



ADAPTATION FUND

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Project and Programme Review Committee
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Bonn, Germany, 16-17 April 2024

PROPOSAL FOR SOMALIA



ADAPTATION FUND

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Regular-sized Project Concept

Country/Region: The Federal Republic of Somalia
Project Title: Green and Resilient Ecosystems for Somali Livelihoods (*Hal-abuur*)
Thematic Focal Area: Ecosystem resilience, agriculture resilience, multiple focal areas
Implementing Entity: International Fund for Agricultural Development (IFAD)
Executing Entities: Sadar Development and Resilience Institute
AF Project ID: -
IE Project ID: - **Requested Financing from Adaptation Fund (US Dollars):** 10,000,000
Reviewer and contact person: Ahmad Ghosn **Co-reviewer(s):** Imen Meliane
IE Contact Person: -

<p>Technical Summary</p>	<p>The project “Green and Resilient Ecosystems for Somali Livelihoods (<i>Hal-abuur</i>)” aims to scale-up the climate resilience of ecosystems and livelihoods in Somalia by operationalizing the Great Green Wall Initiative in the country. This will be done through the three components below:</p> <p><u>Component 1:</u> Green and resilient agro-pastoral and pastoral ecosystems in Somalia (USD 3,499,950); <u>Component 2:</u> Resilient agro-pastoral and pastoral livelihoods in Somalia (USD 4,000,000); <u>Component 3:</u> Operationalization of the Great Green Wall initiative in Somalia (USD 841,014).</p> <p><u>Requested financing overview:</u> Project/Programme Execution Cost: USD 875,576 Total Project/Programme Cost: USD 9,216,590 Implementing Fee: USD 783,410 Financing Requested: USD 10,000,000</p> <p>The initial technical review raises several issues, such as clarifying the potential use of unidentified sub-projects, improving project cost effectiveness analysis, providing additional details of initial consultations and arrangement to ensure sustainability, as well as compliance with the Fund’s environmental and Social Policy (ESP) and Gender Policy) (GP), among others as discussed in the Clarification Requests (CRs) and Corrective Action Requests (CARs) raised in the review.</p>
<p>Date:</p>	<p>10 January 2024</p>

Review Criteria	Questions	Comments
Country Eligibility	1. Is the country party to the Kyoto Protocol, or the Paris Agreement?	Yes.
	2. Is the country a developing country particularly vulnerable to the adverse effects of climate change?	Yes. Somalia is highly vulnerable to the adverse impacts of climate change and has witnessed increasing frequency and severity of climatic events (droughts, floods, cyclones, climate-related diseases/ epidemics, etc.) that exacerbated existing vulnerabilities and resulted in devastating effects on its population, resources, and infrastructure.
Project Eligibility	1. Has the designated government authority for the Adaptation Fund endorsed the project/programme?	Yes. As per the Endorsement letter dated 17 December 2023 (See Annex 1 p. 48).
	2. Does the length of the proposal amount to no more than Fifty pages for the project/programme concept, including its annexes?	Yes. However, it is recommended to revise Parts I and II subsections' titles to align with AF Concept Note (CN) proposal Template, and to add component subtotals in Table 1 (p. 20). CAR1: Align Parts I and II subsections' headings with the AF CN proposal Template available here - https://www.adaptation-fund.org/wp-content/uploads/2022/06/Single-Country-Concept-Note-template-Oct-26-2022.docx . Please note that Part IIIB is not required at CN stage. CR1: In Table 1, Part IIC (page 20), please add rows to reflect the subtotals of each component.
	3. Does the project / programme support concrete adaptation actions to assist the country in addressing adaptive capacity to the adverse effects of climate change and build in climate resilience?	Yes. As per the information provided in Part IIA (pp. 21-29). The proposal includes concrete adaptation actions related to ecosystem rehabilitation and sustainable land

		<p>management, including earth bunds, stone lines, riverbank protection, afforestation, reforestation, nurseries, seed multiplication, etc. Moreover, the project will support the development of plans and mechanisms to operationalize/ scale up Africa's Great Green Wall initiative (GGWI) in Somalia.</p> <p>CAR2: The project description implies that the project includes Unidentified Sub-Projects (USPs). Indeed, the nature and characteristic of some activities and their exact locations will only be determined during project implementation. Please note that USPs should be avoided whenever possible. Please refer to the Updated guidance for IEs on the use of USPs.</p>
	<p>4. Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations, while avoiding or mitigating negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?</p>	<p>To a large extent.</p> <p>As per the information provided in Part IA "Socio-economic context, gender and social inclusion" (pp.6-7) and "Project Area and targeting strategy" (p.19), and Part IIB (pp.29-31). However, quantifying benefits, as possible, is recommended. In addition, it is not clear if an initial gender assessment was conducted. Paragraph 128 (p.30) only refers to a detailed Gender Analysis and Gender Action Plan to be prepared at project proposal stage. The AF Gender Policy requires initial gender assessment at the earliest stage of project preparation.</p> <p>CR3: Please provide initial quantified estimates of the project benefits, where possible.</p> <p>CAR3: Clarify include and initial gender assessment in compliance with the Fund's Gender Policy.</p>
	<p>5. Is the project / programme cost effective?</p>	<p>To a large extent.</p> <p>As per the information provided in Part IIC, pp. 30-31. However, the demonstration of cost effectiveness of the</p>

		<p>project interventions comparing them to alternative measures is needed.</p> <p>CR4: Provide a brief analysis and quantify (as possible) the project interventions cost effectiveness, in comparison with alternative adaptation options.</p> <p>Please note that a more detailed cost effectiveness analysis would be needed at full project stage.</p>
	<p>6. Is the project / programme consistent with national or sub-national sustainable development strategies, national or sub-national development plans, poverty reduction strategies, national communications and adaptation programs of action and other relevant instruments?</p>	<p>Yes.</p> <p>As per the information provided in Part IID (pp. 31-33).</p>
	<p>7. Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund?</p>	<p>Yes.</p> <p>As per the information provided in Part IIE (pp. 34-35).</p>
	<p>8. Is there duplication of project / programme with other funding sources?</p>	<p>No.</p> <p>However, it would be important to discuss briefly relevant past projects that deployed similar measures and highlight their lessons learned.</p> <p>CR5: Under Part IIF (pp. 35-37) please consider including relevant past projects that deployed similar measures and highlight related how their lessons learned have been taken into consideration in the project design.</p>
	<p>9. Does the project / programme have a learning and knowledge management component to capture and feedback lessons?</p>	<p>Yes.</p> <p>As per the information provided in Part IIG (p. 37-38). A KM system integrating planning, M&E and communication will be utilized. Generated knowledge will be shared via</p>

		workshops/ seminars, digital and social media, print media, etc. Lessons learned will be also documented/ disseminated via periodical project performance and evaluation reports, etc.
	10. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	<p>Not to sufficient extent.</p> <p>The information provided in Part II "H", pp. 38-39, indicate that only remote consultations were possible due to security reasons. Consultations included some key public and CSOs/ NGOs, resource persons and beneficiaries of ongoing IFAD projects, and some male and female stakeholders/ beneficiaries living in rural areas. Neither the list of the consulted entities representatives/ beneficiaries in rural areas, nor the discussed topics are provided. Only some key feedback/ inputs are provided.</p> <p>CAR4: Provide more details on the consultations' participants and topics discussed (e.g. highlight marginalized, vulnerable groups and/or indigenous peoples consulted with, how the consultations integrated gender considerations, summary of the issues raised and how these were considered in the design of the proposal etc.).</p>
	11. Is the requested financing justified on the basis of full cost of adaptation reasoning?	<p>Yes.</p> <p>As per the information provided in Part II "I" and Table 4 (pp. 39-40).</p>
	12. Is the project / program aligned with AF's results framework?	<p>Yes.</p>

		<p>The project would contribute to outcomes 5,6,7, and outputs 5,6,7 of the AF results framework. See Part IIIA, Table 6, (pp. 44-45).</p>
	<p>13. Has the sustainability of the project/programme outcomes been taken into account when designing the project?</p>	<p>To a large extent. (See Part IIJ, p. 40). However, further elaboration on the arrangements to ensure sustainability of operation and maintenance of the infrastructures and installations to be developed is recommended, as well as the institutional, financial, etc., arrangements to ensure the sustainability of the project interventions outcomes.</p> <p>CR6: Please briefly discuss the arrangements to ensure the sustainability of operation and maintenance of the infrastructures and installations to be developed, as well as institutional, financial, economic, and social arrangements to ensure the project interventions outcomes sustainability.</p>
	<p>14. Does the project / programme provide an overview of environmental and social impacts / risks identified, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?</p>	<p>To a large extent. See Part IIK (pp. 41-43) for related information. However, the AF category in which the screening process has classified the project/programme. (e.g.: Category A, B or C) is not explicitly indicated. Also, no reference is made to the initial gender assessment. Moreover, paragraph 165 (p.41) refers to an ESMP but does not indicate when such ESMP will be prepared.</p> <p>In addition, in case the project contains USP, their use should be recognised and justified, and the ES risk assessment should follow the AF guidance on USP, (See CAR2).</p> <p>CAR6: Under Part IIK, please explicitly indicate the AF project risk category (e.g.: Category B).</p>

		<p>CR7: Under Part IIK, please make reference to the initial gender assessment at relevant texts/ subsections. See earlier comment related to the initial gender assessment.</p> <p>CR8: In paragraph 165 (p.41), explicitly indicate that the ESMP will be prepared at the full project document stage.</p>
Resource Availability	1. Is the requested project / programme funding within the cap of the country?	Yes.
	2. Is the Implementing Entity Management Fee at or below 8.5 per cent of the total project/programme budget before the fee?	Yes. Implementing Entity Management fee is at 8.5% of the total budget before fee.
	3. Are the Project/Programme Execution Costs at or below 9.5 per cent of the total project/programme budget (including the fee)?	Yes. The execution costs are at 9.5% of the total budget.
Eligibility of IE	1. Is the project/programme submitted through an eligible Implementing Entity that has been accredited by the Board?	Yes. IFAD is an accredited Implementing Entity that has been accredited by the AF Board.
Implementation Arrangements	1. Is there adequate arrangement for project / programme management, in compliance with the Gender Policy of the Fund?	n/a at concept stage
	2. Are there measures for financial and project/programme risk management?	n/a at concept stage
	3. Are there measures in place for the management of for environmental and social risks, in line with the Environmental and Social Policy and Gender Policy of the Fund?	n/a at concept stage
	4. Is a budget on the Implementing Entity Management Fee use included?	n/a at concept stage
	5. Is an explanation and a breakdown of the execution costs included?	n/a at concept stage
	6. Is a detailed budget including budget notes included?	n/a at concept stage

	7. Are arrangements for monitoring and evaluation clearly defined, including budgeted M&E plans and sex-disaggregated data, targets and indicators, in compliance with the Gender Policy of the Fund?	n/a at concept stage
	8. Does the M&E Framework include a break-down of how implementing entity IE fees will be utilized in the supervision of the M&E function?	n/a at concept stage
	9. Does the project/programme's results framework align with the AF's results framework? Does it include at least one core outcome indicator from the Fund's results framework?	n/a at concept stage
	10. Is a disbursement schedule with time-bound milestones included?	n/a at concept stage



CONCEPT NOTE PROPOSAL FOR SINGLE COUNTRY

PART I: PROJECT INFORMATION

Title of Project: Green and Resilient Ecosystems for Somali Livelihoods (*Hal-abuur*)

Country: The Federal Republic of Somalia

Thematic focal area: Ecosystem resilience, agriculture resilience, multiple focal areas

Type of Implementing Entity: Multilateral Implementing Entity

Implementing Entity: International Fund for Agricultural Development (IFAD)

Executing Entity: Sadar Development and Resilience Institute

Amount of Financing Requested: 10,000,000 (in U.S Dollars Equivalent)

Letter of Endorsement (LOE) signed: Yes No

Stage of Submission:

- This concept has been submitted before
- This is the first submission ever of the concept proposal

In case of a resubmission, please indicate the last submission date: Click or tap to enter a date.

Please note that concept note documents should not exceed 50 pages, including annexes.

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Part I: PROJECT INFORMATION

A. Project Background and Context

Geography and natural resources

1. Somalia is a Least Developed Country situated on the Horn of Africa, that extends from just south of the Equator, northward to the Gulf of Aden. The country has a total area of 637,657 km², with the longest coastline (3,025 km) in continental Africa, and borders Djibouti, Ethiopia and Kenya. Somalia's land area is 98.4% (627,337 km²) and its water area 1.6% (10,320 km²). The North of the country is characterized by highlands, while the rest of the country mainly includes plateaus, plains and coastal plains. About 80% of the country is constituted of arid or semi-arid land, which are subject to extreme climatic conditions, including high average surface temperatures, prolonged periods of drought, very erratic rainfall and high winds. Of the total agricultural land comprising 70.3 % of the country, permanent pastures take up 68.5 %, while only 1.8 % is arable land¹.
2. Somalia's arid and semi-arid landscapes are at a high risk of desertification (International Institute for Sustainable Development, 2015) and are 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).
3. In addition to climate change impacts associated with droughts, floods and recurrent cyclones, Somalia's natural resources are also under intense pressure from degradation, deforestation and pollution due unsustainable use of charcoal, pollution (water, air), unsustainable land management and loss of biodiversity, with over a quarter of Somalia's territory degraded.² Rural livelihoods are threatened by these challenges which along with droughts, cause pastoralists to lose their livestock (main source of wealth and income), while farmers and agro-pastoralists lose their harvest (main source of food). The resulting reductions in income and food security have further repercussions on the urban economy.
4. Vegetation in Somalia is composed of 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*.³ Closer to the Somali coast, the Hobyo grassland and shrubland ecoregion comprises perennial dune grasslands and sedges. The wetlands of the Shabelle river comprising swamps and floodplains have high significance for biodiversity and the meeting point of the Shabelle and Juba rivers is characterised by the largest area of mangroves in Somalia.
5. **Forest resources.** According to FAO, in 2015, Somalia had between 6.4 and 7.1 million ha of forest resources, the majority of which was classified as low-density wood, and with a closed forest cover of 3% only, indicating the dry nature of Somalia's geography. In the 1980s, Somalia's total forest

¹ Central Intelligence Unit (CIA), "Somalia," CIA World Factbook. 2021. <https://www.cia.gov/the-world-factbook/countries/somalia/>.

² World Bank. 2022. "Somalia needs its trees to restore landscapes and livelihoods." <https://blogs.worldbank.org/africacan/somalia-needs-its-trees-restore-landscapes-and-livelihoods#:~:text=A%202020%20Somali%20government%20report,biological%20degradation%2C%20and%20gully%20erosion>

³ Government of Somalia. 2016. National Biodiversity Strategy and Action Plan (NBSAP) of Somalia, FAO-Somalia

cover was estimated at about 62% of the country's landmass. Somalia's forests have been estimated to contain 394 million metric tons of carbon in living forest biomass. 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%)⁴.

6. The primary causes of de-vegetation and deforestation are overgrazing, shifting cultivation and unregulated charcoal production. As a result of unregulated logging (particularly for charcoal production), the already low national forest area shrank from 8.28 million ha in 1990 to 5.98 million ha in 2020⁵. Deforestation related to shifting cultivation is prominent particularly in the South.

Overgrazing (notably with increased private sector driven livestock export to neighbouring and Gulf countries) 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: about 250,000 tons of charcoal are produced annually for export purposes.⁶ Given Somalia's rapid population growth, the profitability of charcoal production, a lack of alternative income opportunities (particularly among IDPs), and the country's high dependency on firewood and charcoal for energy provision, this trend is likely to continue and will negatively impact both, animal and plant biodiversity⁷. Charcoal production (mostly towards Gulf States) has overtaken livestock as the second most valuable export item.

7. As a result of deforestation combined with climate change, 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.

8. 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 *Commiphora 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 exports⁸. 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 cover is in decline and efforts need to be made to promote its recovery.

9. Biodiversity. Somalia forms part of the Horn of Africa biodiversity hotspot and is one of the areas with a high level of endemic species. The country is home to some 3,028 species of higher plants, of which 17 are known to be threatened. Somalia is considered a centre of floral endemism and of the known species, 700 (17%) are endemic. An IUCN assessment (1993)⁹ recorded 150 wild mammals and 645 bird species, 1,332 animal species of which 518 believed to be endemic. As of 2020, the IUCN Red List¹⁰ for Animals ranked 146 species as Threatened, with 145 Near-Threatened and 188 Data Deficient in Somalia. The main threats to biodiversity and its ecosystems come from habitat losses and degradation, climate change, overexploitation, pollution, invasive alien species,

⁴ World Bank, 2020. [World Bank's Somalia Country Environmental Analysis: Diagnostic Study on Trends and Threats for Environmental and Natural Resources Challenges](#).

⁵ World Bank, "World Bank Open Data," 2021. <https://data.worldbank.org/>.

⁶ Yusuf, F. A., Kusin, F. M., & Kpalo, S. Y. 2021. Knowledge, attitude, and practice regarding charcoal consumption among households in Sanaag province, north-eastern. *Sustainability*, 13(4), 2084

⁷ Thulstrup, A, Habimana, D., Joshi, I. and Oduori, S. 2020. "Uncovering the challenges of domestic energy access in the context of weather and climate extremes in Somalia," *Weather and Climate Extremes*, vol. 27, no. 100185.

⁸ World Bank and FAO. 2018. *Rebuilding Resilient and Sustainable Agriculture in Somalia*.

⁹ <https://www.cbd.int/doc/world/so/so-nr-05-en.pdf>

¹⁰ IUCN. 2020: https://nc.iucnredlist.org/redlist/content/attachment_files/2020_1_RL_Stats_Table_6a.pdf

civil war, and tsunamis. In place of healthy biodiversity, *Prosopis spp.* (*Prosopis*) and other invasive species, i.e. Siam weed (*Chromolaena odorata*) and Parthenium weed (*Parthenium hysterophorus*) are colonizing rangelands and forest areas, further decreasing the availability of natural pastures, and accelerating biodiversity loss and habitat alteration.

Agriculture and water resources

10. Agriculture, rangeland, livestock, and fisheries are critical for rural Somali livelihoods.¹¹

The agricultural sector (which includes the livestock subsector and crop subsector) accounts for approximately 75% of gross domestic product (GDP)¹². Somalia encompasses large areas suitable for livestock grazing, browsing, and fodder production: 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. Main livestock production systems are nomadic pastoralism and agro-pastoralism, and depend on the country's vast rangelands¹³. The availability of traditional grazing areas is becoming scarce due to the climate induced increased frequency and intensity of droughts as well as environmental degradation (e.g. invasive species). As a result, many households have been adapting by shifting from nomadic pastoralism to agro-pastoralism, combining livestock production and crop production.

11. Agriculture is the most important economic sector, accounting for 65% of GDP and workforce, thanks to fertile alluvial soils allowing for staple cereals, oil seeds, legumes, and horticulture crops. Rainfed agriculture constitutes the largest part of crop production systems (including under agro-pastoral systems), with a high dependency on rains for the main crops of maize and sorghum. Maize, sorghum, cowpea and sesame are the main staples. Productivity is however very low (average yield for maize is 0.6 T/ha). 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. Most of Somalia's northern regions are dry and cannot support widespread rain-fed agriculture, with the exception of a few pockets including Borama, Hargeisa and Gebiley. Rain-Fed agriculture is practiced along the Juba and Shabelle rivers basin especially during the rainy seasons. In south Somalia, irrigation is practiced along the permanent rivers and seasonal streams. In the north, it is commonly done in shallow wells and springs. Irrigated crops include vegetables, maize and sesame, while those grown on a large scale include apples, bananas, mango and guava.

12. **Water resources.** The southern part of Somalia hosts the only two permanent rivers (Juba and Shabelle), flowing from Ethiopia to the Indian Ocean. Somalia has 9 water basins namely, the Gulf of Aden basin, Daroor basin, Tug Der/ Nugal basin, Central basin, Shabelle basin, Juba basin, Lag Dera basin, Lag Badana basin, and the Coastal basin. 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 significantly¹⁴. A number of seasonal rivers, "toga", exist in Somalia and flow during the rainy season. In the dry seasons, these rivers remain dry.

13. Only 52% of the population in Somalia has access to a basic water supply¹⁵. 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 (with depth ranging from 90m to 250m), shallow wells (the majority being 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, and in addition to high extraction costs, water resources from deep aquifers are often unsuitable for drinking or irrigation, with high salinity as measured through conductivity (as a proxy), reaching levels above 2,000µS/cm (over the required standard for drinking water) (SWALIM).

¹¹ World Bank. 2018. "Somalia Systematic Diagnostic."

¹² [SOMALIA: Rebuilding Resilient and Sustainable Agriculture](#), International Bank for Reconstruction and Development/The World Bank and FAO (2018)

¹³ Ibid

¹⁴ FAO Somalia Water and Land Information (SWALIM).

¹⁵ UNICEF and WHO. 2019. 2019 Joint Monitoring Programme Updates.

