



Somalia Drought Impact & Needs Assessment

VOLUME III

Federal Member State and
Administrative Region Reports





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Acknowledgments

The DINA was prepared under the overall leadership of the Ministry of Planning, Investment and Economic Development in partnership with the Ministry of Humanitarian Affairs & Disaster Management of the Federal Government of Somalia (FGS), the Federal Member States (FMS) and the Banadir Regional Administration. It was undertaken with strategic support from the World Bank Group, the United Nations and the European Union, within the framework of the 2008 Joint EU-UN-WB Declaration on Post-Crisis Assessments and Recovery Planning. Financial support has been provided by the European Union under the ACP-EU Natural Disaster Risk Reduction program implemented by the WB-led Global Facility for Disaster Reduction and Recovery. Ipsos provided remote sensing and survey support, and Courage Services, Inc. provided remote sensing services.

More than 180 national and international experts from the FGS, FMS, the Banadir Regional Administration, the World Bank, the United Nations and the European Union worked intensively across 18 sector/cross-cutting teams to collect, validate and analyze data, conduct field visits to consult with sub-national authorities, international and national non-governmental organizations and civil society stakeholders, to determine recovery needs and identify interventions for medium-term recovery and long-term resilience.



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Methodology

The Somalia Drought Impact and Needs Assessment (DINA) follows the standard Post-Disaster Needs Assessment (PDNA) methodology developed by the UN System, World Bank and the European Union. This methodology incorporates a collection of analytical methods, tools and techniques developed for post-disaster assessments and recovery planning, ensuring sector to sector comparability and homogeneity in the definition of basic concepts of damages, losses and post-disaster recovery needs. The assessment builds on primary and secondary data related to damage and loss in the identified sectors, which are provided by FGS, FMS and development partners supporting the DINA.

Damage and Loss Quantification: The effects of the drought on each sector have been assessed in terms of damages and losses.

- Damage is defined as total or partial destruction of physical assets existing in the affected area. Damages occur during and immediately after the disaster and are measured in physical units (i.e., number of damaged boreholes, head of livestock, hectares of land, etc.). Their monetary values are expressed as the replacement costs according to prices prevailing just before the event.
- Losses are defined as changes in economic flows arising from the disaster. They occur until full economic recovery and reconstruction is achieved, in some cases lasting for several years, but for the purposes of this assessment, losses have been projected up through December 2017. Typical losses include: the disruption in the production and access to goods and services, disruption in governance, and losses associated with increased or changed risk (for example, in a drought/flood cycle, the increased poverty, malnutrition, livelihoods and welfare losses and less sustainability of life cycles of the affected population).

Classification and Quantification of Recovery Needs: Recovery needs are the costs of recommended interventions and resources that include: the reconstruction needs estimated as the requirements for financing reconstruction, replacement or repair of the physical assets that were damaged or destroyed by the disaster; and recovery needs estimated on the basis of the financial resources required for the rehabilitation of basic services, reactivation of productive activities, or immediate reactivation of personal or household income. Recovery needs also include capacity building and operational costs for service delivery that are necessary for the implementation of interventions. Costing for recovery needs include differentials for building back better to consider quality improvements and DRR measures to be implemented to increase resilience against future disasters. For the purpose of this assessment, recovery needs are classified as short-term (Year 1); medium-term (Years 2-3); and long-term (Years 4+). Short-term recovery needs are distinct from emergency humanitarian needs. Rather than representing emergency lifesaving interventions, short-term recovery needs represent interventions of a developmental nature that need to be implemented in the short-term to have quicker results and impact on the overall recovery program. An example would be the immediate injection of capacity within the Government to lead and coordinate the recovery efforts.

Recovery needs, especially in the case of a slow-onset disaster, are typically and logically valued less than damages and losses, as the largest needs are represented in the humanitarian phase that can continue for an extended period of time. In addition, the cost of inputs required for recovery (such as livestock treatment or seeds) are typically less than the value of outputs lost due to drought (such as cattle mortality decreasing income from export, or crop failure decreasing the volume available for sale).

Data Collection and Validation: When compiling the preliminary findings for the Federal Member States (FMS) and Regional Administration, the DINA team utilized secondary data from various sources and international partners such as UNOCHA, UNDP, FAO and the World Bank, as well as primary data from remote sensing analytics and household surveys. Data was analyzed by sector specialists to determine each sector's damages, losses, and needs estimates. The data was then disaggregated by pre-war region and aggregated by FMS and Regional Administration.

The Ministry of Planning, Investment and Economic Development (MoPIED) and UN colleagues coordinated field visits to five Federal Member States: Galmudug, Hirshabelle, Jubaland, Puntland and South West, and consultations with Banadir Regional Administration authorities. The visits comprised consultations with state-level line ministries, UN agencies operational in the states, and representatives of civil society regarding data collection, needs assessment and recovery strategies.

Introduction

The latest in a cycle of devastating protracted dry spells over the last 25 years, the current drought and the resulting humanitarian emergency have worsened existing humanitarian and development challenges in Somalia. Decades of insecurity, political instability, drought and food insecurity have disrupted desperately needed services, devastated human capital and physical infrastructure, and contributed to systematic impoverishment and displacement of the population.

The ongoing 2016-17 drought has plunged the majority of the population into food insecurity. At the peak of the drought, an estimated 6.7 million people – more than half of the population – were acutely food insecure and in need of humanitarian assistance.¹ The below average rainfall has resulted in a significant depletion of water resources for agricultural consumption and livestock body conditions have deteriorated substantially. Food insecurity and scarcity of drinking water, coupled with displacement, has contributed to a stark rise in malnutrition and water-borne disease.

The impact of drought on the Somali people is informed by an interrelated set of factors that include the environment, governance, conflict, displacement and poverty. This confluence of factors has created an exceedingly complex crisis in the Horn of Africa, and it demands an equally complex analysis of the underlying drivers of drought, their impact on the Somali people and the strategies that can pave the way toward recovery and resilience.

The Somalia Drought Impact and Needs Assessment (DINA), a process led by the Federal Government of Somalia (FGS) and Federal Member States (FMS), with technical and financial support by the World Bank (WB), United Nations (UN) and European Union (EU), aims to reduce the country's vulnerability to climate shocks, strengthen resilience and significantly reduce the future risk of famine in Somalia.

Volume III of the DINA presents a breakdown of overall damages, losses and recovery needs by FMS and administrative region, as well as sector-specific disaggregation of data. The FMS-level annexes serve an important purpose in capturing state-level needs, which will in turn inform the development of the Recovery and Resilience Framework (RRF) to operationalize the findings of the DINA. The state-level findings have been validated by the FMS/administrative region through a process of engagement and consensus-building. Each report presents:

- An overview of pre-drought conditions
- The drought impact
- Key findings from field visits and consultations
- The drought recovery needs

¹ UNOCHA. 2017. Somali: Humanitarian Dashboard – July 2017.

Banadir

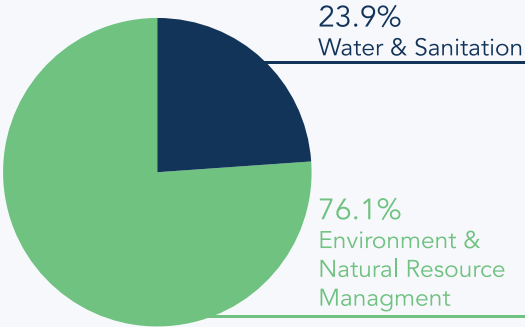
Overview and Pre-Drought Conditions

The Banadir Regional Administration (BRA) contains Somalia’s capital city of Mogadishu. Banadir is centrally located and served by the largest port and airport in the Somali peninsula. Banadir has the potential to be a logistical hub for the entire Horn of Africa as it is home to a number of financial institutions and is the first port of call for international shipping. Banadir has the potential to establish strong trading bodies for the import and export of goods, as well as continued refurbishment and expansion of logistical networks to develop the region’s potential as a trade and services center, increasing the share of these services as part of the region’s economic activity.² Banadir is the main financial resource for the Federal Government of Somalia through tax collection from the port and the airport, as well as levies collected from homeowners and businesses.

DINA Findings: Drought Impact³

With damages amounting to USD 3.4 million and losses estimated at USD 6.3 million, the total effects of the drought on Banadir are expected to exceed USD 9.8 million. There are no damages or losses reported in the productive sector (Irrigated & Rain-fed Crops, Livestock and Fisheries), while the physical (Water & Sanitation, Environment and Transport), social (Health, Nutrition and Education), and cross-cutting themes make up 53.2 percent, 20.2 percent, and 26.6 percent of the total effects, respectively. The three most affected sectors are Environment & Natural Resource Management, Livelihoods & Employment, and Water Supply & Sanitation, comprising 33.1 percent, 26.6 percent, and 20.1 percent of the total effects, respectively. A breakdown of damages and losses⁴ for Banadir can be found below:

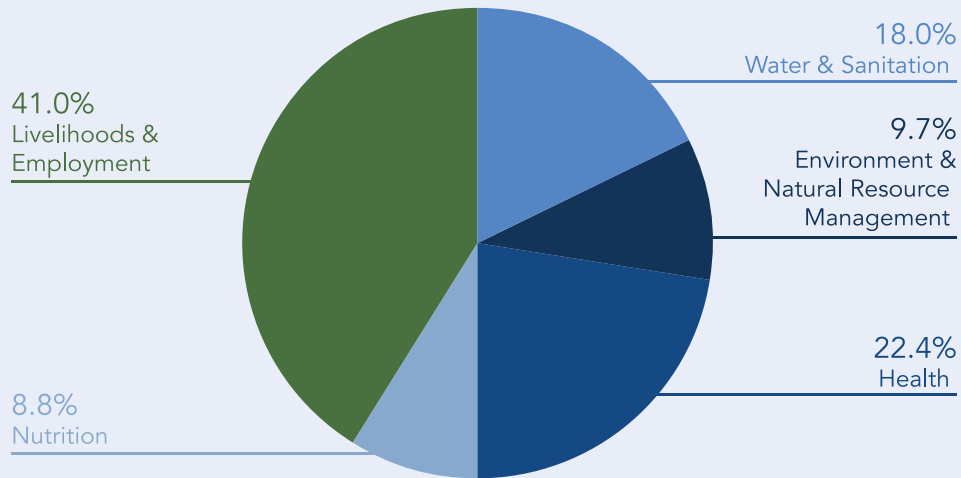
Figure 1: Distribution of Banadir Damages



² Federal Government of Somalia. 2016. National Development Plan (2017-2019).
³ Unlike assessments following rapid onset disasters, drought assessments typically show larger economic losses than physical damages since the drought impact is predominantly felt in economic terms rather than physical impact. The combined damages and losses in turn are typically greater than the recovery needs, particularly in the case of Somalia where many of the biggest immediate needs in food security, nutrition and social protection are covered by the HRP and not the DINA. In addition, the cost of inputs required for recovery is typically less than the value of outputs lost due to drought.
⁴ Damages are defined as total or partial destruction of physical assets existing in the affected area. Damages occur during and immediately after the disaster. Their monetary values are expressed as the replacement costs according to prices prevailing just before the event. Losses are defined as changes in economic flows arising from the disaster. They occur until full economic recovery and reconstruction is achieved, in some cases lasting for several years, but for the purposes of this assessment, losses have been projected up to January 2018. Typical losses include the decline in output in productive sectors (agriculture, livestock, and fisheries).



