture management plans mainstreaming biodiversity established and implemented 2.2.3 Output: Conflict resolution mechanism functional

	Target 21. Ensure equitable and effective participation in decision-making related to biodiversity by indigenous peoples and local communities, and respect their rights over lands, territories and resources, as well as by women and girls, and youth.	Output 2.2.2: Sustainable pasture management plans mainstreaming biodiversity established and implemented Output 3.2.2: Land degradation and biodiversity mainstreamed into local, national and federal strategies and plans

7) Innovativeness, sustainability and potential for scaling up ?

Innovation. The project will be innovative by including climate considerations in the design of the hydraulic infrastructure for surface water harvesting, as well as by integrating biodiversity conservation into land use and sustainable rangeland management. With regard to the management of hydraulic infrastructures the project will be innovative by supporting, in each village, the creation/reinforcement of a multi-stakeholder?s water resource user association comprising domestic water consumers, water service providers, livestock owners, agro-pastoralist, farmers, riparian landowners, clan elders, and district authorities. Through the support to this innovative form of water resource user association, the project will aim at establishing a decentralized, conflict sensitive, participatory, and blended management of water resources utilization to support the local production system. In the fragile and sensitive context of the reconstruction of the social and political foundations in Somalia, the establishment of such conflict resolution mechanisms will allow a peaceful management of natural resources and will contribute to the sustainability of post-project activities.

The project will complementarily promote a new business model for the maintenance of hydraulic infrastructure. Registered Water Service Provider (WSP) will be established for each cluster of villages, to be responsible for the operation and maintenance of the facilities. The WSP will have a Board of Directors (BoDs) constituted from the key stakeholders and the district authority and would operate on a commercial basis to profitably run the water schemes. The revenue generated from commercialization will be ring-fenced for operation and maintenance cost recovery and expansion of services within the WSP service areas.

The project will introduce new technologies for irrigation as well as the use of solar energy for pumping. The project will introduce an integrated approach that combines sustainable rangeland and livestock management activities with rangeland restoration. To this end, the project will identify native drought-adapted species and will actively promote their seeding

Drawing lessons from successful experiences carried out in other African countries, the project will support the introduction of the Assisted Natural Regeneration (ANR) technique in Somalia. This traditional technique, used in agroforestry in the Sahel countries, is particularly suitable, both in terms of cost and in terms of results on the soil's ultimate vegetation cover. The ANR will be introduced for the first time in Somalia. These innovations are expected resulting in increased and more secure food production and reduced land degradation.

In addition, at the farm level, the project will promote climate smart agriculture productive technologies through the farm field schools, which will contribute to a more sustainable land management while contributing in the same time to increasing land productivity. In terms of financial instruments, the Project will be innovative by designing and implementing a microfinance mechanism, involving MFIs as well as NGOs, tailored to the need of and capacities of local actors, especially women, and promoting environmentally friendly economic activities adapted to climate change. This will lead to increasing employment opportunities for women and youth.

In addition, The ASAP+ support will innovatively focus on climate change adaptation (CCA) issues by linking sustainable production systems with water and ecosystem management approaches. This will be through: (i) the promotion of climate-smart productive technologies through the Farmer Field School to contribute to more sustainable land management and increased land productivity in crop and livestock enterprises; (ii) building on tested traditional practices in Somalia and actively involving beneficiaries in the identification of challenges, socio-culturally sensitive solutions and opportunities that increase resilience to climate change impacts; (iii) adopting the management innovation of the Biometric Beneficiaries? Registration Identification and Management System (BBRIMS) that allows for the identification and monitoring of project beneficiaries, especially in environments that are not very secure. The system is being used effectively by an IFAD grant project in Puntland, Somalia; and (iv) introduction of GIS mapping and the resilience assessment techniques.

Sustainability. By strengthening local community organizations and involving them in the management of hydraulic infrastructure, by developing an integrated approach of rangeland management as well as the establishment of land use plans and the development of tree nurseries the project will provide the tools and the incentive conditions for local authorities and local organizations to continue sustainable land management post-project. Through the design phase, the identification of viable and effective incentives to sustainability and their nature, will be considered. These could be direct incentives (designing mechanisms which are targeted to specific objectives and encourage people to conserve biodiversity by providing rewards for changed behavior), or indirect incentives (designing mechanisms which encourage people to conserve biodiversity by setting in place general enabling conditions that will cause them to change their economic behavior). Concretely, the first direct incentive that will be used in the Project is the development of a microfinance system adapted to the economic conditions of the targeted communities, especially women. Stakeholders will also benefit from the support of specialized NGOs that will provide them with assistance in preparing their financial proposals to submit to MFIs as well as with technical capacity building to help them implement their businesses.

At the national level the establishment of an LDN and biodiversity M&E system will constitute the framework for a continuous support from the national to the local level in view of achieving 2030 SDGs objectives. Building of income-generating activities for women and youth will help reduce youth unemployment and empower women, factors of sustainability. The establishment of conflict resolution mechanisms will allow a peaceful management of natural resources and will contribute to the sustainability of post-project activities.

Institutional sustainability is built into the design of the project through: (i) building the capacity of staff involved in implementation and monitoring of activities at the national, state and district level, in all the components; (ii) the development of strong community-based groups that have the capacity to define their priorities, design and monitor the implementation of sub-projects that will contribute to strengthening livelihoods resilience; and (iii) creating an umbrella Community Development Association (CDA) in each community A2R2 will cover, for overall governance and conflict resolution. A geographical sequencing of interventions will contribute to sustainability of the A2R2 Project in the fragile situation in Somalia. Project activities will take off, where possible, from the locations of previous or existing GEF/IFAD assisted grant projects or other donor-assisted projects from where they would reach out to neighbouring communities after a rapid appraisal of the situation in the new areas. Technical, economic and environmental sustainability will be assured through enhanced access to knowledge, inputs, and climate-resilient technologies.

Potential for scaling-up: Knowledge sharing and lessons learned from experiences constitute an important part of the component 4 of the A2R2 project, the purpose being to enable upscaling of successes from project implementation. The project will systematically collect and disseminate lessons drawn and will catalyze knowledge sharing from the different aspects of the project implementation. The lessons to be learnt could result from different kind of actions developed such as: the different forms of natural resource management promoted by the project, the innovative planning and land management methodologies, the modes of community organization, the women's empowerment or the appropriate conflict management mechanisms implemented. the capacity development though farm field schools promoting climate smart agriculture techniques will develop a model which can be developed in other regions.

The project will build the capacity of local stakeholders to go to scale, enabling them to crowd in additional resources, and also to engage in policy dialogue themselves. Under Component 3, the project, will work closely with Government departments responsible for LDN and Biodiversity M&E. The project will build the technical capacity of relevant government officials at the national and federal levels (Ministry of Environment and Climate Change), and will establish an LDN and Biodiversity M&E system, The Decision Support System, managed by the Ministry of Environment and Climate Change. This M&E system, which will cover 3 States during the project life, could be extended to the other States of the Federal Republic of Somalia.

The most obvious pathway for scaling up the A2R2 Project will be its mainstreaming into the GAFSP-supported SIRAP. The SIRAP will be a part of the national Rural Livelihoods Resilience Programme planned for Somalia. Drawing on the lessons learned from previous GEF/IFAD projects, the scaling up strategy will support the factors that encourage scale-up, including: (i) demonstrating a solution to a known problem, in line with the district and/or community priorities; (ii) demonstrating results with farmers who are more likely to succeed, while considering ways to overcome barriers for engagement of the poorest and socially marginalized groups; and (iii) linking with projects that are already considered a scale-up of an older GEF/IFAD or other donor projects.

1b. Project Map and Geo-Coordinates. Please provide geo-referenced information and map where the project interventions will take place.

A total of 5 districts were selected to carry out the A2R2 activities as seen in the following map of the **A2R2 Project area.** However, during the implementation phase, the project, depending on the additional resources available, will promote the extension of activities to other districts/states bordering the A2R2 intervention area, using the same methodology and criteria as those used for the identification of current project sites.

8) Summary of changes in alignment with the project design with the original PIF

There are no major changes in alignment of the project design with the original PIF. However, following stakeholder consultations during the PPG phase, recommendations have been integrated into the project design like the consolidation of outcomes and outputs and identification of targets and indicators into the result-based framework. An additional source of co-financing provided by the Enhanced Adaptation for Smallholder Agriculture Programme (ASAP+) has also been included for an amount of 7,000,000 USD. Activities co-financed through the ASAP+ will contribute to the LDCF Climate Change Adaptation objectives of the A2R2 project. The summary is provided below.

Component/Outcome/Output ? **approved in PIF**	Component/Outcome/Output ? **proposed in the CEO Endorsement**	Reason for change
Component 1		
1.1.1 Detailed site-specific studies carried out (e.g. hydrological studies, cost/benefit analyses, EIAs, technical specifications & drawings, operation & maintenance guidelines, etc.)	1.1.1 Water infrastructure built or climate-proofed (e.g. shallow wells, surface water retention dams, household cisterns and floodwater spate irrigation structures, solar pumping schemes, multipurpose water systems, drip irrigation, etc.) based on site-specific technical studies	Outputs 1.1.1 and 1.1.4 have been merged with output 1.1.2 with added details. The changes were made to enhance the consistency, articulation and interlinkages between the outcome and the outputs to align with the activities on the ground as discussed with the beneficiaries.

1.1.3 Community maintenance and management groups created/ strengthened to effectively manage the hydraulic infrastructure and prevent conflict	1.1.2 Community management, operations and maintenance groups created/ strengthened to effectively manage the water infrastructure and prevent conflicts over water resources	Wording slightly fine-tuned to local circumstances.
1.1.4 Solar energy equipment installed and operational	N/A	The Output 1.1.4 is now merged with 1.1.1 to enhance the interlinkage between the Outputs to align with the activities on the ground. The list of activities could provide further details.
1.2.2 Adapted and productive agroecological approaches and techniques (for soil, water and biodiversity conservation) identified, based on indigenous knowledge, and piloted	2.2.2 Adapted and productive agroecological approaches and techniques (for soil, water and biodiversity conservation) identified, based on indigenous knowledge	Output 1.2.2 was moved to Component 2 upon consultations with stakeholders on the basis of the alignment with the TOC and the proposed activities.
1.2 Agroecological productive technologies and practices adopted by small-scale farmers & pastoralists	2.2 Vulnerable households implement nature-based solutions and climate-resilient technologies and practices across productive landscapes (farm and pasture lands)	Outcome 1.2 was moved to Component 2 (Outcome 2.2) upon consultations with stakeholders on the basis of the alignment with the TOC and the proposed activities. Moreover, the project design team validated this adjustment for coherency with the flow of the project components.
1.2.1 Farmer field schools established for farmers and agro-pastoralists	N/A	Output 1.2.1 was moved to Component 2 upon consultations with the stakeholders on the basis of the alignment with the TOC and the proposed activities.
1.3 Microfinance mechanism supporting climate proof income-generating activities established and functional	Outcome 1.2: vulnerable smallholders diversify livelihoods and increase incomes through improved access to microfinance mechanisms	The formulation of this outcome was improved to outline the focus on the vulnerable households and on the expected targets.
1.3.1 Microfinance mechanism designed and tailored to poor households? needs in the context of the sustainable natural resources management	Output 1.2.1: Partnership developed with MFIs and NGOs to support access to credit and market linkages for poorest households	Included in the output1.2.1 as an activity (study)

1.3.2 Partnership built with identified MFIs and NGOs to support capacity building and access to credit for poorest households	Output 1.2.1. Partnership developed with MFIs and NGOs to support access to credit and market linkages for poorest households	Moved as under outcome 1.2
1.2.3 Farmers and agropastoralists trained, supported and equipped to facilitate adoption of climate-smart, productive agroecological approaches and techniques	1.2.2 Poor households trained, equipped and coached to undertake new income-generating activities as micro entrepreneurs Output 1.2.2 was improved to outline the focus on the vulnerable households and on the expected deliverables	Output 1.2.3 in the PIF has been moved to Component 2 upon consultations with stakeholders on the basis of the alignment with the TOC and the proposed activities. Moreover, the project design team validated this adjustment for sake of coherency with the flow of the project components.
1.4 Increased household incomes for the poorest households	N/A	This outcome has been incorporated and consolidated under Outcome 1.2 in terms of increased incomes and improved organizational and financial capacity
1.4.1 Profitable and climate-proof sources of income identified and promoted through the Gender Action Learning System (GALS)	N/A	This output has been incorporated and consolidated under Outcome 1.2 in terms of increased incomes and improved organizational and financial capacity
1.4.2 Poor households trained, equipped and coached to undertake new income-generating activities as micro-entrepreneurs	N/A	This output has been incorporated and consolidated under Outcome 1.2 in terms of increased incomes and improved organizational and financial capacity
2.1 Rangeland biodiversity enhanced	2.1 Rangeland biodiversity and landscape restoration enhanced	Amended to integrate Outcome 2.2 and strengthen the focus on the landscape approach
2.1.1 Participatory inventory of native species in the target area carried out and their multiple benefits characterized.	2.1.1 Participatory climate-resilient landscape investment plans developed and implemented including biodiversity-positive measures to protect native species	Rephrased for a better consistency and improved clarity on the focus of expected targets as opposed to an activity, by providing a clearer definition of the results expected: the project contribution to the National Biodiversity Strategy and Action Plan of Somalia

2.2.1 Pastoralist community organizations trained in sustainable rangeland management	2.2.1 Farmers and pastoralists trained, supported and equipped to facilitate adoption of climate-smart, productive agroecological approaches and techniques	Rephrased for a better consistency and improved clarity on the focus of expected results and not on the activity
2.2.2 Sustainable pasture management plans mainstreaming biodiversity designed and approved	2.2.3 Sustainable pasture management plans mainstreaming biodiversity designed and implemented	Output 2.2.3 retakes the output 2.1.2 of the PIF but includes the elaboration and implementation of rangeland and pasture management plans considered as needed requirement for the achievement of outcomes 2.1 and 2.2
2.2 Sustainable management of rangelands	2.2 Vulnerable households implement nature-based solutions and climate-resilient technologies and practices across productive landscapes (farm and pasture lands)	Outcome 2.2 refers to the Outcome 1.2 of the PIF and the three outputs have been rephrased for a better consistency and improved clarity on the focus of expected results and not on the activity
2.3.2 Community capacity on nursery management strengthened AND 2.3.3 Community capacity on sustainable forestry practices strengthened	2.3.2 Community capacity on sustainable forestry management and tree monitoring strengthened	The two outputs have been merged into output 2.3.2 to enhance the interlinkage between the Outputs and align with the activities
3.1 Strengthened institutional capacity and policy environment to achieve land degradation neutrality and conserve biodiversity	3.1 Strengthened institutional capacity and enabling environment to achieve land degradation neutrality and conserve biodiversity	The outcome slightly revised to cover enabling environment beyond policy to align with proposed activities
3.1.1 Georeferenced tracking system for land degradation and biodiversity developed	N/A	Integrated under Output 3.1.1 for consistency.
3.1.3 Coordination mechanisms on Natural Resource Management at federal, national and local levels strengthened	N/A	Integrated under Output 3.1.1 for consistency.
3.1.4 Land degradation and biodiversity mainstreamed into local, national and federal strategies and plans	N/A	Integrated under Output 3.1.1 for consistency.

Component 4 Knowledge Management & M&E	Component 4. Knowledge sharing for systematization and scaling up	Wording revised to cultivate the culture of knowledge systematization and scaling up. This will ensure knowledge uptake and not only documentation. The proposed output will take care of both documentation and knowledge uptake
4.1 Project progress and results are captured in real time and capitalized to improve management, promote learning and support upscaling of best practices	4.1 Project progress and results systematized to improve management, promote learning, and support upscaling of best practices	Wording revised in line with changes made to component 4
4.1.3 Communication strategy rolled out and knowledge products disseminated	N/A	Knowledge management has been included in Output 4.1.2; hence this output was removed.

[1] World Bank (2021). World Bank Data Portal.

[2] Ministry of Planning, Investment and Economic Development (undated). Somalia National Development Plan 2020 to 2024

[3] UNDP (2012). Gender in Somalia.

[4] UNDP (2019). Human Development Report 2019.

[5][5][5] FAO Somalia Water and Land Information (SWALIM)

[6] UNICEF and WHO (2019). 2019 Joint Monitoring Programme Updates

[7] World Bank and FAO (2018). Somalia Country Economic Memorandum Volume I. Overview Rebuilding Resilient and Sustainable Agriculture in Somalia.

[8] Government of Somalia (2016). National Biodiversity Strategy and Action Plan (NBSAP) of Somalia, FAO-Somalia

[9] Ministry of Natural Resources (2013). Somalia National Adaptation Programme of Action to Climate Change

[10] World Bank, 2020. Somalia Country Environmental Analysis. Diagnostic study on trends and threats for environmental and natural resources challenges.

[11] Government of Somalia (2016). National Biodiversity Strategy and Action Plan (NBSAP) of Somalia, FAO-Somalia

[12] World Bank and FAO (2018). Rebuilding Resilient and Sustainable Agriculture in Somalia

[13] Federal Republic of Somalia, December 2015. National Biodiversity Strategy and Action Plan (NBSAP)

[14] http://www.faoswalim.org/land/land-degradation

[15] Hussein, 2021

[16] Federal Republic of Somalia, Directorate of Environment, Office of the Prime Minister. National Voluntary Land Degradation Neutrality Targets. 2020

[17] World Bank (2021). Climate Change Knowledge Portal [Last Accessed = 03/03/2021: https://climateknowledgeportal.worldbank.org/country/somalia/]

[18] Office of the Prime Minister (2018). Somalia?s First National Communication of Somalia to the UNFCCC.

[19] Office of the Prime Minister (2018). Somalia?s First National Communication of Somalia to the UNFCCC.

[20] Ministry of Natural Resources (2013) Somalia National Adaptation Programme of Action to Climate Change

[21] Office of the Prime Minister (2018). Somalia?s First National Communication of Somalia to the UNFCCC.

[22] Office of the Prime Minister (2018). Somalia?s First National Communication of Somalia to the UNFCCC.

[23] WB Climate change Knowledge Portal.

[24] Drought Impact and Needs Assessment (DINA)-Somalia 2017
[25] NAPA 2013 and FAO SWALIM 2019

[26] Ibid

[27] World Bank (2021). Climate Change Knowledge Portal [Last Accessed = 03/03/2021: https://climateknowledgeportal.worldbank.org/country/somalia/]

[28] Office of the Prime Minister (2018). Somalia?s First National Communication of Somalia to the UNFCCC.

[29] Office of the Prime Minister (2018). Somalia?s First National Communication of Somalia to the UNFCCC.

[30] Office of the Prime Minister (2018). Somalia?s First National Communication of Somalia to the UNFCCC.

[31] Ullah, Saleem and Gadain, Hussein (2016). National Biodiversity Strategy and Action Plan (NBSAP) of Somalia, FAO-Somalia

[32] Office of the Prime Minister (2018). Somalia?s First National Communication of Somalia to the UNFCCC.

[33] World Bank (2021). Climate Change Knowledge Portal [Last Accessed = 03/03/2021: https://climateknowledgeportal.worldbank.org/country/somalia/]

[34] Office of the Prime Minister (2018). Somalia?s First National Communication of Somalia to the UNFCCC.