14. Currently, irrigation for agriculture accounts for over 90% of water use. For only a few months in the year, this water also supports a small but growing horticultural production. In recent decades, expansion of private enclosures on traditionally communal rangelands, especially along livestock migration routes, jeopardizes the mobility of pastoralist communities, thereby weakening their capacity to cope with adverse climate conditions. Existing tensions and conflict risks are amplified during extended dry periods.

15. Somali lives are shaped by uncertain water supplies and water insecurity is growing.

The agriculture and livestock sectors are dependent on water of sufficient quantity, quality, and affordability. Water scarcity has led to widespread crop devastation as well as livestock and human deaths. There are concerns that without preventive approaches to address the effects of climate change and extreme weather, existing vulnerabilities will be exacerbated, reducing livelihood options, which may in turn negatively impact on stability and security.¹⁶

Socio-economic context, gender and social inclusion

16. With its capital in Mogadishu Municipality (Banadir Regional Administration), Somalia is divided into 18 regions and 90 districts. Somalia has a population estimated at 18.1 million in 2023¹⁷, of which roughly 60% are nomadic and semi-nomadic pastoralists, and 60% live in rural areas. Like many countries in sub-Saharan Africa, the population is predominantly young with 75% of it estimated to be under the age of 30, and 45.6% under the age of 15¹⁸. Estimated female population is 50.14%.

17. 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 countries¹⁹. Somalia's gross domestic product (GDP) per capita has consistently been ranked among the five lowest in the world throughout the last decade and in 2020 it was the second lowest in the world. Amid repeated shocks, growth in GDP averaged only 2% from 2013 to 2020. Owing to the multiple crises, GDP contracted by 0.2% in 2020. GDP growth recovered to 2.9% in 2021 but is projected to have fallen to 1.7% in 2022 under the regional drought and worsening global economic conditions. GDP growth is forecast to rebound to 2.8% in 2023 and 3.7% in 2024.

18. **Poverty.** The fragility and high conflict situations in Somalia have led to forced displacements, unemployment, and staggering poverty rates. About 69 per cent of Somalis live under the international poverty line of US\$ 1.90 per day, with 70% of youth being unemployed²⁰. With an additional 10 per cent living within 20 per cent of the poverty line, almost 80 per cent of the population is vulnerable to even very small external shocks. Poverty rates are elevated among Internally Displaced People (IDP) living in settlements, people living in rural communities, and nomads, with almost 90% of households deprived in at least one dimension of poverty and nearly 70% suffering in two or more.²¹ The poorest also have lower access to services, while women have lower rates of literacy and educational attainment (see below).²²

19. In 2018, remittances, estimated at US\$ 1.4 billion, supported about 20 per cent of Somali households (HHs). Inflows of remittances are, however, increasingly threatened by: (i) the tightening of international money laundering and counter-terrorism financing regulations on foreign banks holding Somali money transfer company accounts; and, (ii) especially in 2020-2021, the global movement restrictions due to COVID-19. Beside monetary poverty, many Somalis also suffer deprivations in health, education and physical safety due to the conflicts and natural disasters, mainly droughts and floods.

¹⁶ Norwegian Institute of International Affairs (NIPI) and Stockholm International Peace Research Institute (SIPRI). 2021. Climate, Peace and Security Fact Sheet Somalia.

<https://reliefweb.int/sites/reliefweb.int/files/resources/210203FINALFactSheetSomaliaSkisserLR11.pdf>

¹⁷ <https://www.unfpa.org/data/world-population/SO>

¹⁸ National Development Plan -9 (2020-2024).

¹⁹ World Bank (2021). World Bank Data Portal.

²⁰ National Development Plan -9 (2020-2024).

²¹ World Bank. April 2019. "Somalia Poverty and Vulnerability Assessment: Findings from Wave 2 of the Somalia High Frequency Survey."

²² Ibid

20. Humanitarian situation. Somalia is facing a rapidly unfolding humanitarian catastrophe, driven by the longest and most severe drought in at least 40 years: throughout 2022, and for five consecutive seasons, poor rains put the country in severe drought conditions surpassing the 2010–2011 and 2016–2017 droughts in terms of duration, severity, and scale. In 2023, an estimated 8.25 million people, nearly half of Somalia's population, were projected to need immediate life-saving humanitarian and protection assistance. The recent drought has devastated the agriculture sector — which accounts for up to 90 per cent of Somalia's exports — and led to increased displacement and loss of livelihoods, with one third of all livestock dying in the worst-affected areas. The humanitarian community is struggling to keep pace with growing needs. The number of people suffering from food insecurity and needing humanitarian assistance grew to 8.3 million people in the country (over 50%) and displaced over 2 million people from their homes in search of water, food, and pasture. Grants including social safety net programs (mainly targeted to rural poor/vulnerable households) and remittances are helping to mitigate the humanitarian crisis.²³ The maps under Figure 1 illustrate the geographic repartition of humanitarian needs by number of people and severity of needs.

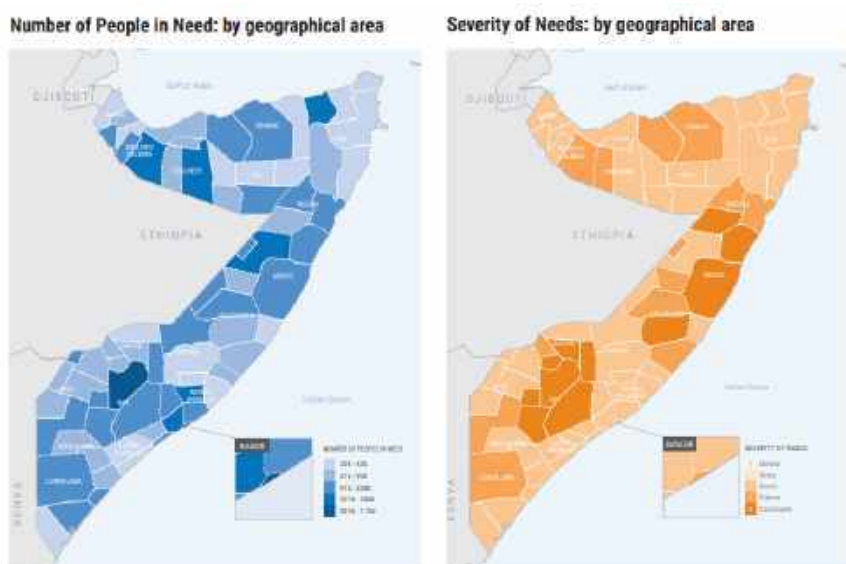


Figure 1 - Humanitarian needs in Somalia as of 2023 (Humanitarian Needs Overview, 2023)

21. Food Security. Food insecurity is one of the largest health challenges in Somalia. Between 2012 and 2018, around 1.5 million people were recurrently food insecure. An additional 1.5 million people suffered from acute food insecurity due to the impacts of extreme events such as droughts and floods²⁴. In 2020, the stunting rate of children under the age of 5 was 27.8 %²⁵. Food insecurity is particularly high amongst rural communities and IDP's. Despite large-scale humanitarian response providing relief in Somalia's food crisis, the latest data shows that 3.7 million people, or 22 percent of the population, are experiencing high levels of acute food insecurity, classified in IPC Phase 3 (Crisis) and Phase 4 (Emergency). The IPC Acute Food Insecurity classification is based on household surveys and field assessments conducted in June and July 2023 and subsequent analysis in August 2023. The key drivers of acute food insecurity in Somalia include the combined effects of below-average and poorly distributed rainfall, flooding, the extended impact of multi-season drought in pastoral areas, limited household access to food due to income constraints and elevated food prices, continued insecurity, conflict in many parts of central and southern Somalia as well as Lasaanod (Sool), together with low coverage of humanitarian assistance.²⁶

²³ OCHA 2023. <https://www.unocha.org/somalia>

²⁴ World Food Programme, "Somalia," 2021. <https://www.wfp.org/countries/somalia>.

²⁵ Federal government of Somalia. 2020. "The Somali Health and Demographic Survey," Directorate of National Statistics.

²⁶ Integrated Food Security Phase Classification. August 2023. SOMALIA : IPC Acute Food Insecurity and Malnutrition Snapshot | August - December 2023

22. Fragility status. With a Fragile States Index of 110.9 in 2021²⁷, 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 and radicalization; and the Al-Shabaab and Islamic State insurgencies. For the rural farmers and herdsman, 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 sectors²⁸. The large displacement of people within Somalia and to neighbouring countries, notably Kenya and Ethiopia, disrupted economic activities and increased food insecurity. The infrastructure for basic services has been badly damaged by conflict.

23. Security environment. Accessibility to some districts, particularly in southern and central regions, remains limited in rural areas which is largely due to insecurity along main supply routes. Civilian movement in areas controlled by Al-Shabaab is nearly impossible due to regular and active hostilities or military operations across parts of Galmudug, Hirshabelle, Jubaland, and South West State. Conflict in these areas has imposed an added security dimension including an increased threat from improvised explosive devices (IEDs), Al-Shabaab reprisal attacks against the civilian population who collaborate with the Government and civilian infrastructure and an acute deterioration of road access for humanitarians. These threats may be compounded by military offensives against Al-Shabaab including those conducted by armed elements with the support of Government forces in central Somalia.

24. Access to areas under the control of the Federal Government of Somalia (FGS) and allied non-state armed groups remains largely possible although this is hampered by ongoing insecurity including the presence of IEDs along key supply routes. Security checkpoints, many of which are fee-bearing, hinder safe, timely and unimpeded access. Incidents continue to be reported at the authorised checkpoints along all major access roads in southern and central Somalia. Mogadishu-Afgooye-Baidoa, Mogadishu-Balcad-Jowhar and Belet Weyne-Gaalkacyo are among the most affected roads. Extortion and other forms of violations are common at the numerous illegal checkpoints manned by both state and non-state armed actors.²⁹

25. 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 most affected by the resulting poverty, and food and nutrition insecurity, due to reduced production, higher prices, loss of incomes, and depletion of savings.

26. The recent **Ukraine war** has further fuelled 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 drought, relied 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. The crisis resulted in grain supply lines being blocked, leading to exorbitant food prices.

27. Gender equality. Life for women and girls in Somalia is challenging. With a Gender Inequality Index of 0.778 in 2012, Somalia stood in the fourth-worst position globally³⁰. Maternal and infant mortality rates are some of the highest in the world, and early marriage is prevalent. The Somalia Health and Demographic Survey (SHDS) shows that Female Genital Mutilation/Cutting (FGM/C) in

²⁷ The GlobalEconomy.com. 2022. <https://www.theglobaleconomy.com/Somalia>

²⁸ Regional Centre for Small Arms, Nairobi. Undated. An assessment of illicit small arms and light weapons proliferation and fragility situations – Somalia. <https://recsasec.org/wp-content/uploads/2018/08/SOMALIA-FRAGILITY-pdf.pdf>

²⁹ Humanitarian Needs Overview, 2023. https://www.unocha.org/attachments/6c6e850f-ef21-4266-b0ee-70168794e8ea/20230208_Somalia%20_HNO_2023.pdf

³⁰ UNDP. 2012. Gender in Somalia.

women aged 15-49 is high, at 99.2% which has both short-term and long-term physiological, sexual and psychological repercussions.³¹

28. Culture and norms associated with the male-dominated clan system, 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 was only 19% for women, versus 74% for men in 2019³². Women in Somalia 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. Somali women continue to be marginalized in almost all spheres of society despite the complex role they play in conflict, peace, and security, and 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. In recent years, policy makers and development partners in Somalia have committed to make gender mainstreaming a central focus,³³ as illustrated by a number of key national documents, strategies and action plans.

29. Other vulnerable groups. The clan-based system, regulated by the Somali customary law, “*xeer*”, is a prominent social factor among the nomadic pastoralists. Clans and clannism determine one’s origin, social standing and access to territory, property, and to a large extent, power at the societal, economic and state levels. Clannism has been a source of conflict but clan elders help conflict mediation, and clan-based customary laws used for negotiated settlement together with clan-based blood-payment serve as a deterrent to armed violence. The most famous is the clan-based power-sharing model of the 4.5 formula that gives equal quota to the four “major” clans, and a half-point to a cluster of “minority” clans/groups.

30. The internationally recognized indigenous people in Somalia are the (*Wa*) Goshas, comprising the Bantu groups (Gosha, Shabelle, Shidle and Boni) who live in the Lower Juba and Shabelle valleys. The project does not specifically target these indigenous people but will involve them in project activities if they reside in the project communities. People with disabilities are estimated at 15 per cent of the population. Overall, women and girls, youth, internally-displaced persons (IDPs), rural and nomadic communities, and persons with disabilities face impediments to full participation in Somalia’s decision-making processes, and access to productive resources, jobs, and social services, putting them at risk of being left behind in the development process³⁴.

Governance, Institutional and Policy Framework for Adaptation

31. Recovering from conflict, Somalia has been on a trajectory toward political stabilization and reconstruction. The Federal Government of Somalia (FGS), established in 2012 after almost two decades of civil war, comprises an executive branch headed by the President, the Somali Federal Parliament, and six Federal Member States (FMS): Somaliland, Puntland, Galmudug, Hirshabelle, South West State, and Jubaland³⁵. The latest election of members of the Federal Parliament was in April 2022, and of the President on 15 May 2022. The sustained political, economic, and institutional reforms have enabled the rebuilding of core state functions, though the country’s fiscal position remains largely supported by official development assistance, remittances, and foreign direct investment. The country still faces persistent insecurity, conflict, and unresolved political tensions, as demonstrated by the delay of the elections from 2020 to 2022. The new President was officially inaugurated on June 9, 2022.

32. The newly created Ministry of Environment and Climate Change (MoECC) is the national authority responsible for the formulation, management, oversight, coordination and effective implementation of environmental and climate laws, policies, standards and strategies. It promotes

³¹ UN Women Somalia. 2023. [Where we are Eastern and Southern Africa: Somalia | UN Women – Africa](#)

³² UNDP 2019. Human Development Report 2019.

³³ [UN Somalia Gender Equality Strategy 2018-2020](#)

³⁴ UN Somalia Common Country Analysis (CCA). October 2020.

https://www.ecoi.net/en/file/local/2052858/UN+Somalia+Common+Country+Analysis+2020_3.pdf

³⁵ IFAD 2021. Country Strategy Note (2022-2023).

sustainable management and standards for protecting critical habitats, combatting desertification, enhancing stewardship and ownership, restoration and utilization of natural resources, in accordance and collaboration with the relevant government structures at Federal and State levels. Other Ministries directly involved in the climate agenda at federal level include the Ministry of Livestock, Forests and Rangelands, the Ministry of Planning, Investment and Economic Development, and the Ministry of Agriculture and Irrigation. Other relevant institutions include the National Climate Change Committee (NCCC) with the mandate for coordinating and supervising the implementation of the National Climate Change Policy, and the Cross-Sectoral Committee on Climate Change (CSCC) which brings together officials from across the government working on climate change³⁶.

33. National policy framework for adaptation. Somalia joined the United Nations Framework Convention on Climate Change (UNFCCC) in 2009 and ratified the Kyoto Protocol and Paris Agreement in 2010 and 2016, respectively³⁷. As a signatory to the UNFCCC, the Federal Republic of Somalia has submitted its Initial National Communication (2018), its First Biennial Update Report (BUR: 2022), and its updated National Determined Contribution (NDC) in 2021. The government of Somalia has developed several other climate change-related programs and policies, such as the National Adaptation Programme of Action (NAPA, 2013) and the National Climate Change Policy (2020)³⁸. The country has also recently initiated its National Adaptation Plan (NAP) process through the implementation of the Green Climate Fund (GCF) financed NAP Readiness Project³⁹.

34. A number of additional national policies and strategies contribute to the definition of a national framework for adaptation and are highlighted in section II. D. Strategic Alignment. Amongst those policies are included: the National Climate Change Policy (2020), The National Environment Policy (2019), the Somali National Disaster Management Policy (2018), the Integrated Water Resources Management Strategic Plan (2019-2023), the Recovery and Resilience Framework (2018), the National Voluntary Land Degradation Neutrality Targets 2020, The National Biodiversity Strategy and Action Plan (2015), The Somalia National Water Policy and National Water Resource Law (2010), the National Food Security and Nutrition Policy (2019), the National Drought Plan (2020), the National Water Resource Strategy (2021-2025) and the Somalia National Action Programme for the UN Convention to Combat Desertification (2016). The federal government has also recognized climate change adaptation as a crucial element of Somalia's development and climate agenda, integrating it into the National Development Plan (NDP-9) for 2020-2024.

35. Despite these strides and the existing institutions, the country is faced with key challenges that undermine the effectiveness in addressing environment and climate change challenges. The challenges include inadequately qualified staff; inadequate personnel; a low level of staff skills and knowledge on climate and disaster management; limited access to information due to inadequate information and computing technology skills; a lack of adequate physical assets, infrastructure and transport; and limited capacity building. The country lacks adequate operational coordination mechanisms for climate change, with weak linkages between MoECC and other government structures and sectors, hindering efforts to address environmental and climate challenges.⁴⁰ Generally, there are few policies and laws at federal, state and local level and therefore limited oversight over issues associated with climate change. There is also limited capacity in the enforcement of relevant the laws.

Climate change

(i) Current climate

36. Climate zones. The National Adaptation Programme of Action (NAPA) delineates four climatic zones in Somalia: the desert zone in the northeast; the arid zone in the central area of the country; and the semi-arid and humid zones in the south and parts of the northwest. Somalia's climate is

³⁶ <https://unfccc.int/sites/default/files/NDC/2022-06/Final%20Updated%20NDC%20for%20Somalia%202021.pdf>

³⁷ <https://unfccc.int/sites/default/files/resource/Somalia%20First%20BUR%20report%202022.pdf>

³⁸ <https://napglobalnetwork.org/wp-content/uploads/2022/11/napgn-en-2022-somalia-nap-framework.pdf>

³⁹ napgn-en-2022-somalia-nap-framework.pdf (napglobalnetwork.org)

⁴⁰ [Ibid](#)

influenced by the Inter-Tropical Convergence Zone (ITCZ), monsoonal winds and ocean currents, easterly waves, tropical cyclones, and the neighbouring Indian Ocean and Red Sea conditions.⁴¹ Additionally, Somalia is influenced by large ocean-atmospheric processes such as El Niño Southern Oscillation (ENSO)⁴² and the Indian Ocean Dipole (IOD), which are significant contributors to rainfall variability within the region.

37. Temperature. The annual mean temperature is close to 30°C 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 marks the hottest weather for the south. Since the 1960s, a warming trend has been observed in Sub-Saharan Africa. The mean annual temperature is 26.91°C (1901-2016).

38. Precipitation. The precipitation is generally low across the country with a high spatial and temporal variability, and average annual rainfall of about 200 mm in most areas. The northern maritime plains are extremely hot and arid with average annual rainfall of less than 200 mm. Rainfall in the south is higher at approximately 400 mm and highest in the southwest with around 700 mm on an annual average (FAO, 1995). The mean annual precipitation is 265.44mm (1901-2016).

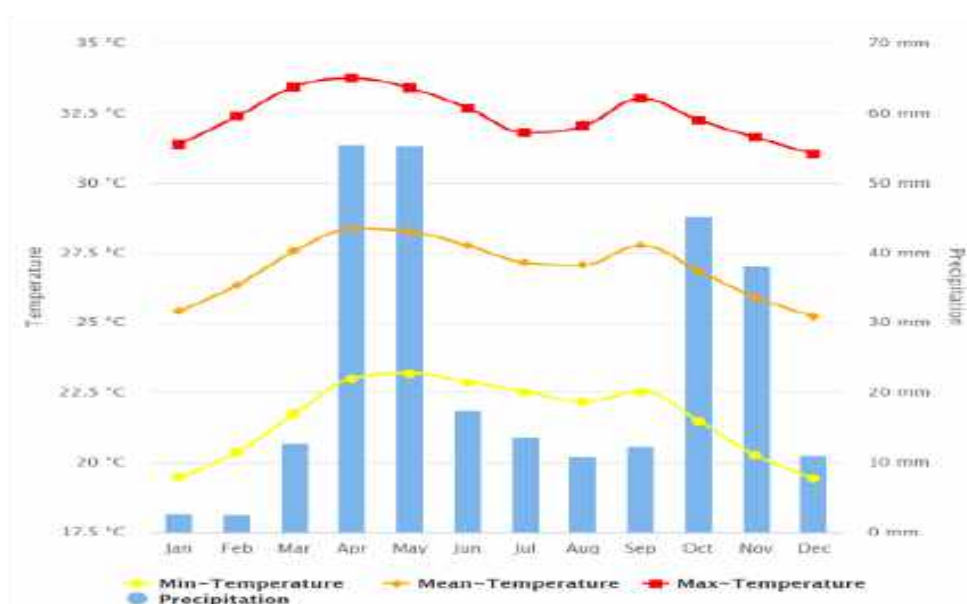


Figure 2 - Rainfall and temperature trends between 1991 and 2020 (Source: World Bank Group, 2021)

39. Seasons. Rainfall in Somalia is influenced by ITCZ, the north-south movement, monsoonal winds and ocean currents, and tropical cyclones, which results in two rainy seasons and two dry seasons in a year:

- a) The “**Gu**” rain season starts as early as the second half of March. Precipitation intensifies in April across the country, except for the north-eastern coastline which receives the least amount of rainfall during this season. Relatively wet and hot conditions prevail, Gu being considered 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.
- b) The dry “**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 southwest monsoon dominates, bringing relatively cool conditions, with showers along the coast but dry inland.
- c) The “**Deyr**” light rainy season is characterized by a shorter duration and fewer amounts of precipitation in the months of October to the end of November.