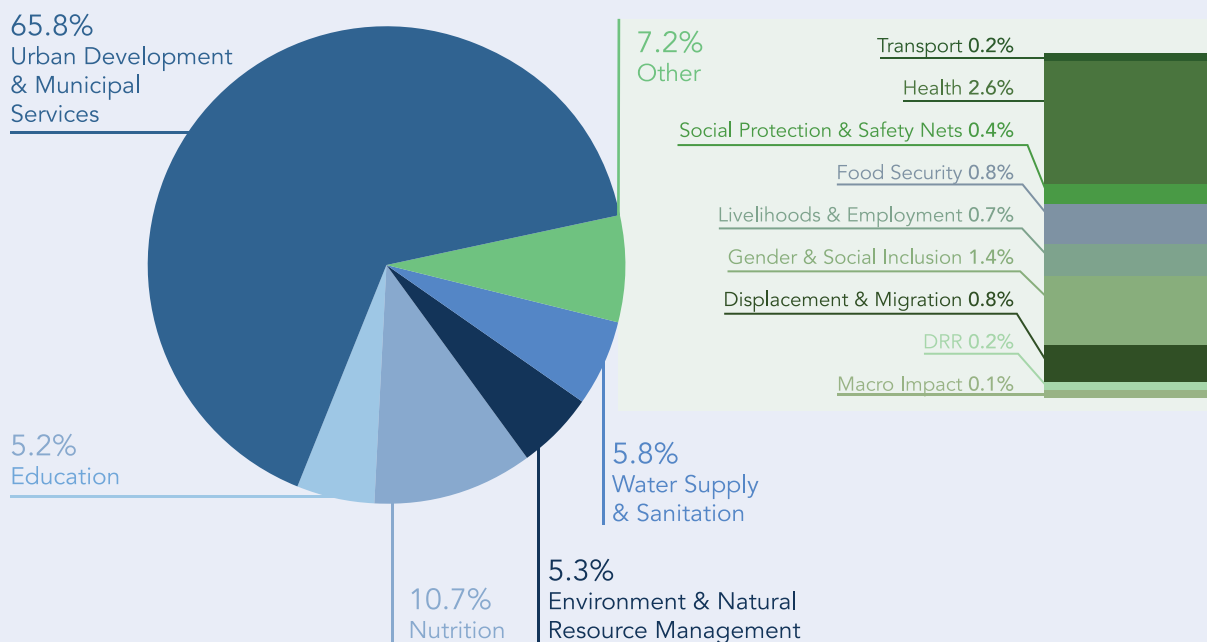
Figure 2: Distribution of Banadir Losses



DINA Findings: Recovery Needs

Total recovery needs are estimated at USD 173.4 million. Of the sectors, Urban Development and Municipal Services makes up a majority (66.2 percent) of the total needs. Some of the other sectors, ranked in terms of needs, are Nutrition (10.8 percent), Water Supply and Sanitation (5.8 percent), Education (5.3 percent), and Environment and Natural Resource Management (5.3 percent).

Figure 3: Distribution of Banadir Needs



DINA Field Visits and Consultations: Key Findings

The Banadir Regional Administration comprises the capital of Somalia, Mogadishu, and is the second fastest growing city in the world, creating unique needs for the region. The following sectors have been prioritized in terms of needs in the Banadir region:

Agriculture – Fisheries: Provision of fishing kits and the development of fish landing sites are a pressing need. The development of the dried fish industry as well as cold storage facilities are required.

Water Supply and Sanitation: Sustained, accessible and affordable, clean potable water is needed for all households and IDP camps/shelters. Water testing kits are required for water quality testing, for both drinking water and fishing.

Transport: Most roads in the area have been damaged due to conflict and lack of maintenance. Flooding and water-borne diseases are rampant due to insufficient drainage. Therefore, roads and drainage systems need rehabilitation. Provision of vehicles for public and emergency transport services also needs to be considered.

Environment, Clean Energy and Natural Resource Management: Pollution is an issue due to the use of charcoal for cooking, and the widespread burning of garbage. More solar and wind turbines are required to provide renewable energy. A more sustainable garbage disposal system also needs to be established.

Health: At least two new hospitals are required to serve Mogadishu's growing population. Mobile clinics are also needed.

Education: The rehabilitation and reconstruction of schools are required, along with textbooks and school nutritional programs. Mobile schooling is a need for IDP settlements and for areas that do not have functional schools.

The following cross-cutting issues also need to be considered: very high rates of youth unemployment require more job creation in terms of promoting small industries and micro-finance programs. Furthermore, the large numbers of IDPs are straining already scarce government services and resources and, therefore, require livelihood, education, employment and health assistance. Drought-mitigating factors need to be considered, especially in the areas of food security and self-reliance for the region. In terms of governance, reconciliation structures and processes need to be promoted. Consultative processes are required to explore the status of Banadir and nature of representation in the system of government moving forward.



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Annex 1: Total Damages, Losses and Needs for Banadir⁵

Table 1: Total Damages, Losses, and Needs for Banadir			
	Cost (USD)		
	Damages	Losses	Needs
Productive Sectors			
Agriculture - Irrigated and Rain-fed Crops	-	-	-
Agriculture - Livestock	-	-	-
Agriculture - Fisheries	-	-	-
Productive Sectors Total	-	-	-
Physical Sectors			
Water Supply & Sanitation	823,000	1,137,812	10,041,000
Transport	-	-	266,667
Environment & Natural Resource Management	2,617,747	611,275	9,214,084
Physical Sectors Total	3,440,747	1,749,087	19,521,751
Social Sectors			
Health	-	1,416,994	4,562,929
Nutrition	-	557,113	18,656,197
Education	-	-	9,157,322
Social Sectors Total	-	1,974,107	32,376,447
Cross-cutting Issues			
Urban Development & Municipal Services	-	-	114,820,536
Social Protection & Safety Nets	-	-	732,389
Food Security	-	-	1,408,889
Livelihoods & Employment	-	2,590,120	1,227,778
Gender & Social Inclusion	-	-	2,455,556
Governance	-	-	-
Conflict	-	-	-
Displacement & Migration	-	-	1,444,444
DRR	-	-	277,778
Macro Impact	-	-	194,444
Cross-cutting Issues Total	-	2,590,120	122,561,814
Grand Total	3,440,747	6,313,315	174,460,011

⁵ Governance needs are pending a determination of functional assignments within Government on drought recovery.

Annex 2: Detailed Sector Damages, Losses and Needs Tables for Banadir

Table 2: Detailed Sector Damages, Losses and Needs Tables for Banadir	
DAMAGES	COST
Water Supply & Sanitation	
Boreholes	760,000
Shallow Wells	63,000
Total	823,000
Environment & Natural Resource Management	
Xeric shrublands and grasslands desiccated	208,782
Tree cover loss in montane xeric woodlands	2,301,000
Soils eroded (wind erosion, tons)	3,728
Loss of soil fertility and associated functions	31,317
Reduction in yields of cereals and legumes	3,107
Trees lost as a result of increased charcoal production	69,813
Total	2,617,747
LOSSES	COST
Water Supply & Sanitation	
Additional cost of water sold from Boreholes	1,035,920
Supplementation cost of water from dried, free sources	101,892
Total	1,137,812
Environment & Natural Resource Management	
Xeric shrublands and grasslands desiccated	289,975
Tree cover loss in montane xeric woodlands	255,667
Soils eroded (wind erosion, tons)	7,457
Trees lost as a result of increased charcoal production	58,177
Total	611,275
Health	
Increased Incidence of Cholera	159,785
Increased Primary-basic Healthcare costs	1,158,434
Increased Incidence of Measles	98,776
Total	1,416,994
Nutrition	
Increased Cost of treating General Acute Malnutrition	397,853
Increased Cost of treating Severe Acute Malnutrition	159,260
Total	557,113
Livelihoods & Employment	
Transporters	1,163,160
Petty Traders	363,280

Milk Traders	1,057,532
Skins and Hides	6,148
Total	2,590,120
NEEDS	COST
Water Supply & Sanitation	
Construction of new Boreholes	4,277,778
Rehabilitation of Boreholes	844,444
Construction of new Shallow wells	107,500
Rehabilitation of Shallow wells	121,333
Construction of new Berkads	11,278
Rehabilitation of Berkads	12,000
Urban/Rural sanitation (drainage, sewage, and solid waste management)	2,777,778
Institutional strengthening and Capacity building	1,888,889
Total	10,041,000
Transport	
Construction and Rehabilitation of Roads	266,667
Total	266,667
Environment & Natural Resource Management	
Immediate capacity building of government forest rangers	111,111
Immediate re-seeding of selected rangelands with fast-growing grass species	277,778
Setting up germplasm mother blocks (seed production zones for indigenous fruit tree species)	277,778
Improvement of energy efficiency of existing charcoal carbonization and kilning systems	444,444
Scaling up evergreen agriculture by integrating with trees-on-farm agroforestry systems and ISFM	666,667
Development of legislation to support zoning of wildlife parks, migratory corridors	55,556
Training forest end users on sustainable extractive techniques for NWFPs	277,778
Technical capacity improvement of Somali government - remote sensing, GIS, national lab	222,222
Capital expenditure costs for setting up LPG plant in Mogadishu and Bossaso	6,000,000
Rehabilitation of selected gullies and other severely degraded ecosystems	444,444
Promoting wide-scale adoption of low-cost integrated soil fertility management (ISFM) for improving soil resources	166,667
Assisting the Somali government with the development of a biomass energy policy	166,667
Macro Component 1.1: Develop a Power Master Plan	47,417
Macro Component 1.6: Cross-border Electrification and Interconnector Study (being designed for approval)	55,556
Total	9,214,084