[35] GFDRR and World Bank (2021). ThinkHazard ? Somalia [Last Accessed = 03/03/2021: https://thinkhazard.org/en/report/226-somalia]

[36] World Bank (2021). Climate Change Knowledge Portal [Last Accessed = 03/03/2021: https://climateknowledgeportal.worldbank.org/country/somalia/]

[37] World Bank (2021). Climate Change Knowledge Portal [Last Accessed = 03/03/2021: https://climateknowledgeportal.worldbank.org/country/somalia/]

[38] World Bank (2021). Climate Change Knowledge Portal [Last Accessed = 03/03/2021: https://climateknowledgeportal.worldbank.org/country/somalia/]

[39] Updated NDC (2021)

[40] Ministry of National Resources and UNDP (2013). National Adaptation Programme of Action on Climate Change.

[41] Ibid.

[42] Ogallo, L. A., Omondi, P., Ouma, G., & Wayumba, G. (2018). Climate change projections and the associated potential impacts for Somalia.

[43] https://gain.nd.edu/our-work/country-index/rankings/

[44] https://www.stapgef.org/resources/advisory-documents/decision-tree-adaptation-rationale

[45] https://reliefweb.int/country/som

[46] Not considered under co-financing

[47] https://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF_STAP_C.57_Inf.04_Theory%20of%20Change%20Primer_0.pdf

[48] *Assumptions* are external factors or conditions that need to be present for change to happen, but are beyond the power of the project to influence or address, e.g. turnover of government officials, global financial situation.

[49] The Federal Republic of Somalia, Directorate of Environment, Office of the Prime Minister. National Voluntary Land Degradation Neutrality Targets. 2020

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

A2R2 Project area

IFAD

Map compiled by IFAD | 22-08-2022

To visualize this data and other layers, to perform some spatial analysis and get statistics for the different administrative level units of Somalia please refer to the Decision Support System at the following link: https://wocatapps.users.earthengine.app/view/dss-somalia

The geo-coordinates for A2R2 Project area can be found in the following table:

Table 9. The geo-coordinates for A2R2 Project area

State	District	Code	Area [ha]	Lat min	Lat max	Lon min	Lon max
Galgaduud	Dhuusamarreeb	SO1901	1,269,170	5.031	5.931	45.673	47.608
	Cabudwaaq	SO1902	619,908	5.188	6.500	45.536	46.671
	Gaalkacyo	SO1801	1,517,775	6.281	7.562	46.542	48.531
Hirshabelle	Belet Weyne	SO2001	1,486,746	4.078	5.486	44.592	46.231
Southwest	Baydhaba	SO2401	1,290,998	2.522	3.921	43.101	44.311

Coordinates are in the EPSG:4326

1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Civil Society Organizations Yes

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none of the above, please explain why:

Please provide the Stakeholder Engagement Plan or equivalent assessment.

The Stakeholder Engagement Plan (SEP) is presented in Annex N to this document. The objectives of the SEP are to **:** a) Identify stakeholders for A2R2, including their priorities and concerns; b) Identify strategies for stakeholder information sharing and communication and stakeholder consultation in a meaningful and accessible way throughout the project's lifetime; c) Specify procedures and methodologies for stakeholder consultations, documentation of the proceedings and strategies for feedback; and d) Develop stakeholder participation strategies to monitor the impact of the project and report or share results among different stakeholder groups. The plan applies to all components of the proposed program, and all stakeholders are expected to adhere to it when performing their assigned activities.

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement.

In this Stakeholder Engagement Plan (SEP), stakeholders per UN Guiding Principles are defined as individuals or organizations that may affect or are affected by the behavior or business of a project[1]. These include; the private sector, local governments, national government agencies(Ministry of Agriculture and Irrigation, Ministry of Livestock Forestry and Range (MLFR), Ministry of Women and Human Rights Development, Directorate of Environment and Climate Change Office of the Prime Minister, Office of the prime minister, Ministry of Finance, The Federal Ministry of Planning, Investment and Economic Development), non-governmental organizations (NGOs), Community-Based Organizations(CBOs), Women and youth groups, Farmer Field Schools, Microfinance Institutes and local Communities.

Stakeholder involvement should begin as early as possible to create buy-in for the project from the various levels, including stakeholder analysis, Social Network Analysis, and Involvement in programme management and implementation. An analysis of the characteristics, interests, influences, and impacts of each stakeholder associated with this project was conducted

Table 10. Stakeholder analysis.

Stakeholder Group	Key Characteristics	Nature & Extent of Interest	Nature & Extent of Influence	Potential Role in the Programme	Proposed Strategies Related to the Group
The local Governments in the States where the project will be implemented.	The elected organ of a district and the local administration.	Have shown interest in project liaison and coordination of intervention activities	Local government representatives will coordinate and implement projects at the district level and will help to channel communication between communities and the project.	The focus will be on strengthening their role in facilitating linkages between communities and the State governments around land and natural resource policy issues and development services but also in facilitating linkages between communities across Localities	Adoption of Global Biodiversity Framework Adopting Coordination mechanisms Handle Grievances from the communities

Stakeholder Group	Key Characteristics	Nature & Extent of Interest	Nature & Extent of Influence	Potential Role in the Programme	Proposed Strategies Related to the Group
Ministry of Finance	Elected organ for the country?s financial administration	Interested in review of annual work plan, budget and financial reports	Charged with the responsibilities devising and administering economic and financial policy of the country.	The Ministry of Finance will be the recipient of the grant and will carry out annual joint missions with IFAD on the performance and fiduciary aspects of the project. The Ministry of Finance would be represented on the Project Steering Committee Manage the co-financing from government and other agencies	Policy development for better financial systems Monitor the project activities alongside the budget Support the microfinance strategy implementation and adoption
The Federal Ministry of Planning, Investment and Economic Development	MoPIED is the coordinating ministry of planning at the national level.	Interested in national and local development and poverty reduction strategies and planning processes being incorporated into national accounting, as appropriate, and reporting systems	In charge of the coordination of all government agencies and providing advice to the government on medium and long-term strategies for socio-economic development and sustainable economic growth.	MoPIED will be a key actor in evaluating the contribution of the project to the achievement of Somalia development goals, notably with regard to the SDG 15 on land degradation neutrality. Coordinating project procurement processes	Monitoring and evaluation mechanism

Stakeholder Group	Key Characteristics	Nature & Extent of Interest	Nature & Extent of Influence	Potential Role in the Programme	Proposed Strategies Related to the Group
Communities	Mainly comprised of Agro pastoralists, small scale crop farmers Live mainly in rural areas, sometimes mobile	Interested in implementing proposed project approaches	Local project implementers/partners	They will play a key role in making functional the conflict resolution mechanisms the project will support on the use of natural resources and land.	Community ownership initiative for hydraulic infrastructure Community based seed production and seed storage through mechanisms like seed banks Community-based livestock improvement programs
The private sector	Not yet providing a female-friendly working environment Consist of agribusinesses, input suppliers, marketing partners and extension service providers Innovative and add value	There is an interest in providing services in terms of innovation and alternative livelihoods and technologies	Private sector service providers will be used to identify Community Based Organizations, Water User Associations and community leaders as required	Will be involved as service providers of input supply, innovation and alternative livelihoods and technologies and other services	Public-private partnership for rehabilitation and management of hydraulic infrastructure and other equipment needed by the project Provision of innovative technology approaches

Stakeholder Group	Key Characteristics	Nature & Extent of Interest	Nature & Extent of Influence	Potential Role in the Programme	Proposed Strategies Related to the Group
Community-Based Organizations (CBOs) and Non-Government Organizations (NGOs)	Lead dialogue and communication in the community Good advocators and negotiators	Livelihood improvement is a core aim of those groups. The group's mission is directly related to the programme's purpose	Advocacy, and local project implementers' Influence in selecting appropriate beneficiaries and sites	They will be instrumental in project implementation and policy dialogue at the community level.	The partnership built with identified MFIs and NGOs to support capacity building and access to the credit of poorest households Support during the implementation of the proposed activities based on their experience and reach in the target locations / sites
Farmer Field Schools	Generates knowledge products under a custom curriculum (agroecological approaches and practices, water and soil conservation practices, climate-resilient and non-GMO seed varieties, including indigenous varieties	Interested in Piloting and dissemination of climate smart and agro-ecological approaches	Influence in deciding which climate-resilient agricultural technologies and environmental management practices is promoted	Scientific /technical training and support services	Developed FFS curriculum/training packages Institutional mechanisms for implementation of national policies and regulations on seeds, plant protection and agrochemicals Diversification of livelihoods (Beekeeping, small ruminants for women etc.). Community based seed production and production of quality declared seeds by FFS with linkage to private sector

Stakeholder Group	Key Characteristics	Nature & Extent of Interest	Nature & Extent of Influence	Potential Role in the Programme	Proposed Strategies Related to the Group
Microfinance Institutes	Operating in Somalia either as affiliated subsidiaries of commercial banks or registered as non-governmental organizations (NGOs).	Interested in helping beneficiaries of the Fund to develop their income-generating activities related to their pastoral activities;	Influence in designing financial products adapted to the needs of the poorest stakeholders and the objectives of the project	Capacity building and access to credit of poorest households	Microfinance Mechanism supporting climate-proof income-generating activities
IDPs	Rely on humanitarian services Poor living conditions	Interested in natural resources (alternative land for settlement) Specific assistance and protection	Influence in designing IDP inclusion policy and opportunities for local integration	IDPs will be engaged in implementing project activities	National Durable Solutions Strategy 2020-2024 for IDP Durable solutions[2] implemented through a whole of government? and ?whole of society? approach and aiming to address displacement by bringing about change, that communities affected by displacement have access to services and can live in secure places.

The stakeholder engagement strategy has set engagement objectives through the planning process and demonstrates how engagement stakeholders are reached in every step of the plan formulation/dissemination process. To achieve transparency, the strategy should be made public. The strategy includes a stakeholder engagement vision and clear goals, participants, methods, roles, responsibilities, and ethical guiding principles[3]. The details of the stakeholder engagement strategy adopted are described in (Table 7, Appendix Stakeholder Engagement Plan).

1) Stakeholder Engagement

This is to run on a stakeholder engagement plan, set in place with key objectives. The plan applies to all components of the proposed program, and all stakeholders are expected to adhere to it when performing their assigned activities.

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[1]https://www.ungpreporting.org/reporting-framework/management-of-salient-human-rights-issues/stakeholder-engagement/

[2] https://www.globalprotectioncluster.org/wp-content/uploads/The-National-Durable-Solutions-Strategy-2020-2024.pdf

[3]https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69208/smpg-vol2-appa.pdf

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

Objectives

a) Identify stakeholders for A2R2, including their priorities and concerns
b) Identify strategies for stakeholder information sharing and communication and stakeholder consultation in a meaningful and accessible way throughout the project's lifetime.
c) To specify procedures and methodologies for stakeholder consultations, documentation of the proceedings, and strategies for feedback
d) Develop stakeholder participation strategies to monitor the impact of the project and report or share results among different stakeholder groups.

This proposed stakeholder engagement program focuses on the period beyond the project design to the implementation phase. SEP primarily focuses on the project's involvement in potential activities, including

a) Mobilization to benefit the community for the start and implementation of the project
b) Identifying important issues, e.g., proper involvement of vulnerable groups
c) Implementation phase-related supervision and monitoring
d) Implementation of the Environmental and Social Management Framework

Communication and stakeholder involvement must adhere to certain ethical and accuracy principles to be effective (Table 5 Appendix Stakeholder Engagement Plan). The stakeholder involvement process (primarily field stakeholder consultations during the project preparation phase) has / will continue to use two common approaches for involvement.

a) **Formal meeting:** Formal meetings for state stakeholders and organized / formal groups will use an overall presentation of the project design, including the essential elements of the ESS (Environment and Social Sustainability) framework, the grievance mechanism, and the gender action plan. Complete documentation of these meetings will be provided, including photo and audio recordings. At these formal meetings, a project overview is created and distributed.

b) **Public meeting:** This activity, aimed at non-state actors, will utilize project outlines and presentation materials. Minutes shall be recorded and documented.

For each stakeholder group, guide questions will be prepared to ensure that insights from each stakeholder group will be secured and used as inputs to enhance the project design (Table 6 Appendix Stakeholder Engagement Plan).

2.4.1 Stakeholder engagement during project development

Following the proposed strategy, interviews with key informants, focus group discussions, and expeditious assessments were conducted with target beneficiaries at target locations. During the rapid assessment, a total of 382 respondents were surveyed during the rapid assessment from the five targeted districts, i.e., Baidoa with 94 accounting for 24.6%, Beledweyne with 129 accounting for 33.8%, Galkacyo South with 83 respondents accounting for 21.5%, Guriceel with 60 accounting for 15.5% and finally Heraale with 16 accounting for 4.2%. 60.1% (232) of the respondents were male, and the rest, 38.9% (150), were female. Most of the respondents were aged 30 to 34, accounting for 18.4% (71), followed by 40 to 44, accounting for 17.1% (66), and 35 to 39 with 15.5% (60). The National Youth Policy[1] of the Federal Government of Somalia (FGS) 2017-2021 refers to persons aged 15-40 as a youth; during the rapid assessment, 54.5% (208) were youth, and the rest, 45.5% (174) were aged above 40. This insight justifies A2R2 targeting the youth and women in the suggested project sites. More in-depth findings are captured in the Appendix Stakeholder Engagement Plan, Annex N.

A three-day workshop per the proposed strategy of engaging with the stakeholders involved in the project design. The workshop aimed to present the elements of project design, ASAP+ project documents, and accompanying draft documents according to IFAD procedures and to involve the stakeholders in completing the drafting of project documents. The workshop attracted participants for the Federal Government of Somalia represented by the Office of the Prime Minister, Ministry of Environment and Water Resources, and Ministry of Agriculture and Irrigation. Galmudug, Hirshabelle, and South-West state representatives were presented at the workshop. These will be the geographical spaces where the program will be implemented. There were also participants from civil society organizations represented by international NGOs like World Vision and Save the Children, International Development Agency; the International Fund for Agriculture Development (IFAD), Local NGOs like Sunshine and SSWC, and a local think tank; Sadar Development and Resilience Institute. The business community was represented by commercial banks, IBS bank, and Amana Bank. The Somalia Resilience Program (SomRep), a consortium of local civil society organizations active in Resilience, was also well represented. In total, the workshop attracted up to 52 participants as per the attached attendance schedule. Project components, proposed activities, and stakeholder input were discussed and agreed upon. All activities under each component were also described in detail. Stakeholder consultation is outlined below in Table 12.

Table 12: Key stakeholders consulted and their role in the project

Stakeholder	Who was Consulted	Role in the Project
Ministry of Agriculture and Irrigation (MoAI)	Minister and DG. Both the current and previous minister Consulted through Bilateral meetings with the minister and attended the design and validation workshop in Mogadishu. Technical Staff engaged were through key informant interviews during the assessment.	The MoAI will be the Project's principal Executing Partner, hosting the Programme Coordination Unit (PCU) and convening the Project Steering Committee. MoAI will also take part in land use planning activities such as integrating combined pasture-forest management, introducing SLM technology, providing consultation on livestock and landscape challenges, as well as ensuring collaboration with agricultural private sector loan efforts, technical support, and operations.
Ministry of Livestock, Forestry and Range (MLFR)	Director General (DG) Consulted through the design and validation workshop in Mogadishu. Technical Staff engaged also engaged as key informants during the assessment.	The Ministry of Livestock, Forestry, and Range (MLFR) will contribute to and coordinate service delivery in livestock project areas such as mixed stocking, crop residue usage for feed and fodder production and variety, and a collection of wild fodder. It is also in charge of livestock watering sites, livestock concentration, and groups and cooperatives in the industry. The Project Steering Committee will also include representatives from the Ministry of Livestock, Forestry, and Range (MLFR).
Ministry of Women and Human Rights Development	Director General (DG). Attended the design and validation workshop in Mogadishu**.** Technical staff were engaged during the gender analysis as key informants and provided information on relevant policies.	The Ministry of Women and Human Rights Development of the Federal Government of Somalia is mandated to advance the promotion and protection of gender equality and human rights, including the rights of women, children and other vulnerable groups. The Ministry of Women and Human Rights Development will also be represented on the Project Steering Committee and ensure the implementation of the gender action plan during project implementation.

Stakeholder	Who was Consulted	Role in the Project
Directorate of Environment and Climate Change, Office of the Prime Minister.	Senior Advisor to the deputy PM office and NDC Somalia facilitator.	The MoECC is responsible for developing national environmental policy and coordinating environmental concerns with federal institutions, Federal Member States, foreign partners, and other stakeholders. Collaborate on the development of a monitoring and evaluation system for land degradation and biodiversity, including developing a Geographic Information System (GIS) at the state and federal levels. The MoECC would be represented on the Project Steering Committee and provide technical assistance in project activities related to the environment. (Note: Directorate has now been absorbed in the MoECC and role taken over by the ministry)
Ministry of Environment and climate change (MoECC)	The New Minister was consulted through several bilateral meetings and also attended the validation workshop in Mogadishu.	
Ministry of Finance	Minister and DG -FGS	Responsible for developing and implementing the country's economic and financial policies. The Ministry of Finance will receive the money and will conduct yearly joint missions with IFAD on the project's performance and fiduciary issues. The Project Steering Committee would include a representative from the Ministry of Finance.
The Federal Ministry of Planning, Investment and Economic Development	Minister and DG	The MoPIED will be an important aspect in evaluating the project's contribution to the accomplishment of Somalia's development objectives, particularly SDG 15 on land degradation neutrality, due to its involvement in the M&E of the National Development Plan implementation.

Stakeholder	Who was Consulted	Role in the Project
The local Governments in the States where the project will be implemented.	Ministers and DGs of the state Ministries of Agriculture Ministries; Environment Ministries of Hirshabelle, Galmudug, and Southwest. Consultation through the design and validation workshop in Mogadishu. Technical staff engaged as key informants during the assessment.	Collaboratively Implement a unified biodiversity framework, coordinate agricultural reform operations, and hold people accountable for the effective and rational use of land resources in order to promote new agricultural technology and implement a farmer field school plan. The emphasis will also be on enhancing their role in supporting links between communities and state governments on land and natural resource policy concerns and development services, as well as linkages between communities throughout Localities. The state ministries of Agriculture and Environment will be represented in the Project steering committee.
Communities	Agro-pastoralists, pastoralists, women, youth, community leaders, were consulted through rapid assessments and focus group discussions.	Communities are key actors of change. Their capacities will be strengthened in adaptation to climate change, NRM (Natural Resource Management) and land-use governance within and between communities. They will play a key role in making functional the conflict resolution mechanisms the project will support on the use of natural resources and land. These will include local cooperatives, farmers and pastoralists
The Private Sector	Agri-inputs & extension services providers (Filsan, CSET). Consulted during the design and validation workshops in Mogadishu and through key informant interviews during the assessment.	Will be participating as input supply service providers, innovators, and suppliers of alternative lives and technology. They will also assist in the identification of gaps in small-holder farmers' knowledge and practices. Contribution to the training modules

Stakeholder	Who was Consulted	Role in the Project
	Engineering & Drilling companies (Hydroc, Hydrofit); Consulted during the project development for market costs related to drilling, solarization and Geophysical surveys.	Provide training on hydraulic infrastructure operation and maintenance. Participate in consulting/work for geophysical surveys and drilling and rehabilitation of hydraulic infrastructure.
	Agribusinesses (CPI,Tayo, Raadsan, Asmaa, Somseed Agri). Consulted at the design workshop in Mogadishu and during the rapid assessment as key informants	Provide a market for agricultural products and value-added services Suppliers of climate-smart technologies, and agro-processing facilities Collaborate on efforts to increase small-scale farmers' access to markets.
	BDS services (Riskbridge, Devreg). Consulted during the design workshop and through key informant interview on the microfinance sector in Somalia.	Increasing credit/finance availability. Support SMMEs with record keeping, financial statement preparation, opening bank accounts, loan applications, forming VSLA and SHGs, coaching and mentoring. Facilitate partnership between the private and governmental sectors in the creation of pro-poor goods by MFIs and banks.
Community-Based Organizations (CBOs) and Non-Government Organizations (NGOs)	Somalia Resilience Programme (SOMREP) Building Resilient Communities in Somalia (BRiCS) Somalia Agriculture Technical Group (SATG) Centre for Research and Integrated Development (CERiD) Save the Children Somalia, World Vision Somali Save Women & Children Consulted during the design and validation workshops in Mogadishu. Management and technical staff were in attendance. Also participated in the rapid assessment as key informants.	They will be instrumental in project implementation and policy dialogue at the local level. Support during the implementation of the proposed activities based on their experience and reach in the target locations / sites Support capacity building and access to the credit of poorest households.