⁴¹ World Bank Climate Change Knowledge Portal (CCKP), <https://climateknowledgeportal.worldbank.org/>

⁴² P.w, Muchiri. 2007. ‘Climate of Somalia’. SWALIM.

- d) January to March is the longest dry season known as “**Jilaal**”. This season results from ITCZ emerging from the dry Arabian Peninsula.

(ii) Observed changes in climate

40. A climate risk assessment has been conducted by FAO for Somalia in 2023, using the bias-corrected reanalysis dataset W5E5 (Cucchi et al., 2020). A significant yearly increase in maximum temperature ranging from 0.005 to 0.055 °C/year has been detected, which translates into a temperature increase of 0.15-1.65 °C over the 1981-2010 period. The analysis of temperature extremes shows a significant increase in days with maximum temperature above 35°C in the southern part of the country, especially in the inland areas bordering Ethiopia and Kenya and in western Somaliland with an overall increase of 15 days per year with maximum temperatures above 35°C in 2010 compared to 1981.

41. The total annual trends of rainfall vary across the country as shown in Figure 3⁴³. While statistical significance could not be assigned, the estimated annual increase/decrease has a high magnitude. A yearly precipitation increase of 2 mm translates into a 60 mm difference over the 1981-2010 period. The southern part of the country, which is characterized by higher annual precipitation, has received less rain (25% reduction) with high inter-annual variability.

42. The frequency of days with heavy rainfall conditions is subject to spatial variability (Figure 4). The analysis identifies an increase in the number of days with heavy rainfall (precipitation ≥20mm/day) between 1981 and 2010 in the Horn region, in the southern territories bordering Kenya, and in the Middle Shabelle. In fact, Somalia experienced at least one major climate extreme event per decade from 1960 to 2011 (NAPA, 2013) and major floods occurred in 1961, 1977, 1981, 1997-98, 2005, 2006, and 2009. In March 2020 Somalia experienced excess rainfall that continued sporadically during April, it affected a wide area and caused rivers to rise and flash floods. The results of the analysis on the number of dry days per year (precipitation <1mm/day) (Figure 3) and consecutive dry days show increases in the southern regions but also north/eastern region ranging between 0.2 and 1 day per year. Indeed, the major drought events that were experienced in 1969, 1976, 1984, 1987, 1999, 2001, 2004, and 2010 were mainly linked to the increasing frequency of La Niña, during which strong winds and rainfall deficiency triggered agricultural and hydrological droughts.

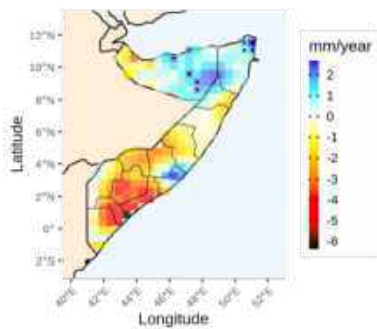


Figure 3 - Yearly change in total precipitation in Somalia (1981-2010)

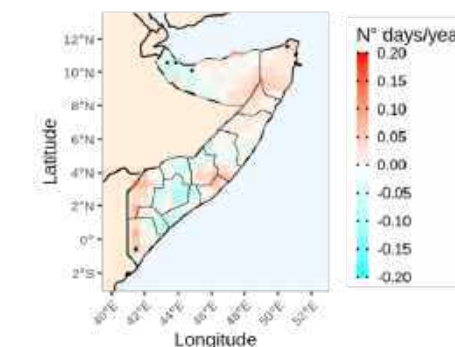


Figure 4 - Yearly change in the number of days with heavy rainfall conditions (≥20mm/day) in Somalia (1981-2010)

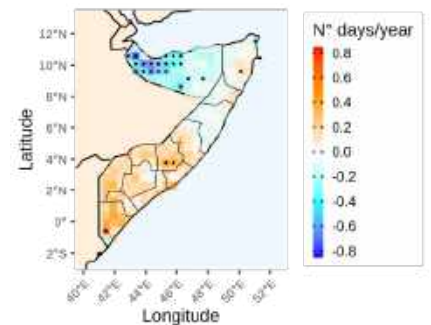


Figure 5 - Yearly change in the number of dry days (<1mm/day) in Somalia (1981-2010)

Data source: W5E5 bias-corrected reanalysis dataset. Figure produced with the Climate HAZard toolbox (CHAT) developed at FAO.

(iii) Projected changes in climate

43. The maximum and minimum temperatures are expected to increase under both RCP 2.6 and RCP 8.5. The analysis indicates that the northern part of Somalia will experience more significant increases in temperatures compared to the southern parts (Figure 6). The number of days with maximum temperatures above 35°C is also predicted to increase up to 200 days per year compared to the baseline in the far future and RCP 8.5, particularly along inland areas (Figure 7). Under RCP

⁴³ The results of the analysis on rainfall trend conducted by FAO are partially in disagreement with previous studies (climate risk profile, weathering risk, 2022). This inconsistency could be explained by the fact that these studies have used GCMs models which do not resolve well regional spatial variation.

2.6, coastal areas of Somalia are expected to experience low annual maximum and minimum temperature differences compared to the historical period. Marked temperature increases will particularly affect the southern part of Somalia, which concentrates most of the agricultural activities.

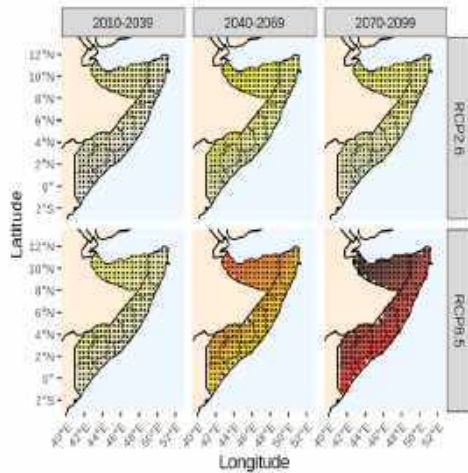


Figure 6 - CC signal in mean annual maximum temperature over the 21st century from historical period (1976-2005)

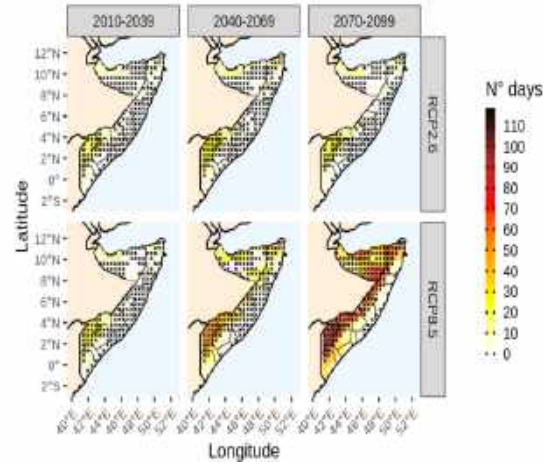


Figure 7 - Mean of the CC signal for the number of days with daily maximum temperature above 35°C

Produced with the Climate Hazard toolbox (CHAT) developed at FAO, using a multi-model ensemble mean of 6 GCMs and RCMs. The black cross indicates whether at least 60% of the models agree on the sign of the climate change signal.

44. The analysis shows a predicted increase in annual precipitation especially under RCP 8.5 (Figure 8) and more erratic rainfall. The increase in precipitation will mostly affect the coastal areas and the southern part of the country, leading to up to 300 mm increase compared to the historical period (1976-2005). Somalia is expected to experience an increased frequency of heavy rainfall events ranging from 1 to 4 days compared to the baseline period (1976-2005) (Figure 7). Under scenario RCP 8.5, the increase is more pronounced along the coastal areas, and in the far future. Coastal areas are thus predicted to become wetter (12% to 70% increase in precipitation under scenarios RCP2.6 and 8.5 respectively) (Figure 8) and to receive more rain during a shorter amount of time (increase in the frequency of heavy rainfall events and decrease in the frequency of dry days, as indicated in Figure 9 and Figure 10) with good agreement between models.

45. Mild annual precipitation decrease is expected for inland areas under RCP 2.6, but high inter-model agreement (absence of black cross) predominates (Figure 8). In inland areas, the frequency of dry days is expected to increase (Figure 10).

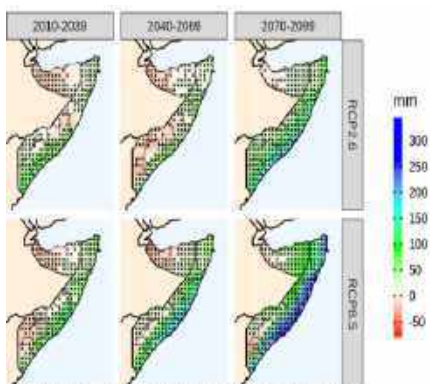


Figure 8 - Climate change signal in annual precipitation over the 21st century from historical period (1976-2005)

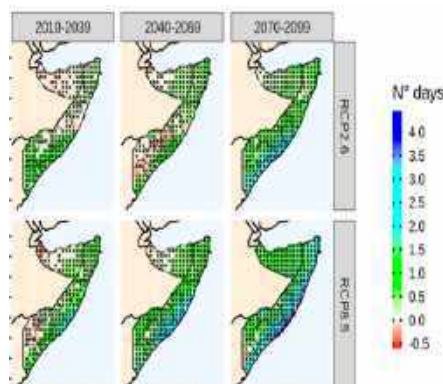


Figure 9 - Mean of the climate change signal for the number of days with daily precipitation above 20 mm (heavy rainfall events)

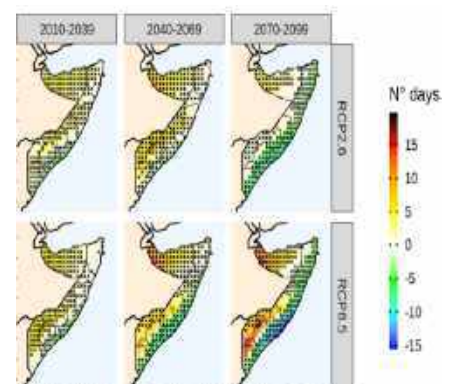


Figure 10 - Mean of the climate change signal for the number of days with daily precipitation below 1 mm (dry days)

Data source: W5E5 bias-corrected reanalysis dataset. Figures produced with the Climate Hazard toolbox (CHAT)

(iv) Impacts of climate change

46. Somalia is highly vulnerable to the adverse impacts of climate change due to its geographic location, socio-political challenges, and economic conditions. Over the past few decades, the country has witnessed an increasing frequency and severity of climatic events that have exacerbated existing vulnerabilities, resulting in devastating effects on its population, resources, and infrastructure. The World Bank⁴⁴ confirms that the country is at risk to several hazards, including drought, floods, cyclones, and climate-related diseases and epidemics (Figure 11). Droughts are often followed by devastating floods, particularly in the South where the Shabelle and Juba rivers are vulnerable to heavy rains in the Ethiopian highlands. The ENSO influences Somalia's climate variability in several ways, bringing more rainfall and flooding during El Niño and droughts in La Niña years.

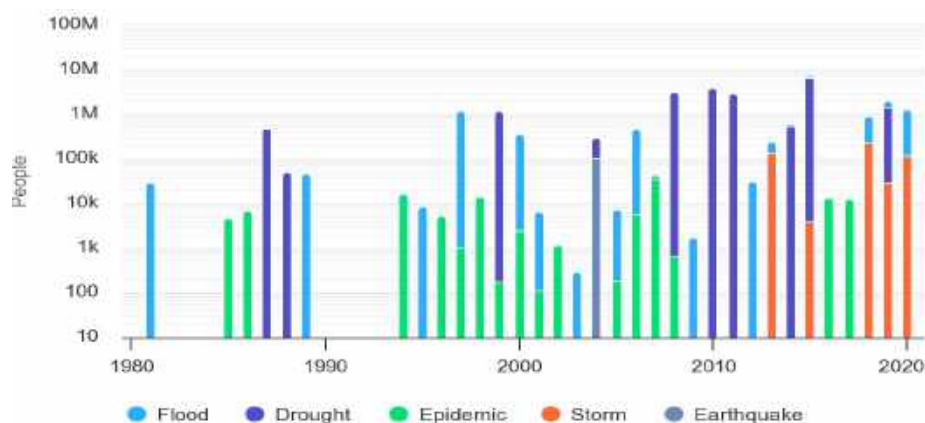


Figure 11 - Key natural hazard statistics for 1980-2020 (Number of people affected)
Source: World Bank Climate Knowledge portal⁴⁵

47. **Droughts.** 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. These prolonged dry spells, often resulting in consecutive seasons of failed rains, have been detrimental to the country's primarily agro-pastoral economy. 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.⁴⁶ Droughts significantly reduce the availability of water for both human consumption and agriculture, leading to reduced crop yields, livestock deaths, and subsequent food and water scarcity. The cascading effects include malnutrition, displacement of communities, and increased competition and conflicts over diminished resources.

48. 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. It is estimated that between 1961 and 2004, droughts have increased frequency and severity, with over 12 droughts killing 19,600 people.⁴⁷ The 2004 drought was particularly devastating, with over 200,000 pastoralists from northern and central regions of the country at risk, and a staggering 500,000 individuals reported to be facing a humanitarian emergency or a livelihood crisis in affected regions.⁴⁸ The situation escalated further in 2011 when drought-related complications were responsible for the tragic loss of 258,000 lives.

⁴⁴<https://climateknowledgeportal.worldbank.org/country/somalia/vulnerability#:~:text=Historical%20Hazards.aid%20as%20conflict%20is%20ongoing.>

⁴⁵ <https://climateknowledgeportal.worldbank.org/country/somalia/vulnerability>

⁴⁶ Drought Impact and Needs Assessment (DINA), Somalia. 2017.

⁴⁷ Ullah, Saleem and Gadain, Hussein. 2016. National Biodiversity Strategy and Action Plan (NBSAP) of Somalia, FAO-Somalia

⁴⁸ World Bank. 2021. Climate Change Knowledge Portal <https://climateknowledgeportal.worldbank.org/country/somalia>

49. The prolonged drought of 2019-2023 in Somalia was the worst in 40 years⁴⁹, following five consecutive failed rainy seasons⁵⁰, causing around 8.3 million people to confront acute food insecurity⁵¹. This unprecedented extreme drought has led to mass displacement, widespread death of livestock and a devastating food crisis⁵², with 90% of the country experiencing severe drought conditions⁵³. As of the beginning of 2023, water shortages were at critical levels, with an estimated 8 million people lacking access to safe water and sanitation facilities. Drought-induced displacement had increased fivefold since the beginning of 2022, affecting more than 1.3 million people by the end of 2022⁵⁴. Estimates suggest that in 2022 alone, the drought caused 43,000 excess deaths, half of them occurring in children younger than 5⁵⁵.

50. **River flooding.** Somalia faces the challenge of flash floods, prominently during the Gu rainy season (April to June), but also during the Deyr rainy season (October to December). The maps included as part of Figure 13 indicate areas most at risk of flooding. Climate change-related floods were experienced in as early as 1961, 1977, 1981, 1997-98, 2005, 2006 and in 2009, 2011, 2013, 2015, 2016, 2018, 2019, 2020, 2021 and 2023.⁵⁶ These floods are often sudden and intense, exacerbated by localized heavy rainfall. In addition to loss of human lives and livestock, flash floods disrupt local communities, displacing populations, destroying crops and damaging critical infrastructure, contaminating drinking water sources, and facilitating the spread of water-borne diseases. Flooding events also often lead to loss of livestock, a crucial asset for many Somali households. The increased frequency of floods is of significant concern, especially since the *El Niño* years of 1997-1998, with flooding regularly wreaking havoc in different parts of the country.

51. **Cyclones and storm surges.** Somalia's coastline along the Indian Ocean is periodically threatened by tropical cyclones (on average once per year)⁵⁷. These cyclonic events, though less frequent than droughts and floods, can be severely destructive when they occur. Cyclones can result in extensive damage to infrastructure, loss of life, displacement, and saline intrusion into freshwater resources. The storm surges associated with these cyclones can inundate coastal regions, affecting both human settlements and coastal ecosystems. Cyclone Gati (December 2020) affected 120,000 people in the region of Puntland, of whom 42,100 were temporarily displaced. Nine people were killed by the cyclone besides loss of livelihood assets, death of livestock, damaged buildings and infrastructures, damage to farms and fishing equipment.⁵⁸

52. **Extreme heat.** Extreme heat is an increasingly prevalent and concerning hazard in Somalia. Somalia's arid and semi-arid climate makes it highly susceptible to extreme heat events, which have become more frequent and intense as a result of climate change, with profound impacts on agriculture and livestock sectors. In agriculture, soaring temperatures and extended heatwaves result in crop failures and reduced yields. High temperatures accelerate soil moisture evaporation, making it challenging to sustain crops during dry spells. This, coupled with erratic rainfall patterns, can lead to decreased agricultural productivity and food shortages. The projected rising temperatures will very likely result in more frequent and higher exposure to heatwaves in Somalia, which will increase heat-related mortality. Under RCP 2.6, the population affected by at least one heatwave per year is projected to increase to 21.1 % in 2030. Projections under RCP6.0 do not differ substantially and suggest increase to 20.6 % until 2030.⁵⁹

⁴⁹ <https://reliefweb.int/attachments/807798ae-4833-449a-b43b-e5470b20d865/c0087608-eca2-46bf-a095-26e01350679a.pdf>

⁵⁰ iom.int/sites/g/files/tmzbdl486/files/situation_reports/file/IOM-Somalia-Drought-Response-November-2022.pdf

⁵¹ <https://reliefweb.int/disaster/dr-2015-000134-som>

⁵² iom.int/sites/g/files/tmzbdl486/files/situation_reports/file/IOM-Somalia-Drought-Response-November-2022.pdf

⁵³ <https://www.worldbank.org/en/news/press-release/2022/11/29/somalia-s-economy-expected-to-grow-despite-significant-shocks>

⁵⁴ <https://reliefweb.int/report/somalia/somalia-humanitarian-needs-overview-2023-february-2023>

⁵⁵ <https://www.unicef.org/esa/media/12316/file/From-Insight-to-Action-Somalia-2023.pdf>

⁵⁶ NAPA 2013, FAO SWALIM 2019, ReliefWeb 2023.

⁵⁷ <https://www.worlddata.info/africa/somalia/cyclones.php>

⁵⁸ ReliefWeb. 13 December 2020. [Somalia Cyclone Gati](#).

⁵⁹ Potsdam Institute for Climate Impact Research, adelphi. February 2022. Climate Risk Profile Somalia. https://weatheringrisk.org/sites/default/files/document/Climate_Risk_Profile_Somalia.pdf

53. Projected impacts on ecosystems. Climate change is expected to have a significant influence on ecosystems, even though the magnitude and direction of these changes are very uncertain. Due to the rising temperatures, increased frequency and intensity of extreme events and shorter growing periods, wetlands and riverine systems are increasingly at risk of being converted to other ecosystems with plant populations being displaced and animals losing their habitats. Recurring droughts alternating with periods of floods also accelerate land degradation and contribute directly to desertification⁶⁰. Rising temperatures and changing rainfall patterns can also influence succession in forest systems while concurrently and simultaneously increasing the risk of invasive species, all of which affect ecosystems. In addition, reduced agricultural productivity and population growth might lead to further agricultural expansion, increasing deforestation, land degradation and forest fires, all of which will adversely affect biodiversity.⁶¹

54. Projected impacts on agriculture. Agriculture is among the sectors most exposed to climate change. Smallholder herders and farmers in Somalia are increasingly challenged by the uncertainty and variability of weather caused by climate change. Rising temperatures, as well as increasing inter-annual precipitation variability and intensity are causing recurrent flooding and droughts, which affect Somalia's agricultural production negatively, making the population increasingly vulnerable to food insecurity^{62,63}. Almost two thirds of the cultivable land is located in the floodplains of the Juba and Shabelle rivers in southern Somalia, where the agricultural potential is highest. As a result of increasing inter-annual precipitation variability, some rivers in these floodplains, including the Shabelle river, have started drying up during the dry season⁶⁴. Climate change impacts have also been associated with an increased intensity of pest diseases⁶⁵. In 2020, the hotter weather conditions gave rise to the worst outbreak of desert locust swarms in over 25 years, destroying tens of thousands of hectares of cropland and pastures and posing a major threat to national food security⁶⁶. Furthermore, with the outbreak of the civil war, the maintenance of irrigation infrastructure came to a halt⁶⁷ and the cultivated area under irrigation has decreased by more than a half⁶⁸.