Health	
Engaging the public in promotion of health, hygiene and safe drinking water, sanitation, environmental hygiene, food safety, and safe waste disposal	228,788
Promoting food-borne diseases laboratory-based surveillance by developing food safety guidelines and interventions	228,788
Introducing standardized rapid diagnostic technologies for prevalent communicable diseases	137,273
Active disease surveillance and early warning system	228,788
Prepositioning medical supplies and kits to undertake coordinated rapid response	228,788
Establishing an effective health information system that provides accurate and timely health data for evidence planning and implementation supported by monitoring and evaluation	137,273
Increasing cholera treatment centers in all regions	457,576
Promoting participation in improving public health at community level	228,788
Ensure availability of essential medicines, vaccines, and commodities	1,222,621
Establishing emergency response services	228,788
Ensuring immunization of all children and pregnant women against the major child killer diseases	457,576
Deploying more health care workers that are competent on tasks and treat patients with dignity, respect, and compassion	320,303
Supporting fixed and mobile clinics	457,576
Total	4,562,929
Nutrition	
Surveillance and M&E operations	1,865,620
Mobile clinic and Nutrition rehabilitation vans	3,731,239
Vitamin A Supplementation	279,843
People living with HIV and AIDS	373,124
Deworming	279,843
Capacity building	2,798,430
Procurement of material and rehabilitation	3,731,239
Health promotion and community mobilization	1,865,620
Implementation and operational support	3,731,239
Total	18,656,197
Education	
Learning spaces	4,030,000
Teachers	2,704,800
Learning materials/ kits	911,272
CEC structures to be supported	604,500
Data Tracking Costs	906,750
Total	9,157,322

Urban Development & Municipal Services	
Shelter	39,775,500
Education	11,603,810
Health	730,319
Water and Sanitation	3,212,387
Jobs	57,998,520
Institutional Strengthening	1,500,000
Total	114,820,536
Social Protection & Safety Nets	
Injection of minimum capacity in MoHADM and MoPIED	9,333
Social Protection Policy and Framework, Vulnerability Analysis, Capacity Development of Government, Communication Strategy	84,167
Database Inventory and Analysis	5,556
Design of pilot incl. registry, targeting methodology, transfer systems, monitoring systems, grievance mechanism, vetting	277,778
Pilot of system in select geographic areas (incl. urban and rural) targeting 100,000	355,556
Total	732,389
Food Security	
Continued Humanitarian Assistance for Drought affected People	1,111,111
Livelihood Support for Drought affected People	277,778
Support for the development of a national food security strategy	6,667
Support for the development of a national poverty reduction strategy	13,333
Total	1,408,889
Livelihoods & Employment	
Support to Women and Youth to engage in the renewable energy sector	1,111,111
Support to Govt. Institutions to improve and/or establish Labor Market Information Services	105,556
Support To FGS and Federal State Govts to coordinate the E&L sector	11,111
Total	1,227,778
Gender & Social Inclusion	
Implementation of sex, age disaggregated data (SADD) and gender analysis tools	238,889
Gender-responsive governance and promote women's participation and leadership	244,444
Promote gender equality in disaster risk reduction	194,444
Women sustainable economic and livelihoods development	1,583,333
Gender based Violence (GBV) and targeted responses	194,444
Total	2,455,556
Governance	
Total	TBD
Displacement & Migration	

Collection of sex and age disaggregated profile data of displaced and returning populations	111,111
Monitoring costs (social cohesion, displacement movements, etc.)	27,778
IDP personal identity documentation and civil registration	55,556
Capacity building of state and local authorities to promote recovery and resilience of IDP populations	55,556
Support Community-based participatory planning processes	111,111
Support for the participation in civic life, dispute resolution and peaceful co-existence in displacement affected areas.	55,556
Promoting land tenure security through improved policies and frameworks, including improved land use planning	27,778
Development and adoption of federal policy on internal displacement and reintegration of returnees	27,778
Assessment of conditions for safe return through area-based solutions analysis	27,778
Collect population profile data on remote/rural	55,556
Skills development and livelihoods restoration	666,667
Support for market access and strengthened value chains for partial returns (including those with family member remaining in urban areas)	55,556
Support the establishment and strengthening of local authorities	55,556
Communication and sensitization to support re/integration of IDPs and to enable participation in civic life, dispute resolution and peaceful co-existence.	55,556
Establish/strengthen transparent dispute resolution mechanism to manage land disputes	55,556
Total	1,444,444
DRR	
DRM Policy, Legislation and Institutional Harmonization	23,611
Capacity building of National DRM institutions	87,500
Early warning and information management system.	118,056
Drought Management system	48,611
Total	277,778
Macro Impact	
Component 2.1: Mobile money for drought response	111,111
Component 2.2: Regulatory support for the ICT Sector	22,222
Component 2.3: Developing a National ID system	5,556
Component 3: Financial Services	55,556
Total	194,444

Galmudug

Overview and Pre-Drought Conditions

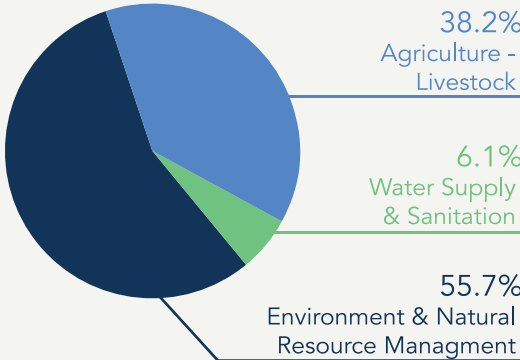
The state of Galmudug comprises the Galgaduud region and the southern portion of the Mudug region, with the regional capital located in Dhusamareb. The largest city is Galkayo, which is jointly administered by Galmudug and Puntland.

Galmudug is one of the newest formed states located in the center of Somalia and has the potential to expand and develop a strong livestock exportation industry with focus on sustainable range management, exploitation of subsurface water resources and development of standardized market facilities. Additionally, Galmudug has untapped mineral deposits, such as meerschaum, fluor spar, and uranium deposits, that are expected to be second in richness only to those found in Australia.⁶

DINA Findings⁷: Drought Impact⁸

With damages amounting to USD 127 million and losses estimated at USD 269 million, the total effects of the drought in Galmudug are expected to exceed USD 395 million. The productive sector (Irrigated & Rain-fed Crops, Livestock and Fisheries) accounts for 60.1 percent of all the effects, while the physical (Water & Sanitation, Environment and Transport), social (Health, Nutrition and Education), and cross-cutting themes make up 37.8 percent, 1.1 percent, and 1 percent, respectively. The two most affected sectors are Livestock, and Environment & Natural Resource Management, comprising 58.3 percent and 35.4 percent of the total effects, respectively. A breakdown of damages and losses⁹ for Galmudug can be found below:

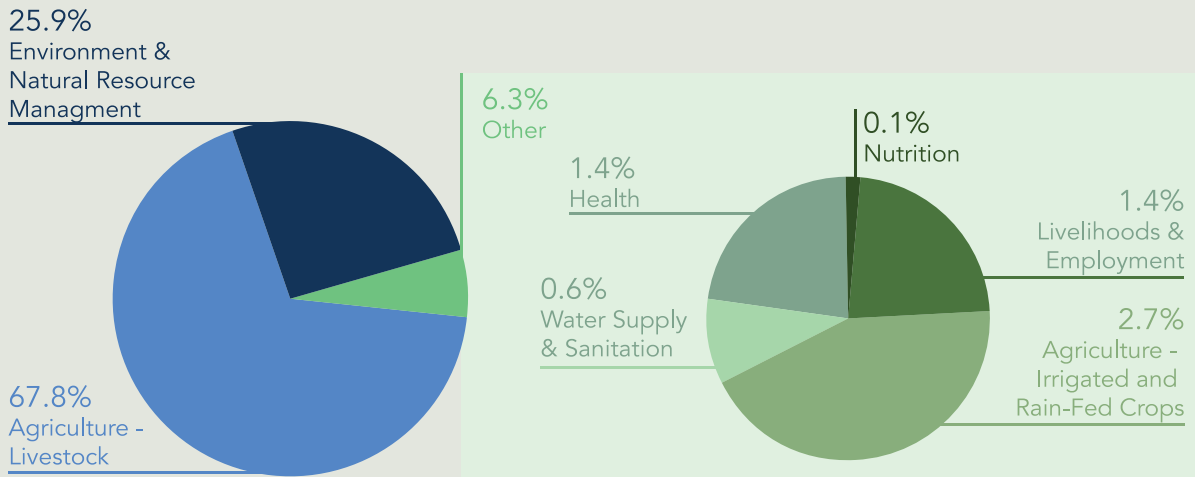
Figure 4: Distribution of Galmudug Damages



⁶ Federal Government of Somalia. 2016. National Development Plan (2017-2019).
⁷ This report is based on regionally disaggregated data for Galgaduud region and the southern half of Mudug region. The inclusion or exclusion of regions in a given FMS does not imply any judgment on the part of the authors of this report on the legal status of any territory or the endorsement or acceptance of such boundaries.
⁸ Unlike assessments following rapid onset disasters, drought assessments typically show larger economic losses than physical damages since the drought impact is predominantly felt in economic terms rather than physical impact. The combined damages and losses in turn are typically greater than the recovery needs, particularly in the case of Somalia where many of the biggest immediate needs in food security, nutrition and social protection are covered by the HRP and not the DINA. In addition, the cost of inputs required for recovery is typically less than the value of outputs lost due to drought.
⁹ Damages are defined as total or partial destruction of physical assets existing in the affected area. Damages occur during and immediately after the disaster. Their monetary values are expressed as the replacement costs according to prices prevailing just before the event. Losses are defined as changes in economic flows arising from the disaster. They occur until full economic recovery and reconstruction is achieved, in some cases lasting for several years, but for the purposes of this assessment, losses have been projected up to January 2018. Typical losses include the decline in output in productive sectors (agriculture, livestock, and fisheries).