Stakeholder	Who was Consulted	Role in the Project
Women and youth groups	Consulted during the rapid assessment (HH surveys, FGDs)	Participation in project interventions which include identifying the specific climate-related challenges they face and discovering possible solutions.
Farmer Field Schools		Offer Scientific/technical training and support services as well as demo farming sites Developed FFS curriculum/training packages Institutional mechanisms for implementation of national policies and regulations on seeds, plant protection and agrochemicals Diversification of livelihoods (Beekeeping, small ruminants for women etc.). Community based seed production and production of quality declared seeds by FFS with linkage to private sector
Microfinance and Private financial institutions	IBS Bank Amana Micro Dahab Kaah Micro Amal Bank. Consulted during the design and validation workshops in Mogadishu and through Key informant interviews on the microfinance sector in Somalia. (see technical report on microfinance).	Offer financial products adapted to the needs of the poorest stakeholders particularly women in accordance with Islamic law. These products should be intended to help develop their income-generating activities. Participate in the development and adoption of new technology-based platforms for delivery of financial services to groups (VSLAs)
Insurance companies	CEO Takaful Somalia. Bilateral discussions in Mogadishu through the design workshop in Mogadishu and as key informant during the assessment. The CEO shared write up on the insurance products currently offered as well as new development in the pipeline.	Partnership in the piloting of micro-takaful product as insurance services to the poor. Collaborate on creating awareness of the community-based insurance/ Takaful model among the VSLAs

2.4.2 Stakeholder involvement during implementation

During the program?s implementation, non-governmental organizations, citizen groups, faith-based organizations, traditional authorities, local cooperatives, and associations shall be consulted. Since almost all programme activities take place on the village level and require the active participation of the beneficiaries, stakeholder involvement has to take place in twenty-six (26) villages within five (5) districts in three (3) states involved in programme activities (Annex N Stakeholder Engagement Plan, Table 3).

Social Network Analysis of Stakeholders

Social Network Analysis (SNA) was conducted on stakeholders via the Kumu platform during project design. Kumu.io[2] provides a way to visualize complex networks, capture the basic structure of the network, and reveal the key actors in the network. This data will continue to be collected and analyzed during the project to gain a deeper understanding of the connections made by stakeholders and to uncover the impact on the network's key stakeholders and the project. The initial analysis of the stakeholders within the proposed structure shows that information about the A2R2 project can spread fastest and create higher awareness with the PMU, followed by the Ministry of Agriculture and Irrigation, then Project Steering Committee. These entities need to be equipped more with effective communications structures and channels to support that role.

Regulations and Requirements

This stakeholder engagement plan is created due to the need to comply with Somalia's environmental policies and land use. These measures unanimously advocate that project stakeholders are meaningfully involved in influencing decisions, participatory planning, and transparent complaint management mechanisms.

Grievance Redress System and Grievance process.

A Grievance Remedy Mechanism (GRM) involves receiving and processing complaints from individuals or groups that have or are being negatively impacted by specific project activities. The GRM will ensure well-thought-out processes and procedures are in place to capture, assess, and respond to community concerns.

A five-step Grievance Mechanism management framework will be followed. In this framework, claimants will be assisted by the village leadership in putting their complaints and claims in writing. At level 1, received complaints will be registered, investigated, and resolved by the project officer, together with the consultations made at Level 2 to the Elders, clan leaders, religious leaders, and business people, as well as the complainant.

All cases that may not be fully resolved at levels (1 and 2), or issues that exceed the capacity of the village council, will be transferred to the district committee (level 3). This is true even if the district administration level 3 cannot be resolved; it will be transferred to the state administration at level 4 and finally to the level 5 PCU as needed (Figure 4 Appendix Stakeholder Engagement Plan).

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[1] https://somalia.unfpa.org/sites/default/files/pub-pdf/Youth%20Report.pdf.

[2] https://kumu.io/

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor; Yes

Co-financier;

Member of project steering committee or equivalent decision-making body; Yes

Executor or co-executor; Yes

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

3.1 Gender assessment

Somalia faces a number of constraints in formulating evidence-based policies and plans, most important among which is scarce household and sectoral data. Hardships occasioned by poverty, ongoing insecurity and a deeply clan-based culture which promotes strict male hierarchy and authority and subordination of women. Political instability, conflict, insecurity, lawlessness, and climate emergencies worsen gender inequality. This is further exacerbated by religious misinterpretations and cultural limitations on the role and status of women in Somali society. As a result, deeply rooted gender inequality prevails. Women continue to be marginalized in almost all spheres of society despite their contributions to maintaining everyday life. The past decade has seen a momentous change in institutional recognition, commitment and efforts towards gender equality and inclusion, particularly by the Federal Government of Somalia, with the government prioritizing the empowerment of women in particular through participation in decision-making to be instrumental for peace and development, and ?rebuilding the new Somalia?.

Major findings in the gender analysis

The project ?Adaptive Agriculture and Rangeland Rehabilitation Project (A2R2)-Somalia? (referred to hereafter as the A2R2 Project) considers gender mainstreaming as central to its successful achievement. Preliminary Gender differentiated risks and opportunities have been identified in the A2R2. To begin with, a thorough review has been done of the socio-cultural context of the project. This was done through a participatory gender-sensitive rural poverty analysis. Furthermore, a desk review was also conducted which focused on identifying some of the major challenges, risks and opportunities that women face in climate adaptation, land resource management and biodiversity.

A rapid assessment survey was conducted, and this exercise had a number of questions that specifically focused on exploring the roles women play in household dynamics, the division of labor and the responsibilities of women in farming, crop management, etc. Additionally, a number of focus group discussion were conducted with community members and stakeholders as well as these revealed a number of important risks and vulnerabilities were identified. Widespread and unprecedented rapid degradation of land threatens food production, water availability, biodiversity and energy security worldwide. Land degradation contributes to climate change, deepens poverty and induces displacement and migration, while those forces in turn worsen land degradation[1]. When land is degraded usable land becomes scarce. In Somalia, women are uniquely and differentially affected given their substantial role in agriculture and food production, greater vulnerability to poverty, and typically weaker legal protections and social status. Women constitute the majority of farmers in many of the region?s most severely affected by desertification, land degradation and drought[2].

From the desk study and analysis found that for the past five years, gender mainstreaming has been a central focus of policy makers and development partners in Somalia.[3] This commitment can be seen in

dozens of national documents, strategies and action plans. For example, the Somalia National Development Plan, 2020-2024, ?A Path to a Just, Stable and Prosperous Somalia? whose goal is to reduce poverty and inequality through inclusive economic growth and employment, improved security and rule of law, and strengthened political stability. Known as NDP-9, it advocates for targeted interventions to improve women?s rights, protection and participation. The Government adopted the 2030 Agenda for Sustainable Development and has aligned and mainstreamed the NDP-9 with the SDGs to provide a national framework for institutional renovation.[4] Furthermore, the Ministry of Women and Human Rights together with her partners has developed a 5-year National Action for the Women?s Charter and UNSR1325 Women, Peace and Security action plan. Gender has also been mainstreamed in key international agreements relating to agriculture, land and rangeland rehabilitation and gender equality. This Project Gender Action Plan (GAP) is informed by this and other relevant national, international frameworks and policies related to the environment and gender equality.

The gender analysis conducted identified gender differences, gender differentiated impacts and risks, and opportunities to address gender gaps and promote the empowerment of women in the project that may be relevant to the proposed activity. The corresponding gender-responsive measures put in place to address differences, identified impacts and risks, and opportunities through a gender action plan. The gender action plan has put in place gender-responsive measures and considerations in the results framework and they include actions, gender-sensitive indicators and sex-disaggregated targets.[5] The Project will be implemented to ensure that continuous identification occurs of any emerging gender issues in the project life cycle so as to achieve the project objectives on climate adaptation, sustainable land management and biodiversity conservation.

Moreover, the analysis found that in Somalia, women tend to be excluded from conservation and management of land, lack access to agricultural extension services and institutional credit and encounter barriers to participation in development, planning and policymaking processes. Deeply rooted gender inequality prevails and prevent women and young girls from fully participating in these important domains. Somali women continue to be marginalized in almost all spheres of society despite their contributions to maintaining everyday life. Unequal power relations and gender-based discrimination in legal and customary systems in Somalia deny women even user rights to plant trees, control soil degradation and enhance soil fertility. Gender-responsive LDN projects and programs strategically contribute to the achievement of LDN and address the needs of the most vulnerable groups, such as small farmers, rural communities and indigenous peoples, with a dedicated focus on women. For this reason, GEF-financed activities are conducted, designed and implemented in an inclusive manner so that women?s participation and voice are, regardless of their background, age, race, ethnicity or religion, reflected in decision-making, and that consultations with women?s organizations, including Indigenous women and local women?s groups, are supported.

Somali women still face significant hurdles to thrive in an environment where key business information is still shared in a very informal manner and where strategic networks and strong clan connections (from which they tend to be excluded) are key drivers of success[6]. Due to migration and forced conscription into militant groups such as Al-Shabaab, there is a significant number of female-headed households, as well as households in which women have become the primary or contributing breadwinners for the family. Despite this, most women are excluded from asset ownership or operate through a male guardianship. Protective traditional and customary laws for women, their social support systems and their access to land and property have been compromised due to conflict, regular exposure to disasters, a breakdown of social order, law and stability[7].

The Gender Action Plan sets out guiding principles and mandatory requirements for mainstreaming gender during the implementation of the adaptive Agriculture and Rangeland Rehabilitation Project (A2R2) with a view to promoting gender equality and empowering Somali women and girls in support of GEF?s mandate to achieve global environmental benefits. To prepare the Gender Action Plan, a desk study was conducted to identify gender issues relevant to the country and specific to the project and conducted a gender-responsive stakeholder consultations as well as a socio-economic assessment that included Gender Analysis.

3.2 Gender mainstreaming in the A2R2 activities and Gender Action Plan

After the gender analysis was done a gender action plan for the A2R2 project was developed. Gender considerations were made for all the activities that fall under the various components under each of the four outcomes so as to ensure that the impact on women and men of the interventions, of the Project. The Gender Analysis and Gender Action Plan (GAP) is presented in Annex O.

Under outcome 1.1 on climate-resilient hydraulic infrastructure profitably and sustainably operated by vulnerable communities, the following gender considerations were put in place. To conduct a gender inclusive stakeholder mapping exercise which included outreach on women, consultation with women, and partnerships with women-led organizations, especially in the tailoring and designing of the microfinance mechanism to poor households? needs in the context of the sustainable natural resource?s management. These partnerships would foster support in capacity building and access to credit for poorest households. They would also help in the training, equipping and coaching micro entrepreneurs undertake to take on new income-generating ideas and activities. In the identification and promotion of profitable and climate-proof sources of income through the Gender Action Learning System (GALS).

Gender considerations include setting up radio shows and community forums to explain the project?s aims and objectives. The thematic areas should touch on explaining climatic change and how it affects the country especially women?s economic activities. The inclusion of gender indicators and segregated data as captured in the Somali National Development Plan 2020-2024, the IFAD and GEF policies on climate change resilience. It is recommended to use GEWE Strategy Framework to strengthen institutions through capacity enhancement, at the national, regional and district level. A range of actors play different roles in the water supply and sanitation sector in Somalia, sometimes with little or no government oversight. That means that women in households should be provided with technical and operational capacities to exploit these existing value chains. A gender sensitive system is crucial to provide for sufficient capacity for data collection and analysis in establishing targeted contingency planning and alert information tailored to women?s needs. For example, alerts will be provided to women how gardens and farms should be managed efficiently during expected dry periods. Also, the communities will be informed when water points become dry or on when easy to build flood diversion works should be constructed by communities.

Furthermore, close monitoring of the impact on women of clan relations that often disadvantage women in usage of water and drilling of the boreholes. The community accessor/those involved in surveys especially women should be well introduced and made aware of security situations of their target population in the survey. In addition to the above, there should be considerations for distance and constant availability of water for household use, small scale farming and livestock owing to traditional restrictions on women?s movement. Women must be consulted and engaged during decision making meetings. Equally important is the consideration of how the Project will improve women's engagement in agricultural activities. Notwithstanding, women in Somalia are heavily involved in subsistence farming which entails milking the animals, processing the milk, feeding the family, and taking care of livestock. finally, the overall design and implementation of the assessment should consider possibilities of overlapping activities that may take away women?s time to engage due to other commitments such as search for food, water and other economic engagements.

Under outcome 1.2 on the adoption of agro-ecological productive technologies and practices by small-scale farmers & pastoralists, activity-level gender considerations were provided for. To begin with, gender-related priorities were integrated in all the activities under the various components in order to address gender differences and empower Somali women for improved pastureland management, contributing to achieving land degradation neutrality and gender targets of the project and of Somalia?s national priorities. The analysis recommended that the Project provides support for the creation of gender sensitive pastoralists and agro-pastoralists producer organizations as well as market linkages between producer organizations especially where women are the key players. Their participation, input and output markets for livestock and livestock products should be harnessed. Similarly, to showcase and disseminate a range of successful gender practices that have been implemented around the world and draw on these examples. Facilitate the creation of linkages between producer organizations and business development service providers, especially those run by women. This is particularly important for promoting gender responsive climate resilient livelihood opportunities such as apiculture and small ruminants. This will help promote women in management of community assets, promoting joint ownership or sharing of replaced productive assets and livestock between spouses, training women, and designing gender

responsive credit schemes and financial services to increase their work and employment opportunities in agriculture sector. The analysis recommends conducting a gender responsive value chain analysis to identify priority commodities/value chains. This could be done through considering gender responsive credit schemes and financial services are designed to increase their work and employment opportunities in the agriculture sector.

Ensuring proper post-drought interventions and enhancing livestock production will support water availability for the livestock and livestock holders and thus better financing and investing opportunities for the sector interventions and initiatives. Additionally, ensuring that there are gender sensitive social protection and safety nets will help with the limited livelihood diversification opportunities among livestock dependent households who are mainly pastoralists. Furthermore, the assessment commends, full support for women smallholder groups through the project through the establishment of cooperatives and promoting dissemination of gender sensitive information on available services. The safety nets would provide a foundation to embrace sustainable productive activities, access basic social services, and facilitate longer-term livelihood recovery and development. It is equally important to give priority to most vulnerable groups such as women, the aged, female dependent households, and populations in remote and dry areas because this will boost up the better animal health service by trained women as community-based animal health service providers, and establishment of, and technical support for, community based agrovet operators. Gender sensitive policy investment options in addressing environmental risks, should consider the delicate balance of maintaining pastoralists? mobility and lifestyle vis-?-vis environmental conservation, population growth and state security. Finally, the analysis recommends the establishment of gender sensitive groups for farmers in the villages to exchange information, especially support for community-based seed production and production of quality declared seeds by FFS with linkage to private sector.

Under outcomes 1.3 on microfinance mechanism supporting climate proof income-generating activities established and functional and 1.4 on increased household incomes for the poorest households, the following gender considerations were given. The preparation of gender-sensitive drought preparedness plans is highly recommended to guide communities on specific actions to take before, during and after a drought. This means that proper and easy to use communication channels on drought conditions across communities should be set up. Also gender sensitive monitoring system in seasonal forecasts of potential drought conditions, spatial monitoring of pasture availability, and promotion of commercial livestock off take to allow early reduction of herd sizes. It is recommended to identify and reach out to stakeholders and partners, ensuring gender-balanced representation, perspectives and expertise. Awareness should be created about the VSLAs the Projects wants to target and the importance of registering with the Somali federal government. Additionally, women-led households should especially be included, especially for he Form VSLAs from among the participants of the farmer field schools and formalize them with local authorities.

Notwithstanding, it is critical to ensure that the study is gender sensitive and considers local cultural and traditional settings. This means a setup and exploration of Sharia-compliant Islamic insurance schemes for the livestock sector in the near future to de-risk investment in the sector. The government should ways to devise and improve strategies to access finance and inputs and catalyze private sector investment into high priority sectors. The Project could consider the set up a gender sensitive mentorship and training programs to expand knowledge and skills of both men and women, young people and older people. This means that community members should be engaged to collect feedback from them especially women whose needs are mainly excluded in many product designs. It is encouraged to set up gender sensitive learning cohorts and seeking opportunities to learn from/ seek synergies with other projects in regard to gender and women?s empowerment for example, through exchange programs, incubations projects, currently ongoing throughout.

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[1] SDG Voluntary National Review report 2022
[2] Land Degradation Neutrality interventions to foster gender equality
[3]UN Somalia Gender Equality Strategy 2018-2020
[4] SDG Voluntary National Review report 2022

[5] See the GAP which contains all these measures.

[7] Somalia Drought Impact and Needs Assessment (Vol. 3): Federal Member State and Administrative Region Reports

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

Closing gender gaps in access to and control over natural resources; Yes

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

Does the project?s results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

Private sector in Somalia played a vital role in the absence of public services due to the civil war and the disintegration of the governmental institutions. Somali businesses stepped in at times when state capabilities to deliver public services were limited. For A2R2 implementation the private sector will be supported and will play a key role in the project implementation, and at diverse levels.

The project will work with the private sector on water resource management. In Somalia, water sector service provision for instance is largely in the hands of communities in the rural sector. The private sector enterprises will be first of all service providers for the construction/rehabilitation of the hydraulic infrastructure. Regarding water management the project will establish institutional structures for water catchment conservation and a professional water service provider to operate and maintain the infrastructure built or climate proofed by the project. For water service provision, the villages will be clustered, and a registered Water Service Provider (WSP) established to be responsible for the operation and maintenance of the facilities. The WSP will have a Board of Directors (BoDs) constituted from the key stakeholders and the district authority and would operate on a commercial basis to profitably run the water schemes.

Partnership will be developed with MFIs and NGOs to support access to credit and market linkages for poorest households. In order to achieve the Microfinance subcomponent objectives, the project will be implemented with and through private partners to deliver efficient and sustainable Microfinance among the target communities. Each partner category will be oriented on the project objectives and goal, as well as their role in enabling the achievement of the overall vision. Banks, Microfinance institutions and FinTech?s[1] will be brought on board as enablers of the financial intermediation for the VSLAs. These institutions will be supported to design pro-poor products, tailored to the needs of the poor households.

Under the outcome 1.2 ?vulnerable smallholders diversify livelihoods and increase incomes through improved access to microfinance mechanisms?, the project will facilitate training of individual members of the farmer field schools on different value chains and link them to both input and output markets. The Project will seek to provide business skills to individuals by strengthening their production capacity focused on agricultural and renewable energy enterprises through a market systems development approach.

The project will also support the creation of tree nurseries. This will be done by conducting a participatory community engagement in the identification of priority native and commercial tree species for multiplication and assess their market demand, so that that once the trees are raised, they would be market for the products.

[1] Companies that develop innovative digital technology to optimize financial services.