55. Climate change will impact agricultural yields to different extents, depending on the crops grown: Cowpeas show a positive trend in yields. Rice yields are projected to improve, although the level of increase is highly uncertain. Future projections of millet, sorghum and maize show high inter-annual variability and no clear trend in yields can be derived.⁶⁹ Other studies indicate that the yield of maize and sorghum is expected to decrease by 6% and 8% respectively by 2050 under RCP 8.5⁷⁰

⁶⁰ Desertification is a gradual process by which the productivity of land is reduced. The land degradation involves a continuum of change of land quality from slight to severe. It results from a combination of man's excessive use of ecosystems that are inherently fragile. Fragility means that the habitat is vulnerable to deterioration of ecological features. Recurrent and/or prolonged drought that are predictable in climatic incidence; its effect is often dramatic as it causes widespread failure of food-producing systems. If excessive exploitation (overgrazing, over cultivation, over-denudation of trees) coincides with the incidence of drought, rates of ecological degradation (desertification) often accelerate. [National Drought Plan for Somalia, 2020]

⁶¹ Shanahan, T.M., HUGHEN, K.A., MCKAY, N., OVERPECK, J.T., SCHOLZ, C.A., GOSLING, W.D., MILLER, S.S., PECK, J.A., WING, J.W., HEIL, C.W., "CO2 and fire influence tropical ecosystem stability in response to climate change," *Nature Scientific Reports*, vol. 18, no. 6, pp. 1-8, 2016

⁶² United Nations Development Programme (UNDP) & Government of Somalia, "Somalia drought impacts and needs assessment and recovery and resilience framework," International Bank for Reconstruction and Development/The World Bank and the Food and Agriculture Organization, 2021.

⁶³ Warsame, A., Sheik-Ali, I., "Climate change and crop production nexus in Somalia: an empirical evidence from ARDL technique," *Environmental Science and Pollution Research*, vol. 28, pp. 19838- 19850, 2021.

⁶⁴ Somalia Water and Land information management (SWALIM), "The Dry River Beds of Shabelle River," Food and Agriculture Organization, 21 March 2018. www.faoswalim.org/article/dry-river-beds-shabelle-river-0.

⁶⁵ Salih, A., Baraibar, M., Mwangi, K., Artan, G., "Climate change and locust outbreak in East Africa," *Nature Climate Change*, vol. 10, pp. 548-585, 2020

⁶⁶ UNOCHA, "Humanitarian Needs Overview Somalia," 9 March 2021. https://reliefweb.int/sites/reliefweb.int/files/resources/20200903_HNO_Somalia.pdf

⁶⁷ World Bank & Food and Agriculture Organization, "Rebuilding resilient and sustainable agriculture in Somalia. Volume I," International Bank for Reconstruction and Development/The World Bank and the Food and Agriculture Organization of the United Nations, 2018.

⁶⁸ Food and Agriculture Organization (FAO), "AquaStat," 2021. <http://www.fao.org/aquastat/statistics/query/index.html;jsessionid=FC5E1485E1FA9352ADFAFB3CC82C67A0..>

⁶⁹ Potsdam Institute for Climate Impact Research, *adelphi*. February 2022. Climate Risk Profile Somalia. https://weatheringrisk.org/sites/default/files/document/Climate_Risk_Profile_Somalia.pdf

⁷⁰ IFAD, Climate Adaptation in Rural Development (CARD) Assessment Tool, Version v2.0rc3 - February 2021

without adaptation measures. This can be mitigated by the adoption of drought-tolerant and early maturity varieties and multi-purpose crops such as sorghum: in the case of sorghum, even if there is a crop failure, crop by-products can be grazed by livestock.

56. Pastoralism and the trade of livestock are major livelihood strategies in Somalia. Climate impacts, including increasing temperatures and inter-annual precipitation variability, associated with water scarcity and recurrent droughts, already result in a loss of water points and grazing areas. Land degradation and desertification are further exacerbating the increasing resource scarcity. Increased temperatures cause heat stress in animals, resulting in reduced milk production, weight loss, and increased mortality rates.⁷¹ Limited access to water sources during heatwaves worsens the situation. Heat stress also disrupts grazing patterns and reduces the availability of forage, leading to challenges in maintaining healthy and productive herds. These changes, along with other socio-economic and political factors, strongly impact traditional mobility patterns and intensify the competition and conflict over access to resources amongst farmers and herders. Furthermore, pastoralists increasingly experience climate-induced economic losses, which can exacerbate existing community tensions and fuel recruitment into armed opposition groups⁷².

57. Climate impacts on vulnerable groups. 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 vulnerability, their 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 them.

58. Adding to the challenge, conflicts have eroded many of the gains made in education, health care and employment prior to the civil war, perpetuating and deepening gender inequality. Women and girls, youth, internally-displaced persons (IDPs), rural and nomadic communities, and persons with disabilities face additional impediments to participation in the country's path to sustainable development, putting them at risk of being left behind.⁷³

Overall vulnerability to climate change

59. Ranked as 172 out of 182 countries on the ND-GAIN Index (2022)⁷⁴, Somalia is considered one of the most vulnerable countries to the impacts of climate change^{75,76}. In addition to climate-vulnerability, Somalia is a fragile state that experiences diverse challenges in terms of governance, security, and poverty, exacerbating existing vulnerabilities⁷⁷. Since 2011, Somalia has suffered from more frequent and prolonged climate-related disasters such as droughts, floods with the addition of cyclones and even locust infestations in the last two years. These disasters unceasingly degrade ecosystems, threaten food security, and increase conflict over resource scarcity, putting a massive strain on the humanitarian situation, impoverishing and displacing hundreds of thousands of nomadic and rural people⁷⁸.

60. As exposed previously, Somalia is very sensitive to climate change due to high dependency on rainfed agriculture and pastoralism, high food insecurity, and political instability. The productivity of the crop and livestock subsectors is low due to limited availability of water resources and insufficient diffusion of climate adaptation measures.

⁷¹

[https://www.researchgate.net/publication/358148331_Extreme_climatic_effects_hamper_livestock_production_in_Somalia#:~:text=\).%20...-.....et%20al.%2C%202022\)%20](https://www.researchgate.net/publication/358148331_Extreme_climatic_effects_hamper_livestock_production_in_Somalia#:~:text=).%20...-.....et%20al.%2C%202022)%20)

⁷² Ekloew, W., Krampe, F., "Climate-Related Security Risks and Peacebuilding in Somalia. SIPRI Policy Paper," Stockholm International Peace Research Institute (SIPRI), Solna, 2019.

⁷³ UN Somalia (October 2020). Common Country Analysis (CCA)

⁷⁴ [Rankings // Notre Dame Global Adaptation Initiative // University of Notre Dame \(nd.edu\)](https://www.nd.edu/~rankings/)

⁷⁵ hlpf.un.org/sites/default/files/vnrs/2022/VNR_2022_Somalia_Report_0.pdf

⁷⁶ napglobalnetwork.org/wp-content/uploads/2022/11/napgn-en-2022-somalia-nap-framework.pdf

⁷⁷ <https://unfccc.int/sites/default/files/resource/Somalia%20First%20BUR%20report%202022.pdf>

⁷⁸ hlpf.un.org/sites/default/files/vnrs/2022/VNR_2022_Somalia_Report_0.pdf

61. The adaptive capacity of populations who are engaged in the agriculture sector is very limited because of low literacy rate, limited opportunities for education and limited awareness and knowledge on climate resilient agriculture⁷⁹. Soil management by smallholder farmers is poor, resulting in very low moisture retention and inadequate internal drainage. Most of smallholder farmers adopt low or no-input farming techniques for crop production, resulting in low crop productivity. Many varieties of main crops used by farmers are not drought-tolerant, increasing the risk of crop failure and production reduction when rainy seasons fail.

62. As of early 2023, Somalia had a food-insecure population estimated at approximately 6.6 million people⁸⁰, reflecting the increasing impacts of climate change – extreme weather, droughts, floods, as well as desert locust upsurges – affecting the ability of Somalis (particularly rural families) to meet their needs. The drought-affected rural Somalis have become the human face of the global climate emergency. Climate vulnerability and resulting food insecurity have been also aggravated by conflict, economic shocks associated COVID-19 recession, and inflation of key inputs such as fertilizer and livestock inputs⁸¹.

63. **Vulnerability mapping.** The maps included as part of Figure 12 below highlight the areas in Somalia that are particularly susceptible to droughts. A substantial portion of the central and southern regions, are expected to face extremely high vulnerability to droughts. The extent of land under extremely high risk of drought is predicted to increase from the current approximately 68,348 km² to roughly 69,591 km² under the RCP 4.5 scenario, and further to about 256,269 km² under the RCP 8.5 scenario. This potential surge in drought vulnerability can be attributed to the forecasted rise in temperatures along with the increasing unpredictability of rainfall patterns and intensity in the future.

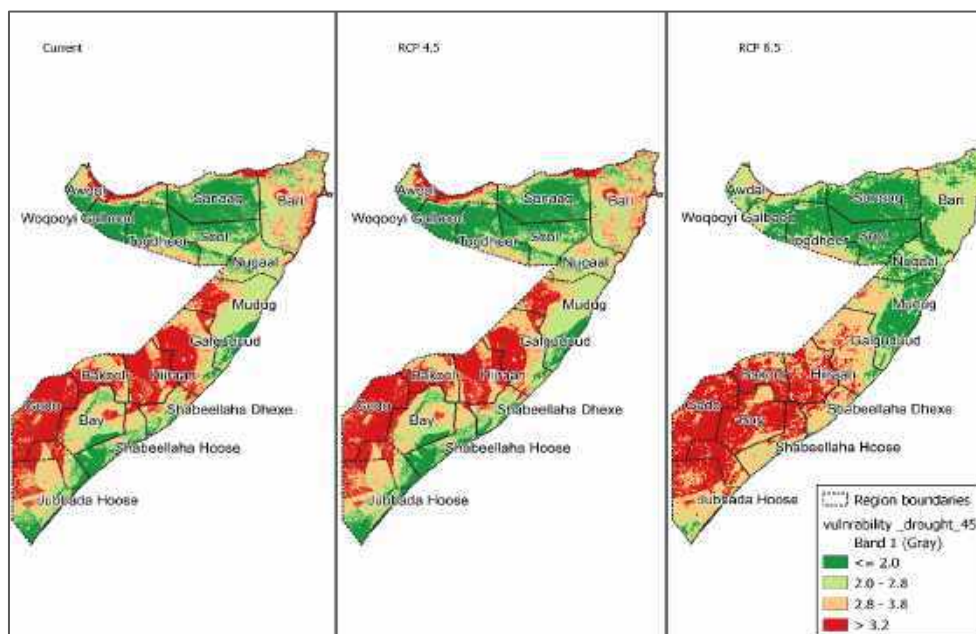


Figure 12 - Maps of vulnerability to potential droughts

64. All regions across Somalia, are susceptible to severe flooding. This vulnerability is anticipated to escalate in the future. The current flood-prone area, which is approximately 123,585 km², is projected to expand to approximately 171,221 km² under the RCP 4.5 scenario and approximately 171,725 km² under the RCP 8.5 scenario. This expected increase in flood-prone areas can be attributed to the projected rainfall levels as a consequence of climate change. Figure 13 below highlights the areas that are particularly susceptible to flooding, identifying them as flood hotspots.

⁷⁹ World Bank. 2022. Somalia Economic Update, Seventh Edition: Investing in Social Protection to Boost Resilience for Economic Growth.

⁸⁰ Somalia Food Security and Nutrition Outcomes and Projections (March-June 2023)

⁸¹ FSIN and Global Network Against Food Crises. 2022. 2022 Global Report on Food Crises

65. The risk of river flooding in the Lower Shabelle area is a critical concern due to the region's susceptibility to heavy rainfall, its low-lying topography along the Shabelle rivers, the historical precedent of devastating floods and projected increase in rainfall as per SWALIM's forecast.

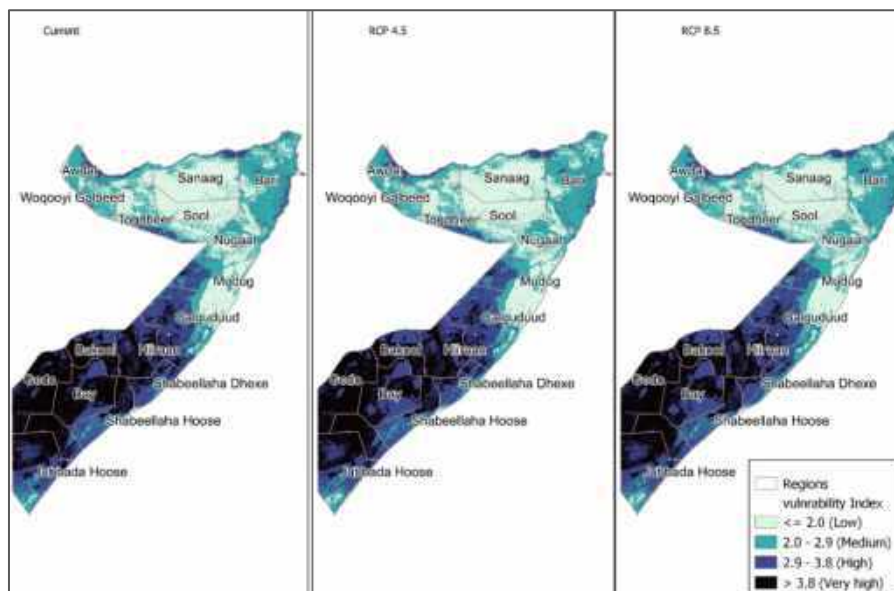


Figure 13 - Maps of Vulnerability to Potential Floods

Somalia and the Great Green Wall Initiative

66. To address increasingly complex and interrelated challenges associated with land degradation and climate change, and support the transition towards climate resilient, low emission agriculture, the Great Green Wall Initiative (GGWI) was launched in 2007 by the African Union. The GGWI aims to restore the continent's degraded landscapes and transform millions of lives. The GGWI's initial objectives were to address land degradation, climate change adaptation and mitigation, and protect biodiversity and forests. Under the GGWI, environmental aspects and natural capital have been integrated into the development agenda and a multi-stakeholder dialogue has been established to ensure country ownership. It has also created opportunities for the scaling-up of investments based on successful experiences on the ground. The initiative is currently being implemented across 22 African countries and intends to revitalize thousands of communities across the continent. The GGWI brings together African countries and international partners under the leadership of the African Union Commission and the Pan-African Agency of the Great Green Wall (PA-GGW).

67. During the One Planet Summit in January 2021, the launch of the Great Green Wall Accelerator was announced to help meet the financial requirements of the programme. The Accelerator will be coordinated through the PA-GGW with support from UNCCD. It aims to facilitate collaboration among donors and stakeholders involved in the Initiative and help all actors to better coordinate, monitor, and measure the impact of their actions. To date, multilateral and bilateral organizations have raised more than USD 19 billion for this initiative.⁸²

68. The new strategy and ten-year action plan for the GGWI are currently under preparation, and draws lessons from its own experience during the past period. On 13 July 2023, the Federal Republic of Somalia officially established the Great Green Wall Initiative in Somalia, in alignment with the "Green Somalia Initiative" launched by the President of Somalia on 21 October 2022. The GGWI Somalia aims to enhance Sustainable Land Management and Restoration, address the critical issue of land degradation and promote sustainable land management practices. Its objectives include amongst others: (i) establish synergies, coordination of action amongst of restoration initiatives and projects with Green Somalia Initiative & the GGWI Somalia; (ii) improve the resilience of local communities to climate change impacts, such as droughts and food insecurity; (iii) promote sustainable land management practices and restore degraded ecosystems; (iv) enhance biodiversity

⁸² [Green Wall Accelerator. United Nations Convention to Combat Desertification.](#)

conservation and ecosystem services in the region; (v) create employment opportunities and improve livelihoods for local communities; (vi) promote of natural products value chains and enterprises; and (vii) enhance renewable energy and energy transition activities.

Theory of change

69. As illustrated previously, Somalia is extremely vulnerable to climate change, with fragile ecosystems exposed to accelerated degradation as a result of more frequent heat waves, droughts and flash floods. The livelihoods that depend on the services rendered by these ecosystems, whether agricultural and/or pastoral (depending on the agro-ecological zone considered), are put at extreme risk, as the current humanitarian situation demonstrates. This situation creates a vicious circle, through which desperate populations resort to short term strategies to sustain their livelihoods, including charcoal production, displacement, or even engagement in armed groups. In this context, most fragile groups, and in particular women and children, are the ones that suffer the most.

70. Small scale producers and pastoralists in Somalia are hence both extremely vulnerable to climate change, and pivotal for the resilience of the whole country. Ecosystems they depend on are degrading rapidly, and the recurring drought and flood cycles directly affect the productivity of their crops and/or livestock, leading to possible failures. The project will seek to address these vulnerabilities, by *scaling-up the climate resilience of ecosystems and livelihoods in Somalia and operationalizing the Great Green Wall Initiative in the country.*

71. Indeed, the Great Green Wall Initiative is an integrated approach, that encompasses activities aimed at sustainably restoring ecosystems which degradation is accelerated by climate change, and at supporting the livelihoods that depend on them. As such, the present project will act as a flagship to launch the initiative in the country, but also launch the new global GGWI strategy by scaling-up its lessons. The project will leverage good practices from the GGWI to address the critical climate vulnerabilities that affect Somali ecosystems and livelihoods:

- a) First through the **improved resilience of agro-pastoral and pastoral ecosystems to climate change** (Outcome 1), by engaging local stakeholders to collectively identify priorities for restoring and protecting degraded ecosystems. This participatory village level mapping will take a close look at women, youth and minorities' perspective on the local landscape. The resulting climate-resilient landscape investment plans will highlight priority areas for resilient investments protecting both the landscape and livelihoods, which will also be reflected in Village Level Action Plans. The project will in turn implement priorities associated with ecosystem rehabilitation, through a menu of interventions including sustainable land management practices and anti-erosive measures (e.g. earth bunds, semi-circular bunds, stone lines, etc.), riverbank protection, afforestation, reforestation, naturally assisted regeneration, etc. On the longer run, the project can build on the supported Village Level Action Plans to develop Climate Security Action Plans at district level. These activities will be accompanied by the establishment and reinforcement of relevant management structures at local level.
- b) Under its second component, the project will support the **enhanced resilience of agro-pastoral and pastoral livelihoods to climate change** (Outcome 2), both through the diffusion of climate resilient practices at farm level, and through income diversification (nurseries, adapted seed multiplication, and Non-Timber Forest Products value chains).
- c) Finally, the project third component will aim at ensuring that the **Great Green Wall initiative is scaled-up to Somalia** (Outcome 3). This will be achieved by establishing the relevant strategic and planning documents, as well as coordination mechanisms and monitoring systems for the operationalization of the GGWI in Somalia, including by using the specific experience of the project under its first two components, other relevant experiences in the country, and lessons from the Global GGWI.

Project Area and targeting strategy

72. Geographic targeting. The project will target the inland areas of the Lower Shabelle region (South West State) and Mudug region (Galmudug State), as both highly vulnerable to climate change and representative of distinct agro-ecosystems and livelihoods:

- a) The Lower Shabelle region is a riverine region, characterized by high vulnerability to floods, and strong agro-pastoral potential. The region has a high potential for agricultural production, with the Shabelle River enabling farming to be the primary source of livelihood of the South West State. In recent years, the Shabelle River has nearly dried up due to a rainfall shortage in the Ethiopian highlands where the river originates, as well as the construction of dams across the river on the Ethiopian side. Political instability, insecurity (Al-Shabaab), clan violence, frequent and prolonged droughts, and recent locust invasion have affected agricultural and livestock production, causing food insecurity in the area. This agro-pastoral zone also includes irrigated crops (maize, sesame). Out of a total population of 1.3 million⁸³, 9% was estimated in crisis, emergency or catastrophe at the beginning of 2023⁸⁴.
- b) The Mudug region is primarily pastoral, and strongly affected by droughts and the increased number of very warm days, as demonstrated by the extreme severity of humanitarian needs (see Figure 1). Agriculture production is mainly associated with cowpea and some irrigation using groundwater resources. Out of a population of 1.2 million people, 47% were estimated in crisis, emergency or catastrophe at the beginning of 2023⁸⁵.

73. Specific districts of intervention will be determined at project proposal stage. During implementation and based on other IFAD experiences in the country, the selection of project sites will be driven by a number of criteria, as described under output 1.1.

74. Target groups. The project will target most vulnerable agro-pastoralists, and pastoralists who have the potential to take advantage of improved access to assets and opportunities for sustainable management of ecosystems, agricultural production, alternative livelihoods to increase their resilience against the uncertainty caused by climate change on food security and nutrition.