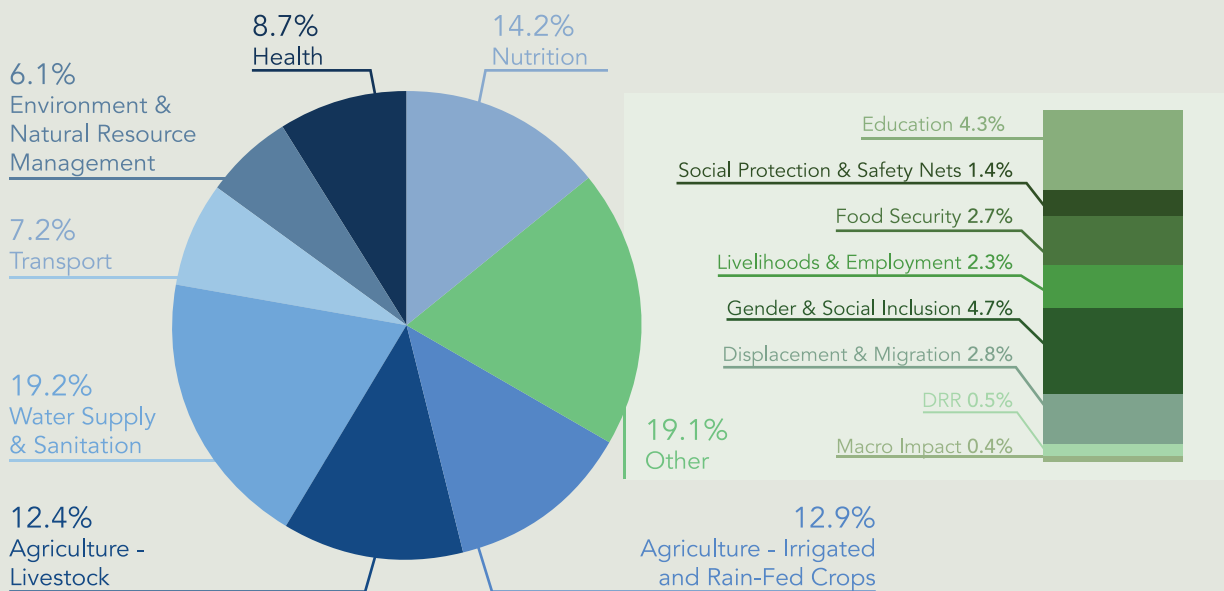
Figure 5: Distribution of Galmudug Losses



DINA Findings: Recovery Needs

Total recovery needs are estimated at USD 81.3 million. Of the sectors, Water Supply & Sanitation have the most needs, representing 18.5 percent of total needs, followed by Nutrition (13.7 percent), Irrigated and Rain-fed Crops (12.5 percent), Livestock (12 percent), and Health (12 percent).

Figure 6: Distribution of Galmudug Needs





DINA Field Visits and Consultations: Key Findings

The Ministry of Planning, Investment and Economic Development (MoPIED) and UN colleagues coordinated a field visit to Adado to undertake consultations with state-level line ministries, UN agencies operational in the state, and civil society representatives, regarding data collection, needs assessment and recovery strategies. Based on these consultations, the following sectors in Galmudug State were identified as having been severely affected by the drought:

Agriculture – Livestock: Livestock is the main source of income and food in the state. More than six out of 10 of the livestock population was lost during the drought. The absence of pasture and fodder has been identified as the main reason for damages and losses in this sector. The introduction of drought-resilient pasture has been identified as a need in the state. The establishment of sufficient water sources and water catchments is also a necessary intervention.

Education: 25 out of 125 education centers were closed due to the drought. The pre-drought enrollment numbers were estimated at 27,156 students, and 18 percent of this has been estimated to have dropped out due to the drought. Of this 10 percent were boys and 9 percent girls. The impact of the drought, urban migration, conflict, and the absence of school feeding programs were identified as main factors for the drop-outs.

Annex 3: Total Damages, Losses and Needs for Galmudug¹⁰

Table 3: Total Damages, Losses, and Needs for Galmudug			
	Cost (USD)		
	Damages	Losses	Needs
Productive Sectors			
Agriculture - Irrigated and Rain-fed Crops	-	7,223,511	10,147,059
Agriculture - Livestock	48,431,532	182,061,475	9,749,471
Agriculture - Fisheries	-	-	-
Productive Sectors Total	48,431,532	189,284,986	19,896,529
Physical Sectors			
Water Supply & Sanitation	7,718,500	1,706,718	15,061,500
Transport	-	-	5,675,000
Environment & Natural Resource Management	70,563,492	69,595,035	4,821,126
Physical Sectors Total	78,281,992	71,301,753	25,557,626
Social Sectors			
Health	-	3,863,894	6,844,393
Nutrition	-	342,019	11,122,204
Education	-	-	3,364,183
Social Sectors Total	-	4,205,914	21,330,780
Cross-cutting Issues			
Urban Development & Municipal Services	-	-	-
Social Protection & Safety Nets	-	-	1,098,583
Food Security	-	-	2,113,333
Livelihoods & Employment	-	3,885,181	1,841,667
Gender & Social Inclusion	-	-	3,683,333
Governance	-	-	-
Conflict	-	-	-
Displacement & Migration	-	-	2,166,667
DRR	-	-	416,667
Macro Impact	-	-	291,667
Cross-cutting Issues Total	-	3,885,181	11,611,917
Grand Total	126,713,524	268,677,833	78,396,852

¹⁰ Governance needs are pending a determination of functional assignments within Government on drought recovery.

Annex 4: Detailed Sector Damages, Losses and Needs Tables for Galmudug

Table 4: Detailed Sector Damages, Losses and Needs Tables for Galmudug	
DAMAGES	COST
Agriculture - Livestock	
Camels	25,845,261
Sheep and Goats	22,586,272
Total	48,431,532
Water Supply & Sanitation	
Boreholes	6,950,000
Shallow Wells	581,500
Berkads	187,000
Total	7,718,500
Environment & Natural Resource Management	
Xeric shrublands and grasslands desiccated	29,304,000
Tree cover loss in montane xeric woodlands	3,451,500
Expansion of land colonized by <i>Prosopis juliflora</i>	18,000
Soils eroded (wind erosion, tons)	175,500
Loss of soil fertility and associated functions	4,395,600
Reduction in yields of cereals and legumes	146,250
Trees lost as a result of increased charcoal production	33,072,642
Total	70,563,492
LOSSES	COST
Agriculture - Irrigated and Rain-fed Crops	
Cowpeas	3,366,833
Sorghum	99,267
Papaya	547,851
Tomatoes	3,176,226
Onions	33,333
Total	7,223,511
Agriculture - Livestock	
Camel Milk	73,423,510
Cow Milk	735,060
Sheep and Goat Milk	11,289,397
Camel Live Weight/Value	53,068,935
Cattle Live Weight/Value	329,507
Sheep and Goat Live Weight/Value	43,215,066
Total	182,061,475

Water Supply & Sanitation	
Additional cost of water sold from Boreholes	1,553,880
Supplementation cost of water from dried, free sources	152,838
Total	1,706,718
Environment & Natural Resource Management	
Xeric shrublands and grasslands desiccated	40,700,000
Tree cover loss in montane xeric woodlands	383,500
Expansion of land colonized by Prosopis juliflora	600,000
Soils eroded (wind erosion, tons)	351,000
Trees lost as a result of increased charcoal production	27,560,535
Total	69,595,035
Health	
Increased Incidence of Cholera	125,419
Increased Primary-basic Healthcare costs	3,711,713
Increased Incidence of Measles	26,762
Total	3,863,894
Nutrition	
Increased Cost of treating General Acute Malnutrition	282,802
Increased Cost of treating Severe Acute Malnutrition	59,218
Total	342,019
Livelihoods & Employment	
Transporters	1,744,740
Petty Traders	544,920
Milk Traders	1,586,298
Skins and Hides	9,222
Total	3,885,181
NEEDS	COST
Agriculture - Irrigated and rain-fed Crops	
Water and watershed management	10,147,059
Total	10,147,059
Agriculture - Livestock	
Veterinary services development	7,477,412
Feed development	352,941
Restocking with focus in southcentral regions	529,412
Rehabilitation of livestock water infrastructures	352,941
Rangeland management	441,176
Capacity Development	176,471
Poultry Production	110,294
Bee keeping	88,235

Genetic research and breeding	220,588
Total	9,749,471
Water Supply & Sanitation	
Construction of new Boreholes	6,416,667
Rehabilitation of Boreholes	1,266,667
Construction of new Shallow wells	161,250
Rehabilitation of Shallow wells	182,000
Construction of new Berkads	16,917
Rehabilitation of Berkads	18,000
Urban/Rural sanitation (drainage, sewage, and solid waste management)	4,166,667
Institutional strengthening and Capacity building	2,833,333
Total	15,061,500
Transport	
Construction and Rehabilitation of Roads	5,675,000
Total	5,675,000
Environment & Natural Resource Management	
Immediate capacity building of government forest rangers	166,667
Immediate re-seeding of selected rangelands with fast-growing grass species	416,667
Setting up germplasm mother blocks (seed production zones for indigenous fruit tree species)	416,667
Improvement of energy efficiency of existing charcoal carbonization and kilning systems	666,667
Scaling up evergreen agriculture by integrating with trees-on-farm agroforestry systems and ISFM	1,000,000
Development of legislation to support zoning of wildlife parks, migratory corridors	83,333
Training forest end users on sustainable extractive techniques for NWFPs	416,667
Technical capacity improvement of Somali government - remote sensing, GIS, national lab	333,333
Rehabilitation of selected gullies and other severely degraded ecosystems	666,667
Promoting wide-scale adoption of low-cost integrated soil fertility management (ISFM) for improving soil resources	250,000
Assisting the Somali government with the development of a biomass energy policy	250,000
Macro Component 1.1: Develop a Power Master Plan	71,126
Macro Component 1.6: Cross-border Electrification and Interconnector Study (being designed for approval)	83,333
Total	4,821,126
Health	
Engaging the public in promotion of health, hygiene and safe drinking water, sanitation, environmental hygiene, food safety, and safe waste disposal	343,182
Promoting food-borne diseases laboratory-based surveillance by developing food safety guidelines and interventions	343,182
Introducing standardized rapid diagnostic technologies for prevalent communicable diseases	205,909

Active disease surveillance and early warning system	343,182
Prepositioning medical supplies and kits to undertake coordinated rapid response	343,182
Establishing an effective health information system that provides accurate and timely health data for evidence planning and implementation supported by monitoring and evaluation	205,909
Increasing cholera treatment centers in all regions	686,365
Promoting participation in improving public health at community level	343,182
Ensure availability of essential medicines, vaccines, and commodities	1,833,932
Establishing emergency response services	343,182
Ensuring immunization of all children and pregnant women against the major child killer diseases	686,365
Deploying more health care workers that are competent on tasks and treat patients with dignity, respect, and compassion	480,455
Supporting fixed and mobile clinics	686,365
Total	6,844,393
Nutrition	
Surveillance and M&E operations	1,112,220
Mobile clinic and Nutrition rehabilitation vans	2,224,441
Vitamin A Supplementation	166,833
People living with HIV and AIDS	222,444
Deworming	166,833
Capacity building	1,668,331
Procurement of material and rehabilitation	2,224,441
Health promotion and community mobilization	1,112,220
Implementation and operational support	2,224,441
Total	11,122,204
Education	
Learning spaces	1,480,000
Teachers	995,400
Learning materials/ kits	333,783
CEC structures to be supported	222,000
Data Tracking Costs	333,000
Total	3,364,183
Social Protection & Safety Nets	
Injection of minimum capacity in MoHADM and MoPIED	14,000
Social Protection Policy and Framework, Vulnerability Analysis, Capacity Development of Government, Communication Strategy	126,250
Database Inventory and Analysis	8,333
Design of pilot incl. registry, targeting methodology, transfer systems, monitoring systems, grievance mechanism, vetting	416,667
Pilot of system in select geographic areas (incl. urban and rural) targeting 100,000	533,333
Total	1,098,583