5. Risks to Achieving Project Objectives

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

Fragility status. With a Fragile States Index of 110.9 in 2021, Somalia is considered one of the three most fragile countries since 2007. The drivers of fragility in Somalia include: ethnic divisions and violent struggles for power and resources that have lasted for almost 30 years; weak governance and institutional capacity; poverty; youth unemployment; youth radicalization; and the Al-Shabaab and Islamic State insurgencies. For the rural farmers and herdsmen, the effects of climate change, dwindling water resources, and the recurring desert locust attacks on crops have eroded the resilience of the production base. The breakdown of governance structures, law and order, has weakened the community institutions that support rural livelihoods, and tensions are building around water points, land use, and access to farm inputs and financial services. Beyond agriculture, the impact of fragility is also felt in the infrastructure, national security, foreign direct investment, and health sectors. The large displacement of people within Somalia and to neighboring countries, notably Kenya and Ethiopia, disrupted economic activities and increased food insecurity. The infrastructure for basic services has been badly damaged by conflict.

The advent of **COVID-19** in March 2020 exacerbated the protracted fragile situation. Somalia was particularly vulnerable to COVID-19 due to: (i) the weak baseline economic and health contexts; (ii) reliance on external markets for import of food, agricultural inputs, and health facilities; and (iii) reduced volume of remittances which had served as a social safety net. The rural populations were expected to be more affected by the resulting poverty, and food and nutrition insecurity, due to reduced production, higher prices, loss of incomes, and depletion of savings. The UN agencies and partners responded to the COVID-19 pandemic through the Country Preparedness and Response Plan, which supported key interventions within the FGS? Comprehensive Response Plan launched in March 2020. IFAD also intervened through funds from the Rural Poor Stimulus Facility (RPSF) to ongoing grant-assisted projects.

The recent **Ukrainian crisis** has further fueled Somalia?s fragility. Electricity and transportation costs have spiked due to fuel price increases, with a heavy impact on small-scale farmers and pastoralists who, in the face of an ongoing drought, rely on irrigation-fed agriculture powered by small diesel engines for their survival. About 90 % of Somalia?s wheat imports previously came from Russia and Ukraine. Since the crisis broke out, the grain supply line has been blocked resulting in exorbitant food prices. However, Somalia is top on the list of 22 priority countries to benefit from the Crisis Response Initiative (CRI) launched by IFAD in May 2022, to protect livelihoods and build resilience in rural areas by addressing the urgent needs caused by the Ukrainian crisis while tapping into new market opportunities for small-scale producers. The tailored interventions will focus on preventing hunger and food insecurity, while supporting sustainable food systems.

Table 12 Risks and Mitigation Measures

Risk categories	Risk Probability	Risk Impact	Mitigations
Rekindling or intensification of insurgency in target areas	High	High	IFAD will collaborate with the UN and the rest of the international community to promote security. IFAD?s design will feature a conflict-sensitive approach to minimize the risk of the project aggravating tensions between communities, but also minimize the risk of conflict resurgence affecting the desired outcomes (improved NRM governance, capacity development, etc.). The project will be implemented by IFAD at state and district levels, and will deliver effectively for the benefit of the people on the ground through reliable executing agencies to be identified during the full design phase: Government institutions at the national and federal levels and well-established and locally-accepted NGOs. IFAD will focus on empowering communities and promoting strong stakeholder ownership.
Weak national policy framework	Medium	Medium	The project will be implemented in the framework of the new development and sectoral strategies recently adopted by the Government, the National Development Plan 2020-2024 in particular, contributing concretely to the achievement of its objectives and building its credibility. This will provide the umbrella framework for the project to be in line with sectoral strategies and climate and environment national plans and policies, such as the NAPA, the INDC, the NBSAP and the National commitments with regard to LDN and SDG15. In addition, the project has a specific outcome dedicated to strengthening institutional capacity and the policy environment to achieve land degradation neutrality and conserve biodiversity.
Weak technical capacities and inability to access parts of programme area for data	Medium	Medium	IFAD will use national consultants and institutions to obtain specific additional information required to conclude design in view of security risk in parts of the country. The design will focus on key issues to simplify the component structure drawing on lessons learned from its previous portfolio and from partners experience. The project considers a flexible community driven approach to ensure technologies address the needs of the target beneficiaries.

Risk categories	Risk Probability	Risk Impact	Mitigations
Weak institutional capacity for implementation and sustainability (low capacity as a result of prolonged conflict)	High	Medium	The key part of the project implementation strategy is to provide operational support to Government line agencies, local implementing agencies, and community organizations for effective delivery. This will also serve to rebuild their institutional capacity and inspire hope and confidence. As necessary, the project will use third party implementation partners (i.e. national and international NGOs with local contacts and a credible track record) with plan to hand over to government when capacity improves.
Absence of strong national system for procurement	High	High	The project will follow IFAD?s Project Procurement Guidelines, Procurement Handbook, and standard bidding documents in the absence of strong national systems. Regular implementation support missions will be planned, with targeted training and support on preparation of bidding activities in compliance with IFAD?s requirements.
Co-financing availability	Low	Low	The ongoing discussions at IFAD Management level and with Government of Somalia are well advanced and, subject to agreement on the settlement of Somalia?s arrears, the likelihood of having IFAD Performance-Based Allocation (PBA) is high. Negotiations with bilateral donors (e.g. Canada, Italy and OFID) are underway.
Climate risk (risk of climate disasters such as droughts and floods affecting project outcomes)	High	High	The project has included a range of climate adaptation risks and practices in all its components. The components funded through the Biodiversity and Land Degradation focal areas also feature adaptation co-benefits. The project will adopt an agroecological approach and a systematic integration of climate adaptation into investment projects. Specific targeting of women, youth and other vulnerable people will strengthen their resilience to climate change through, inter alia improved access to water and diversification of livelihoods.

Risk categories	Risk Probability	Risk Impact	Mitigations
Loss of biodiversity and soil degradation	High	High	The project will engage in : ? Train farmers and service providers on sustainable land development practices ? Encourage crop intensification and discourage opening of virgin forest for cropping. ? Encourage mixed cropping of target crops with cover crops and anchor crops ? Involve partners from the Ministry and research institutes in training farmers on soil conservation techniques ? promote use of organic fertilizers and encourage use of biodegradable organic manures and agrochemicals usage ? Training packages to farmers to include environment and climate change considerations ? Land degradation and biodiversity mainstreamed into local, national and federal strategies and plans ? Implement rangeland rehabilitation and management actions through over-sowing, reseeding and controlling bush encroachment

Risk categories	Risk Probability	Risk Impact	Mitigations
Disruption of culture and Conflict resurgence	Medium	High	The projet will: ? Carry out awareness raising and consultations on the livelihood options ? Develop a transparent complaint, grievances redress and dispute resolution framework and make this known to all stakeholders ? Develop a clear and simple stakeholder engagement plan (SEP) & communication/outreach strategy), particularly on project objectives and staffing (incl. who?s responsible for what), criteria for community and beneficiary selection, community ? Keep relevant stakeholders informed about project progress on a regular basis; ? Involve youth and women leaders as well as respected elders in key project decisions and sensitization activities; ? Encourage contractors / service providers to give employment preference to local community members ? Sensitize women & youth on business opportunities and challenges

Risk categories	Risk Probability	Risk Impact	Mitigations
Inadequate participation of local communities & social exclusion especially women and youth			The project will: ? Spend enough time for mobilization on targeting to reach everybody at community meetings ? Actively involve women and youth in all components and levels of decision-making within the project; ? Implement the 50/50 male/female project beneficiaries? ratio ? Ensure women hold at least 30- 40% of leadership posts in the farmer organizations and project management team; ? When organizing meetings or events, ensure they are appropriate to women?s time and venue constraints; ? Consider using local labour for project activities to increase number of indirect project beneficiaries
The proposed project target area could include ecologically sensitive areas of global/national significance for biodiversity conservation, and/or biodiversity-rich areas and habitats depended on by endangered species	Low	High	The project will be carried out in different sites that will exclude those in close proximity/ adjacent to protected areas. In any event the project will be developed in accordance with the relevant legislations such as the National Environmental Policy (2020), and the NBSAP (2015)

Risk categories	Risk Probability	Risk Impact	Mitigations
Public Health and COVID Pandemic	High	High	The global COVID-19 pandemic is having an unprecedented impact around the world, both in health and socioeconomic terms and does not spare Somalia. There is an increased risk to public health that is beyond the control of the project. During project implementation, every effort will be made to reduce and mitigate the risk of covid-19 infection. The project will work to reduce COVID-19 associated risks by following international and WHO standards for the prevention of infection and will raise awareness during all training and capacity building efforts. Should the size of public gatherings be limited, then suitable alternatives will be sought that are in compliance with best practices in reducing the risk of infection. Project beneficiaries will be taught the most up to date health and safety requirements to limit the risk of contagion.

6. Institutional Arrangement and Coordination

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

The A2R2 Project will benefit from the ongoing projects implemented by other partners as presented in the baseline scenario and will be mainstreamed into the Somalia Integrated and Resilient Agricultural Productivity Project (SIRAP). The SIRAP is part of the Rural Livelihoods Resilience Programme (RLRP) and is financially supported by the Global Agriculture and Food Security Program (GAFSP). The A2R2 Project will be jointly implemented with the SIRAP through a hybrid process, which integrates third party implementation arrangements and a single Programme Management Unit (PMU).

Project oversight. The Programme Steering Committee (PSC) established under the Ministry of Agriculture and Irrigation (MoAI) for the SIRAP will be the entity responsible for overseeing the A2R2 Project. As agreed with the FGS the PSC is chaired by the Ministry of Agriculture and Irrigation and includes representatives from the Ministry of Finance, the Directorate of Environment and Climate Change in the Prime Minister?s Office, the Ministry of Livestock, Forestry and Range (MLFR), the Ministry of Energy and Water Resources (MEWR), the Ministry of Women and Human Rights Development, the Hirshabelle State, the South West State and the Galmudug State.

The PSC will approve the annual work plan and budget (AWPB) and review the annual project progress, the financial reports and audits.

The Programme Management Unit (PMU), under the MoAI, will be responsible. for: (i) overall management of the A2R2 Project; (ii) coordinating the project implementation; (iv) working to development of the annual work plan and budget (AWPB) and undertaking M&E and knowledge management Project activities; (vi)

meeting all reporting obligations on the implementation progress and results of the A2R2 Project to IFAD and to the PSC; and (vii) coordination with the IFAD Country Team to ensure accountability for programme coordination.

The PMU forms the secretariat of the PSC chaired by the MoAI, and reports to the PSC. The PMU will be responsible for the development of a strong cooperation and coordination with the relevant GEF/LDCF financed projects as well as the other development partners projects identified in the baseline, notably the RLACC-II Project, the Support for Integrated Water Resources Management to Ensure Water Access and Disaster Reduction for Somalia?s Agro-Pastoralists (IWRM), the Food Security and Sustainability in Fragile Situations (FSSFS), the Support to Agricultural Productivity in Somalia (SAPS), the Water for Agro-pastoral Productivity and Resilience (WAPR), the Sustainable Charcoal Reduction and Alternative Livelihoods project, the Strengthening national capacities for improved decision-making and mainstreaming of global environmental obligations Project, the Rural Poor Stimulus Facility?s Program for Building Resilient Livelihoods Action to COVID-19.

IFAD supervision. IFAD will provide oversight and guidance and be responsible for all financial monitoring and reporting aspects to the GEF. IFAD will supervise the A2R2 Project directly, using innovative and flexible supervision approaches. Depending on the prevailing conditions, IFAD may conduct field missions through third party arrangements and/or local consultants, supported by remote and off-site supervision through organizing meetings on a regular basis. Given the fragile situation in the country, IFAD will continuously monitor, follow-up and providing implementation support to effectively manage the A2R2 Project, improve policy engagement, knowledge management and partnership building.

Third party implementation arrangements. At the request of the FGS, SADAR Development and Resilience Institute will be the A2R2 Project technical Executing Entity on performance and result based principles on behalf of the MoAI. As such, SADAR will perform the functions and responsibilities of the PMU described above. SADAR will establish the PMU. Every position in the PMU, will be subject to IFAD non-objection. Under the guidance of the PSC and the supervision of IFAD, and in close coordination with the MoAI and other technical ministries, SADAR will be responsible for the day-to-day implementation of the four technical components of the A2R2 Project. SADAR will also manage and coordinate project activities, and ensure reporting to the MoAI, the PSC and IFAD. A MoU between IFAD and SADAR will be established and will determine SADAR?s role and responsibilities as Executing Entity for the implementation of the A2R2 Project.

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assesments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

The project is consistent with the following national policies, strategies and sectoral plans:

? The National Development Plan (NDP-9) 2020-2024, which identifies drought and flood as the major climatic constraints for the country. Its goal is to reduce poverty and inequality through inclusive economic

growth and employment, improved security and rule of law, and strengthened political stability. NDP-9 addresses the root causes of poverty and aims to improve the impacts of poverty experienced by households and individuals. Analysis indicates that poverty in Somalia is driven by political fragility, conflict, insecurity and lawlessness, and exacerbated by climate emergencies. In reference to climate change the NDP 9 acknowledges that the poor are the most vulnerable to shocks, and if Somalia is to achieve the objective of poverty reduction it must be through the ability to invest in resilience. Natural resource management, biodiversity and resilience to climate change are considered as cross-cutting policies (imperatives) together with gender, human rights and social equity. In addition, it is important to consider that the NPD 9 foresee, under the Pillar 3 Economic Development, the creation of a Water Master Plan to address the scarcity of water impacts at the household and community level, in health outcomes, as well as in the economy.

? The National Disaster Management Policy (2018), which aims to improve community resilience and preparedness in the face of disaster and climate emergencies in order to significantly reduce the loss of lives and property;

? The Somalia?s Intended Nationally Determined Contributions (NDCs), 2015), prepared in line with UN Framework Convention on Climate Change (UNFCCC) and the decision of the "Lima Call for Action", include the policy, plans and mitigation and adaptation projects intended to achieve the objectives of the INDCs. The GEF/LCDF project will develop activities that contribute directly to what the INCDs have identified as potential remedial measures to overcome deforestation and pasture degradation, and which are : (1) sustainable land management and food security through enhanced productivity; (2) integrated water management; (3) reducing risk among of vulnerable populations from natural disasters; (4) the utilization of renewable energy resources such as solar, hydroelectric and wind ; (5) reforestation using regional nurseries and forest plantation using indigenous and introduced suitable tree species;

? The National Adaptation Programmes of Action (NAPA, 2013) describe the priority areas and adaptation measures that were subsequently incorporated in the INCDs. The adaptation measures identified by the NAPA, and presented below, serve as a framework for any intervention/action regarding natural resource management and are fully aligned with the A2R2.

Table 13. Selected adaptation measures.

Sector	Proposed adaptation measures

Water	1. Improve access to water supply through provision of piped water supply to urban areas and IDP camps. 2. Improve the quantity of water available through rehabilitation of dams, ?berkeds?, boreholes and the construction of new dams, reservoirs, water diversions, livestock watering points and irrigation infrastructure. The selection of sites for these boreholes should consider livestock concentration in the area and should be accompanied by an Environmental Impact Assessment. 3. Improve water capture and natural storage through improved land management 4. Establish a regulatory framework for water management along with local level management structures and capacities for water resource management. 5. Improve water quality through water treatment plants that should be constructed alongside large-scale water storage projects, low-cost water treatment at the community level and legislation for water pollution control 6. Construction of river embankments, check dams and retaining walls to protect flood-prone areas
Agriculture and Food Security	1. Government support to increase local production and prioritize it over exports through incentives such as small grants, provision of agricultural inputs, strong institutional support and guidance relating to finances, assets and technology and improved extension services. 2. Watershed management through construction of water diversions from streams to farms for irrigation, establishment of boreholes for supply of water for irrigation and support for community-level water capture and storage for agricultural lands. 3. Sustainable land management and reforestation to reduce soil erosion 4. Establishment of an agricultural research institute that employs Somali experts who are familiar with the local context and that focus on the study of hydrology and soils 5. Establishment of an agricultural credit system for farmers along with agricultural cooperatives and associations 6. Diversification of food production appropriate to the natural ecosystem and introduction of high-value drought resistant crops and agro-forestry 7. Improve food security through the construction and maintenance of food storage facilities and seed banks and raising awareness amongst communities, particularly pastoralists on the importance of stockpiling food. 8. Enhance farm-based livelihoods through the improvement of farm-to-market roads, creation of small agro-industries, training in the marketing of farm products and development of markets for agricultural produce 9. Integrated Pest Management to protect crops and reduce risk/increase incentive to farmers

Animal Husbandry, Livestock and Rangelands	1. Land management with emphasis on preventing deforestation, planting new trees, establishing regulations for rotational grazing and protection and supervision of grazing areas. This program should be administered by Ministry of Environment, District Officials and Traditional Elders and Leaders of the communities 2. Provision of veterinary services by the government, ensuring access to remote rural areas and establishing diagnostic labs 3. Support pastoralists in becoming agro-pastoralists or livestock farmers, whereby their livelihoods are diversified. This should include support for the cultivation of fodder crops. 4. Control the export of female livestock due to the negative impacts on the sector 5. Cultivation of drought resistant fodder crops 6. Enhance livestock-based livelihoods through support to small-scale industries (hides, tanning, milk) and training in marketing of animal products (cheeses and yogurt) 7. Provide funding and mechanism for research into animal health 8. Establishment of livestock associations and cooperatives and support to local NGOs working in the sector
Biodiversity (forests, freshwater aquatic, marine and invasive alien species)	1. Protection of forests through charcoal reduction by developing alternative energy plan, encouraging the use of fuel-efficient cooking stoves, supporting alternative livelihoods and banning exports of charcoal. 2. Large-scale tree-planting program which includes the panting of high-value productive trees 3. Construction of check-dams to reduce flooding and destruction of trees 4. Protection of forests through legal frameworks and enforcement by the employment of rangers 5. Widespread awareness campaign on the impacts resulting from the destruction of forests and other natural resources 6. Protection of biodiversity and wildlife through policy measures, particularly focusing on endangered species 7. Establish a research center that studies flora and fauna to understand the advantages and disadvantages of certain species and their impacts on land and water resources, and to further examine sustainable forestry, agriculture and fire management
Natural Disasters	1. Establishment of a National-level disaster management agency responsible for coordination during emergencies, developing early warning systems and developing drought management and emergency preparedness plans 2. Enhanced coordination and information-sharing between relevant ministries and stakeholders 3. Community mobilization and development to enhance ownership by communities of local development problems as they related to climate events so that they become more active participants in developing solutions. This should also include a national level community- based disaster management program. 4. Installation of agro-meteorological stations 5. Utilize local knowledge on forecasting, weather information and agriculture to inform planning and initiatives 6. Create a fund for disasters to be administered by the Ministry of Interior and Local Government

Source: NAPA

Thus, the activities of the GEF/LCDF project are fully in line with the NAPA priority adaptation measures in relation to the three areas of action selected : 1) **Sustainable Land Management** (including adaption activities related to reforestation campaign including the distribution of seedlings to vulnerable communities; improved rangeland management and development and enforcement of a system for rotational grazing; awareness raising on environment, focusing on natural resource management, strengthening ecosystem services and promotion of alternative fuel/energy sources); 2) **Water Resources Management** (with adaptation activities related to the development and implementation of regional water resource management plans, the construction of water storage infrastructure (reservoirs) including supply for irrigation, livestock watering points and boreholes, the construction and rehabilitation of community level infrastructure, shallow wells, ponds; and 3) **Disaster Management** (prevention of drought and flooding).