75. Given the key role that women play in both agriculture and livestock activities, the project will address challenges that have traditionally limited women's productivity, particularly access to extension services and inputs. Drawing on lessons from ongoing agro-pastoral and pastoral investments in Somalia, the project will reserve 20 percent of leadership positions for women in Village Development Committees that participate in the project, while also supporting targeted and culturally-sensitive outreach and engagement strategies through Project Management Unit and trained female facilitators to enhance women's voice in decision-making and planning processes, especially in areas where female participation is lacking. Overall, women will represent at least 50% of beneficiaries, and youth at least 30% as well.

76. An audit of processes will be conducted to determine risk points where women tend to be excluded, for example, selection for asset transfers and labour-intensive public works. Other trainings will be designed and delivered at times and in locations that are convenient to women given the demands on their time from other duties, and childcare will be provided to facilitate their participation if needed. Acknowledging women's low levels of education and literacy, training materials will be customized for low literacy groups.

⁸³ UNFPA, 2021

⁸⁴ FSNAU, IPC Population Estimates: Current (Jan-Mar 2023)

⁸⁵ Ibid

B. Project Objectives

77. **Objective.** The project objective is to *scale-up the climate resilience of ecosystems and livelihoods in Somalia by operationalizing the Great Green Wall Initiative in the country.*

78. **Outcomes.** The project will achieve the stated objective through three outcomes:

- a) **Outcome 1.** Improved resilience of agro-pastoral and pastoral ecosystems to climate change
- b) **Outcome 2.** Enhanced resilience of agro-pastoral and pastoral livelihoods to climate change
- c) **Outcome 3.** Great Green Wall initiative scaled-up to Somalia

C. Project Components and Financing

Table 1 - Project components and financing

Project Components	Expected Outcomes	Expected Concrete Outputs	Amount (USD)
Component 1 Green and resilient agro-pastoral and pastoral ecosystems in Somalia	Outcome 1. Improved resilience of agro-pastoral and pastoral ecosystems to climate change	Output 1.1. Participatory climate-resilient landscape investment plans developed	1,000,000
		Output 1.2. Priority green and resilient measures implemented	2,499,950
Component 2 Resilient agro-pastoral and pastoral livelihoods in Somalia	Outcome 2 Enhanced resilience of agro-pastoral and pastoral livelihoods to climate change	Output 2.1. Adaptive capacity of farming systems strengthened	2,500,050
		Output 2.2. Diversification for resilient livelihoods ensured	1,500,000
Component 3 Operationalization of the Great Green Wall initiative in Somalia	Outcome 3. Great Green Wall initiative scaled-up to Somalia	Output 3.1. National Strategy and Action Plan to Implement the GGWI in Somalia established	200,000
		Output 3.2. National and local stakeholders' capacities to implement GGWI in Somalia reinforced	641,014
Total project activity cost			8,341,014
Project Execution cost (9.5%)			875,576
Total Project Cost			9,216,590
Project Cycle Management Fee charged by the Implementing Entity (8.5%)			783,410
Amount of Financing Requested			10,000,000

D. Projected Calendar

Table 2 - Projected calendar

Milestones	Expected Dates
Start of Project Implementation	January 2025
Mid-term Review (MTR)	January 2028
Project Completion	December 2030 (6 years)
Project Closing	June 2031
Terminal Evaluation	December 2030

Part II: PROJECT JUSTIFICATION

A. Project components

Component 1. Green and resilient agro-pastoral and pastoral ecosystems in Somalia

Outcome 1. Improved resilience of agro-pastoral and pastoral ecosystems to climate change

79. Somalia's arid and semi-arid landscapes are at a high risk of desertification and are prone to extreme variations in weather conditions (constant flux between prolonged droughts and recurring flooding) which magnitude is increasing as a result of climate change. 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. 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 nutrients in areas with agricultural potential.

80. Under this first component, and by engaging local stakeholders through a watershed management approach (as already applied by a number of Technical and Financial Partners in the country) to collectively identify priorities for restoring and protecting degraded ecosystems, the project will seek to improve the resilience of agro-pastoral and pastoral ecosystems in two regions of Somalia. Based on this type of landscape approach, key climate vulnerabilities can be mapped, in particular in relation with the flow of water within the watershed (with impacts in terms of drought/water availability, erosion, and flooding). The project will follow a participatory process at village level, taking a close look at women, youth and minorities' perspective on the local landscape. The resulting climate resilient landscape investment plans will highlight priority areas for resilient investments protecting both the landscape and livelihoods (thanks to better ecosystem services to face climate impacts), and be integrated in Village Level Action Plans. The project will in turn implement priorities associated with ecosystem rehabilitation, through a menu of interventions adapted to the local context including afforestation, reforestation, naturally assisted regeneration, sustainable land management practices (e.g. semi-circular earth bunds, earth bunds, stone lines, etc.), riverbank protection, etc. On the longer term, the project will build on the supported plans to develop Climate Security Action Plans at district level.

Output 1.1. Participatory climate-resilient landscape investment plans developed

81. **Geographic targeting of project activities.** Project districts of interventions will be determined at project proposal stage. The first activity under the present output, will be to delineate micro-watersheds of intervention for the project in the districts of intervention, based on a number of selection criteria, including: (i) vulnerability to drought, (ii) vulnerability to floods; (iii) need to combat desertification, erosion, land degradation; (iv) past or recent interventions supporting access to water; (v) number of expected socio-enviro-economic benefits; (vi) likelihood of gender equality/empowerment; (vii) active women association present; (viii) active NGOs/CBOs present; (ix) unemployment/need for livelihood diversification; (x) poverty; (xi) need to build local DRR capacities; (xii) capacity to implement adaptation measures and will of community to engage with project implementation; (xiii) adaptive capacity and likelihood of uptake of adaptation measures; (xiv) previous feasibility studies conducted; (xv) Previous work/projects/programmes on flood/drought adaptation measures done in region, NOT this specific location (e.g., Local Economic Development Projects in the region); (xvi) level of synergy with other existing or planned projects; and (xvii) availability of data and statistics for proper monitoring and evaluation of project impacts. In particular, synergies will be sought with existing projects supporting access to water, and notably the World Bank Barwaaqo project (See section II. F.).

82. **Community mobilization and planning.** A total of 30 villages encompassed by selected watersheds will be supported to develop/reflect climate resilient management practices into their Village Level Action Plans (based on simpler climate-resilient landscape investment plans), to identify

priorities of watershed management interventions associated with climate vulnerability issues concerning the targeted village. The preparation of these plans will be done through a participatory process, with the support of project community development specialists. The approach will bring together all members of a village, ensuring the inclusion of all stakeholder groups, for example, pastoralists, irrigation farmers, rainfed farmers, landless laborers, women, youth and minorities, relying on the facilitation by the Village Development Committee (VDC). The processes will be accompanied by training in governance, community procurement, gender and environmental, climate mainstreaming, and financial management.

83. Climate-Resilient Landscape Investment Plans. The primary document resulting from the project-supported participatory planning process (also involving the local Government at village/district level) in 30 villages will be climate resilient landscape investment plans, based on the following: (i) preparatory work and data collection (assessing specific climate risks for the area, availability of water resources and state of the environment based on satellite imagery), (ii) mapping existing natural resources using an inclusive and participatory approach, (iii) developing instruments to assess the use of natural resources such as animal feed calendars and cropping calendars, (iv) identifying various grassroots organizations that are involved in natural resource management, (v) identifying site-specific sustainable soil and water management techniques (land restoration practices, treatment of watersheds against erosion and runoff, sand dune fixation, river embankment protection, afforestation, reforestation and Naturally Assisted Regeneration or rangeland rehabilitation and management). Priorities of interventions will be identified in an integrated manner, looking at ensuring a good complementarity between them, in line with the watershed management approach.

84. These plans will be living documents that will progressively integrate all relevant mechanisms supported by the project, as relevant to the area (e.g. pasture management plans, Prosopis management plans, etc.)

85. Mainstreaming climate-resilience into Village Level Action Plans (VLAPs). It is possible that targeted villages have already established VLAPs when the project starts, in which case the climate resilient landscape investment plans may be used to further reflect climate risks and ecosystem restoration priorities into those VLAPs. Alternatively (where no plan is established yet), the project can also leverage the participatory process to support the preparation of a new VLAP, which may identify issues and priorities unrelated to ecosystem resilience (to be included in the plan, but not supported by the project). In this case, the participatory process will also be the occasion to sensitize local stakeholders on the link between healthy ecosystems and other local priorities (e.g. access to water, improved agriculture, education, etc.).

86. At later stages, priorities from the Climate resilient VLAPs supported by the project can be reflected at district level (also involving the local Government) in the Climate Security Action Plans (as supported by UNEP and UNDP). Empowering vulnerable communities with these skills ensures they can effectively manage climate-induced risks and harness opportunities.

87. Conflict resolution mechanisms. The project will support the establishment or the reinforcement of conflict-resolution mechanisms on use of natural resources (land, water, etc.). 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 (as also planned under output 1.2). The project will establish umbrella Community Development Associations (CDA) for each defined village the project will operate in. The project will support the development of a by-law template for the CDA; adaptation of a relevant existing community institution or formation of a new one; formal registration/recognition of the CDA by the relevant district authority; and capacity building of the CDA members on topics such as group dynamics and management, financial management, strategic planning, conflict management, project monitoring, and basic reporting skills.

Output 1.2. Priority green and resilient measures implemented

88. Under the present output, and based on the priorities outlined in the climate-resilient landscape investment plans, in line with the specific needs of the targeted agro-ecosystem (arid, semi-arid or riverine), the project will support the implementation of priorities of interventions to enhance the resilience of ecosystems. As indicated previously, priorities of interventions will be implemented in complementarity, to ensure integrated landscape and natural resources management, and that upstream investments benefit downstream areas (in line with the watershed management approach), to maximize resilience to climate change. As a result, direct interventions over close to 2,000 hectares will benefit up to a total of 10,000 hectares of vulnerable landscape⁸⁶. The following paragraphs presents options that may be identified under the plans. The project will not directly finance water infrastructure (such as boreholes, catchments, sand dams or check dams), but will rather establish synergies/complementarities with projects already supporting similar activities.

89. The majority of activities foreseen under this output will rely on the Cash for Work modality, which consists in identifying vulnerable households with availability of workforce, who are then trained and mobilized on a part time basis to deliver the works. This is particularly relevant for High Labour Intensity activities, that do not necessarily yield immediate benefits, as it is typical of land rehabilitation practices. This modality is widely used in Somalia with excellent results. It also enables (on the short term), to support alternative livelihoods to poorer households (increasing their short-term resilience), and to reinforce the ownership of activities conducted. Relevant safeguards will be established for this implementation modality at project proposal stage, and a dedicated manual will be developed at the start of implementation.

90. **Rehabilitation of degraded land upstream the watershed.** These practices aim at recreating vegetal cover of barren or highly degraded lands in community sites, which are mostly svlvo-pastoral. The combination of Soil and Water Conservation (SWC) with Soil Protection and Restoration (SPR) works (stone barriers, earth bunds, semi-circular bunds or half-moons, etc.) with forest tree planting on collective land allows to restore its productivity through the capture and improved efficiency of water runoff for agricultural or pastoral purposes while reducing water and wind erosion, leading to an impact at three levels: (i) *environmental*, with the regrowth of vegetal cover, which improves carbon sequestration (increase in above- and below-ground biomass) and the creation of spaces that are conducive to increasing biodiversity; (ii) *water availability*, with better water infiltration, which, in the short term, increases the underground water table at the watershed-scale; and (iii) *production potential*, with the production of fodder for livestock farming and the possible development of non-timber forest products.

91. **Treatment of watersheds against erosion and runoff (anti-gullies infrastructure).** These predominantly mechanical activities (with the exception of trenches digging) require the capacity to delineate contours lines as well as regular maintenance. This reduces the phenomena of downstream gullyng (which will be more intense as a result of climate change) and improves local water infiltration. These structures can also be strengthened by vegetation growth.

92. **Riverbank protection stabilization.** In flood prone areas, river embankment can be stabilized using a mix of infrastructure (gabions) and vegetation (trees and grass) to stabilize the bank, thus reinforcing the protection against overflowing, slowing down river breakage, and reducing the risk of riverbank destruction in case of flood.

93. **Dune fixation.** Vegetation disappearance as a result of the climate change induced drought and flood cycles can render sandy soils barren which, mainly under the effect of wind, can be further degraded or facilitate the formation of dunes. These dunes can spread or move, thus threatening areas that could play an important environmental (ponds) or economic and social role (horticultural lowlands with higher added value). To protect these areas, dune fixation operations can be undertaken. They combine two essential components: (i) a “mechanical fixation” stage using a grid consisting in fences/checkerboard grids perpendicular to the prevailing winds and the steepest lines. These fences/checkerboard grids must be protected (from straying animals, strong winds) and

⁸⁶ Based on the assumption that each hectare of investment protects 4 hectares downstream.

regularly lifted (due to the sand accumulating in the spaces in the grid, the fences/checkerboard grids should be regularly re-assembled); and (ii) a “biological fixation” stage in which the spaces of the grids are sown with grassy species with a high capacity of cover and surface root growth. This fixation must be carried out during the rainy season in all treated areas and enables to stabilize the soil and the particles collected by fences/checkerboard grids.

94. Afforestation, reforestation and naturally assisted regeneration. The project will support local communities to restore the degraded forests by providing coaching, strengthening management capacities, and providing direct and indirect incentives that will be defined according to specific context. Through the nurseries' production (nurseries established under Output 2.2) and subsequent reforestation as well as Assisted Natural Regeneration by local communities, the project will restore degraded forests and rangelands in its targeted areas. The new tree cover thus supported may also create opportunities to develop Non-Timber Forest Products value chains, to the benefit of women and youth.

95. ANR consists in selecting and letting grow spontaneous trees in agricultural, pastoral or forest land. It is a simple technique, that is disseminated through awareness raising, some basic technical skills on conducting ANR, selecting and pruning trees, and some tools (pruning shears, marking of young plants, and possibly grafting). Afforestation and reforestation need to thoroughly consider access to water as young trees may need regular watering. Both in ANR and afforestation/reforestation, young trees need to be protected from animals and people through surveillance and awareness raising.

96. Prosopis and invasive species management. According to FAO, forest area in Somalia declined by 27.8% between 1990 and 2020. Forest and woodland area have also been significantly impacted by recurrent droughts, in addition to unregulated tree cutting and the illegal charcoal trade. The degradation of vegetation and indigenous species negatively impact the social and economic resilience and livelihoods of displaced and host communities. In place of healthy biodiversity, *Prosopis* spp. (*Prosopis*) and other invasive species, i.e. Siam weed (*Chromolaena odorata*) and Parthenium weed (*Parthenium hysterophorus*) are colonizing rangelands and forest areas and are one of the problems causing biodiversity loss and habitat alteration, further increasing climate vulnerability.

97. *Prosopis* can be managed by (i) identifying priority areas, (ii) conducting land restoration and promoting planting activities of indigenous tree species and forage trees in order to build resilient livelihoods for communities, (iii) engaging early on with landowners, farmers and communities regarding land use, (iv) reducing the dense *Prosopis* cover and introducing other income-generating activities by planting indigenous plants and species (v) supporting the development of agroforestry systems including fodder shrubs and fruit trees in riverine areas and further integration of agriculture and livestock systems through the introduction of multipurpose tree species suitable for fruit, fodder, fencing, fuel, shade, and nitrogen-fixing. The project may build on experiences that valorize *Prosopis* to produce charcoal.

98. Sustainable rangeland rehabilitation and management. In rangeland ecosystems, biological degradation manifests in loss of vegetation cover; increase in undesirable plant species; bush encroachment and soil erosion of various types associated with intensification of use and climate impacts. Sustainable rangeland management encompasses a range of practices as follows: (i) range reseeding through silvo-pastoral systems involving indigenous grasses, multipurpose trees and shrubs to restore diversity, stabilize the soil, improve rangeland condition and pasture quality; (ii) establishing of seed systems through multiplication and bulking of indigenous grass and tree seeds for rehabilitation of rangelands; (iii) supporting participatory grazing management and rangelands management planning for restoration and rehabilitation of degraded rangelands; (iv) integrating Sustainable Land Management (SLM) (through soil and water conservation techniques, enclosures); (v) rehabilitating rangelands along stock/migration routes and provision of services along the routes e.g. veterinary services, water points and supplementary fodder; (vi) promoting of fodder production and bulking modelled around the traditional pasture reservation and where possible both rainfed or irrigated commercial production; (vii) supporting private sector participation in commercialised fodder production; (viii) supporting on-station and on-farm research on fodder production and conservation;

(ix) promoting investment in appropriate and participatory water resources development and management in the rangelands.⁸⁷

99. Based on the previous elements, rangeland restoration and sustainable rangeland management will be supported by the project with the association of land rehabilitation practices (as presented earlier in this section) and over-sowing, reseeding and controlling bush encroachment (possibly associated with the planting of fodder trees). The project will also support the participatory establishment of pasture management plans and rotational grazing, through which local stakeholders agree on a rotation of livestock over pastures along the season, to allow for the resting of rangeland. Similarly, rehabilitated areas will need to be protected to leave time for the vegetation cover to return. The project will support site protection (ex-closures) either with live hedges or wire. Fodder production on restored pastoral land will also allow “cut and carry” fodder systems (which reduces grazing pressure and limits conflicts over livestock as local communities harvest grass within the ex-closure). The communities will also be trained in participatory monitoring. Under the second component (Output 2.2), the project will support the multiplication and dissemination of drought and heat tolerant pasture and fodder species in response to climate change.

100. Consolidation of investments. To ensure the sustainability of investments, management and maintenance committees will be set up for each site supported by the project. These committees will be responsible for the preservation of the works and the sustainable use of its by-products (fodder, fruits, leaves, wood products, etc.). These Management Committees will be linked to the Community Development Associations (CDA) and benefit from relevant trainings on group dynamics and management, financial management, strategic planning, conflict management, project monitoring, and basic reporting skills supported under output 1.1.

Component 2. Resilient agro-pastoral and pastoral livelihoods in Somalia

Outcome 2. Enhanced resilience of agro-pastoral and pastoral livelihoods to climate change

101. Climate change is expected to have a significant influence on ecosystems, due to rising temperatures, increased frequency and intensity of extreme events and shorter growing periods. Wetlands and riverine systems are increasingly at risk of being converted to other ecosystems with plant populations being displaced and animals losing their habitats. Recurring droughts alternating with periods of floods also accelerate land degradation and contribute directly to desertification. In addition, reduced agricultural productivity and population growth might lead to an increased strain on scarce natural resources.⁸⁸ Vulnerable households are disproportionately affected by the effects of climate change, including because their lack of knowledge on climate resilient techniques (including soil and water conservation) leaves them unable to solve land degradation issues, and consequently faces them with decreases in production and productivity. In addition, these farmers cannot afford to purchase enough inputs for each growing season.

102. Under this component, the project will support the **enhanced resilience of agro-pastoral and pastoral livelihoods to climate change** (Outcome 2), both by supporting ecosystem restoration through the diffusion of climate resilient practices at farm level (in line with the principles of agroecology), and with income diversification (nurseries, adapted seeds multiplication, and Non-Timber Forest Products value chains).

Output 2.1. Adaptive capacity of farming systems strengthened

103. The project will support capacity building of vulnerable farmers (particularly in the Lower Shabelle) with technical options tailored to selected farming systems (riverine or rainfed). The capacity building will rely on a complementary mix of approaches as follows: (i) Farmer Field Schools (based on accessibility, the project may organize the training of trainers in other locations – e.g. Mogadishu); (ii) intensive trainings for lead farmers then sharing with their peers; (iii) training of

⁸⁷ IGAD. 2020. Rangeland Management in Arid and Semi-arid Lands (ASALs) of the IGAD Region (RRMSF).

⁸⁸ Shanahan, T.M., Hughen, K.A., McKay, N., Overpeck, J.T., Scholz, C.A., Gosling, W.D., Miller, S.S., Peck, J.A., Wing, J.W., Heil, C.W., "CO2 and fire influence tropical ecosystem stability in response to climate change," Nature Scientific Reports, vol. 18, no. 6, pp. 1-8, 2016

Ministry extension service staff; (iv) leaflets on relevant practices; and possibly (v) creation of farmer advising centres that can complement extension services and be used to test/showcase new technologies/practices. Beyond this, the project will disseminate knowledge through radio, TV, voice messages and SMS.