Food Security	
Continued Humanitarian Assistance for Drought affected People	1,666,667
Livelihood Support for Drought affected People	416,667
Support for the development of a national food security strategy	10,000
Support for the development of a national poverty reduction strategy	20,000
Total Needs	2,113,333
Livelihoods & Employment	
Support to Women and Youth to engage in the renewable energy sector	1,666,667
Support to Govt. Institutions to improve and/or establish Labor Market Information Services	158,333
Support to FGS and Federal State Govts to coordinate the E&L sector	16,667
Total	1,841,667
Gender & Social Inclusion	
Implementation of sex, age disaggregated data (SADD) and gender analysis tools	358,333
Gender-responsive governance and promote women's participation and leadership	366,667
Promote gender equality in disaster risk reduction	291,667
Women sustainable economic and livelihoods development	2,375,000
Gender based Violence (GBV) and targeted responses	291,667
Total	3,683,333
Governance	
Total	TBD
Displacement & Migration	
Collection of sex and age disaggregated profile data of displaced and returning populations	166,667
Monitoring costs (social cohesion, displacement movements, etc.)	41,667
IDP personal identity documentation and civil registration	83,333
Capacity building of state and local authorities to promote recovery and resilience of IDP populations	83,333
Support Community-based participatory planning processes	166,667
Support for the participation in civic life, dispute resolution and peaceful co-existence in displacement affected areas.	83,333
Promoting land tenure security through improved policies and frameworks, including improved land use planning	41,667
Development and adoption of federal policy on internal displacement and reintegration of returnees	41,667
Assessment of conditions for safe return through area-based solutions analysis	41,667
Collect population profile data on remote/rural	83,333
Skills development and livelihoods restoration	1,000,000
Support for market access and strengthened value chains for partial returns (including those with family member remaining in urban areas)	83,333
Support the establishment and strengthening of local authorities	83,333

Communication and sensitization to support re/integration of IDPs and to enable participation in civic life, dispute resolution and peaceful co-existence.	83,333
Establish/strengthen transparent dispute resolution mechanism to manage land disputes	83,333
Total	2,166,667
DRR	
DRM Policy, Legislation and Institutional Harmonization	35,417
Capacity building of National DRM institutions	131,250
Early warning and information management system.	177,083
Drought Management system	72,917
Total	416,667
Macro Impact	
Component 2.1: Mobile money for drought response	166,667
Component 2.2: Regulatory support for the ICT Sector	33,333
Component 2.3: Developing a National ID system	8,333
Component 3: Financial Services	83,333
Total	291,667



Hirshabelle

Overview and Pre-Drought Conditions

Hirshabelle State is comprised of the Hiiraan and Middle Shabelle regions. The capital of the state is Jowhar.

Historically, the Hiiraan and Middle Shabelle areas served as the breadbasket for Somalia.¹¹ Hirshabelle benefits from three elements: the Shabelle River running the length of the state, geographical access to the large markets of Mogadishu and Ethiopia, and a long coastline with well-established artisanal fishing communities. Hirshabelle has the capacity for the development of large irrigated agricultural projects and the rehabilitation and reestablishment of factories such as the Jowhar sugar factory and the Balcad clothes factory that produced tertiary products from the local production of sugar and cotton.

Due to the Shabelle River, the land across Hirshabelle is typically fertile in non-drought conditions and can be used to produce a range of agricultural produce

including fruits, wheat, barley, rice, sugarcane and cotton. The livestock industry benefits from a variety of livestock as well as fodder and water.

DINA Findings¹²: Drought Impact¹³

With damages amounting to USD 78 million and losses estimated at USD 195 million, the total effects of the drought in Hirshabelle are expected to exceed USD 273 million. The productive sector (Irrigated & Rain-fed Crops, Livestock and Fisheries) accounts for 59.1 percent of all the effects, while the physical (Water & Sanitation, Environment and Transport), social (Health, Nutrition and Education), and cross-cutting themes make up 36.9 percent, 2.1 percent, and 1.9 percent, respectively. The two most affected sectors are Livestock and Environment & Natural Resource Management, comprising 46.9 percent and 36 percent of the total effects, respectively. A breakdown of damages and losses¹⁴ for Hirshabelle can be found on page 32.

¹¹ Federal Government of Somalia. 2016. National Development Plan (2017-2019).

¹² This report is based on regionally disaggregated data for Hiraan and Middle Shabelle regions.

¹³ Unlike assessments following rapid onset disasters, drought assessments typically show larger economic losses than physical damages since the drought impact is predominantly felt in economic terms rather than physical impact. The combined damages and losses in turn are typically greater than the recovery needs, particularly in the case of Somalia where many of the biggest immediate needs in food security, nutrition and social protection are covered by the HRP and not the DINA. In addition, the cost of inputs required for recovery is typically less than the value of outputs lost due to drought.

¹⁴ Damages are defined as total or partial destruction of physical assets existing in the affected area. Damages occur during and immediately after the disaster. Their monetary values are expressed as the replacement costs according to prices prevailing just before the event. Losses are defined as changes in economic flows arising from the disaster. They occur until full economic recovery and reconstruction is achieved, in some cases lasting for several years, but for the purposes of this assessment, losses have been projected up to January 2018. Typical losses include the decline in output in productive sectors (agriculture, livestock, and fisheries).



Figure 7: Distribution of Hirshabelle Damages

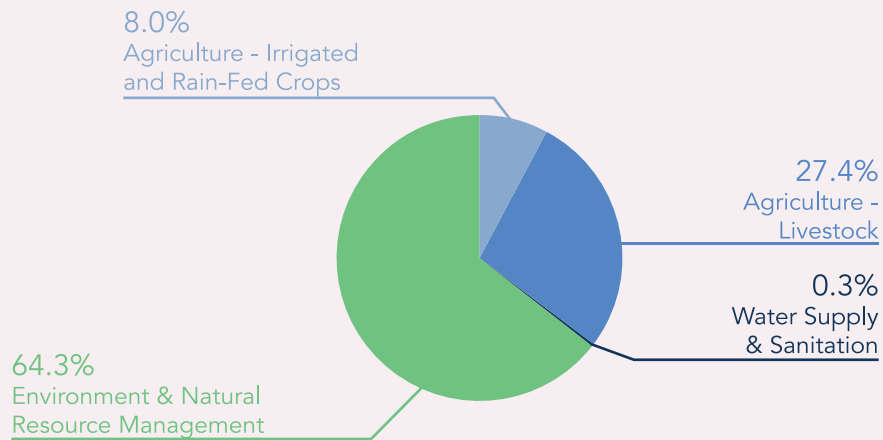
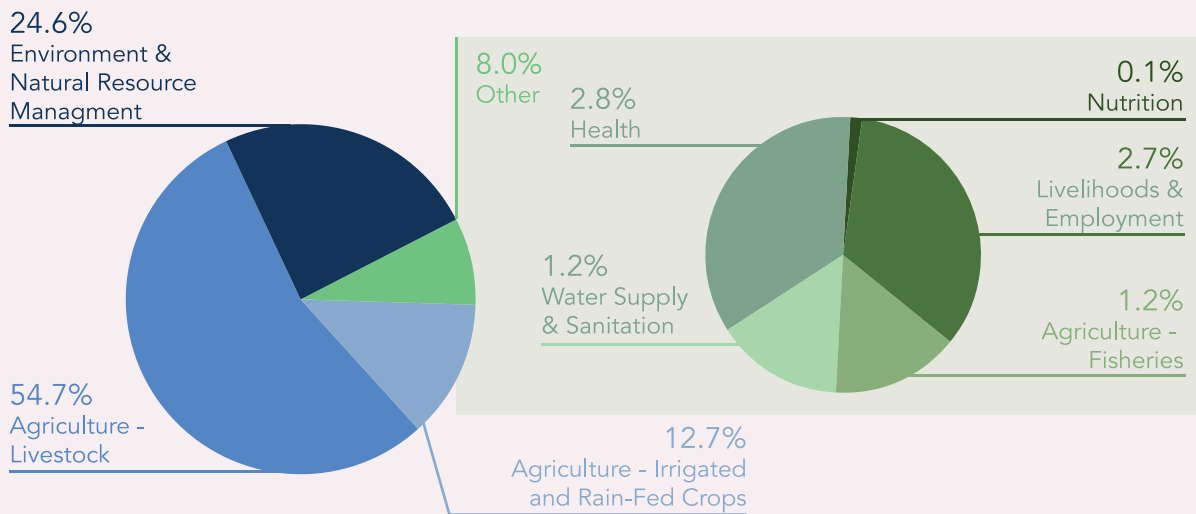


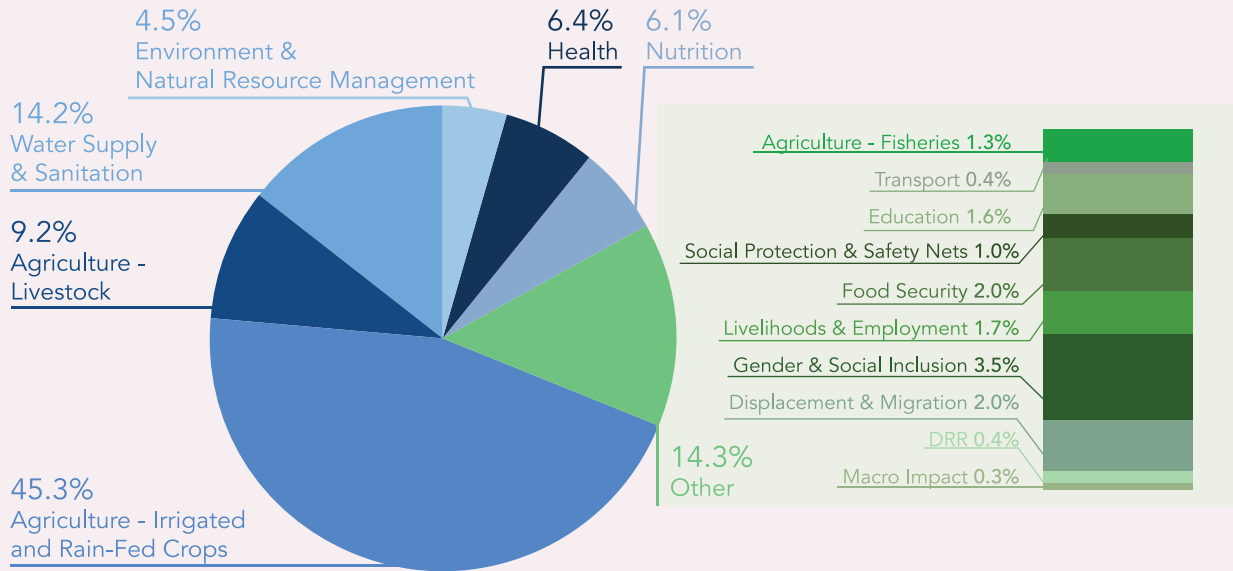
Figure 8: Distribution of Hirshabelle Losses



DINA Findings: Recovery Needs

Total recovery needs are estimated at USD 146 million. Sectors showing the greatest needs include Irrigated and Rain-fed Crops (43.9 percent of total needs), Water Supply and Sanitation (13.7 percent), Livestock (8.9 percent), Health (9.4 percent), and Nutrition (5.9 percent).