•The United Nations Convention to Combat Desertification (UNCCD), the project being particularly addressing drought and desertification issues as well as supporting the Land Degradation Neutrality national commitments. The table below presents a first set of direct contributions to LDN objectives according to the different changes identified in Somalia.
•The National Biodiversity Strategy and Action Plan (NBSAP, 2015), is built on the vision that, in 2050, Somalia?s biological diversity is appreciated, restored, conserved and its components are utilized in sustainable manner that contributes to the socio-economic development of the nation. The GEF project will develop activities in line with the 5 NBSAP main priorities: 1) Creating understanding of the drivers of biodiversity degradation together with response measures; 2) Reducing the direct pressures on Somali biodiversity; 3) Safeguarding ecosystems, species and genetic diversity; 4) Enhance the benefits to all from biodiversity with emphasis on sharing it with marginalized groups; and 5) Enhanced participatory planning, knowledge management and capacity building.
•The Impact and Needs Assessment (DINA) and the subsequent Resilience and Recovery Framework (RRF, August 2017). The DINA and the RRF are aligned with the National Development Plan (NDP) and the National Disaster Management Policy;
•The National Youth Policy of the Federal Government of Somalia (2018) aiming at promoting youth participation in all sphere of development.
•The Women?s Charter for Somalia, adopted in March 2019, calling for the women?s economic empowerment, full participation and socioeconomic rights are cornerstones for equality and sustainable development.

The GEF/LCDF project will also contribute to the achievement of the following Sustainable Development Goals (SDGs):

SDG 1 End poverty in all its forms everywhere
SDG 2 End hunger, achieve food security and improved nutrition and promote sustainable agriculture
SDG 5 Achieve gender equality and empower all women and girls
SDG 6 Ensure availability and sustainable management of water and sanitation for all
SDG 12 Ensure sustainable consumption and production patterns
SDG 13 Take urgent action to combat climate change and its impacts
SDG15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

8. Knowledge Management

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

The project monitoring, evaluation and the knowledge management unit will put systems (knowledge management system) in place for the projects to systematically capture, codify and disseminate experiences and lessons for the project improvement and future programing.

Under the Output 4.1.2 ?Communication strategy rolled out and knowledge products disseminated?, the project approaches on knowledge generation, management and dissemination strategy will focus on investing people through the establishment of knowledge management group, recruitment of dedicated staff to generate, manage and facilitate knowledge sharing. As well, the project will invest and enhance knowledge

production processes. These includes the creation of enabling environment to enhance culture of ongoing knowledge generation and sharing. This enabling environment can be created through the inclusion of knowledge management deliverables and competencies in the staff performance and appraisal.

The project will establish process to foster a virtuous learning and the promotion of innovative strategies. Additionally, the project will invest technologies for knowledge management and dissemination, specifically on platforms that foster knowledge sharing and that also provide easy access to knowledge, such as online discussion for a, communities of practice, knowledge networks as well as online knowledge management platforms such as extranet, research and insights libraries and social media. As well the project will invest on good governance so that the staff are supported and encouraged to carry out knowledge management in a systematic and strategic way.

A learning agenda which includes set of questions addressing knowledge gaps and the related tasks (studies and evaluations) to address the knowledge gap will be developed at the inception phase and through the project life cycles. The learning agenda is intended to support the validation of the project assumptions and hypotheses during the implementation phase, support informed decision on the best strategies to be deployed and discover any knowledge gaps identified during the design and at the inception phase.

Lastly, an annual knowledge fair or learning events will be conducted to showcase the project results through demonstrations and booths displaying information about the project. The project will also document lessons learnt and other knowledge product through annual performance reports (APRs), briefing notes, infographics & flyers, knowledge platforms, project performance reports (PPRs), mid-term evaluation reports (MTRs) and terminal evaluation reports, project stories and project videos. The knowledge product is aimed at informing or influencing decision-makers to improve development policies, programmes, practices, products, skills and competencies.

IT-based systems will be developed to support and enhance the organizational processes of knowledge creation, storage/retrieval, transfer, and application which will include intranets and extranets, search and retrieval tools, content management and collaboration tools, data warehousing and mining tools.

Table 11. Knowledge management metrics.

Knowledge product/activity/system	**Measurement indicators/metric**
Learning event/annual knowledge fair	Number of learning events conducted Number of persons participating in learning events disaggregated by gender
Knowledge products disseminated	Number of knowledge product disseminated, upload in knowledge management platforms and the frequency of dissemination Number and type of user feedback mechanism(s) on knowledge needs
Community of practice	Number of practice meetings or sessions organized # of inbound, outbound (reciprocated) connections of policy advisors and community members within the corporate social network
After action reviews/quarterly meeting	Number of quarterly reviews/after action reviews conducted
Briefing notes	Number and description of briefing notes distributed
Knowledge platforms/system	# of contributions (differentiated by content type, discussion subscribers, posts, and replies; and repository submissions, searches, and retrievals) Number of persons utilizing the knowledge platforms/systems.

9. Monitoring and Evaluation

Describe the budgeted M and E plan

The project monitoring and evaluation plan has been developed in coordination with project stakeholders. The Project will be monitored through the Results Framework (see Annex A). The Results Framework includes 1-2 indicators per Outcome. A methodology for measuring indicator targets is provided. Indicator

targets are Specific, Measurable, Achievable, Relevant, and Time-bound (SMART), and disaggregated by sex where applicable. Component 4 of the Results Framework is dedicated to M&E, knowledge sharing and coordination.

The project will implement an effective monitoring and evaluation system that will support the project management unit, staff, stakeholders, and the beneficiaries to determine the extent to which the project is on track and to choose the needed corrections that will be undertaken. The M&E system is intended to provide reliable and timely data for informed decision-making regarding operations management and service delivery, ensure the most effective and efficient use of resources, and evaluate the extent to which the project has had the desired impact. The project will monitor and evaluate GEF Core key indicators to provide a portfolio level understanding of progress towards the GEF Global Environmental Benefits (GEBs). The Core indicators are namely: area of landscapes under improved practices (excluding protected areas), greenhouse gas emissions mitigated (metric tons of CO2e), number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment and the total of people trained.

To achieve this, the project will deploy an online monitoring and evaluation system (a web-based M&E system) for M&E reports, project management, and production of dashboards to streamline and optimize M&E processes with an easy-to-use interface and mobile platform. The M & E system will have a spatial component in which every location?s global positioning system (GPS) coordinates of activity implementation will be recorded. The GIS system will be linked with the project database to produce digital maps. Integrating the project M&E system with GIS adds the dimension of geographic spatial analysis by providing an interface between the data and a map.

Additionally, the project will undertake a yearly data quality audit (DQA) to ensure the validity, reliability, precision, integrity, and timeliness of monitoring data to determine if the monitoring data is reasonably meeting data quality standards to be useful for monitoring program performance, reliable for management decisions, and credible for reporting. As part of this process, the monitoring and evaluation team will be responsible for verifying the data with beneficiaries to ensure no manipulation and reduce any errors that may occur during collection. The project?s key strategies for enhancing the quality of data include regular training of all staff and partners, especially those who collect, analyse and use data; quarterly data quality assessment on selected indicators; quarterly data reflections meetings; regular data verification and cross-checking by M&E Officers focused on reported data validation and verification; periodic internal data quality assessments as well as pre-testing of the data collection tools.

The project will produce reports to help the managers and stakeholders detect potential or upcoming project risks, monitor and gauge progress, showcase success, and document lessons learned. The reporting system of the project will focus on results or outcomes to be achieved. The first project report is the inception report that will capture the understanding of the project strategies and objectives for the project staff and lay the ground for the project takeoff. During this period, the project staff will translate the project documents into an operational plan according to which the project will be operationalized. Other reports will be produced annually to assess progress, the descriptions of activities performed, outcome and indicator results to date, upcoming activities, challenges, lessons learned, and corrective actions undertaken. An annual project progress report (PIR) will also be produced to assess progress against performance targets, performance indicators, lessons learned, challenges, coordination with external actors, and any corrective actions or strategic changes undertaken. The annual Project Implementation Report (PIR) will be used as the baseline for the budget estimates and draft work plans for the next fiscal year.

The project will also produce study reports, including a baseline report that will comprehensively cover existing pre-conditions for the key indicators during the inception phase of the project (within the first six months of the project?s start). Midterm evaluations (MTEs) report will also document the continued relevance of the project intervention, the progress made towards achieving its planned objectives, and opportunities for modifications to ensure the achievement of the objectives within the lifetime of the project. Besides, a terminal evaluation (TE) will be produced to provide a snapshot of the project performance (in terms of relevance, effectiveness, and efficiency) and determine the degree of achievement and likelihood of outcomes and impacts (actual and potential) stemming from the project, including their sustainability.

The annual ESMP report will outline the status of ESMP implementation, any progress made with the environmental management, environmental monitoring results, and other relevant issues such as grievance

monitoring and public consultation. The report may also highlight any additional environmental or social risks that have emerged since the project started and the appropriate mitigation measures for any significant new risk.

The project will adopt a mixed-method evaluation approach involving key stakeholders in evaluation design to measure progress against the project?s theory of change, the performance of the key indicators, resiliency and agro-ecological performance of target landscapes, and project contribution to the targets of both SDGs and the Proposed Post 2020 Global Biodiversity Framework.

The project will design a robust and functional beneficiary compliant and feedback mechanism to solicit and respond to the views of the beneficiaries for resolving issues and concerns raised by beneficiaries, strengthening relationships with communities, identifying gaps and areas for improvement, and providing an opportunity to improve projection in a manner that is safe, non-threatening and accessible. Before setting up the appropriate feedback system, the project will conduct an all-inclusive assessment of the most preferred channel or mechanism for sharing and responding to the beneficiaries? concerns. The project will install a free toll number for SMS and calls to voice concerns and share feedback. This is an Interactive Voice Response (IVR) that interacts with callers, gathers information, and routes call to the appropriate recipients. The interactive voice response (IVR) uses recorded messages to provide a menu of options for callers to access information and provide survey feedback.

Table 12. Summary of project reports.

M&E/ Reporting Document	How the document will be used	Timeframe	Responsible
Baseline study	? Provide an information base against which to monitor and assess an activity's progress and effectiveness during implementation and after the activity is completed	Within three months of inception workshop	PMU Project Manager and M&E Officer
Inception Report	? Summarize decisions made during inception workshop, including changes to project design, budget, Results Framework, etc.	Within three months of inception workshop	PMU Project Manager and M&E Officer
	?		
Financial Reports	? Assess financial progress and management.	Every three months	PMU F&A officer
Project Implementation Report (PIR) with Result Framework and workplan tracking.	? Inform management decisions and drafting of annual workplan and budget; ? Share lessons internally and externally; ? Report to the PSC and GEF Agency on the project progress.	Yearly (September)	PMU Project Manager and M&E Officer
ESMP report	? Ensure that social and environmental impacts, risks and liabilities identified are effectively managed during the implementation of the project.	Yearly	External expert or organization

Mid-term Project Evaluation Report	? External formative evaluation of the project; ? Recommendations for adaptive management for the second half of the project period; ? Inform PSC, GEF and other stakeholders of project performance to date.	Midterm	External expert or organization
Terminal Project Evaluation Report	? External summative evaluation of the overall project; ? Recommendations for GEF and those designing related projects.	Before project completion	External expert or organization

Table 13. Indicative Costed M&E Plan

Type of M&E activity	Responsible Parties	GEF Project Resources (US$)	Co-financing (US$)	Total Budget (US$)	Time frame
Independent Baseline study	PMU	15,000	35,000	50,000	In the inception phase of the project.
Inception Workshop (IW) and Report	PMU	18,000	12,000	30,000	Within first 3 months of project start-up
Inception Report	PMU	None	None		Within two weeks of inception workshop
Project M&E staff	PMU	60,000	240,000	300,000	
Training of PMU on M&E			12,000	12,000	Training to be conducted after every two year
MIS for M&E, M&E Framework, standard monitoring templates		8,000	10,000	18,000	Start/PY1
Setting-up a Call centre for beneficiary feedback and responses. Installation of toll-free number for beneficiaries to provide feedback		40,000	100,000	140,000	Ongoing

Data quality assurance assessment to determine if the data submitted by field staff meets quality criteria (accuracy, completeness, reliability, relevance, and timeliness). 2 sites will be visited in the 3 states semi-annually		20,000	30,000	50,000	Biannually
Project Progress Reports					Annually
GEF Project Implementation Report (PIR)	PMU	None	None		Annually
Financial reports					Quarterly
Project Implementation Report	PMU	None	None		Annually. Covered with GEF fees.
Supervision					At least once per year; covered with GEF fees
Mid-term GEF Monitoring	M&E / KM Specialist	5,000	1,000	6,000	
Lessons learned and knowledge generation and dissemination	M&E / KM Specialist	40,000	88,400	128,400	Annually
Monitoring of environmental and social risks, and corresponding management plans as relevant	M&E / KM Specialist	30.000	14,600	44,600	Annually
Stakeholder Engagement Plan	PMU	36,000	5,000	41,000	Quarterly
Gender Action Plan	Gender specialist	15,000	5,000	20,000	Annually
Addressing environmental and social grievances	PMU	20,000	10,000	30,000	Annually
Independent Mid-term Review (MTR)	PMU and IFAD	45,000		45,000.	At project mid-term. Consultants recruited with project resources. IFAD?s oversight covered with GEF fees.

Terminal GEF Tracking Tool to be updated by IFAD	M&E / KM Specialist	6,000	2,000	8,000	Before terminal evaluation mission takes place
Independent Terminal Evaluation (TE)	PMU and IFAD		50,000	50,000	At least three months before operational closure
TOTAL INDICATIVE COST		**358,000**	**615,000**	**973,000**	

10. Benefits

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

The A2R2 will target 72,000 HHs in three Federal Member States (FMS) - Galmudug, Hirshabelle and South West State. The Project target groups will comprise vulnerable smallholder producers ? mainly agro-pastoralists, pastoralists, fishers and other rural poor who have the potential to take advantage of improved access to assets and opportunities for agricultural production, Income Generating Activities (IGAs) and Climate Change Adaptation (CCA) to increase their resilience against the uncertainty caused by climate change on food security and nutrition.

The expected benefits of restoring landscapes include better soil fertility, increased agricultural productivity and food security, greater availability and quality of water resources, reduced desertification, enhance biodiversity, creation of green jobs, economic growth, mitigation and increased resilience to climate change.

The Global environmental benefits presented above will also generate socio-economic benefits for the local communities in the project targeted areas, which will include:

? Improved food security and nutrition through increased production and productivity;

? 5,000 vulnerable HHs (50% women) have increased income and diverse livelihoods by accessing rural financial products through microfinance mechanisms for the purchase of agricultural inputs, including seeds, fertilizers, small fisheries equipment, and small equipment to restart crop and fodder production;

? 50 rural producers? organizations/VSLAs (saving groups) with a membership of 15-30 members engaged in formal partnerships/agreements or contracts with MFIs and NGOs to support access to credit and market linkages for the poorest households;

? Small grant support for MFIs and partner institutions to support capacity building initiatives, studies, and system development. This will facilitate the development of pro-poor financial products tailored to the needs of the poor households and the expansion of the MFIs to rural underserved areas;

? Participation in VSLAs increases social cohesion by building trust among members, which results in greater financial inclusion of marginalized groups, such as rural farmers, women, and vulnerable youth, who are often excluded from formal financial services. Additionally, strengthening leadership and decision-making and building strong social bonds among members;

? Functional grievance and conflict resolution mechanisms to prevent land and water use-related conflicts created through the formation and training of 50 Community Development Associations (CDA) focusing on land and natural resource management;

Increased social resilience and human well-being through, notably, the promotion of gender equality and the empowerment of women and youth, especially for creating new employment opportunities. Women will have at least 50% representation in trainings on national and community levels and will be included as mandatory members of the VSLAs, water resource user associations, water service providers, and rural producer organizations. They will also become empowered to diversify their livelihoods through training on climate-smart technologies and practices.

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate	High or Substantial		

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

A. Environment and Social category

1. The preliminary environmental and social categorization of the project is **Substantial**, as the potential negative environmental and social effects are limited and site-specific. The main activities that could have environmental and social concern are construction and/or rehabilitation of feeder roads, water, small-scale irrigation, processing and storage facilities, and promotion of agroforestry and agricultural inputs, including drought tolerant crops, forage and livestock breeds. These activities may cause environmental (water, soil) pollution, deforestation, occupational health hazard, water and land use conflicts, temporary/permanent displacement of people during construction of infrastructures etc. The infrastructure to be included will be small-scale and located in non-sensitive areas. The environmental and social impacts of the Project activities on human populations are expected to be modest in scale, dispersed, largely site-specific and reversible. They can be minimized by mitigation measures that are described in the 2021 preliminary Social Environmental and Climate Assessment Procedures (SECAP) review note. An

Environmental Social and Climate Management Framework has been prepared for A2R2 (Annex M) and Free Prior and Informed Consent Implementation Plan will be elaborated for infrastructure development. The project will further develop appropriate conflict-sensitivity guidelines and safeguards to avoid inadvertent harm in fragile environments.

B. Climate Risk classification

2. Although the preliminary climate risk classification for A2R2 is **high**, the project?s objectives and activities are specifically geared to increase resilience, thereby reducing the risk of climate change affecting the intended outcomes. Adaptive measures to reduce the vulnerability to climate will include the use of climate-smart technologies in production operations and infrastructure development. An assessment by the National Adaptation Programme of Action on Climate Change (NAPA) indicates that the primary driver for climate vulnerability for smallholder agricultural production is rainfall variability and intensity, with drought and floods as the main hazards. The vulnerabilities associated with drought include: declining water supplies, increased conflict over water, seeds being eaten as grains, loss of crop and livestock, and soil degradation due to deforestation. The main vulnerabilities associated with flooding include: destruction of farmlands, crops, livestock, water and market infrastructure and rural dwellings, pollution, soil erosion and nutrient loss.

The project will develop a comprehensive environment, climate and social management plan which help mitigate negative effects, with such mitigation measures fully mainstreamed in the project.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
Annex M_Environment, Climate Change and Social Management Framework (ESCMF)	**CEO Endorsement ESS**	
ESS Document-Somalia-PIF-Annex E	**Project PIF ESS**	

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).