104. At least 750 farmers in 15 villages will be directly targeted (indirectly reaching over 9,000 vulnerable people) and trained on the following techniques (aligned with the 9 modules developed by FAO in Somalia⁸⁹), and based on context and needs:

- a) Soil and water conservation measures and soil fertility management, using (i) land restoration techniques (e.g. semi-circular bunds); (ii) conservation agriculture (e.g. mulching, no tillage, crop rotation, cover cropping, etc.); (iii) composting and manure composting; (iv) planting pits (zai) on crusted or compacted areas for agriculture or agroforestry (depending on the availability of organic matter).
- b) Intercropping by associating legumes (cowpea) to cereals (maize/sorghum) both to enable nitrogen fixation in the soil, and to have shorter cycle crops (cowpeas can be grown over 60-70 days) in case of drought. Intercropping can also be done with fodder crops for dual benefits.
- c) Farmers' Managed Natural Regeneration (FMNR) consists in optimizing the growth of young trees or existing trees of agricultural interest or fodder plants already present on the plot through: (i) their protection against animals and tillage of the soil; (ii) their selection and pruning to enhance the growth of shoots or their health; and (iii) any direct planting of local tree species. A density of 40 trees per hectare or more is needed to benefit from the positive impacts (enrichment of soil organic matter content, lowering of surface evaporation, reduction of wind erosion, improvement of water infiltration). On the medium term (after 7 to 8 years) FMNR allows to generate non-farm incomes through the collection of wood from pruning the tree of the plots. This simple technique is disseminated through awareness raising, some simple technical basic skills on conducting ANR and pruning trees, and some tools (pruning shears, marking of young plants, and possibly grafting). More generally, the project will promote agroforestry, incorporating trees into farming systems to improve biodiversity, create windbreaks, improve water retention, and offer additional income sources.
- d) Water use efficiency (beyond Soil and Water Conservation), with techniques such as rainwater harvesting and micro-irrigation (e.g. drip or sprinkler systems) for relevant crops.
- e) Integrated Pest Management, including sampling, scouting and monitoring systems for a proper early identification of pests; plant quarantine and 'cultural techniques' e.g., removal of diseased plants, and cleaning pruning shears to prevent spread of infection; association with other plants that deter insects, etc.
- f) Post Harvest Management, to reduce loss and damage, including with the proper handling, drying and packaging of harvested products.

105. Additionally, the project will support the **promotion and access to heat and drought tolerant varieties**. Crops with low water requirements reduce evapotranspiration losses during photosynthesis by rapidly closing their stomata and maintaining leaf water potential and photosynthetic rate. The adoption of heat/drought resilient crops/varieties enhances food production during the dry season when food insecurity levels are highest.

106. Micro-grants. As part of these activities, and to help disseminate adapted varieties and techniques, the project will support access to inputs (e.g. seeds) and small equipment (e.g. drip irrigation) through microgrants (in-kind) for up to 2,000 households or 12,000 people. At the same time, the project will ensure that beneficiaries are empowered to auto-finance similar small activities

⁸⁹ FAO in Somalia has pre-identified 9 modules of relevant techniques which include Good Agricultural Practices, Integrated Pest Management, Irrigation Management, Post Harvest, etc.

beyond the project lifetime through access to finance and financial literacy thanks to the Village Savings and Loan Associations supported under Output 2.2.

Output 2.2. Diversification for resilient livelihoods ensured

107. Under this output, the project will support livelihood diversification while looking to ensure the sustainability and replicability of results supported under other outputs. More specifically, the project will support:

- a) The establishment of 10 **nurseries**, managed by women cooperatives and/or private entrepreneurs, and focusing on the production of indigenous tree species seedlings. The nurseries will include high value-added species, including fodder trees/shrubs.
- b) Support to 10 cooperatives/private enterprises for the **multiplication and dissemination of seeds** for drought and heat tolerant crops, as well as pasture and fodder species in response to climate change.

108. These **community nurseries and seed multipliers** will focus on tree seedlings and seeds conservation to maintain local diversity (seed multipliers will also receive training on production and multiplication), particularly to support common land restoration as well as to multiply and preserve native and lost crops. Initially, the project will provide technical capacity building and planting material and equipment (seeds, seedlings, watering cans, pots, etc.) for their establishment. The project will progressively support these nurseries and seed multipliers professionalization, so that they can also support implementation of the climate-resilient landscape investment plans developed under output 1.1 and future scale-up of activities in terms of land restoration, and for the resilience of farm-level production. Species and varieties will be identified amongst indigenous and drought/heat resilient varieties. This activity will target women mainly as they are the normal nurseries/seed carers, highly involved in seed storage, selection and multiplication.

109. **Non-Timber Forest Product value chains.** The project will support 20 women cooperatives in developing their business around NTFP value chains. This will support the recognition of trees' added value at the community level, resulting in enhanced conservation efforts. The VCs may cover high value added NTFPs, such as frankincense, myrrh and gum Arabic, but also other products benefitting from a local market such as honey and local tree products used for personal hygiene and cosmetics.

110. **Village Savings and Loan Associations.** A VSLA is a self-selected group of people, who pool their money into a fund, from which members can borrow. The money is paid back with interest, causing the fund to grow. These savings and borrowing activities take place during a cycle of pre-determined length (typically 12 months), at the end of which the funds are distributed to members, in proportion to their total savings (also called shares). Members are free to use the distributed lump sum as they wish. Loans are mostly used for small businesses and social / consumptions needs (school fees, housing, etc), with very short term (usually one month) and small amounts. Members may also use these loans to purchase agricultural inputs or pay for labour in their farms, with repayment backed by small businesses income. It is also observed that members may use part of the shares and dividends distributed on annual basis to purchase inputs or pay for labour. Most of the VSLAs also manage a social fund that is used to support members to cover emergency and social expenses.

111. The project will support the establishment or reinforcement of VSLAs in each of the 30 targeted villages, together with trainings on financial literacy and where relevant connecting beneficiaries with Micro Finance Institutions (MFI), with the purpose of facilitating access to finance, in order to enable the upscaling, replication and sustainability of project activities.

112. **Gender Action Learning System (GALS)**⁹⁰. The GALS is a household methodology that helps realize gender-transformative results. It uses simple mapping and diagram tools for visioning and planning to empower men, women and youth to make changes in their lives. A GALS process usually lasts a period of two to three years, and is based on a set of principles, tools and stages. Additional

⁹⁰ See <https://www.ifad.org/en/web/knowledge/-/how-to-do-note-integrating-the-gender-action-learning-system-in-ifad-operations>

key elements of GALS are also the peer replication structure and integration into the interventions of a specific project. The GALS is based on a set of principles which should inspire and guide its implementation and use: (i) gender justice, (ii) inclusion, (iii) leadership potential of all, (iv) action orientation, (v) sustainability, and (vi) gender is fun.

Component 3. Operationalization of the Great Green Wall initiative in Somalia

Outcome 3. Great Green Wall initiative scaled-up to Somalia

113. To address increasingly complex and interrelated challenges and support the transition towards climate resilient, low emission agriculture, the Great Green Wall Initiative (GGWI) was launched in 2007 by the African Union. The GGWI's initial objectives were to address land degradation, climate change adaptation and mitigation, and protect biodiversity and forests. Under the GGWI, environmental aspects and natural capital have been integrated into the development agenda and a multi-stakeholder dialogue has been established to ensure country ownership. It has also created opportunities for scaling-up investments based on successful experiences on the ground. During the One Planet Summit in January 2021, the launch of the Great Green Wall Accelerator was announced to help meet the financial requirements of the programme.

114. The Great Green Wall Initiative is an integrated approach, that encompasses activities aimed at sustainably restoring ecosystems which degradation is accelerated by climate change, and at supporting the corresponding livelihoods. As such, the present project will act as a flagship to launch the initiative in the country, but also launch the new global GGWI Strategy by scaling-up its lessons. The project leverages good practices from the GGWI to address the critical climate vulnerabilities that affect Somali ecosystems and livelihoods:

115. Under its third component the project aims at ensuring that the **Great Green Wall initiative is scaled-up to Somalia** (Outcome 3). This will be achieved by establishing the relevant strategic and planning documents, as well as coordination mechanisms and monitoring systems for the operationalization of the GGWI in Somalia, including by using the specific experience of the project under its first two components (which are fully aligned with the Great Green Wall Initiative), other relevant experiences in the country, and lessons from the Global GGWI. Activities under the component will also contribute to strengthen the Government's fundraising and advocacy capacities.

Output 3.1. National Strategy and Action Plan to Implement the GGWI in Somalia established

116. The **African Union Great Green Wall Draft Strategy for Ecosystem Restoration and Livelihood Resilience** is foreseen to be adopted in December 2023, and its overall objective is to *“enhance the resilience of communities, ecosystems, and economies in the African drylands by improving the living conditions of populations, enhancing the health of ecosystems, advocating and mobilising additional resources, and promoting policy coherence”*.

117. **Somalia GGWI strategy and action plan.** The project will support the Ministry of Environment and Climate Change in elaborating a National Strategy and assorted Action Plan for the GGW in Somalia. The Strategy and Action Plan will align on the African Union Great Green Wall Draft Strategy for Ecosystem Restoration and Livelihood Resilience, and will also build on all relevant initiatives in the country.

118. **GGWI strategies and action plans for the South West State and Galmudug State.** In addition to the Federal level Strategy and Action Plan, the project will support the States in which it is implemented to prepare their own GGWI Strategies and Action Plans, including based on the experience of project supported activities and all other relevant initiatives. These documents will also serve as blueprints for other States to elaborate their own GGWI Strategies and Action Plans.

Output 3.2. National and local stakeholders' capacities to implement GGWI in Somalia reinforced

119. The project will build MoECC's capacities to lead the GGWI in Somalia. As such, it will provide the Ministry with all required means to coordinate and implement the strategy.

120. Coordination mechanisms. The project will support the establishment of relevant coordination mechanisms for the management of the GGWI in Somalia. Considering that MoECC is a new Ministry, with limited human and material capacities, the project will seek to propose straightforward and efficient mechanisms, to avoid burdening the Ministry. As such, and while it has been the GGW approach to also support the creation of dedicated directorates as semi-autonomous structures, synergies could be established with other instances, such as for example the National Forest Commission which is foreseen to be established under the revised NDC.

121. Tracking. The project will support MoECC in tracking all relevant initiatives that could be part of the GGW in Somalia, and create mechanisms to facilitate technical and financial partners' engagement to support Somalia's GGW.

122. The Somalia Water and Land Information Management (SWALIM) is an FAO managed project born in 2021, that studies and monitors water and land resources in Somalia. Throughout its early phases, SWALIM recovered as much lost data as possible, searching for existing information sources in Somalia and around the world. In the course of its successive stages, SWALIM has re-established the necessary baseline data and supported the development of core infrastructure to enable effective water and land management. This has been supplemented by producing baseline information through wide-ranging and ongoing assessments to document the current state of natural resources. The project has also re-established data collection networks in collaboration with partner agencies to facilitate better monitoring and assessment of rainfall, river flows, and available groundwater resources, as well as land use, soil characteristics and land use suitability. At the same time, SWALIM studies and monitors natural resources degradation and has improved systems of flood and drought early warning and response management.

123. The platform established by SWALIM is planned to be migrated under MoECC, and the transition phase has initiated. The tools managed by SWALIM are highly relevant to monitoring results under the GGWI (land degradation, greening, water resources, etc.). The project will further support this transition phase and the ownership and functioning of these monitoring tools under MoECC.

B. Project benefits

124. The project aims to provide economic, social, and environmental benefits, with particular attention to the most vulnerable communities and vulnerable groups within those communities, including gender considerations, and is not foreseen to have any negative impact. IFAD, as Implementing Entity, relies on its Social, Environmental, and Climate Assessment Procedures (SECAP) to enhance social, environmental, and climate resilience throughout the project. The project will benefit about 36,000 people in two Federal Member States: Galmudug and South West State. The project's target groups will comprise vulnerable smallholder producers – mainly agro-pastoralists, pastoralists, and other vulnerable rural poor.

125. Economic benefits. The integrated implementation of land rehabilitation and sustainable land and water management activities at watershed scale (component 1) will ensure the sustainability of ecosystems and thus the greater resilience of farming systems and livelihoods (component 2), with a direct impact on improving food security. The project's main economic benefits rely on: (i) improved climate change adaptation of pastoralists with stabilized or increased incomes thanks to the implementation of activities under component 1 (in particular sustainable rangeland management); (ii) improved climate change adaptation of farmers with stabilized or increased incomes thanks to the implementation of activities under output 2.1; (iii) increase in value-addition of crops supported under the project and income-generating opportunities associated with alternative livelihoods (under output 2.2).

126. Non quantifiable economic benefits will also be derived from the enhanced ecosystem services associated in particular with ecosystem restoration practices supported under the first component, but also with climate resilient farming practices supported under the second component, including among others: reduced soil erosion and desertification, increased carbon sequestration (through afforestation, reforestation, natural assisted regeneration and soil conservation measures), avoided water runoff and biodiversity losses.

127. Social benefits. The project will target vulnerable smallholders. The project's targeting strategy will ensure that services supported are provided in a fair, equitable and inclusive manner. The social benefits are multiple: building social capital, economic empowerment and social inclusion (especially of women, youth and vulnerable households). The project wholly relies on participatory and bottom-up processes, bringing together a wide range of stakeholders to participate in dialogue, decision-making and implementation, with the aim to lead transformative processes for more resilient landscapes.

128. The project will put special emphasis on addressing gender inequalities and empowering women, as their role is vital to reduce the vulnerability of livelihoods and ecosystems to the negative impacts of climate change in Somalia. This will be done by recognizing gender differences in adaptation needs and capacities as part of resilient landscapes and resilient livelihoods; by supporting gender-equitable participation and influence in adaptation decision-making processes; and by facilitating gender-equitable access to finance and other benefits resulting from investments in adaptation. A detailed Gender Analysis and Gender Action Plan will be prepared at project proposal stage to further identify activities tailored to women and other vulnerable groups' needs (including youth, Indigenous People and minorities). For example, the project will promote household methodologies, such as the Gender Action and Learning System, and the identification/recognition of female role models. Thirty percent of the project's beneficiaries will be women.

129. Environmental benefits. In line with priorities under the GGWI, the project primarily targets the resilience of ecosystems, both at wider landscape and at farm level, thanks to interventions supported under component 1 and 2. The rehabilitation of degraded ecosystems, and sustainable management of fragile land will yield direct environmental benefits, by contributing to the fight against desertification (LDN targets) but also the promotion of biodiversity (by fighting invasive species, allowing the return of more diversified ecosystems, and promoting the diffusion of indigenous trees, shrubs and herbaceous species both on pastoral and agricultural land). All project activities also contribute to enhancing carbon storage in the soil (land rehabilitation, reduced erosion, and revegetation).

C. Cost Effectiveness

130. The project is based on an integrated approach, consisting in concentrating investments within consistent landscape units (micro watersheds), to maximize impacts, and hence cost effectiveness. Indeed, the approach both allows to guarantee multiple benefits thanks to the complementarity of interventions, and to generate downstream benefits thanks to integrated planning and management. Additionally, the project's geographic targeting will include criteria seeking complementarity with past or recent investments, notably in terms of access to water, to further optimize impacts and cost effectiveness.

131. Under the first component, the project will support community-based planning processes, guaranteeing the ownership and engagement of local stakeholders, further securing the sustainability of investments. The use of cash for work approaches guarantees multiple benefits, by directly alleviating poverty and providing income to most vulnerable households, while supporting the long-term resilience of local ecosystems. Soil and Water Conservation practices supported both under the first and second component have proven to be cost-efficient, which is a key incentive for the long-term adoption and sustainability of these climate-resilient practices and technologies by the farmers and local stakeholders. In particular, climate resilient practices supported under the second component tend to show net additional incomes under the foreseen climate scenarios, meaning that farmers adopting these practices are likely to be better off in the long run. Component 3, focused on policy support and knowledge integration thanks to the operationalization of the GGWI in Somalia, also contributes to the cost-effectiveness of the project, by supporting the establishment of integrated institutional vehicles allowing to minimize duplicative efforts, enhance coordination, and streamline resource allocation and mobilization, resulting in a more cost-effective and coherent approach at national level.

132. The project proposal preparation will include a comprehensive cost analysis of all components and activities, as well as an alternatives analysis to ensure cost efficiency. This analysis will assess the financial implications of each component, taking into account factors such as implementation

costs, maintenance requirements, and long-term sustainability. By conducting a rigorous cost analysis, the project aims to identify cost-effective strategies, optimize resource allocation, and prioritize interventions that deliver the greatest economic, social, and environmental benefits. This proactive approach to cost efficiency will enable the project to maximize its impact and ensure the long-term viability of its outcomes.

D. Strategic alignment

133. Background. Somalia joined the UNFCCC in 2009 and ratified the Kyoto Protocol and Paris Agreement in 2010 and 2016, respectively⁹¹. As a signatory to the UNFCCC, the Federal Republic of Somalia has submitted its Initial National Communication in 2018, its First Biennial Update Report in 2022, and its updated National Determined Contribution in 2021. It is also worth noting that the Government of the Republic of Somalia has also ratified the United Nations Convention to Combat Desertification (UNCCD) in 2002 and the Convention on Biological Diversity in 2009.

134. The project is very much aligned with the 2021 **updated Nationally Determined Contribution**, through which the Federal Government of Somalia committed to implement a series of adaptation actions in the following areas: (i) agriculture and food security through building adaptation capacity in climate-resilient agronomic practices for smallholder farmers and improving access to agro-weather information services, (ii) water resources management through promoting rainwater harvesting and conservation of water and water use efficiency, (iii) disaster preparedness and management through establishing the meteorological networks to enhance early warning systems, increasing resilience of communities, infrastructures and ecosystems to droughts and floods and strengthening the adaptive capacity of the most vulnerable groups including women, children, elderly persons and IDP communities through social safety nets and livelihood support and, (iv) forestry and environment through increasing areas under agroforestry and reforestation of degraded forests, enhancing the participation of women and youth in activities related to adaption and environmental conservation in order to empower them and enhance their adaptive capacity, promoting climate change resilient traditional and modern knowledge of sustainable pasture and range management systems and climate change communication, education and public awareness raising. The NDC identifies priority areas for climate change adaptation in Somalia from 2021 to 2030 based on Somalia's national and sub-national development objectives and plans.

135. The **Initial National Communication** report to the UNFCCC (2018) outlines the national circumstances of Federal Republic of Somalia covering geographical attributes, demographic profile, socio-economic environment and institutional set up related to climate change and environmental governance. The report identifies droughts and floods amongst key climate challenges and includes a range of adaptation actions, in particular for pastoral and agro-pastoral livelihoods, to which the project will directly contribute.

136. Somalia's **National Adaptation Programme of Action (NAPA, 2013)** to Climate Change is the first national-level document that identifies urgent and immediate climate change adaptation needs of the most vulnerable groups. Project activities directly contribute to area 1 (Sustainable Land Management) of the NAPA priority areas and adaptation measures, which includes adaption activities related to reforestation campaign with 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, and to a lesser extent to area 3, Disaster Management (focusing on prevention of drought and flooding).

137. The project is aligned on **National Climate Change Policy (2020)** which has the vision to (i) promote a harmonized, articulate and effective response to challenges and opportunities that accompany climate change; (ii) deliver a framework that will guide the establishment and operationalization of interventions and action plans; and (iii) safeguard the safety and health of citizens, their prosperity and states development in the advent of climate change through

⁹¹ <https://unfccc.int/sites/default/files/resource/Somalia%20First%20BUR%20report%202022.pdf>

enhancement of resilience and implementation of adaptive ability to climate variability. The policy captures sectoral laws and strategies that form the legislative foundation for specific activities that need to be evaluated for potential improvements to enhance their ability to tackle climate change challenges and exploit emerging opportunities.

138. The Federal Government of Somalia has recognized climate change adaptation as a crucial element of Somalia's development and climate agenda, and integrated it into the **National Development Plan (NDP-9) for 2020-2024**, which identifies drought and flood as the major climatic constraints for the country. The goal of NDP-9 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. 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. The plan prioritizes most strategic interventions with multiple benefits including economic benefits alongside environmental sustainability, conflict reduction, strengthened governance and reduced exclusion. Overall, the plan integrates environmental protection across development intervention design and implementation for the period. The project is in line with national priorities as set out in the NDP-9, and in particular the Economic (3) and Social Pillars (4) with respect to Agriculture, Food Security, Social and Human Development.

139. The project also contributes to the objectives and priorities set out in the following:

- a) **The National Environment Policy (2019)** is a core document concerning the sustainable management of natural resources for Somalia. The Government, through the policy, seeks to adopt environmental conservation, and mitigation and adaptation approaches to deal with climate change. This policy recognizes that many of the natural disasters in Somalia, such as floods and drought, are climate-related and that their negative impacts cut across all key sectors of the economy. It provides the necessary government interventions towards environmental conservation and climate change response in the areas of protection of biodiversity, reduction of GHGs emissions, waste, and clean technology.
- b) **The Somalia National Action Programme for the UN Convention to Combat Desertification (2016)** recognizes desertification, land degradation, and drought caused by human activities and climatic variations as the most serious environmental challenges facing Somalia. The document provides background information, the status of land degradation, the socio-economic impacts of LD in Somalia, the Somalia National Action Programme Process and Somalia National Action Programme 2015–2030: Towards Land Degradation Neutrality. The document sets out four strategic objectives, and five operational objectives to combat desertification, amongst which (OO1) Advocacy, Awareness Raising and Education; (OO2) Policy Framework; (OO3) Science, Technology, and Knowledge; (OO4) Capacity Building; and (OO5) Financing and Technology Transfer.
- c) The **National Voluntary Land Degradation Neutrality Targets 2020**, developed under global initiative of the UNCCD, recognises land degradation caused by drought as a major impediment to national economic development as it adversely affects livestock and agriculture, which contributes heavily to its GDP. Some of the targets set under the document include; achievement of LDN by 2030 as compared to baseline 2015 (no net loss), an additional 10% territory has improved by 2030, an increase of National forest cover increased from 10.14% (2015) to 10.20% (2022) and maintained at 30% by 2030 through agroforestry and SLM, reduced consumption of biomass energy by half, reduced soil erosion, reduced conversion of forests and wetlands into other uses, restoration and increase of land productivity among others.
- d) **The National Disaster Management Policy (2018)** 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 policy seeks to provide a legislative framework for

disaster management within government institutions while also strengthening the coherence and co-ordination of humanitarian support from international partners and donor organizations.