Figure 9: Distribution of Hirshabelle Needs



DINA Field Visits and Consultations: Key Findings

The Ministry of Planning, Investment and Economic Development (MoPIED) and UN colleagues coordinated a field visit to Jowhar to undertake consultations with state-level line ministries, UN agencies operational in the state, and civil society representatives regarding data collection, needs assessment and recovery strategies. Based on these consultations, the following sectors were identified as key priorities for recovery and resilience in Hirshabelle State:

Agriculture – Crops: Farmers in the region do not have sufficient understanding of moderate farming and market requirement standards. Considering this, comprehensive capacity development programs are needed on moderate farming techniques and markets.

Agriculture - Livestock: An animal feeding “grass farming” project is recommended for livestock feeding. Re-stocking and donation of animals to vulnerable communities is also recommended.

Transport: Inadequate road infrastructure needs to be addressed through road construction and rehabilitation.

Health: There are inadequate health facilities, especially in Jowhar, and the establishment of hospitals is therefore required.

In terms of cross-cutting areas, food security was identified as an issue, with severely reduced food production and demand exceeding supply, causing price hikes in food beyond the means of farmers and pastoralists. Scaling up of long-term food security assistance programs was therefore considered a pressing need. In terms of livelihoods, the construction of a new marketplace in Jowhar and the renovation of existing ones was considered necessary, including the construction of new butcher markets. Overall drought-related data collection needs to be increased to better anticipate needs and inform necessary responses to drought.

Annex 5: Total Damages, Losses and Needs for Hirshabelle¹⁵

Table 5: Total Damages, Losses, and Needs for Hirshabelle			
	Cost (USD)		
	Damages	Losses	Needs
Productive Sectors			
Agriculture - Irrigated and Rain-fed Crops	6,285,425	24,823,505	64,123,676
Agriculture - Livestock	21,415,252	106,576,725	12,999,294
Agriculture - Fisheries	-	2,390,105	1,883,333
Productive Sectors Total	27,700,677	133,790,335	79,006,303
Physical Sectors			
Water Supply & Sanitation	228,000	2,275,624	20,082,000
Transport	-	-	533,333
Environment & Natural Resource Management	50,281,036	48,034,863	6,428,168
Physical Sectors Total	50,281,036	50,310,487	27,043,501
Social Sectors			
Health	-	5,403,419	9,125,857
Nutrition	-	257,311	8,593,517
Education	-	-	2,313,308
Social Sectors Total	-	5,660,730	20,032,682
Cross-cutting Issues			
Urban Development & Municipal Services	-	-	-
Social Protection & Safety Nets	-	-	1,464,778
Food Security	-	-	2,817,778
Livelihoods & Employment	-	5,180,241	2,455,556
Gender & Social Inclusion	-	-	4,911,111
Governance	-	-	-
Conflict	-	-	-
Displacement & Migration	-	-	2,888,889
DRR	-	-	555,556
Macro Impact	-	-	388,889
Cross-cutting Issues Total	-	5,180,241	15,482,556
Grand Total	78,209,713	194,941,793	141,565,042

¹⁵ Governance needs are pending a determination of functional assignments within Government on drought recovery.

Annex 6: Detailed Sector Damages, Losses and Needs Tables for Hirshabelle

Table 6: Detailed Sector Damages, Losses and Needs Tables for Hirshabelle	
DAMAGES	COST
Agriculture - Irrigated and rain-fed Crops	
Loss of Banana Trees	4,320,000
Primary Canal Damages	162,925
Direct Intake Canal Damages	542,500
Secondary Canal Damages	1,260,000
Total	6,285,425
Agriculture - Livestock	
Camels	9,973,078
Cattle	3,912,567
Sheep and Goats	7,529,607
Total	21,415,252
Water Supply & Sanitation	
Boreholes	150,000
Shallow Wells	33,000
Berkads	45,000
Total	228,000
Environment & Natural Resource Management	
Xeric shrublands and grasslands desiccated	21,828,000
Tree cover loss in montane xeric woodlands	4,602,000
Soils eroded (wind erosion, tons)	126,000
Loss of soil fertility and associated functions	3,274,200
Reduction in yields of cereals and legumes	105,000
Trees lost as a result of increased charcoal production	20,345,836
Total	50,281,036
LOSSES	COST
Agriculture - Irrigated and rain-fed Crops	
Cowpeas	333,847
Maize	2,025,465
Sesame	1,590,400
Sorghum	6,157,422
Banana	6,634,901
Lemon	404,567
Watermelon	404,567
Tomatoes	4,551,380
Onions	900,405
Rice	1,820,552
Total	24,823,505

Agriculture - Livestock	
Camel Milk	27,292,093
Cow Milk	5,826,387
Sheep and Goat Milk	4,863,676
Camel Live Weight/Value	26,066,764
Cattle Live Weight/Value	10,751,860
Sheep and Goat Live Weight/Value	31,775,945
Total	106,576,725
Agriculture - Fisheries	
Loss of Sales	1,043,025
Loss of Consumption	521,512
Loss of Assets	412,784
Loss of Access to Fishing Grounds	412,784
Total	2,390,105
Water Supply & Sanitation	
Additional cost of water sold from Boreholes	2,071,840
Supplementation cost of water from dried, free sources	203,784
Total	2,275,624
Environment & Natural Resource Management	
Xeric shrublands and grasslands desiccated	30,316,667
Tree cover loss in montane xeric woodlands	511,333
Soils eroded (wind erosion, tons)	252,000
Trees lost as a result of increased charcoal production	16,954,863
Total	48,034,863
Health	
Increased Incidence of Cholera	65,910
Increased Primary-basic Healthcare costs	5,296,704
Increased Incidence of Measles	40,805
Total	5,403,419
Nutrition	
Increased Cost of treating General Acute Malnutrition	196,721
Increased Cost of treating Severe Acute Malnutrition	60,591
Total	257,311
Livelihoods & Employment	
Transporters	2,326,320
Petty Traders	726,560
Milk Traders	2,115,064
Skins and Hides	12,296
Total	5,180,241

NEEDS	COST
Agriculture - Irrigated and rain-fed Crops	
Emergency services provision: access by destitute farmers to staple food & high-quality seeds	8,757,990
Irrigation canal rehabilitation	29,812,625
Recovery / resilience of banana plantations (small and large)	866,000
Improving farm management practices (incl. SMART, Post-Harvest Handling)	3,821,113
Institutional capacity building for better governance	1,742,427
Rebuilding agriculture research and extension system	3,759,975
Strengthening informal and building formal seed system	1,834,134
Water and watershed management	13,529,412
Total	64,123,676
Agriculture - Livestock	
Veterinary services development	9,969,882
Feed development	470,588
Restocking with focus in southcentral regions	705,882
Rehabilitation of livestock water infrastructures	470,588
Rangeland management	588,235
Capacity Development	235,294
Poultry Production	147,059
Bee keeping	117,647
Genetic research and breeding	294,118
Total	12,999,294
Agriculture - Fisheries	
Distribution of Fishing Kits	50,000
Development of Fishing Landing Sites	666,667
Development of spate fed desert aquaculture	500,000
Development of dried fish	666,667
Total	1,883,333
Water Supply & Sanitation	
Construction of new Boreholes	8,555,556
Rehabilitation of Boreholes	1,688,889
Construction of new Shallow wells	215,000
Rehabilitation of Shallow wells	242,667
Construction of new Berkads	22,556
Rehabilitation of Berkads	24,000
Urban/Rural sanitation (drainage, sewage, and solid waste management)	5,555,556
Institutional strengthening and Capacity building	3,777,778
Total	20,082,000

Transport	
Construction and Rehabilitation of Roads	533,333
Total	533,333
Environment & Natural Resource Management	
Immediate capacity building of government forest rangers	222,222
Immediate re-seeding of selected rangelands with fast-growing grass species	555,556
Setting up germplasm mother blocks (seed production zones for indigenous fruit tree species)	555,556
Improvement of energy efficiency of existing charcoal carbonization and kilning systems	888,889
Scaling up evergreen agriculture by integrating with trees-on-farm agroforestry systems and ISFM	1,333,333
Development of legislation to support zoning of wildlife parks, migratory corridors	111,111
Training forest end users on sustainable extractive techniques for NWFPs	555,556
Technical capacity improvement of Somali government - remote sensing, GIS, national lab	444,444
Rehabilitation of selected gullies and other severely degraded ecosystems	888,889
Promoting wide-scale adoption of low-cost integrated soil fertility management (ISFM) for improving soil resources	333,333
Assisting the Somali government with the development of a biomass energy policy	333,333
Macro Component 1.1: Develop a Power Master Plan	94,834
Macro Component 1.6: Cross-border Electrification and Interconnector Study (being designed for approval)	111,111
Total	6,428,168
Health	
Engaging the public in promotion of health, hygiene and safe drinking water, sanitation, environmental hygiene, food safety, and safe waste disposal	457,576
Promoting food-borne diseases laboratory-based surveillance by developing food safety guidelines and interventions	457,576
Introducing standardized rapid diagnostic technologies for prevalent communicable diseases	274,546
Active disease surveillance and early warning system	457,576
Prepositioning medical supplies and kits to undertake coordinated rapid response	457,576
Establishing an effective health information system that provides accurate and timely health data for evidence planning and implementation supported by monitoring and evaluation	274,546
Increasing cholera treatment centers in all regions	915,153
Promoting participation in improving public health at community level	457,576
Ensure availability of essential medicines, vaccines, and commodities	2,445,242
Establishing emergency response services	457,576
Ensuring immunization of all children and pregnant women against the major child killer diseases	915,153
Deploying more health care workers that are competent on tasks and treat patients with dignity, respect, and compassion	640,607
Supporting fixed and mobile clinics	915,153
Total	9,125,857