Results hierarchy	Indicator				Means of verification			Assumption
	Name	Baseline	Mid-term target	Target	Source	Frequency	Responsibility	
Outreach	**Number of persons receiving services promoted or supported by the project (CI-1)**				Baseline study, Annual reporting Mid-Term survey	Yearly	**PCU**	1) At least 50% of persons receiving project support are women (based on National stats), while youth women represent 30 % of total youth 2) number of persons per average HH is 5,9 3) HHs that receive project support are 20% female headed (based on National Statistics)
	Males ? Number	**0**		208,150				
	Females ? Number	**0**		216,650				
	Young ? Number Total	**0**		127,440				
	Total number of persons receiving services - Number of people	0		424,800				
	Male - Percentage (%)			49				
	Female - Percentage (%)			51				
	Young - Percentage (%)			30				
	Corresponding number of households reached (CI-1.a)							
	Women-headed households- Households	**0**		**14,400**				

	Non-women-headed households - Households	**0**		**57,600**				
	Households - Households	**0**		**72,000**				
Goal: Contribute to land restoration, biodiversity conservation of degraded ecosystems, and improvement of adaptive capacity of vulnerable smallholder households through climate resilient sustainable natural resource management	**Number of persons/households whose combined resilience has increased (CRI)**	**0**		**72,000**	RDMT survey reports, B-Impact Assessment reports	Yearly	**PCU**	Vulnerable communities are supporting land restoration and biodiversity-positive approaches (A) Farmers allocate some food stocks for home consumption? (A), Households are willing to change their coping strategies (A) Extreme weather events causes losses and damages to agriculture sector and have major impacts to food and nutrition security in target regions (R)

Developmental objective: Vulnerable smallholder households located in five Districts of three States in Somalia improve food and nutrition security and enhance livelihoods ? climate resilience through improved land, soil and water management, and improved governance and information systems for land degradation neutrality and biodiversity conservation	**GEF CI 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment**	**0**		**72,000**	Project Progress Reports	Yearly	**PCU**	Good governance (A) No major natural disasters and/or epidemics (A), Security and political situation stable (A) Improvement of macro-economic conditions (A)
	#males			208,150				
	#females			216,650				
	GEF CI 4 Area of landscapes under improved practices (excluding protected areas) - (Hectares)	**0**		**61,200**	Households? surveys, Impact study, National statistics, GIS mapping	Yearly	**PCU**	
	GEF CI 3 Area of land restored ? (Hectares)	**0**		**12,550**		Yearly	**PCU**	
Component 1. Adaptive climate resilient water infrastructure and productive livelihoods								
Outcome 1.1	**Households reporting**	0	7,500	15,000	-	-	-	Local communitie

Climate-resilient water infrastructure profitably and sustainably managed by vulnerable communities	**improved access to land, forests, water or water bodies for production purposes (CI-1.2.1)**		HHs Women (50 %)	HHs Women (50%)				s are well informed about the impacts of climate change on water resources and understand the importance of climate resilience-building measures to be implemented (A) Hydrogeological studies and technical assessments are accurate in their predictions of water capture and storage capacities (A). State/district authorities and community leadership support management, operations and maintenance of the water
Output 1.1.1: Water infrastructure built or climate-proofed (e.g. shallow wells, surface water retention dams, household cisterns and floodwaterspate irrigation structures, solar pumping schemes, multipurpose water systems, drip irrigation, etc.) based on site-specific technical studies	# Water infrastructure built or climate-proofed disaggregated by type	Assessed at project inception		9 boreholes 15 shallow wells 5 infiltration gallery wells 14 dams	Water infrastructure rehabilitated completion certificate, project progress reports.	Quarterly	PCU	

Output 1.1.2: Community management, operations and maintenance groups created/ strengthened to effectively manage the water infrastructure and prevent conflicts over water resources	# Water Resources User Association (WRUAs) established or strengthened and trained on Operations and Maintenance	0	10	21	Project Progress Reports, Training reports, Registry of WRUAs	Quarterly	PCU	infrastructure (A) Security situation will be stable and supportive to the implementation of the project (A).
Outcome 1.2: Vulnerable smallholders diversify livelihoods and increase incomes through improved access to microfinance mechanisms	**CI 1.2.5: Households reporting using rural financial services - HH**	0	2500	5,000	Baseline, midterm, and end-line reports (Digital survey)	Start, mid and end of project		MFIs continue to show commitment to expand credits and lending to smallholders (A) No major external shocks stop MFI clients to repay their loans on time (A)
Output 1.2.1: Partnership developed with MFIs and NGOs to support access to credit and market linkages for poorest households	# Rural producers? organizations (saving groups) engaged in formal partnerships/agreements or contracts with public or private entities (CI 2.2.3)	0	30	50	Project supervision reports	Quarterly	PCU	

Output 1.2.2 Poor households trained, equipped and coached to undertake new income-generating activities as micro entrepreneurs	Number of rural producers? organizations supported (trained, equipped and coached) (CI 2.1.3)	0	30	50	Project supervision reports	Quarterly	PCU	
	# of Gender Action Learning Systems (GALS) developed and implemented	0	1	1	Project supervision reports	Quarterly	PCU	
Component 2: Promote a landscape approach to an integrated management of rangeland and forest ecosystems for land degradation neutrality and biodiversity conservation.								
Outcome 2.1: Rangeland biodiversity and landscape restoration enhanced	**Number of hectares of land brought under climate resilient management [CI 3.1.4 / ASAP 4]**	0	2,000	6,850				Local pastoralist communities are sensitized on the importance and necessity of land restoration (A)
	GEF CI 6: Greenhouse gas emission mitigated	0		2,042,873 tCO2	EX-ACT Carbon Balance tool report	Mid-term and final		

Output 2.1.1: Participatory climate-resilient landscape investment plans developed and implemented including biodiversity-positive measures to protect native species	# Participatory Community Land use and Pasture Plans developed and implemented	0	30	50	Project reports	Yearly	PCU	Targeted agro-pastoralists and pastoralists are committed to equitable natural resource management (A)
Output 2.1.2: Grievance and conflict resolution mechanisms functional to prevent land and water use-related conflicts	# Community development Associations (CDA) focusing on Land and NRM created disaggregated by sex, age and activity group	0	30	50	Project/monitoring report, CDA registry	Quarterly	PCU	Communities are promoting INRM through activity groups (A)
Outcome 2.2: Vulnerable households implement nature-based solutions and climate-resilient technologies and practices across productive	**Households reporting adoption of environmentally sustainable and climate ?resilient technologies and practices (CI-3.2.2)**				Baseline, midterm, and end-line reports	Start, mid and of project	External firm hired by the project steering committee	Targeted farmers and pastoralists are committed to integrate adaptation technologies / practices to improve resilience of their livelihoods (A)
	Households (number)	0	8,000	12,000				
	Households (%)	0	66	100				

landscapes (farm and pasture lands)	Household members							Local institutions support the dissemination of climate resilient technologies and practices (A)
Output 2.2.1: Farmers and pastoralists trained, supported and equipped to facilitate adoption of climate-smart, productive agro-ecological approaches and techniques	**Number of persons/groups supported to sustainably manage natural resources and climate-related risks (trained and equipped) [CI 3.1.1.]**	0	6,000	12,000	Project reports, attendance lists, Tools for Agroecology Performance Evaluation (TAPE) Assessment	Quarterly Yearly	PCU	
	# Men	0	3000	6000				
	# Women	0	3000	6000				
	# Youth	0	2000	3600				
Output 2.2.2: Adapted and productive agroecological approaches and techniques (for soil, water and biodiversity conservation) identified and disseminated across productive landscapes, based on indigenous knowledge	# FFS/FLS created or strengthened	0	40	50				

Outcome 2.3: Degraded Forest ecosystems restored through ANR and reforestation of native species	**Area of forest and forest land restored (GEF CI 3.2) Ha**	0	100	850	Base/Mid/End line Survey	Baseline Mid Term End-line	External Consultancy firm	Local communities are sensitized and committed on the socio-economic and environmental interest to sustainable manage the forest (A)
Output 2.3.1: Tree nurseries set up/rehabilitated and management cooperatives established and supported	# Tree nurseries set up and management cooperatives established and supported disaggregated by location/district/region	0	2	4	Project/monitoring reports	Quarterly	PCU	
Output 2.3.2: Community capacity on sustainable forestry management and tree monitoring strengthened	# CDA ? SFM Activity groups trained, disaggregated by gender	0	30	50	Project/monitoring reports	Quarterly	PCU	
	# Men groups	0	15	30				
	# Women groups	0	15	20				
Component 3. Institutional strengthening to support land degradation neutrality and biodiversity protection								

Outcome 3.1: Strengthened institutional capacity and enabling environment to achieve land degradation neutrality and conserve biodiversity	LDN and biodiversity M&E system functional, generating policy-relevant information	0	1	1	Biodiversity/ LDN M&E system reports	Quarterly	PCU	Government institutions engaged with project implementation (A)
Output 3.1.1: Institutional actors? capacity to document SDG-related LDN and biodiversity indicators and coordination mechanisms strengthened	Georeferenced tracking system for land degradation and biodiversity established	0	1	1	Georeferenced tracking system and report	Quarterly	PCU	
	# Institutions strengthened to document SDG-related LDN and biodiversity indicators disaggregated by gender and age	0	2	4	Capacity strengthening report and attendance list, project supervision reports	Quarterly	PCU	
Component 4: Knowledge sharing for systematization and scaling up								

Outcome 4.1: Project progress and results systematized to improve management, promote learning, and support upscaling of best practices	Project monitoring and KM system operational	0	1	1	Monitoring data and reports	Quarterly	PCU	
Output 4.1.1: Effective monitoring and evaluation plan implemented	Project M&E Plan implemented	0	1	1	Monitoring data and reports	Quarterly	PCU	
Output 4.1.2: CCA, SLM and community-based conservation and agricultural production best practices and challenges collected systematically and KM products disseminated	Communication strategy including a knowledge management system developed	0	1	1	Knowledge management products and dissemination report	Yearly	PCU	
	# of knowledge products disseminated	0	8	20	KM products	Yearly	PCU	

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

Adaptive Agriculture and Rangeland Rehabilitation (A2R2) Responses to GEF/STAP Comments

Comment	Government of Somalia and IFAD response
Germany	
Rangeland and forest restoration requires to control grazing and maintenance of saplings and vegetation during its establishment. The proposal should further elaborate how to manage resistance against restrictions of grazing due to grazing pressure on rangeland and forests that are to be restored.	The first action is to discuss with the communities so that they recognize the need and usefulness of restoring the forests and rangelands and protecting them from grazing for a time period. This was done through the Rapid Assessment and focus group discussions held during the design phase. This will continue during the initial phase mainly through the Community Development Associations (CDAs) that will be established/reinforced by the Project. This is part of the Stakeholder engagement Plan carried out during the design phase. On this ground, pastoral communities have to be able to survive in the absence of the protected rangelands. The Project plans to work very closely with the CDAs to identify forms of compensation and incentives appropriate to the situation. These may include the allocation of alternative grazing areas, the acquisition of alternative feed for livestock, and the creation of alternative water points to ensure the full success of the protected area ban.

Since the approach of forest restoration relies on the establishment of nurseries, thereby aiming to provide jobs in the project area, more clarification is needed as to who will be the customer of those nurseries to make them economically viable, considering that at some point the project will pull out of the project areas.	The forest restoration through setting up nurseries, as envisaged in the project, falls within the framework of the National Forestry Plan and will be included in the National Forestry Strategy that the project will support at the request made by the new Ministry of Environment and Climate Change during the A2R2 Validation Workshop. Previously, the National Adaptation Programmes of Action (NAPA, 2t013) pointed out, in the list of adaptive measures, the need for a ?Large-scale tree-planting program which includes the panting of high-value productive trees?. This activity is also targeted in the Somalia?s Intended Nationally Determined Contributions (NDCs, 2015), prepared in line with the UN Framework Convention on Climate Change (UNFCCC) and the decision of the "Lima Call for Action?. The INDCs include a set of potential remedial measures to overcome deforestation and pasture such as ?reforestation using regional nurseries and forest plantation using indigenous and introduced suitable tree species?. In this framework, the primary objective of the nurseries will be to respond to the environmental degradation of natural resources in such a way as to restore the environmental services of the ecosystem. The nurseries will be linked to the Farmer Field Schools (FFS) in view of strengthening the capacities of the private companies that will manage the nurseries, in terms of tree production but also in terms of management. The project is not primarily aimed at developing a market, but the main clients may be the relevant public institutions, from the local to the federal level, which will be responsible for the implementation of the National Forestry Strategy.

The political will of the national and local governments to act in line with the proposed activities of this proposal might be an issue for the success of this envisioned project. This issue needs to be elaborated further, possibly through scenarios how to cope with a lack of political will.	Although Somalia is still a fragile state, the new government that emerged from the May 2022 presidential election has clearly expressed its political will to combat desertification, preserve biodiversity and fight global warming by creating, for the first time, a Ministry of Environment and Climate Change at the federal level. The importance given to the issue of sustainable management of natural resources is also reflected in several legal texts and instruments: The Government adopted the 2030 Agenda for Sustainable Development and aligned and integrated the NDP-9 with the SDGs to provide a national framework for institutional renewal. With reference to climate change, NDP 9 recognizes that the poor are the most vulnerable to shocks and that if Somalia is to achieve the poverty reduction goal, it must include the ability to invest in resilience. The project will be implemented in the framework of the National Development Plan 2020-2024 This will provide the umbrella framework for the project to be in line with sectoral strategies and climate and environment national plans and policies, such as the NAPA, the INDC, the NBSAP and the National commitments with regard to LDN and SDG15. In addition, the project has a specific outcome dedicated to strengthening institutional capacity and the policy environment to achieve land degradation neutrality and conserve biodiversity. The intense discussions and exchange during the validation workshop held in Mogadishu expressed the interest of stakeholders in the sustainable natural resources management? and the commitment of the Government through the validation of the objectives and activities of the GEF/IFAD A2R2 Project

This issue of governance relates to issues of poverty, as poor parts of the population lack access to resources. Further explanations on how to improve access to resources for poor people are needed.	The A2R2 Household Rapid Assessment (2022) together with a number of other studies have all shown the existing gap in financial inclusion of Somalia?s poor households. The low and unpredictable income of poor rural people who are mostly Agro-Pastoralists makes it difficult for them to bank with formal financial institutions. Poor people have been largely discounted by formal financial institutions. The A2R2 Household Rapid Assessment (2022) shows that 60.5% of households did not have access to credit or loan financial services. Furthermore, 47% of households mainly sourced their financial support from family and friends where 15% was from NGO government. The bank had only 3% of the respondents and family/friends NGO constituted 6%, and 4% obtained from group-based microfinance or lending. When key informants were asked if there are any cultural or religious limitations to women?s effective participations in microfinance or in running Income generating activities, they asserted that women have been highly affected though there are seemingly new changes that are being observed. This depicts that there is a need for establish a more certain, resilient and functional mechanism of accessing financial services more significantly on the side of female headed households. Savings Group (SG) methodology on the other hand is based on the hypothesis that informal savings groups, such as Village Savings and Loans Associations (VSLAs), not only provide valuable financial services to the poor, but can also provide an opportunity for formal financial inclusion. SGs build the financial skills and assets of participating households by providing small loans as well as access to safe, convenient places to save and receive loans. SGs provide its members with practical financial experience which gives them the skills to successfully engage with formal financial service providers. In Somalia context, Microfinance is conceived as an essential enabler of climate Proof Income-Generating Activities among the target population especially the women and youth. The program will assess the microfinance readiness and deploy

	appropriate instruments for financing adaptation, and build long term resilience that can yield greater financial returns from their livelihoods. The proposed microfinance mechanisms will be Shari?ah compliant and will be concessional to allow loans to be offered at below market rates and in a more ethical/ participative manner, which ultimately will remove the barriers to inclusive finance. The project will support the rural communities, mostly pastoralists and agro-pastoralists improve their livelihoods through equipping them with the right tools, skills and knowledge of how to yield greater returns from their livelihoods, and use community saving and lending methodologies to grow their own financial intermediation systems. The community saving and lending methodology used will be the Village Saving and Loans Association (VSLA) methodology which will be developed within the farmer field schools in order to take advantage of the various trainings and services that will be provided by various partners. The main objective of organizing communities into VSLAs is to support the communities learn, adapt and build resilience towards the various shocks posed by climate change, among others. With VSLAs at farmer field schools? level, members will be exposed to both financial literacy and climate proof income generating activities. They will learn how to intermediate their savings and loans within their established VSLAs, as well as access more funding from partners like banks other funding partners. The project will also support Micro, Small and Medium Enterprises that contribute directly to the project success. These will be input supplies, Processors, Off-takers and Exporters. Among other support systems of the projects, Community Based Trainers will be recruited to support in the deepening of training interventions, monitoring and reporting of the statuses of the project. The project will ensure that women?s participation is encouraged from the very start. Women will be considered as trainers among the community-based trainers and they will also be encouraged to join the VSLAs. For every VSLA, women participation will be expected to be at least 50% of the entire membership. This

	notwithstanding, communities will be encouraged to participate as households, hence ensuring that both men and youth are not left behind. The Gender Learning System will be taught and promoted within the communities to ensure that Households are participating and driving their development.
Canada	
Canada would like to note that there are minor issues to be considered with respect to project design, and project sites are still to be identified. It is important that baselines for land restoration, biodiversity, and climate be quantified, monitored, and assessed in order to ensure the project?s benefits can be realized. It will also be valuable to explain the methods that will be used to improve climate adaptation capacity, and identify opportunities to adapt, or transform, as the project is implemented.	The current version of the Somalia A2R2 ? LDN & Biodiversity Decision Support System where the baseline are identified can be accessed via this link: https://wocatapps.users.earthengine.app/view/dss-somalia and is presented in Annex Q and further specified throughout the CEO Endorsement document. The Annex S presents the baseline data for the three LDN indicators and, in addition, provides relevant information on the biodiversity status in each of the five Districts covered by the Project (Dhuusamarreeb, Cabudwaaq, Gaalkacyo, Belet Weyne, and Baidoa).
GEF Secretariat	

Please deepen the analysis of the climate impacts indicated in table 1 from an RCP4.5 or lower vis-?-vis RCP 8.5 over time, and how the project considers the range of scenarios.	The project considered Climate change rainfall and temperature trends under current and future scenarios (RCP 4.5, RCP 8.5) (cf. Annex I, Environmental Social and Climate change Management Framework - ESCMF). Areas under very high vulnerability to floods are estimated to increase in future from current (approx. 123585 km2), RCP 4.5(approx. 171221 km2) and RCP 8.5(approx. 170725 km2) which may be directly attributed to the projected increase in rainfall due to climate change. Interestingly, very high drought vulnerable areas do not increase as expected with increase in temperatures. Instead, the areas reduce from current (approx. 628894 km2), RCP 4.5 (approx. 62518 km2) and RCP 8.5 (approx. 61165 km2). This may be because while temperature is projected to increase and influence drought prevalence, increase in in rainfall intensity and frequency may balance it out and minimise droughts. The criteria applied in the vulnerability assessment was determined through expert consultation and literature review and included: rainfall and temperature at current and future scenarios (RCP 4.5, RCP 8.5), human population density , cattle density , slope derived from DEM , land use cover , child malnutrition and infant mortality rates . The relationship between the criteria and vulnerability is such that: heavy rainfall causes flood hazards to the communities and their property; higher human population density translates to higher exposure to hazards; gentle slopes are more prone to floods and water-logging during rainfalls which can lead to flooding; different land covers reduce or increase flooding and respond differently to droughts; high child malnutrition or infant mortality rates serve as proxy of high poverty rates of communities which make them highly exposed or lack resilience to climatic hazards; and cattle density can serve as source of income which can shield particular section of a community against flood or drought hazards. For droughts, the other criteria will behave more or less the same. However, high temperature and low rains will contribute directly to increased droughts. Climate vulnerability maps were produced under the two scenarios: 1) the map of social vulnerability to potential flooding due to

	effect of rainfall variability; 2) the map of social vulnerability to potential droughts due to influence of temperature and rainfall. Figure 1: Maps of social vulnerability to potential flooding due to effect of rainfall variability. Dark blue represents very vulnerability to flooding, Beige color, low vulnerability. See maps at the end of the table Figure 2: Maps of social vulnerability to potential droughts due to influence of temperature and rainfall. See maps at the end of the table Areas under very high vulnerability to floods are estimated to increase in future from current (approx. 123585 km2), RCP 4.5(approx. 171221 km2) and RCP 8.5(approx. 170725 km2) which may be directly attributed to the projected increase in rainfall due to climate change. Interestingly, very high drought vulnerable areas do not increase as expected with increase in temperatures. Instead, the areas reduce from current (approx. 628894 km2), RCP 4.5 (approx. 62518 km2) and RCP 8.5 (approx. 61165 km2). This may be because while temperature is projected to increase and influence drought prevalence, increase in in rainfall intensity and frequency may balance it out and minimise droughts. Projected sectoral vulnerabilities due to increase in drought and flooding under future climate scenarios is not covered in the project. Table 6 of the Annex I- ESCMF shows the possible refinement of Table 1 in A2R2 PIF report to include impact pathways under different climatic scenarios. Table 6: Impact pathways under different climate scenarios See Table 6 at the end In addition to the assessment of climate change projections using regional climate models, as described above, basic information on the adaptive capacity of local communities was collected through the Household Rapid Assessment conducted during the PPG phase, as described in the Project document 2.4.1 -Stakeholder

	engagement. Priority adaptation measures were proposed in close consultation of stakeholders and such interventions fully integrated in the project activities to promote strengthened adaptation and resilience in the targeted areas. **How the project considers the range of scenarios?** The two scenarios are different - with increasing emissions expected in 8.5. Climate variability and climate impacts are projected to be more severe under RCP 8.5 compared to RCP 4.5 in the long term. But in the short term, for the project duration, there are slight changes as shown in the graphs for temperature and rainfall for the 2 scenarios, but not significant. The adaptation interventions for the project - including climate-proofing infrastructure, consider both scenarios - apply to the high-impact scenario but also apply to moderate situations (4.5).
Please deepen the analysis of the climate impacts indicated in table 1 from an RCP4.5 or lower vis-?-vis RCP 8.5 over time, and how the project considers the range of scenarios.	Please see above