- e) **The National Biodiversity Strategy and Action Plan (2015)**, developed under the Convention on Biological Diversity in 2015, has direct linkages with biodiversity and climate change response in Somalia. It aims to establish an understanding of drivers of biodiversity degradation and devise response measures. The strategy highlights among others gaps in capacity, policy and resource mobilization, and coordination for effective management and monitoring of biodiversity.
- f) **The National Drought Plan for Somalia (2020)** aims to set a system and mechanism in place whereby Government of Somalia and relevant stakeholders can operate in order to mitigate the broad array and frequent impact of droughts in Somalia to enable the establishment of a resilient society that can withstand the drought shocks. The priority strategic interventions of the Plan are: 1) Drought Monitoring and Prediction; 2) Drought Impact assessment; 3) Drought Preparedness through sustainable use of Water, Land and Natural resources; 4) Improving Emergency Drought Response.
- g) **The National Food Security and Nutrition Strategy (2020-2025)**, aims at providing government commitments as well as to guide its institutions (at all levels); development partners, and other key stakeholders in their efforts to address food insecurity and malnutrition. The Strategy is designed to address the triple burden of malnutrition (coexistence of overnutrition, undernutrition, and micronutrient deficiencies). In the strategy, the government aims to ensure that stability of food supply, access, and usage are safeguarded through the agriculture, livestock, fisheries, trade, health, infrastructure, social protection, and related socio-economic sectors on yearly basis while investing in natural resource management and environmental conservation for long-term stability.
- h) **The Somalia National Gender Policy (2016)** includes strategies to eradicate harmful traditional practices such as FGM/C and child marriage and to improve services for the management of GBV cases, while **the Women's Charter for Somalia (2019)** calls for women's economic empowerment, and recognize that full participation and socioeconomic rights are cornerstones for equality and sustainable development. **The National Youth Policy of the Federal Government of Somalia (2018)** aims at promoting youth participation in all spheres of development.

140. More generally and where relevant, the project will seek alignment with the **MoECC strategy currently under finalization**, the Recovery and Resilience Framework (2018), the Somalia National Water Policy and National Water Resource Law (2010), the Integrated Water Resources Management Strategic Plan (2019-2023), the National Water Resource Strategy (2021-2025), the Micro, Small and Medium Enterprises (MSME) Policy (2019).

141. Additionally, the project is aligned with the **African Union Great Green Wall Draft Strategy for Ecosystem Restoration and Livelihood Resilience** (foreseen to be adopted in December 2023) and its overall objective to *“enhance the resilience of communities, ecosystems, and economies in the African drylands by improving the living conditions of populations, enhancing the health of ecosystems, advocating and mobilising additional resources, and promoting policy coherence”*. The present project will also support the preparation of the National GW strategy and action plan, on which initial idea it is fully aligned.

142. Finally, the project will contribute directly to the following Sustainable Development Goals: **SDG 1** (No poverty), **SDG 2** (Zero hunger), **SDG 5** (Gender equality), **SDG 8** (Decent work and economic growth), **SDG 12** (Responsible consumption and production), and **SDG 13** (Climate action).

E. National Standards and Environmental and Social Policy

143. Through its SECAP, IFAD aligns its practices with the Adaptation Fund's policy to uphold environmental and social standards throughout its projects. As such, the project complies with the Environmental and Social Policy of the Adaptation Fund, (see ESP risk assessment summary in section II. K) and has been designed to minimise any negative environmental impact, resulting in net environmental benefits. The project will respect and adhere to the relevant federal and state level laws and codes, where they exist, as outlined below.

144. **The Federal Republic of Somalia Provisional Constitution, 2012⁹²**. The overarching legal document is the Provisional Federal Constitution, which was adopted on August 1, 2012. The constitution is divided into XV Chapters, subdivided into 143 articles and 4 Schedules as follows: Declaration of the Federal Republic of Somalia (Chap. I); Fundamental Rights and the Duties of the Citizen (Chap. II); Land, Property and Environment (Chap. III); Representation of the People (Chap. IV); Devolution of the Powers of State in the Federal Republic of Somalia (Chap. V); The Federal Parliament (Chap. VI); The President of the Federal Republic (Chap. VII); The Executive Branch (Chap. VIII); The Judicial Authority (Chap. IX); The Independent Commissions (Chap. X); Civil Service (Chap. XI); Federal Member States (Chap. XII); Public Finance (Chap. XIII); Peace and Security (Chap. XIV); Final and Transitional Provisions (Chap. XV). After the Shari'ah, the Constitution of the Federal Republic of Somalia is the supreme law of the country. It binds the government and guides policy initiatives and decisions in all sections of government. There are several provisions that may be relevant for this project, particularly Article 11 on Equality; Article 14 Slavery, Servitude and Forced Labour; Article 15 on Liberty and security of person; Article 24 on Labour relations; Article 26 on Property; Article 27 on Economic and social rights; Article 43 on Land; Article 44 on Natural resources.

145. Articles 25 and 45 of the provisional constitution both look at the Environment, stating respectively that:

- a) **Article 25**: every Somali has the right to an environment that is not harmful to their health and wellbeing, and to be protected from pollution and harmful materials. Every Somali has a right to have a share of the natural resources of the country, whilst being protected from excessive and damaging exploitation of natural resources.
- b) **Article 45**: the Government shall give priority to the protection, conservation, and preservation of the environment against anything that may cause harm to natural biodiversity and the ecosystem. Furthermore, all people have a duty to safeguards and enhance the environment and participate in the development, execution, management, conservation and protection of the natural resources and the environment. The FGS and the governments of the FMS affected by environmental damage shall take urgent measures to clean up hazardous waste dumped on the land or in the waters of the FGS; take necessary measures to reverse desertification, deforestation and environmental degradation, and to conserve the environment and prevent activities that damage the natural resources and the environment of the nation, among other measures.

146. The following Laws and Codes may apply during project implementation:

- a) The **Law on Fauna (Hunting) and Forest Conservation (No. 15 of 1969)**, and in particular Book II of dedicated to forest conservation.
- b) The **Labour Code of 1972** stipulates that all contracts of employment must include a) the nature and duration of the contract; b) the hours and place of work; c) the remuneration payable to the worker; and c) the procedure for suspension or termination of contract.
- c) The **Law No. 40 of 4 October 1973 on Cooperative Development in the Somali Democratic Republic** consists of 21 articles and an Annex containing terms and regulations for cooperatives.

⁹² <https://www.fao.org/faolex/results/details/en/c/LEX-FAOC127387/>

- d) The **Agricultural Land Law (1975)** transfers all land from traditional authorities to the government. Individuals desiring land were to register their holdings within a 6-months period. The law does not recognize customary land holdings.
- e) The **Veterinary Law Code (2016)**, which makes provisions with respect to a wide array of matters relating to animal health, animal production and animal products.
- f) The **National Eviction Guidelines (2019)** make provision for the responsibility of the Federal Government of the Republic of Somalia to refrain from, and protect against, arbitrary and forced eviction of occupiers of public and private properties, from homes, encampments and lands, to protect the human right to adequate housing and other related human rights.

147. The Federal Government is in the process of developing the following relevant policy, legal and regulatory frameworks: (i) **Draft National Environmental Management Bill**; (ii) **Draft National Environmental and Social Impact Assessment Regulations**; (iii) **Draft National Forest Management Policy**; and (iv) **Draft National Charcoal Policy**. The **Ministry of Environment and climate change** is mandated to draft the national Environmental policies, regulations and legislations including establishing of the Environmental Quality Standards, Sectoral Environmental Assessments (SEAs), Environment Impact Assessments (EIAs) and Environmental Audits (EAs), among others. The process of drafting the ESIA Regulation together with the Environmental and Social Audit is underway through MoECC. It should be noted that the **Draft National Environmental and Social Impact Assessment Regulations** do not foresee EIAs for any of the activities under the project.

148. The **South West State has a Ministry of Environment and Tourism**, which manages environmental related issues. The Ministry of Environment and Tourism has developed and passed ESIA regulations, which are meant to govern environmental matters, including licensing of landfills, waste pits and medical waste incinerators, in addition to oversight over environmental governance.

149. The **Galmudug State has a Ministry of Environment**, which manage environmental issues. The State Ministry of Environment is to be consulted before any infrastructure activities are implemented in their respective state with potential Environmental & Social (E&S) risks and impacts. The institutional arrangement for the E&S safeguards related matters including the approval process are yet to be established or agreed upon. The State and municipalities have offices responsible for land adjudication matters.

F. Duplication

150. The CN preparation process verified that there is no risk of duplication with other projects or programmes. The project is a result of a thorough national assessment of the climate change adaptation needs and recommended course of action, in particular to operationalize the GGWI in the country. The needs assessment process conducted in the preparation of the project and the detailed analysis of the synergies and potential overlaps with other projects, as displayed in the table below, shows opportunities for synergies and learning from other relevant initiatives, with no risk of geographic overlap. Additionally, it should be noted that a number of projects in Somalia present relevant experience/lessons for the GGWI, beyond those listed below (notably in other geographic areas). These projects will be further engaged at later stages and notably to prepare the GGWI Strategy and Action Plan during project implementation.

Table 3 - Analysis of risks of duplication

Other projects/partners	Summary	Geographic overlap	Identified synergies
IFAD Adaptive Agriculture and Rangeland Rehabilitation Project (A2R2) Project Cost: USD 24 Million, including GEF-7, LDCF, ASAP+	This 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.	A2R2 targets districts of Belet Weyne (Hirshabelle State), Baydhaba, Gaalkacyo and Dhuusamarreeb (South West State), and Cabudwaaq (Galmudug State). Districts of	The present project builds on a number of approaches supported by A2R2/SIRAP, included on rangeland management and sustainable agriculture. No geographic overlap is foreseen.

<p>Implementer: SADAR</p> <p>Duration: 2023-2028</p>	<p>The project is structured into four technical components: Component 1. Adaptive climate-resilient hydraulic infrastructure and productive livelihoods; Component 2. Landscape approach to an integrated management of rangeland and forest ecosystems for land degradation neutrality and biodiversity conservation; Component 3. Institutional strengthening to support land degradation neutrality and biodiversity protection; Component 4. Knowledge sharing for systematization and scaling up.</p>	<p>intervention of the present project will not overlap with A2R2</p>	
<p>Somalia Integrated and Resilient Agricultural Productivity Project (SIRAP)</p> <p>IFAD/Global Agriculture and Food Security Program (GAFSP)</p> <p>USD 16 Million</p> <p>2023-2027</p>	<p>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; Component 2. Support to sustainable agricultural productivity and livelihoods; Component 3. Support Coordination, Policy and Regulatory Framework support, and Capacity Building</p>	<p>The project expands A2R2 activities to additional districts of Jubaland state. There is therefore no geographic overlap with the present project.</p>	
<p>Adaptive NbS solutions for flood and drought climatic shocks</p> <p>UNEP/Adaptation Fund Project (innovation window)</p> <p>USD 5 million</p> <p>Implementer: SADAR</p> <p>2024-2028(under identification)</p>	<p>The overall objective of the project is to enhance adaptive capacity of communities in the Hirshabelle watersheds through the effective replication, upscaling and/or innovating NbS and hybrid measures that reduce exposure of productive assets and livelihoods to floods and droughts.</p> <p>The interventions will consist of 1) awareness building 2) NbS intervention and sustainability 3) Capacity building and engagement with government and conflict prevention 4) Systems approaches around early warning and the DRM cycle and how to build this into learning and evidence building for larger scaled approaches</p> <p>The project will scale up a menu of 10 different Nature Based Solutions that have been modelled by UNEP.</p>	<p>The project targets Hirshabelle watersheds and possibly 3 districts (Jowhar in the Middle Shabelle, and Wanla Weyn and Agooye in the Lower Shabelle), with a minor possibility of overlap in the Lower Shabelle.</p>	<p>The two projects will coordinate to seek geographic complementarity, and in case similar areas are prioritized, synergies will be established between support provided. Interventions in close areas can also reinforce the watershed management approach, by seeking to concentrate support to maximize impact.</p>
<p>World Bank Water for Agro-Pastoral productivity and resilience (II), "Barwaaqo" Project</p> <p>USD 70 Million</p> <p>2022-2028</p>	<p>The Barwaaqo project will build on the investments under the Biyoole project Water for Agro Pastoral Productivity and Resilience I). The project comprises four interlinked components: (1) Development of Multiuse Water Sources; (2) Development of Agriculture and Livestock Services around Water Points; (3) Development of Environmental Catchment Services in Project Areas; and (4) Project Management, Community Development and Enhancing Livelihoods Planning.</p>	<p>The project targets Somaliland, Puntland, Galmudug, and South West States (supported by previous project), and expands to Hirshabelle and Jubaland FMS.</p> <p>Synergies will be established in both regions of intervention of the present project.</p>	<p>The project will seek complementarity with Barwaaqo and the previous phase (Biyole) and particularly areas supported with sand dams, to leverage interventions around access to water. Additionally, the project will engage with Barwaaqo teams and stakeholders to document relevant activities as part of the GGWI national Strategy and Action Plan.</p>
<p>Climate-resilient livelihoods to Boost Food</p>	<p>The project aims at improving sustainable food production and contribute to the resilience of food systems in Somalia. The</p>	<p>Jubaland, South West and Hirshabelle</p>	<p>The present project will build on CLIMB experience in supporting targeted VCs, in</p>

<p>production and Nutrition outcomes (CLIMB)</p> <p>EU funded project</p> <p>Implementer: FAO</p> <p>USD 7.5 USD million</p> <p>2023-2026</p>	<p>project includes the following outcomes: (i) Outcome 1: Increased agricultural production through improved productivity and improved community productive infrastructure such as irrigation canals, (ii) Outcome 2. Sustainable Value Chain development and strengthening of market linkages to promote income generation and, (iii) Outcome 3: Managing climatic and economic shocks to strengthen resilience.</p>	<p>Possible common areas of intervention in the Lower Shabelle region</p>	<p>particular training on Good Agricultural Practices.</p> <p>Synergies and complementarity may be sought thanks to the support to access to water and VC development under CLIMB if both projects are present in the same area.</p>
<p>European Union, Swedish and Italian cooperation: Joint Programme for Sustainable Charcoal Reduction and Alternative Livelihoods (PROSCAL) (1st phase completed, 2nd phase under preparation)</p> <p>Implementer: UNDP, FAO, UNEP</p> <p>USD 10.5 Million</p> <p>2016-2023</p>	<p>The PROSCAL program promotes energy security and more resilient livelihoods through a gradual reduction of unsustainable charcoal production, trade and use. Its objectives are: (i) to mobilize key stakeholders in the region and build institutional capacity among government entities across Somalia for the effective monitoring and enforcement of the charcoal trade ban, the development of an enabling policy environment for energy security and natural resources management, (ii) to support the development of alternative energy resources, (iii) to facilitate – for stakeholders in the charcoal value chain – transition towards livelihood options that are sustainable, reliable and more profitable than charcoal production and, (iv) to start reforestation and afforestation throughout the country for the rehabilitation of degraded lands</p>	<p>All country</p>	<p>While limited geographic overlap is expected, in areas where PROSCAL I/II is implemented, the present project may build on already existing nurseries and afforestation/reforestation actions to be further supported/consolidated/learn from, including in terms of choice of tree species and best practices. In these areas, the project will also benefit from the decreased pressure on forest resources brought about by PROSCAL, enabling to consolidate ecosystem resilience actions.</p>

G. Learning and Knowledge Management

151. Effective knowledge management – including the collection, generation and dissemination of information – is an important component of climate change adaptation. Learning from adaptation activities and being able to transform knowledge into products that are targeted at various audiences is essential to effective climate change adaptation.

152. As the entry point for Somalia to join the Great Green Wall Initiative, this project will play a critical role both to operationalize the initiative in the country, and for the Global Initiative to learn from the experience of Somalia. As such, robust learning and knowledge management systems will be key to further demonstrate the relevance of project activities under the GGW umbrella for the country, thus facilitating accelerated scaling-up and resource mobilisation. Additionally, Somalia's GGW opens a new learning space for the African Union, and lessons from the project may be up-taken throughout the continent.

153. More specifically and through its M&E system the project will thoroughly document:

- a) Success stories and mechanisms for true bottom-up approaches in locally led ecosystem restoration.
- b) The potential for greening and ecosystem resilience of the array of sustainable land management & restoration practices promoted under Component 1.
- c) Best practices of climate resilient agriculture as supported under Component 2, together with the role of farmers in the conservation and sustainable management of the ecosystem they depend on (e.g. through Farmer Led Natural Regeneration).

154. In line with other IFAD projects in the country, 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 an overall results-based M&E/KM strategy. The project will also support the MoECC in its capacity to track, coordinate and monitor the results from all

relevant projects under the GGW in Somalia. As part of this, the MoECC's capacity to monitor ecosystem resilience throughout the country will be reinforced, notably by supporting the migration of tools developed under SWALIM under the overall leadership of the Ministry.

155. The overall responsibility for Knowledge Management (KM) and communication will rest with the project M&E Officer, who will coordinate with other members of the Project Management Unit (PMU), local Government counterparts and other project stakeholders to identify case studies that illustrate the impact that the project has had on improving rural livelihoods and centralize key information generated. More generally the M&E Officer together with the rest of the PMU will process the knowledge generated into an appropriate format for the general public and disseminate it. This will be done through workshops and seminars, electronic/digital media (radio, television, and internet – emails and websites); social media (YouTube, Facebook, Instagram, etc.), and print media (flyers, brochures, reports, working papers, monographs, manuals).

156. The project will also document lessons learnt and disseminate knowledge products through annual performance reports (APRs), briefing notes, infographics & flyers, knowledge platforms, project performance reports (PPRs), the mid-term evaluation report (MTR) and terminal evaluation report, project stories and project videos.

H. Consultative Process

157. The identification of the project was done remotely, owing to the security conditions in the country. A wide range of stakeholders was consulted, both at national and local level, including relevant Ministries (Ministry of Environment and Climate Change, Ministry of Agriculture and Irrigation, and Ministry Women and Human Rights), Technical and Financial Partners (FAO, UNDP, UNEP, UNWomen, World Bank, WFP), NGOs (CEFA, SADAR, SReP consortium and VSF Germany), resource persons and beneficiaries from ongoing IFAD projects in Galmudug, Hirshabelle and Puntland. The coordination of the Great Green Wall Initiative in the African Union was also consulted to confirm the alignment of the approach on the global initiative. Special attention was given to ensure a gender and youth focus in these consultations. As such, institutions dealing with gender and youth issues, both public and from the civil society, were consulted. Male and female stakeholders living in rural areas of Somalia were consulted through one on one phone calls.

158. Key feedback and inputs from consultations conducted include:

- a) Proposed approaches are relevant and well aligned with needs to increase climate resilience in preidentified areas.
- b) Local stakeholders are well aware of climate impacts and their accelerated occurrence as they are at the frontline. They feel powerless in the face of these impacts but do identify relevant adaptive strategies (e.g. more efficient water use, fodder production and storage, etc.)
- c) The two regions targeted by the project are characterized by very different contexts and livelihood zones, making them relevant to showcase best practices for climate adaptation under the GGWI in Somalia. At the same time, a clear menu of intervention needs to be clearly identified in advance, to streamline project implementation.
- d) Considering the extreme fragility of the local context, it is strongly recommended to focus efforts, and seek complementarity with other initiatives to guarantee that the numerous needs of local communities can be jointly addressed (one project cannot do everything).
- e) Ecosystem resilience cannot be sustainably achieved without a preliminary engagement process, guaranteeing the ownership of actions by local communities, who can then go on to manage and replicate interventions locally.

159. Additionally, the project builds on lessons from the consultations conducted for other recent IFAD formulations in the country, and notably the GEF/A2R2 project, which looked at themes close to the Adaptation Fund, with the following conclusions:

- a) Drought-induced vulnerabilities: due to their semi-arid nature, combined with climate impacts, targeted states experiences recurrent droughts and suffers from extreme water

shortages which result in significant livestock loss, widespread food insecurity and high levels of malnutrition.