Nutrition	
Surveillance and M&E operations	859,352
Mobile clinic and Nutrition rehabilitation vans	1,718,703
Vitamin A Supplementation	128,903
People living with HIV and AIDS	171,870
Deworming	128,903
Capacity building	1,289,028
Procurement of material and rehabilitation	1,718,703
Health promotion and community mobilization	859,352
Implementation and operational support	1,718,703
Total	8,593,517
Education	
Learning spaces	1,020,000
Teachers	680,400
Learning materials/ kits	230,408
CEC structures to be supported	153,000
Data Tracking Costs	229,500
Total	2,313,308
Social Protection & Safety Nets	
Injection of minimum capacity in MoHADM and MoPIED	18,667
Social Protection Policy and Framework, Vulnerability Analysis, Capacity Development of Government, Communication Strategy	168,333
Database Inventory and Analysis	11,111
Design of pilot incl. registry, targeting methodology, transfer systems, monitoring systems, grievance mechanism, vetting	555,556
Pilot of system in select geographic areas (incl. urban and rural) targeting 100,000	711,111
Total	1,464,778
Food Security	
Continued Humanitarian Assistance for Drought affected People	2,222,222
Livelihood Support for Drought affected People	555,556
Support for the development of a national food security strategy	13,333
Support for the development of a national poverty reduction strategy	26,667
Total Needs	2,817,778
Livelihoods & Employment	
Support to Women and Youth to engage in the renewable energy sector	2,222,222
Support to Govt. Institutions to improve and/or establish Labor Market Information Services	211,111
Support to FGS and Federal State Govts to coordinate the E&L sector	22,222
Total	2,455,556

Gender & Social Inclusion	
Implementation of sex, age disaggregated data (SADD) and gender analysis tools	477,778
Gender-responsive governance and promote women's participation and leadership	488,889
Promote gender equality in disaster risk reduction	388,889
Women sustainable economic and livelihoods development	3,166,667
Gender based Violence (GBV) and targeted responses	388,889
Total	4,911,111
Governance	
Total	TBD
Displacement & Migration	
Collection of sex and age disaggregated profile data of displaced and returning populations	222,222
Monitoring costs (social cohesion, displacement movements, etc.)	55,556
IDP personal identity documentation and civil registration	111,111
Capacity building of state and local authorities to promote recovery and resilience of IDP populations	111,111
Support Community-based participatory planning processes	222,222
Support for the participation in civic life, dispute resolution and peaceful co-existence in displacement affected areas.	111,111
Promoting land tenure security through improved policies and frameworks, including improved land use planning	55,556
Development and adoption of federal policy on internal displacement and reintegration of returnees	55,556
Assessment of conditions for safe return through area-based solutions analysis	55,556

Collect population profile data on remote/rural	111,111
Skills development and livelihoods restoration	1,333,333
Support for market access and strengthened value chains for partial returns (including those with family member remaining in urban areas)	111,111
Support the establishment and strengthening of local authorities	111,111
Communication and sensitization to support re/integration of IDPs and to enable participation in civic life, dispute resolution and peaceful co-existence.	111,111
Establish/strengthen transparent dispute resolution mechanism to manage land disputes	111,111
Total	2,888,889
DRR	
DRM Policy, Legislation and Institutional Harmonization	47,222
Capacity building of National DRM institutions	175,000
Early warning and information management system.	236,111
Drought Management system	97,222
Total	555,556
Macro Impact	
Component 2.1: Mobile money for drought response	222,222
Component 2.2: Regulatory support for the ICT Sector	44,444
Component 2.3: Developing a National ID system	11,111
Component 3: Financial Services	111,111
Total	388,889

Jubaland

Overview and Pre-Drought Conditions

Jubaland State is comprised of the regions of Gedo, Middle Juba and Lower Juba. Its largest city is Kismayo, situated on the coast near the mouth of the Juba River. The Kismayo port provides the state with the opportunity to be a logistics gateway for East Africa.

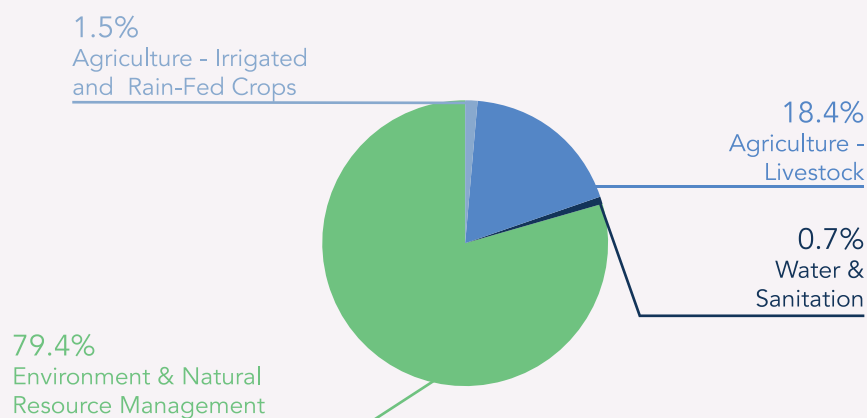
Like most parts of Somalia, recurring severe drought has been the main natural hazard in recent decades, significantly affecting agropastoral livelihoods. Jubaland has also been affected by other climatic events such as the flooding of the Juba River, which often affects the surrounding communities, leading to displacement of large populations.

The Juba River provides Jubaland with the potential for irrigated agriculture ranging from crops such as bananas, sugar cane, simsim seeds and cotton to staple foods such as rice, sorghum and millet.

DINA Findings¹⁶: Drought Impact¹⁷

With damages amounting to USD 171 million and losses estimated at USD 337 million, the total effects of the drought in Jubaland are expected to exceed USD 508 million. The productive sector (Irrigated & Rain-fed Crops, Livestock and Fisheries) accounts for 43.1 percent of all the effects, while the physical (Water & Sanitation, Environment and Transport), social (Health, Nutrition and Education), and cross-cutting themes make up 54.2 percent, 1.1 percent, and 1.5 percent, respectively. The two most affected sectors are Environment & Natural Resource Management and Livestock, comprising 53.3 percent and 37.4 percent of the total effects, respectively. A breakdown of damages and losses¹⁸ for Jubaland can be found below:

Figure 10: Distribution of Jubaland Damages



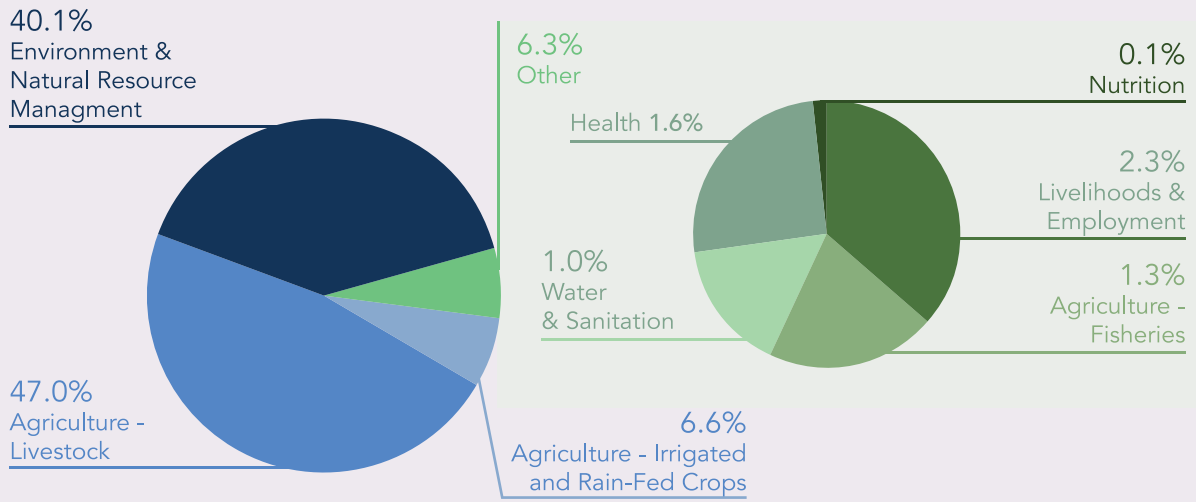
¹⁶ This report is based on regionally disaggregated data for Gedo, Middle Juba and Lower Juba regions.

¹⁷ Unlike assessments following rapid onset disasters, drought assessments typically show larger economic losses than physical damages since the drought impact is predominantly felt in economic terms rather than physical impact. The combined damages and losses in turn are typically greater than the recovery needs, particularly in the case of Somalia where many of the biggest immediate needs in food security, nutrition and social protection are covered by the HRP and not the DINA. In addition, the cost of inputs required for recovery is typically less than the value of outputs lost due to drought.

¹⁸ Damages are defined as total or partial destruction of physical assets existing in the affected area. Damages occur during and immediately after the disaster. Their monetary values are expressed as the replacement costs according to prices prevailing just before the event. Losses are defined as changes in economic flows arising from the disaster. They occur until full economic recovery and reconstruction is achieved, in some cases lasting for several years, but for the purposes of this assessment, losses have been projected up to January 2018. Typical losses include the decline in output in productive sectors (agriculture, livestock, and fisheries).