Please expand on table 1 by indicating the specific adaptation actions that will be implemented by this project in order to address the indicated anticipated impacts	The project is fully aligned on the proposed adaptation measures defined by Somalia in the NAPA, 2013, which has determined 5 sectors for developing adaption measures. In this context the project will develop activities which are directly linked to the adaptation measures proposed in the NAPA, as follow: **Water sector.** The project will implement activities to: 1. Improve the quantity of water available through rehabilitation of dams, ?berkeds?, boreholes and the construction of new dams, reservoirs, water diversions, livestock watering points and irrigation infrastructure. The selection of sites for these boreholes should take into account livestock concentration in the area and should be accompanied by an Environmental Impact Assessment. 2. Improve water capture and natural storage through improved land management 3. Establish a regulatory framework for water management along with local level management structures and capacities for water resource management. 4. Construction of check dams (All these activities fall under Component 1, Outcome 1.1) **Agriculture and Food Security.** The following activities are covered by the project: Watershed management through construction of water diversions from streams to farms for irrigation, establishment of boreholes for supply of water for irrigation and support for community-level water capture and storage for agricultural lands. 1. (Activity under Component 1, Outcome 1.1) 2. Sustainable land management and reforestation to reduce soil erosion 3. Integrated Pest Management to protect crops and reduce risk/increase incentive to farmers 4. (cf. Component 2, Outcome2.1 Rangeland biodiversity and landscape restoration enhanced; Outcome 2.2 Vulnerable households implement nature-based solutions and climate-resilient technologies and practices across productive landscapes (farm and pasture lands); Outcome 2.3 Degraded Forest ecosystems restored through ANR and reforestation of native species) 5. Diversification of food production appropriate to the natural ecosystem and

	introduction of high-value drought resistant crops and agro-forestry (*Cf. outcome 2.2 Vulnerable households implement nature-based solutions and climate-resilient technologies and practices across productive landscapes (farm and pasture lands)* Animal Husbandry, Livestock and Rangelands Land management with emphasis on preventing deforestation, planting new trees, establishing regulations for rotational grazing and protection and supervision of grazing areas. This program should be administered by Ministry of Environment, District Officials and Traditional Elders and Leaders of the communities Support pastoralists in becoming agro-pastoralists or livestock farmers, whereby their livelihoods are diversified. This should include support for the cultivation of fodder crops. Cultivation of drought resistant fodder crops Establishment of livestock associations and cooperatives and support to local NGOs working in the sector *(Cf. Component 2, Outcomes 2.1, 2.2 and 2.3 as above)* **Biodiversity (forests, freshwater aquatic, marine and invasive alien species)** Large-scale tree-planting program which includes the panting of high-value productive trees Construction of check-dams to reduce flooding and destruction of trees Widespread awareness campaign on the impacts resulting from the destruction of forests and other natural resources Protection of biodiversity and wildlife through policy measures, particularly focusing on endangered species *(Cf. Component 2, Outcomes 2.1 and 2.3)*

We note IFAD's indication that it will seek to increase the currently unfortunately low level of co-financing during the PPG phase, including from Government. Please also actively seek to do so from bilateral donors, NGOs, private sector, and/or other sources of co-finance.	The investment mobilized consists of a financial support from the GASFP to the implementation of the IFAD umbrella RLRP Programme through the funding of the SIRAP Project (USD 16,000,000). The RLRP and the SIRAP Project are described below in Part II, Section 1a.2) as one of the baseline investments on which the GEF/LDCF contribution could build. In addition, IFAD allocated USD 7,000,000 from its ASAP + Programme to complement A2R2. The co-financing from beneficiaries is estimated to be around USD 500,000. Furthermore, subject to fulfilment of IFAD conditions for lending to Somalia and IFAD Board approval, IFAD may allocate regular resources from its Programme of Loans and Grants to Somalia for the Rural Livelihoods Resilience Programme (RLRP).
STAP	
STAP notes that the project sites are still to be identified. When the sites are identified, STAP encourages IFAD and Somalia to design and implement the interventions using systems thinking with an end of goal of achieving resilience of the targeted social-ecological system. Assessing for resilience will be important given the various long-term drivers (conflict, climate change, and other drivers of displacement) affecting stakeholders? capacity to adapt and, or, achieve transformational change.	The A2R2 project?s Theory of Change (ToC), which sets out the causal logic and relationships between the project?s outputs (goods and services delivered by the project) and immediate project outcomes (changes resulting from the use of project outputs by key stakeholders), medium and longer-term changes and states, and the project?s ultimate desired impact (fundamental, durable changes in environmental and social benefits). The ToC diagram (see below) outlines the project influence pathway arising from the project activities and leading to impact. The ToC follows the STAP Primer on the Theory of Change[1]. In addition, the Risks sections identifies the underlying risks and mitigation measures that the project will provide.
STAP is pleased the project will consider scenario planning during the PPG phase (scenarios from RCP 4.5 through RCP 8.5). To strategically plan for future climate scenarios, STAP recommends developing impact pathways associated with each scenario. This planning process will help identify opportunities for adaptation, or to seek more fundamental transformational change.	Please see above

Does it provide a feasible basis for quantifying the project?s benefits? Not yet. However, STAP expects for the baseline to be quantified during the PPG with metrics that complement the core indicators. For example, suggest looking into whether Somalia?s land degradation baseline data (as part of its LDN target setting exercise) is relevant for this project. For climate change impacts (droughts and floods), suggest using two scenario (the most targeted to the project area) baselines to consider how the interventions will be affected by rainfall and temperature variabilities in the future. For biodiversity, STAP is pleased the project will rely on B-INTACT to quantify a biodiversity baseline.

The use of the 2 climate scenarios (RCP 4.5 and 8.5 have been explained earlier (please see above). Regarding the baseline for evaluating the A2R2 contribution to the Somalia LDN targets a specific GIS tool have been conceived during the PPG phase: the LDN &Biodiversity A2R2 Decision support System (DSS). This multisource and multi layers system, described in Annex , allowed the evaluation of the baseline for the three LDN indicators as follow.

Table : Key information about the A2R2 Project area

Name	A2R2 Project Area
Area	6,211,085.13 ha.
Vegetated area	6,183,989.02 ha.
Declining productivity	788,790.16 ha. (12.76%)
Increasing productivity	244,336.64 ha. (3.95%)
SOC Mean	24.27 t/ha
SOC Stock	150,142,987.59 t
Protected Area	0.00 ha. (0.00%)
Key Biodiversity Area	512,432.23 ha. (8.25%)
Mountain Coverage	0.00 ha. (0.00%)
NPP 2021 (total)	9,319,768.61 tC

Table: Land Cover (ESRI 10m) 2020 ? Project area

	Area (ha)	**Percentage of the Project area**
Grassland	4,180,132.626	67.6%
Tree/Shrubs	1,888,610.282	30.56%
Other land	9,585.881	0.2%
Cropland	92,686,143	1.5%
Artificial	12,244.184	0.2%

	Table 3 Land Productivity Dynamics FAO-WOCAT (2001-2021) ? Project area **Area** / **Percentage of the Project area** **Stable** 1,221,915.974 / 19.8% **Stable but stressed** 3,928,946.24 / 63.5% **Early sign of decline** 569,328.896 / 9.2% **Declining** 219,461.263 / 3.5% **Increasing** 244,336.642 / 4%
Is the baseline sufficiently robust to support the incremental (additional cost) reasoning for the project? Yes, but suggest complementing the core indicators as suggested above.	The Core GEF indicators will be complemented by socio economic indicators Contribution to SDG 1 and 2

Are the lessons learned from similar or related past GEF and non-GEF interventions described; Partly. Suggest describing how lessons or best practices from baseline initiatives will contribute to this project.	In the baseline scenario the most relevant GEF and non GEF ongoing projects have been identified and examined in order to draw lessons for the A2R2 Project. As described in the project document the A2R2 will benefit from these projects both in terms of approaches et technical experiences. For instance, the A2R2 project will build on experience from RLCA-19 regarding support and training of small-scale farmers in post-harvest practices to reduce post-harvest losses amongst the target communities and to ensure quality products (grading, storing, drying, etc.). The A2R2 project will build on the models developed by the FSSFS project with regard to conflict management, rehabilitation of hydro infrastructures, and alternative water sources. The GEF project will work closely with FAO and UNEP to draw lessons from the experience of the Sustainable Charcoal Reduction and Alternative Livelihoods project in promoting alternative livelihoods (such as horticulture, and bee-keeping) for those currently working in charcoal production. From the GEF/UNEP project ?Strengthening national capacities for improved decision-making and mainstreaming of global environmental obligations? The A2R2 project will benefit from UNEP experience in foreseen to mainstream LD and BD into the decision-making processes from local to Federal levels, particularly with regard to the LDN and Biodiversity M&E system the A2R2 project will set up. In a nutshell, knowledge sharing and lessons learned from experiences constitute an important part of the component 4 of the A2R2 project, the purpose being to enable upscaling of successes from project implementation. The project will systematically collect and disseminate lessons drawn and will catalyse knowledge sharing from the different aspects of the project implementation as well as from other relevant projects.

STAP suggests defining the assumptions in the theory of change, testing them as the project is implemented, and adapting the theory of change accordingly.	the project aims to overcome the barriers identified above which act against achievement of LDN, and thereby address the threats to the target landscapes through three interlinked approaches/strategies. Each of these is reflected in a specific project Component comprising sets of project activities and outputs that will deliver the immediate project outcomes. Also, the achievement of the project outcomes and progress the project objective and longer-term impacts depends on a number of wider assumptions[2] (bottom right in the ToC diagram), operating over different scales and at different points along the causal chain, being met. In terms of assumptions that directly relate to achievement of the project?s immediate outcomes these are that: 1. Good governance. No major natural disasters and/or epidemics. 2. Local communities understand the importance of climate resilience-building measures to be implemented. 3. State/district authorities and community leadership support the proposed management structures. 4. Security situation will be stable and supportive to the implementation of the project. 5. Targeted farmers and pastoralists are sensitized and aware of the interest of using adaptation technologies / practices so as to increase the household incomes. 6. Local pastoralist communities understand the interest of adoption of climate resilient technologies and practices for increasing their incomes. 7. Sufficient numbers of MFIs continue to show commitment to expand lending to smallholders.
Is there a recognition of what adaptations may be required during project implementation to respond to changing conditions in pursuit of the targeted outcomes? While there is not a consideration of adaptations in the theory of change, the risks section of the PIF covers a wide range of possible challenges that would require adaptations and some proposed means of addressing them. STAP suggests the project team develop the theory of change further and using it as tool for adaptive management. Refer to STAP?s theory of change primer.	Please see above.

Are the benefits truly global environmental benefits/adaptation benefits, and are they measurable? For the restoration and reforestation baseline, suggest looking into Somalia?s LDN 6 baselines as mentioned above. STAP?s guidelines on LDN also can be beneficial for doing a baseline assessment. The project team is encouraged to conduct a land potential assessment (discussed in STAP?s LDN guidelines) to inform the restoration and reforestation activities in Component 3.	Please see above.
For climate baseline, STAP supports the project team?s plan to develop climate scenarios. STAP suggests that these clearly integrate the different elements described in the PIF. These should project 20-30 years into the future. The scenarios can define two plausible climate futures for the project and therefore help the project team design the project by providing a means of assessing the robustness of interventions and durability of outcomes across a range of possible futures.	Please see above.
Is the scale of projected benefits both plausible and compelling in relation to the proposed investment? Possibly. Baselines for land restoration, biodiversity, and climate need to be explicitly quantified, monitored, and assessed. Additionally, it will be important to conduct a land potential assessment (as noted above), which describes the inherent site (e.g. rainfall amount, vegetation, hydrology, among other factors) and soil properties to determine the scale of the rehabilitation and restoration activities.	The use of the he LDN baseline has been quantified (see above). Due to security reasons (because of the Presidential election process), it has not been possible to conduct a land potential assessment on the field during the PPG phase. This will be carried out during the inception phase of the project, to complement the available information gathered through the Decision System (DSS) conceived during the PPG (data on rainfall amount, vegetation, hydrology). The field study will cover the biodiversity baseline and will particularly look at soil properties to determine the scale of the rehabilitation and restoration activities.
Are indicators, or methodologies, provided to demonstrate how the global environmental benefits/adaptation benefits will be measured and monitored during project implementation? **The PIF suggests that a landscape approach will be used to integrate rangeland management, forest management, agricultural productivity, and biodiversity conservation. A potential landscape approach the project team could use is the LDN framework developed by UNCCD. Whatever approach might be used, STAP recommends detailing it comprehensively in the project document. STAP would expect for the approach to be capable of dealing with trade-offs 7 between benefits and competing demands (restoration and reforestation versus fuelwood demand and charcoal production), as well as indirect effects (e.g. leakage) from reforestation and restoration efforts. Likewise, suggest detailing the methods that will be used to improve climate adaptation capacity. What are trade-offs between climate adaptation and other proposed benefits? Will there be winners or losers (and who are they?) What are the barriers (e.g. socio-cultural, technical), and enablers (e.g. enabling conditions), to achieve climate adaptation goals?**	Please refer to the ToC diagram in the CEO Endorsement for details on the elements of the ToC.

As noted above, for the purposes selecting and designing interventions for durable results, it would be valuable to develop two climate scenarios, and develop impact pathways for them. These alternative pathways will help the project interventions be robust enough to deal with long term drivers, such as climate change impacts. Otherwise, the project is at risk of maladaptive outcomes ? i.e. interventions possibly increasing vulnerability to climate change or undermining adaptive capacity in the future. Refer to the following resource on climate scenario planning: 8 https://www.climatelinks.org/resources/integratingclimate-risk-long-term-planning	Please see above
It is common practice that scaling of an innovation requires paying attention to social structures (cultural norms and values, gender), as well as institutional arrangements, among other social factors. Evidence for the need to pay attention to this lies in the PIF itself, which notes a number of barriers to women?s participation in agriculture or non-farm employment. The project could usefully develop a theory of change for scaling that identifies and addresses the barriers and enablers within the social structures of the populations in the project areas in order to achieve the scaling objective.	The Theory of Change takes into account the various barriers regarding gender. For the gender assumptions in the project to achieve the project objectives on climate adaptation, sustainable land management and biodiversity conservation, please see the below response.
Given the extent and severity of drought, it is likely that a combination of incremental adaptation and transformational change will be needed in the target sites. Therefore, it will be imperative to look for opportunities to adapt, or transform, as the project is implemented. A good theory of change that assesses for resilience will be needed. The following resilience assessment methods would be valuable to use for the design and implementation of the project: Wayfinder and RAPTA. STAP?s theory of change primer also will be helpful in 9 designing impact pathways based on systems thinking.	Please refer to the ToC diagram in the CEO Endorsement for details on the elements of the ToC.
In the final project document, please ensure to provide a map of the target sites, displaying the different land uses.	The project area map is included in the project document. The (A2R2) ? LDN & Biodiversity Decision Support System (DSS), designed during the PPG phase, is an interactive system which allows, in the current version, to combine the individual categories of more than 9 different layers in any different sort of arrangement. This functionality makes it possible to strategically select potential areas of intervention for either avoid, reduce or reverse degradation, according to the interest of the user, facilitating land use planning and achieving LDN.

As the project is developed and implemented, STAP recommends assessing whether the appropriate stakeholders are being involved to carry out, and develop the desired agency, the activities.	Refer to the Annex on the Stakeholders Engagement Plan, pp. 12 -23. This is set as an ongoing activity that includes stakeholder mapping that will continue throughout the life of the project. After identifying the stakeholders of the A2R2 project, an analysis of their characteristics, interests, impacts and impacts related to this project will be conducted. This analysis enables the development of a focused engagement strategy. First, a stakeholder analysis matrix framework was developed that is used to continuously evaluate stakeholders and their roles.
The stakeholders are described although they might change as the project is implemented. Suggest revisiting the roles as the project matures.	This is noted. The strategy is keen on such occurrences at implementation stage that might require bringing on board new stakeholders approved through the Programme Steering Committee to ensure smoother operations aimed at achieving the goals of the project.

STAP encourages the project developers to identify the gender assumptions in the project to achieve the project objectives on climate adaptation, sustainable land management and biodiversity conservation. The following paper identifies common gender assumptions (e.g. women are a homogenous and vulnerable group) in climate adaptation projects which might apply to this project as well: Lau, Jacqueline D., et al. "Gender equality in climate policy and practice hindered by assumptions." Nature Climate Change 11.3 (2021): 186-192.	The project considers gender mainstreaming as central to its successful achievement. Preliminary Gender differentiated risks and opportunities have been identified in the A2R2. To begin with, a thorough review has been done of the socio-cultural context of the project. This was done through a participatory gender-sensitive rural poverty analysis. Furthermore, a desk review was also conducted which focused on identifying some of the major challenges, risks and opportunities that women face in climate adaptation, land resource management and biodiversity. Moreover, a rapid assessment survey was conducted, and this exercise had a number of questions that specifically focused on exploring the roles women play in household dynamics, the division of labor and the responsibilities of women in farming, crop management, etc. Additionally, a number of focus group discussion were conducted with community members and stakeholders as well as these revealed a number of important risks and vulnerabilities were identified, see Table 2 below. The project screening has identified common gender assumptions (e.g women are a homogenous and vulnerable group) in climate adaptation projects which might apply to this project as well: Lau, Jacqueline D., et al. "Gender equality in climate policy and practice hindered by assumptions." Nature Climate Change 11.3 (2021): 186-192.2. Jacqueline Lau?s framework for considering gender assumptions in climate change has been used in both the assessment and development stages of the A2R2 gender analysis and gender action plan. The gender analysis and Action Plan (GAP) document therefore was developed specifically for the A2R2 project. This framework helped identify and address barriers to Somali women?s access to and use of productive land and forests. These barriers form part gender constraints that could inhibit reaching the project objectives. On the other hand, the PIF has already touched on gender considerations and the Project advances the integration of gender in the dedicated section as required, but also in other sections on ?risk? and ?stakeholder engagement. The gender analysis conducted has identified gender differences, gender differentiated impacts and risks, and opportunities to

	address gender gaps and promote the empowerment of women in the project that may be relevant to the proposed activity. The corresponding gender-responsive measures put in place to address differences, identified impacts and risks, and opportunities through a gender action plan. The gender action plan has put in place gender-responsive measures and considerations in the results framework and they include actions, gender-sensitive indicators and sex-disaggregated targets. The Project will be implemented to ensure that continuous identification occurs of any emerging gender issues in the project life cycle so as to achieve the project objectives on climate adaptation, sustainable land management and biodiversity conservation.
The PIF contains descriptions of gender disparities that suggest such barriers might exist. STAP recommends considering carefully whether gender considerations hinder the participation of an important stakeholder group.	Please see above
The risks are valid, and it would be valuable to embed them in the theory of change of the project. Because these risks are highly variable across the country, when the target sites are clear, it will be valuable to identify the risks in each site and explain how they will be dealt with in a theory of change. For climate risks, as noted above STAP suggests the project team develop climate scenarios that integrate the different elements described in the PIF. These should project 20-30 years into the future. Refer to the following resources on scenario planning: https://www.sciencedirect.com/science/article/pii/S1462901119309712	Please refer to Figure 6 for scenarios which are further complemented by the ToC.
As suggested previously, the project could usefully develop a separate theory of change on scaling to specify the desired change needed, and how to achieve this change ? while addressing the risks, assumptions, and barriers that underlie scaling outcomes	Please refer to the ToC diagram in the CEO Endorsement for details on the elements of the ToC.
Consultations with stakeholders will define the needs for developing and disseminating knowledge products.	At this stage, the Knowledge Products have not yet been discussed with stakeholders. The nature of knowledge products, adapted to the different target groups, will be decided by the Project Steering Committee (PSC) during the implementation phase. Additionally, the project will invest technologies for knowledge management and dissemination, specifically on platforms that foster knowledge sharing and that also provide easy access to knowledge, such as online discussion for a, communities of practice, knowledge networks as well as online knowledge management platforms such as extranet, research and insights libraries and social media.