- b) Resource-borne conflict: historical communal conflicts is widespread in targeted states, due to control of strategic water points, grazing land and settlements which often leads to inter-clan clashes and revenge killings. This hinders prospects for stability, security and local development. However, in the past few years, the territory’s socio-political landscape has improved significantly owing to a series of community-led social reconciliation efforts which were supported by member and donor-funded interventions.
- c) Limited service delivery capacity: pastoral districts have limited capacity for delivery of essential services including water infrastructure development, education, health, livelihood opportunities and animal health.
- d) Migration, displacement and high levels of unemployment: as result of droughts, loss of livelihoods, communal conflict, low levels of employable skills and limited essential services, many rural households and youth migrate to urban areas seeking better living standards. A significant portion of displaced populations end up in IDP camps while a small percentage manage to integrate into hosting communities.
- e) Conflict and insurgency: widespread land dispute, low levels of social cohesion, limited trust between some of the clans, and weak judicial system lead to recurrent clan-based conflicts.

I. Justification for funding

160. The justification for the requested funding lies in the comprehensive assessment of the full cost of adaptation associated with implementing the present project. The project is focused on the climate resilience of most vulnerable populations in one of the most fragile and vulnerable countries: Somalia. LDCs, and Somalia in particular, are indeed most vulnerable to the damaging effects of climate change, since their economic development and food security highly depend on climate-sensitive sectors such as agriculture.

161. Thanks to Adaptation Fund supporting the full cost of adaptation of activities planned under the project, the present initiative will bring about a paradigm shift by which Somalia will establish a consistent framework for ecosystem and livelihood resilience based on the specific needs of its various agroecosystems, and in line with the vision of the Great Green Wall Initiative. Thanks to project support and showcased best practices, Somalia will become a flagship country under the GGWI, and will be in a position to streamline investments towards this resilience-enabling initiative. The table below highlights the baseline and alternative adaptation scenario under the project.

Table 4 - Baseline and alternative adaptation scenario the Adaptation Fund will help materialize

Business as usual scenario	Adaptation Fund additionality
Component 1. Green and resilient agro-pastoral and pastoral ecosystems in Somalia	
The drought and flood cycles continue to accelerate environmental degradation in the regions of Mudug and Lower Shabelle, resulting in the former in widespread desertification, loss of pastoral land, loss of livestock lives, loss of livelihoods, food security and human lives. In the latter (Lower Shabelle), flash floods break river embankments and carry away the topsoil that has been fragilized by drought cycles resulting in decreasing soil fertility, while environmental degradation also accelerates in upland (rainfed areas), resulting in loss of livelihoods and maladaptive practices associated with charcoal production and conflicts.	<ul style="list-style-type: none"> - 30 villages develop integrated climate-resilient investment plans, which are integrated into Village Level Action Plans - 30 villages are accompanied in conflict resolution, governance, community procurement, gender and environmental, climate mainstreaming, and financial management - The resilience of 2,000 ha of ecosystems is supported, benefitting to 8,000 ha downstream, with increased resilience to drought, and enhanced resilience to floods - 6,000 households are trained on ecosystem resilience practices and benefit directly from Cash for Work schemes.
Component 2. Resilient agro-pastoral and pastoral livelihoods in Somalia	
With climate change extreme events such as droughts and floods become increasingly frequent	<ul style="list-style-type: none"> - 750 HH receive training on climate resilient practices, benefitting indirectly to 9,000 people

<p>and intense, and growing periods become shorter, agro-pastoral systems are put at risk, with decreasing fertility and increasing pressure on resources (land and water). Vulnerable households and other farmers continue practicing agriculture following the same BAU models (no adapted varieties, no soil and water conservation, etc.) and resort to maladaptive practices (accelerated charcoal production), resulting in decreasing yields, accelerated environmental degradation, loss of livelihoods and possible outmigration/conflict.</p>	<ul style="list-style-type: none"> - 1,500 ha of farmland under climate resilient practices - 10 tree nurseries and 10 seed (crops and fodder) cooperatives are established and serve the needs of all smallholders in the area. - 20 women cooperatives commercializing Non-Timber Forest Products are established - Village Savings and Loan Associations are promoted in 30 villages
Component 3. Operationalization of the Great Green Wall initiative in Somalia	
<p>Somalia does not operationalize the GGWI and does not establish the tools and mechanisms to implement it. No coordination occurs between initiatives that could fit under the GGW, and no additional funding is drawn to support the initiative.</p>	<ul style="list-style-type: none"> - National Strategy and Action Plan for the GGWI in Somalia established - State level Strategies and Action Plans for the GGWI in Galmudug and Lower Shabelle established - MoECC capacitated to coordinate the GGWI in the country - Proper coordination mechanisms and tools are established - Monitoring of ecosystems resilience as part of GGWI is conducted under the leadership of MoECC

J. Sustainability

162. The project is based on, and is driven by, sustainability principles that are promoted throughout its activities by i) emphasising the active participation of communities in the implementation and management of project interventions, as a means to also ensure ownership of the project and its outcomes by all relevant stakeholders; ii) strengthening the community-level technical capacity to ensure stakeholders have adequate knowledge and skills to maintain the benefits of the project interventions; iii) promoting the adoption of cost-effective, environmentally friendly and long-lasting solutions to help restore, improve and/or protect the ecosystem; iv) training communities on climate-resilient agricultural techniques and setting up businesses to ensure the continuity of access to adapted seeds and seedlings, v) promoting tree products value chains as a means for communities to perceive the long-lasting value of trees and further engage in their preservation, and vi) by supporting the establishment of integrated institutional vehicles allowing to streamlined resource allocation and mobilization towards similar GGWI investments, thus ensuring the sustainability and replicability of the project. Additionally, the project is fully aligned on the priorities highlighted in relevant national policies and strategies.

163. **Environmental sustainability** is embedded in the project, notably through the adoption of an ecosystem greening approach both at farm and wider landscape level, respectively through the promotion of the integrated planning of sustainable land management and ecosystem restoration measures under the first component, and the promotion of climate resilient practices in line with the principles of agroecology under the second component. The project will rely on participatory approaches to fully address issues that affect the long-term sustainability of natural resource management and the welfare of local communities.

164. **Scaling-up** will be further ensured by a strong ownership of local stakeholders, starting with the capacitation of village level stakeholders. In addition to developing the social capital of targeted communities, the project will encourage peer-to-peer exchanges and learning, as part of the larger Great Green Wall Initiative. The local level planning will allow to identify further investment needs, while giving communities the tools to replicate actions themselves. At the same time, support to operationalize the GGWI at national level will enable Somalia to better coordinate investments under the GGW umbrella, while facilitating resource mobilization towards the initiative.

K. Environmental and Social Impacts and Risks

165. The environmental and social screening presented in the table below provides a brief overview of the risk assessment that will be further detailed in the ESMP and evidences the minor risks related to the project, and for which additional detail and dedicated mitigation measures will be integrated into the project. Any site-specific risks identified can be readily addressed. As a result of these elements, the project has been identified as **Moderate risk** with regards to socio-environmental aspects.

166. During the project preparation phase, the proposal will undergo detailed assessments in accordance with both the Adaptation Fund and IFAD's Social, Environmental and Climate Assessment Procedures (SECAP), as well as gender policies. To ensure transparency and inclusivity, the full design mission at project proposal stage will engage in further public consultations at ministerial levels, with beneficiaries, donor and partner organizations, NGOs, civil society, academia, and women and farmer associations in the country. Comprehensive records will be maintained as evidence of all consultations conducted.

Table 5 – Adaptation Fund Environmental and Social Checklist

Checklist of Environmental and Social Principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
ESP 1 <i>Compliance with the Law</i>		<p>No risk</p> <p>The project will align with all relevant federal and state level laws, regulations and policies. Relevant local and national stakeholders will be consulted at project proposal stage to ensure that all applicable legal requirements are taken into account. However, and due to the fact that country specific guidelines are missing at both State and Federal level, the project activities will also directly align with IFAD's Social, Environmental and Climate Assessment Procedures, as well as the Adaptation Fund Environmental and Social Policy, and Gender Assessment Policy.</p>
ESP 2 <i>Access and Equity</i>		<p>Low/medium risk</p> <p>The project is designed to decrease the vulnerability, and increase resilience, of targeted communities, in particular the most vulnerable and marginalised groups such as women and youth. The project will ensure that the benefits of the project are being distributed fairly with no discrimination nor favouritism. The project will pay special attention to women and youth for equitable access to the benefits of the project.</p> <p>The participatory processes and inclusion of activities specially focused on women such as VSLAs and support to dedicated value chains will enable women to advocate for equality and equity for sustainable development.</p> <p>Additionally, IFAD will widely promote its grievance procedures, providing a means for anyone who believes they have been wronged to seek appropriate remedies. By prioritizing transparency and accountability, the project aims to mitigate any adverse effects on affected individuals and ensure their rights are protected.</p>
ESP 3 <i>Marginalized and Vulnerable Groups</i>		<p>Moderate risk</p> <p>Marginalized and vulnerable groups – especially women - will be consulted during the proposal development process to ensure that their identified threats, priorities and mitigation measures are reflected, in particular with the establishment of a Gender Assessment and Gender Action Plan. This project will empower vulnerable groups to make decisions on concrete adaptation actions, valuing their traditional and local knowledge. This project will create a space for women, and youth to choose adaptation activities in a transparent and participatory manner. Additionally, this project will respect land, property and customary rights.</p>
ESP 4 <i>Human Rights</i>		<p>Low/moderate risk</p> <p>This project affirms the rights of all people and does not violate any pillar of human rights. No activities will be proposed that could present a risk of non-compliance with either national requirements relating to Human Rights or with International Human Rights Laws and Conventions.</p>

			Past experiences suggest that establishing digital identity systems paves the way to expanding surveillance regimes. The project proposal stage will assess in detail risks associated with the use of biometric systems and present alternative solutions.
ESP 5	<i>Gender Equality and Women's Empowerment</i>		<p>Low/moderate risk Culture and norms in Somalia confer low social status to women and constrain their access to productive resources, jobs, and social services.</p> <p>The Project will undertake a Gender Assessment at project proposal stage. To address the identified gender issues, the project will take proactive measures to integrate gender focused development strategies, ensuring it will not pose a risk to the principle of gender equality and women's empowerment. In particular, three strategic pathways for gender equality and women's empowerment will be followed: (i) promote economic empowerment to enable rural women and men to have equal opportunities to participate in and benefit from profitable economic activities; (ii) enable women and men to have an equal voice and influence in rural institutions and organizations; and, (iii) achieve a more equitable balance of workloads and the sharing of economic and social benefits between women and men. Additionally, gender aspects will be mainstreamed in the project's assessment of climate risks at village level under Component 1 and relevant adaptation measures promoted under Components 1 and 2. Gender mainstreaming will also be supported throughout the activities associated with the operationalization of the GGWI in Somalia under Component 3. Women will make up 50% of the beneficiaries and their participation in the project will be monitored. The implementation of the gender strategy and action plan will be monitored.</p> <p>Complaints if any will be addressed through the Grievance redress mechanism.</p>
ESP 6	<i>Core Labour Rights</i>	X	<p>Low/no risk The project will ensure respect for international and national labour laws and codes, as stated in IFAD's policies.</p>
ESP 7	<i>Indigenous Peoples</i>		<p>Medium risk The internationally recognized indigenous people in Somalia are the (Wa) Goshu, mainly Bantu groups who live in the Lower Juba and Shabelle valleys. Somalia has not ratified the Indigenous and Tribal Peoples Convention (1989). During the project proposal preparation phase, all possible needs and concerns of Indigenous People in target areas (specifically in the Lower Shabelle) will be identified, including potential unequal distribution of project benefits.</p> <p>Free, Prior, Informed Consent (FPIC) will be applied by (i) mapping all Indigenous Peoples and other minorities, and potential impacts of the project on those groups, and (ii) involving these groups in planning and decision-making processes, including not going ahead with activities if not agreed by these groups (written consent). The engagement of Indigenous Peoples will be monitored throughout project implementation.</p>
ESP 8	<i>Involuntary Resettlement</i>	X	<p>No risk Project activities do not entail resettlement.</p>
ESP 9	<i>Protection of Natural Habitats</i>	X	<p>No risk The project is not expected to have any negative impact on critical natural habitats including those that are (a) legally protected; (b) officially proposed for protection; (c) recognised by authoritative sources for their high conservation value, including as critical habitat; or (d) recognised as protected by traditional or indigenous local communities. Site selection criteria to be further elaborated at project proposal stage will de-facto exclude such sites from project interventions.</p>
ESP 10	<i>Conservation of Biological Diversity</i>	X	<p>No risk The activities of this project will not adversely impact the conservation of biological diversity.</p>
ESP 11	<i>Climate Change</i>	X	<p>No risk</p>

		The project will not generate any significant emissions of greenhouse gases and will not contribute to climate change in any other way.
ESP 12	<i>Pollution Prevention and Resource Efficiency</i>	X
		Low/No risk The project will actively promote the adoption of climate resilient practices and efficient water use. Site specific risks are very limited, and can be easily identified and effectively addressed.
ESP 13	<i>Public Health</i>	X
		No risk No adverse impact on public health related issues is envisaged under the project.
ESP 14	<i>Physical and Cultural Heritage</i>	X
		Low/No risk The project is not expected to have negative impacts on the physical and cultural heritage of Somalia. Through the ESMP the project will identify if any national or international cultural heritage will be included in or near the project zones and describe the location of the heritage in relation to the project. Such sites will be de facto excluded from project implementation.
ESP 15	<i>Lands and Soil Conservation</i>	X
		No risk The project will promote sustainable land management practices at landscape (ecosystem) and farm level.

Part III: IMPLEMENTATION ARRANGEMENTS

A. Alignment with Adaptation Fund Result Framework

Table 6 - Alignment with Adaptation Fund Result Framework

Project Outcomes	Project Outcome indicators	Adaptation Fund Outcome	Fund Outcome Indicator	AF Grant Amount (USD)
Component 1. Green and resilient agro-pastoral and pastoral ecosystems in Somalia				
Outcome 1. Improved resilience of agro-pastoral and pastoral ecosystems to climate change	Number of hectares of ecosystem protected	Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress	5. Natural resource assets maintained or improved under climate change and variability-induced stress	3,499,950
Component 2. Resilient agro-pastoral and pastoral livelihoods in Somalia				
Outcome 2. Enhanced resilience of agro-pastoral and pastoral livelihoods to climate change	% of households reporting adoption of environmentally sustainable and climate resilient technologies and practices % of smallholders reporting an increased stability of income (production/commercialization)	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas.	N/A	4,000,050
Component 3. Operationalization of the Great Green Wall initiative in Somalia				
Outcome 3. Great Green Wall initiative scaled-up to Somalia	Number of policies, strategies and investments influenced by project experience	Outcome 7: Improved policies and regulations that promote and enforce resilience measures	7. Climate change priorities are integrated into national development strategy	841,014
Project Outputs				
Component 1. Green and resilient agro-pastoral and pastoral ecosystems in Somalia				
Output 1.1. Participatory climate-resilient landscape investment plans developed	Number of planning documents approved at local level	Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)	1,000,000
Output 1.2. Priority green and resilient measures implemented	Hectares of land under resilient management			2,499,950
Component 2. Resilient agro-pastoral and pastoral livelihoods in Somalia				
Output 2.1. Adaptive capacity of farming systems strengthened	Number of households trained on/sensitized about resilient agriculture practices	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	N/A	2,500,050
Output 2.2. Diversification for resilient livelihoods ensured	Number of households engaging on other resilient income generating activities			1,500,000
Component 3. Operationalization of the Great Green Wall initiative in Somalia				
Output 3.1. National Strategy and Action Plan to Implement the GGWI in Somalia established	Number of policy documents established	Output 7: Improved integration of climate-resilience strategies into	7.1. No. of policies introduced or adjusted to address climate	200,000

Output 3.2. National and local stakeholders' capacities to implement GGWI in Somalia reinforced	Coordination mechanisms established Monitoring systems established	country development plans	change risks (by sector)	641,014
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B. Implementation Arrangements

167. Implementing Entity. IFAD is submitting this project as an accredited Multilateral Implementing Entity (MIE) for the AF. In its capacity as MIE, IFAD will be in charge of the project cycle management, overseeing overall project progress, including financial oversight, monitoring and evaluation support, as well as technical backstopping and reporting to the AF. IFAD will also undertake the oversight and quality control of the proposed project ensuring that the Gender Policy and Environmental and Social Policy is respected through its SECAP.

168. Project oversight. It is proposed that the Project Steering Committee (PSC) is chaired by the Federal Minister of Environment and Climate Change. Based on the agreement at the at the level of the Federal Government, the PSC may also include representatives from the Ministry of Finance, the Federal Ministry of Agriculture and Irrigation, the Ministry of Livestock and Forest Resources, and the Ministry of Women and Human Rights Development, all representing the FGS. In addition, the PSC will include three representatives from both the FMS of the South West and the Galmudug. The PSC will approve the AWPB and review the periodic progress, financial, audit and supervision and implementation support reports. The PSC will also review the status and adequacy of the implementation of recommendations from the auditors and IFAD supervision or implementation support mission reports.

169. The **Project Management Unit (PMU)**, established by SADAR with the oversight of the PSC, will be responsible for: (i) overall management of the project; (ii) coordinating project implementation; (iii) development of the AWPB and undertaking project M&E and KM activities; (iv) meeting all reporting obligations on the implementation progress and results of the project to IFAD, Adaptation Fund and the PSC; and (v) coordination with the IFAD Country Team to ensure accountability for programme coordination and the effective and efficient utilisation of the project funds for their intended purposes.

170. Third-party implementation arrangements (Executing Entity). At the request of the FGS, Sadar Development and Resilience Institute (SADAR) will be the Project's Executing Entity on performance and result based principles, on behalf of the MoECC. 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 selected on a competitive basis and be subject to IFAD no-objection. Under the guidance of the PSC and the supervision of IFAD, and in close coordination with the MoECC and other technical ministries, SADAR will be responsible for the day-to-day implementation of the three technical components of the Project. SADAR will also manage and coordinate project activities, and ensure reporting to the MoECC, the PSC and IFAD; and following the reporting requirements of the Adaptation Fund.

171. Executing Entity. The project will be executed by SADAR. SADAR is a Horn of Africa region-based organization focused on economic empowerment, climate-smart agriculture, and holistic development. SADAR is specialized in implementing multifaceted Resilience programming, conducting extensive research and fostering innovation in pastoral, agropastoral, urban sustainable development, as well as disaster and climate resilience. SADAR presence extends across all regions in Somalia and Djibouti.

Part IV: ENDORSEMENT

A. Record of endorsement on behalf of the Government⁹³

H.E. Amb. Khadidja Mohamed Almakhzoumi Minister, Environment and Climate Change Federal Republic of Somalia	Date: 17th December 2023
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B. Implementing Entity Certification

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans and subject to the approval by the Adaptation Fund Board, <u>commit to implementing the project/programme in compliance with the Environmental and Social Policy and the Gender Policy of the Adaptation Fund</u> and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.	
Implementing Entity coordinator: Mr Juan Carlos Mendoza Casadiegos, Director, Environment, Climate, Gender and Social Inclusion Division	
Date: 19 December 2023	e-mail: juancarlos.mendoza@ifad.org
Ms Janie Rioux Senior Technical Specialist – Climate Change- AF coordinator ECG division	email: j.rioux@ifad.org
Project contact person: Mr Walid Nasr, Regional Lead Environment and Climate Specialist	
e-mail: w.nasr@ifad.org	
Mr Omar Ebrima Njie, Country Director for Somalia	
e-mail: o.njie@ifad.org	

⁹³ Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

Annex 1: Letter of endorsement by the Government

JAMHUURIYADDA FEDERAALKA SOOMAALIYA
Wasaaradda Deegaanka
& Isbeddelka Cimilada
Xafiiska Wasiirka



جمهورية الصومال الفيدرالية
وزارة البيئة والتغير المناخي
مكتب الوزير

FEDERAL REPUBLIC OF Somalia
MINISTRY OF ENVIRONMENT & CLIMATE CHANGE
Office of the Minister

Ref: MoECC/0363/2023

Date: 2023-12-17

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: afbsec@adaptation-fund.org
Fax: 202 522 3240/5

Subject: Endorsement for the "Green and Resilient Ecosystems for Somali Livelihoods (Hal-abuur)"

In my capacity as designated authority for the Adaptation Fund in the Federal Republic of Somalia, I confirm that the above national project proposal is in accordance with the Government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the Federal Republic of Somalia.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by the International Fund for Agricultural Development (IFAD), and executed by Sadar Development and Resilience Institute (SADAR).

Sincerely,

H.E. Amb. Khadija Mohamed Almakhtoumi
Minister, Ministry of Environment and Climate Change
Federal Republic of Somalia.

Address: Wadajir District, Airport Road, Mogadishu - Somalia
Website: moecc.gov.so | Email: minister@moecc.gov.so