[1] https://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF_STAP_C.57_Inf.04_Theory%20of%20Change%20Primer_0.pdf

[2] *Assumptions* are external factors or conditions that need to be present for change to happen, but are beyond the power of the project to influence or address, e.g. turnover of government officials, global financial situation.

Figure1:

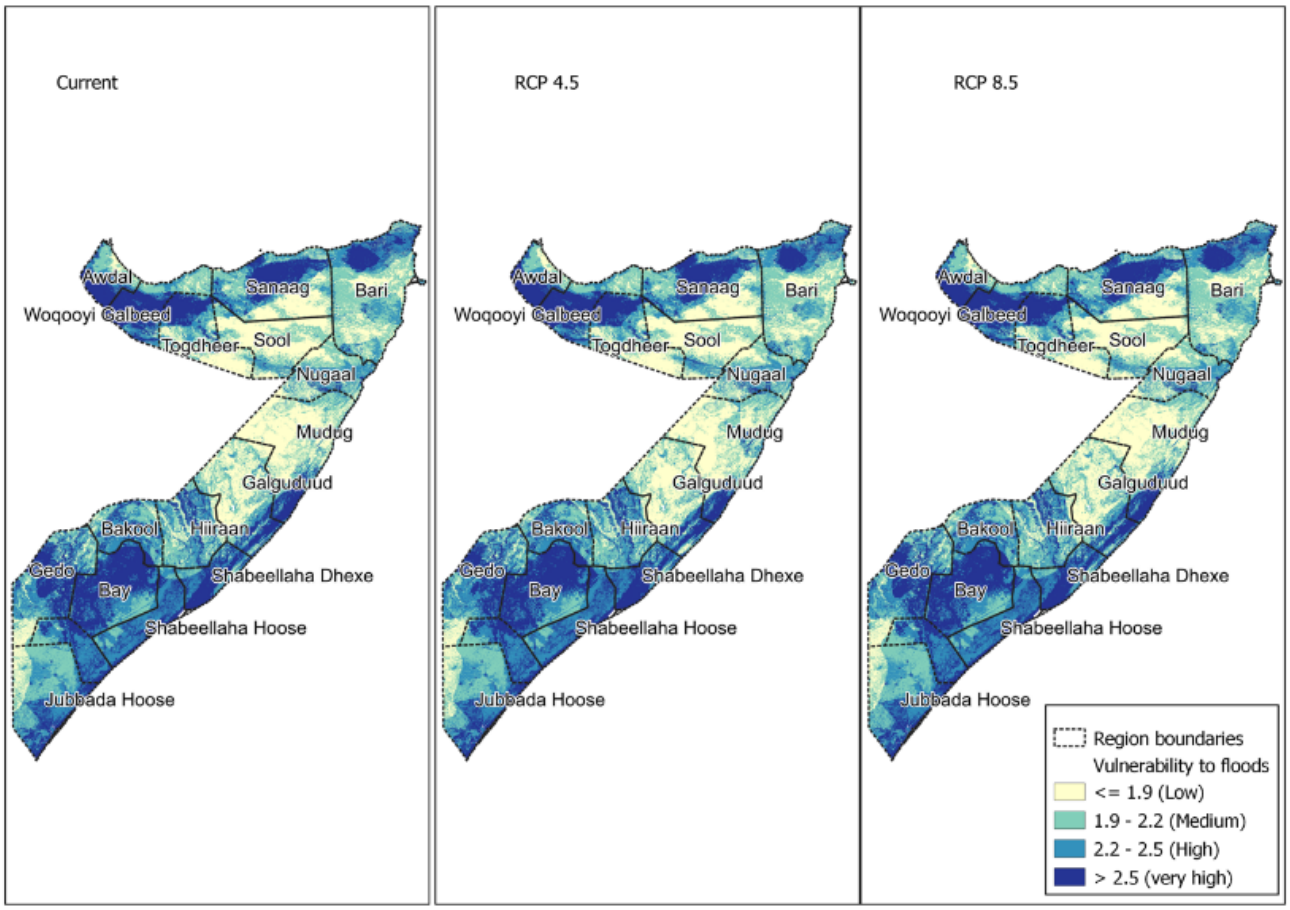


Figure 2:

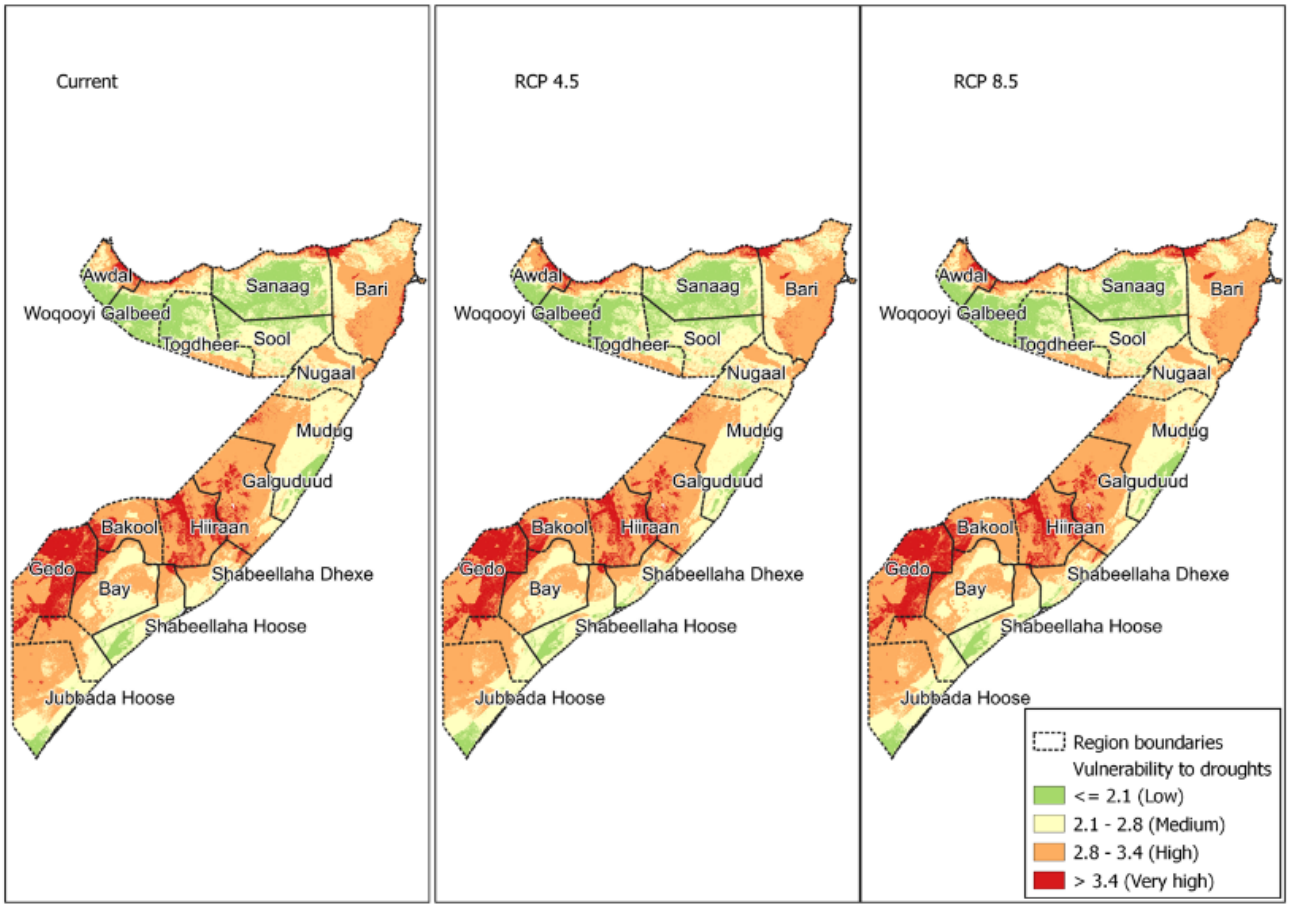


Table 6:

	Predicted impacts of rainfall and temperature		
Intervention	**baseline**	**RCP 4.5**	**RCP 8.5**
Adaptive climate resilient hydraulic infrastructure and productive livelihoods	-Poor water resources status (shallow wells, surface water dams) -Droughts and floods events. -Affected Agricultural and natural vegetation land cover condition	-Very poor Water resources stat (shallow wells, surface water dams). -Highly affected Agricultural and natural vegetation land cover condition	- Worst water resources status (shallow wells, surface water dams). - Worst case condition of agricultural and natural vegetation land cover

Landscape approach to an integrated management of range land and forest ecosystems for land degradation neutrality and biodiversity conservation	-Area of range land and grassland cover affected -Biodiversity estimates reduced can be mitigated -Estimated areas of forests cover diminishing but can be arrested under minimal efforts -Estimated deforested areas have increased -Estimated pasture areas are reduced but some pockets may exist	-Area of range land and grassland cover very highly affected -Biodiversity estimates highly reduced can be mitigated with a lot of efforts, -Estimated areas of forests cover highly diminished but can be mitigated -Estimated deforested areas will highly increase -Estimated pasture areas will be highly reduced	-Area of range land and grassland cover in worst status condition -Biodiversity estimates in an irreversible state -Estimated areas of forests cover in worst an irreversible state -The entire Somalia will be deforested -Estimated pasture areas will be all depleted
Institutional strengthening to support land degradation neutrality and biodiversity protection	-Estimated on land degraded area areas have increased -Biodiversity estimates show decrements	-Estimated on land degraded areas will highly increase -Biodiversity estimates will highly reduce	-Estimated land degradation increase to unmanageable levels -Biodiversity will approach total depletion

ANNEX C: Status of Utilization of Project Preparation Grant (PPG). (Provide detailed funding amount of the PPG activities financing status in the table below:

If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue to undertake exclusively preparation activities (including workshops and finalization of baseline, when needed) up to one year of CEO Endorsement/approval date. No later than one year from CEO endorsement/approval date. Agencies should report closing of PPG to Trustee in its Quarterly Report.

PPG Grant Approved at PIF (amounts in US$):				
Expense Category	**Total PPG Amount**	**Total PPG Utilised**	**Total PPG Committed**	**Additional details**
EXP05 ? Training	4 003.67	4 003.67		The completion of the Safe and Secure Approaches in Field Environments (SSAFE) at the UN Department of Safety and Security (UNDSS) - UN System Staff College in Torino Italy by the PPG Design Team Leader. Based on the high security risk assessment for Somalia, the SSAFE training is mandatory for all UN personnel and international consultants that travel to Somalia.
EXP06 ? Consultancy Services	193 975.45	179 800.71	14 174.74	Consultancy fees + travel costs for the key thematic experts for the design including agro-pastoralist and land degradation, economic and financial analysts, microfinance, procurement, rural engineering and integrated hydraulic resource management, GIS monitoring, environment and climate change, biodiversity and agronomist and livestock.
EXP08 ? Administrative Costs	10 788.20	10 788.20		Costs for meals, refreshments and teleconferencing & internet facilities and security arrangements for the inception and validation workshops held in Mogadishu in May 2022 and August 2022, respectively, for the in-person workshop participants and also facilitate Zoom Meeting connections for the remote participants for all workshops.
EXP09 ? Travel costs	11 232.68	6 232.68	5 000.00	Travel costs for the IFAD Country Director to lead the Inception and Validation Workshops and stakeholders engagements, especially following the elections of the new Somalia Government and appointment of new Ministers of Agriculture and Environment relating to the design of the A2R2 project.

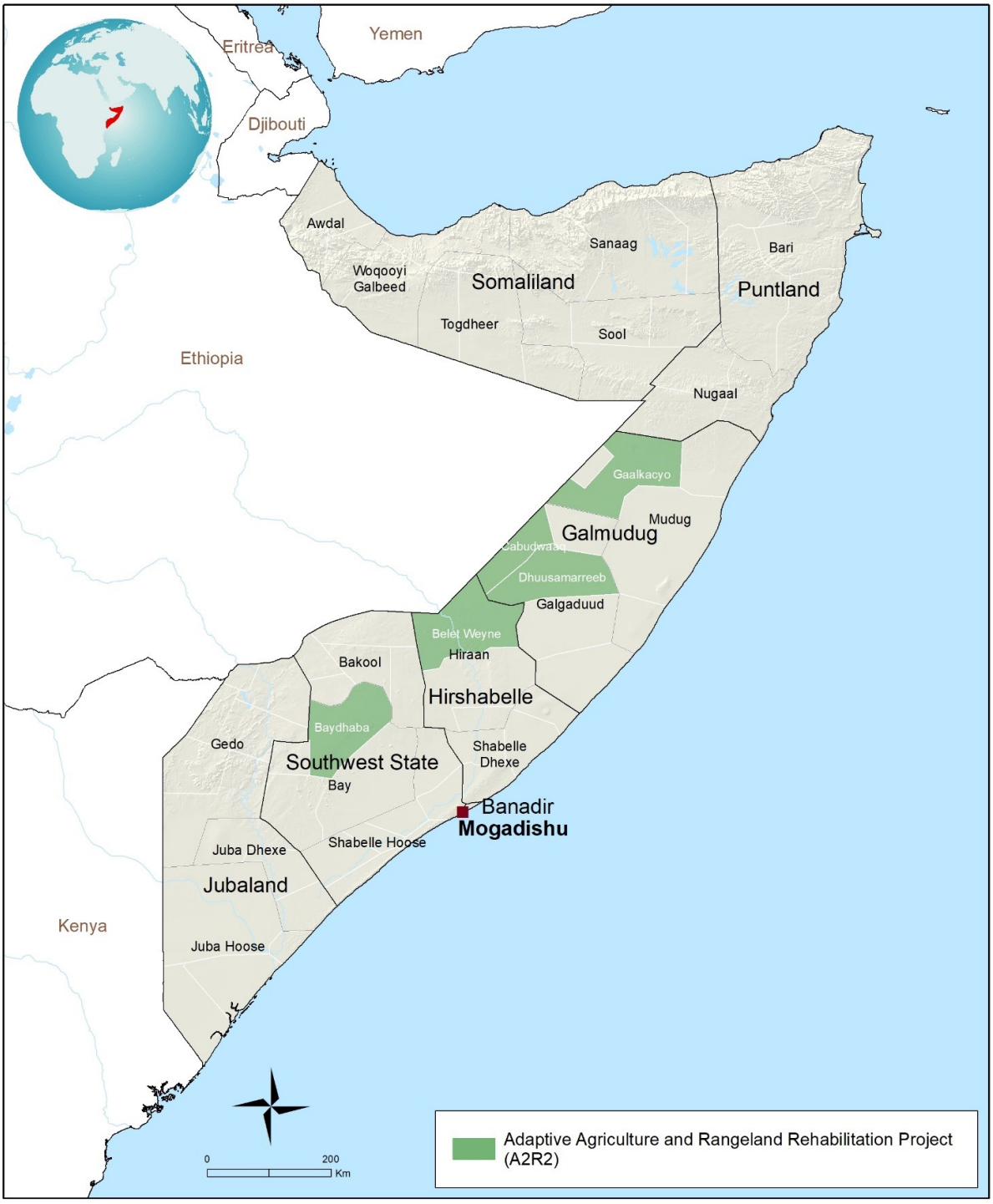
PPG Grant Approved at PIF (amounts in US$):				
Expense Category	**Total PPG Amount**	**Total PPG Utilised**	**Total PPG Committed**	**Additional details**
EXP10 ? Cooperating Institutions	80 000.00	80 000.00		Contracts to two NGOs in Somalia with robust knowledge of the Somalia local context excellent collaboration relationships with key stakeholders in the country with footprints in the proposed project implementation areas, in view of the escalated insecurity situation of the Somalia for the following (this was prior to the conclusions of the elections of the Somalia National Leadership in May 2022 and the frequent AL Shabaab attacks): ? Stakeholder mapping and engagement analysis. ? Preparation for the selection criteria for the project sites, including to geo-reference each project demonstration site and their surrounding landscape with appropriate detail by providing geographic coordinates, maps and shapefiles for inclusion in the Project Document. ? Development of the baseline report with field data using a household survey. This included beneficiary field surveys and data collections in the specific districts within the Galmudug, South West, and Hirshabelle Federal Member States (FMS). ? Organize the Inception Workshop (25th to 27th May 2022) and Final Validation Workshop (29th to 31st October 2022) including participants registrations, visa arrival and immigration formalities, security escorts for the mission teams from the airport to the hotel residence and meeting venue, coordination with various stakeholders at the Federal and Federal Member States, including beneficiaries, CBOs, Farmer Associations, INGOs and UN organisations for their participation during the Inception Workshop. ? Coordination at the workshop venue to facilitate the effective functioning of the teleconference facilities and management of all logistics and meals for the conference participants.

PPG Grant Approved at PIF (amounts in US$):				
Expense Category	**Total PPG Amount**	**Total PPG Utilised**	**Total PPG Committed**	**Additional details**
				? Arrangements of bilateral meetings for the IFAD Country Director and Project Design Team with Key Somalia Government stakeholders, in particular the Federal Minister of Agriculture and Irrigation, Minister of Environment and Climate Change (GEF Operational Focal Point), Prime Minister?s Office and other officials from the Federal Member States, CBOs, etc. on the acceptance and finalisation of the final institutional arrangements for the A2R2 project.
Grand Total	**300 000.00**	**280 825.26**	**19 174.74**	

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.

Project area map



Map compiled by IFAD | 22-08-2022

To visualize this data and other layers, to perform some spatial analysis and get statistics for the different administrative level units of Somalia please refer to the Decision Support System at the following link: https://wocatapps.users.earthengine.app/view/dss-somalia

The geo-coordinates for A2R2 Project area can be found in the following table:

Table1:The geo-coordinates for A2R2 Project area

State	District	Code	Area [ha]	Lat min	Lat max	Lon min	Lon max
Galgaduud	Dhuusamarreeb	SO1901	1,269,170	5.031	5.931	45.673	47.608
	Cabudwaaq	SO1902	619,908	5.188	6.500	45.536	46.671
	Gaalkacyo	SO1801	1,517,775	6.281	7.562	46.542	48.531
Hirshabelle	Belet Weyne	SO2001	1,486,746	4.078	5.486	44.592	46.231
SouthWest	Baydhaba	SO2401	1,290,998	2.522	3.921	43.101	44.311

Coordinates are in the EPSG:4326

ANNEX E: Project Budget Table

Please attach a project budget table.

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencys is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies? capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).