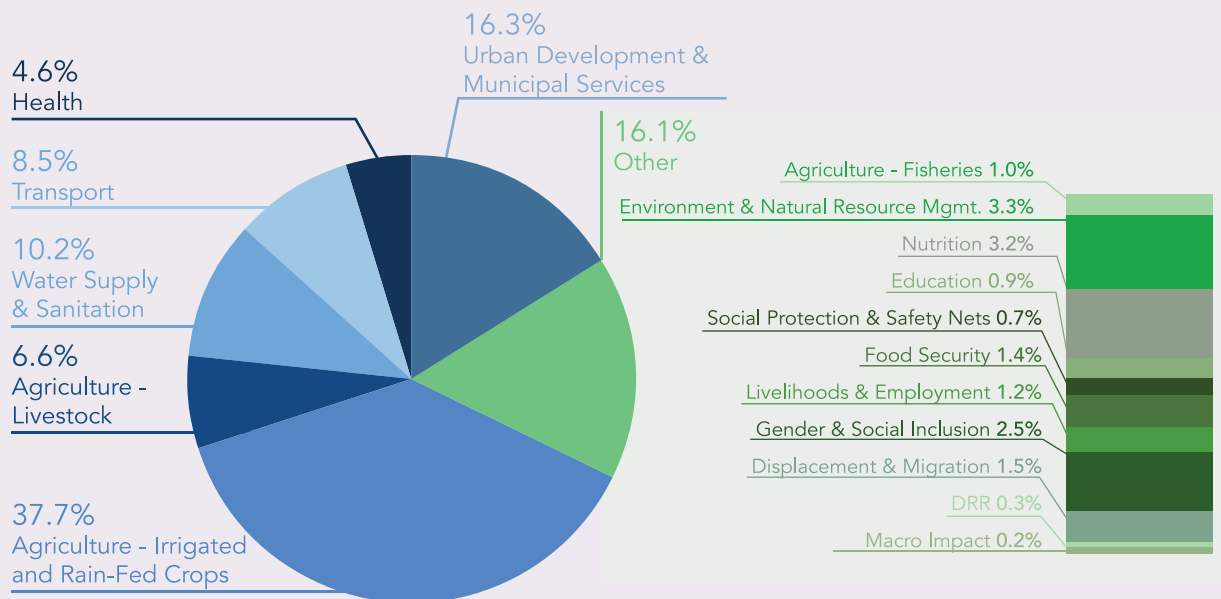
Figure 11: Distribution of Jubaland Losses



DINA Findings: Recovery Needs

Total recovery needs are estimated at USD 296 million. Of the sectors, Irrigated and Rain-fed Crops has the most needs (37.7 percent of total needs), followed by Urban Development and Municipal Services (16.3 percent), Water Supply and Sanitation (10.2 percent), Transport (8.5 percent), Livestock (6.6 percent) and Health (4.6 percent).

Figure 12: Distribution of Jubaland Needs



DINA Field Visits and Consultations: Key Findings

The Ministry of Planning, Investment and Economic Development (MoPIED) and UN colleagues coordinated a field visit to Kismaayo to undertake consultations with state-level line ministries, UN agencies operational in the state, and civil society representatives, regarding data collection, needs assessment and recovery strategies. Based on these consultations, the following sectors were identified as key priorities for recovery and resilience in Jubaland State:

Agriculture – Livestock: Key priorities in this sector are to promote the delivery of quality veterinary and TVET education and enhance organizational and institutional capacity in connection with both the physical (infrastructure) and the technical capacity of the Ministry of Livestock.

Health and Nutrition: Rehabilitation of health facilities in areas recovered from non-state actors, pre-positioning medical supplies and medicine for the treatment of emergency cases, and expanding the immunization program in the state were identified as needs in this sector.

Education: Construction of new schools to address the needs of IDPs in host communities is an important need.

Gender, as a cross-cutting area, was also identified as a key priority, with focus required on formulating a gender policy for the state, and interventions for the economic empowerment of women and the prevention of gender-based violence.



Annex 7: Total Damages, Losses and Needs for Jubaland¹⁹

Table 7: Total Damages, Losses, and Needs for Jubaland			
	Cost (USD)		
	Damages	Losses	Needs
Productive Sectors			
Agriculture - Irrigated and Rain-fed Crops	2,542,575	22,314,144	111,763,118
Agriculture - Livestock	31,380,398	158,400,466	19,498,941
Agriculture - Fisheries	-	4,344,255	2,825,000
Productive Sectors Total	33,922,973	185,058,865	134,087,059
Physical Sectors			
Water Supply & Sanitation	1,154,000	3,413,436	30,123,000
Transport	-	-	25,300,000
Environment & Natural Resource Management	135,477,302	135,431,751	9,642,252
Physical Sectors Total	136,631,302	138,845,187	65,065,252
Social Sectors			
Health	-	5,393,042	13,688,786
Nutrition	-	277,351	9,346,408
Education	-	-	2,663,934
Social Sectors Total	-	5,670,0394	25,699,127
Cross-cutting Issues			
Urban Development & Municipal Services	-	-	48,291,536
Social Protection & Safety Nets	-	-	2,197,167
Food Security	-	-	4,226,667
Livelihoods & Employment	-	7,770,361	3,683,333
Gender & Social Inclusion	-	-	7,366,667
Governance	-	-	-
Conflict	-	-	-
Displacement & Migration	-	-	4,333,333
DRR	-	-	833,333
Macro Impact	-	-	583,333
Cross-cutting Issues Total	-	7,770,361	71,515,369
Grand Total	170,554,274	337,344,807	296,366,807

¹⁹ Governance needs are pending a determination of functional assignments within Government on drought recovery.

Annex 8: Detailed Sector Damages, Losses and Needs Tables for Jubaland

Table 8: Detailed Sector Damages, Losses and Needs Tables for Jubaland	
DAMAGES	COST
Agriculture - Irrigated and rain-fed Crops	
Loss of Banana Trees	2,520,000
Primary Canal Damages	22,575
Total	2,542,575
Agriculture - Livestock	
Camels	16,997,442
Cattle	6,974,402
Sheep and Goats	7,408,554
Total	31,380,398
Water Supply & Sanitation	
Boreholes	910,000
Shallow Wells	244,000
Total	1,154,000
Environment & Natural Resource Management	
Xeric shrublands and grasslands desiccated	63,630,000
Tree cover loss in montane xeric woodlands	6,903,000
Soils eroded (wind erosion, tons)	261,000
Loss of soil fertility and associated functions	9,544,500
Reduction in yields of cereals and legumes	217,500
Trees lost as a result of increased charcoal production	54,921,302
Total	135,477,302
LOSSES	COST
Agriculture - Irrigated and rain-fed Crops	
Cowpeas	(758,714)
Maize	(1,088,873)
Sesame	4,281,600
Sorghum	2,042,506
Banana	2,831,970
Lemon	404,567
Papaya	240,814
Watermelon	8,441,607
Tomatoes	5,918,667
Total	22,314,144

Agriculture - Livestock	
Camel Milk	39,708,366
Cow Milk	16,647,599
Sheep and Goat Milk	5,098,634
Camel Live Weight/Value	41,744,856
Cattle Live Weight/Value	24,105,316
Sheep and Goat Live Weight/Value	31,095,694
Total	158,400,466
Agriculture - Fisheries	
Loss of Sales	2,070,603
Loss of Consumption	1,035,301
Loss of Assets	619,176
Loss of Access to Fishing Grounds	619,176
Total	4,344,255
Water Supply & Sanitation	
Additional cost of water sold from Boreholes	3,107,760
Supplementation cost of water from dried, free sources	305,676
Total	3,413,436
Environment & Natural Resource Management	
Xeric shrublands and grasslands desiccated	88,375,000
Tree cover loss in montane xeric woodlands	767,000
Soils eroded (wind erosion, tons)	522,000
Trees lost as a result of increased charcoal production	45,767,751
Total	135,431,751
Health	
Increased Incidence of Cholera	199,474
Increased Primary-basic Healthcare costs	5,193,569
Total	5,393,042
Nutrition	
Increased Cost of treating General Acute Malnutrition	210,429
Increased Cost of treating Severe Acute Malnutrition	66,922
Total	277,351
Livelihoods & Employment	
Transporters	3,489,480
Petty Traders	1,089,840
Milk Traders	3,172,596
Skins and Hides	18,444
Total	7,770,361

NEEDS	COST
Agriculture - Irrigated and rain-fed Crops	
Emergency services provision: access by destitute farmers to staple food & high-quality seeds	23,875,000
Irrigation canal rehabilitation	37,510,000
Recovery / resilience of banana plantations (small and large)	84,000
Improving farm management practices (incl. SMART, Post-Harvest Handling)	10,000,000
Institutional capacity building for better governance	4,750,000
Rebuilding agriculture research and extension system	10,250,000
Strengthening informal and building formal seed system	5,000,000
Water and watershed management	20,294,118
Total	111,763,118
Agriculture - Livestock	
Veterinary services development	14,954,824
Feed development	705,882
Restocking with focus in southcentral regions	1,058,824
Rehabilitation of livestock water infrastructures	705,882
Rangeland management	882,353
Capacity Development	352,941
Poultry Production	220,588
Bee keeping	176,471
Genetic research and breeding	441,176
Total	19,498,941
Agriculture - Fisheries	
Distribution of Fishing Kits	75,000
Development of Fishing Landing Sites	1,000,000
Development of spate fed desert aquaculture	750,000
Development of dried fish	1,000,000
Total	2,825,000
Water Supply & Sanitation	
Construction of new Boreholes	12,833,333
Rehabilitation of Boreholes	2,533,333
Construction of new Shallow wells	322,500
Rehabilitation of Shallow wells	364,000
Construction of new Berkads	33,833
Rehabilitation of Berkads	36,000
Urban/Rural sanitation (drainage, sewage, and solid waste management)	8,333,333
Institutional strengthening and Capacity building	5,666,667
Total	30,123,000

Transport	
Construction and Rehabilitation of Roads	25,300,000
Total	25,300,000
Environment & Natural Resource Management	
Immediate capacity building of government forest rangers	333,333
Immediate re-seeding of selected rangelands with fast-growing grass species	833,333
Setting up germplasm mother blocks (seed production zones for indigenous fruit tree species)	833,333
Improvement of energy efficiency of existing charcoal carbonization and kilning systems	1,333,333
Scaling up evergreen agriculture by integrating with trees-on-farm agroforestry systems and ISFM	2,000,000
Development of legislation to support zoning of wildlife parks, migratory corridors	166,667
Training forest end users on sustainable extractive techniques for NWFPs	833,333
Technical capacity improvement of Somali government - remote sensing, GIS, national lab	666,667
Rehabilitation of selected gullies and other severely degraded ecosystems	1,333,333
Promoting wide-scale adoption of low-cost integrated soil fertility management (ISFM) for improving soil resources	500,000
Assisting the Somali government with the development of a biomass energy policy	500,000
Macro Component 1.1: Develop a Power Master Plan	142,252
Macro Component 1.6: Cross-border Electrification and Interconnector Study (being designed for approval)	166,667
Total	9,642,252
Health	
Engaging the public in promotion of health, hygiene and safe drinking water, sanitation, environmental hygiene, food safety, and safe waste disposal	686,365
Promoting food-borne diseases laboratory-based surveillance by developing food safety guidelines and interventions	686,365
Introducing standardized rapid diagnostic technologies for prevalent communicable diseases	411,819
Active disease surveillance and early warning system	686,365
Prepositioning medical supplies and kits to undertake coordinated rapid response	686,365
Establishing an effective health information system that provides accurate and timely health data for evidence planning and implementation supported by monitoring and evaluation	411,819
Increasing cholera treatment centers in all regions	1,372,729
Promoting participation in improving public health at community level	686,365
Ensure availability of essential medicines, vaccines, and commodities	3,667,863
Establishing emergency response services	686,365
Ensuring immunization of all children and pregnant women against the major child killer diseases	1,372,729
Deploying more health care workers that are competent on tasks and treat patients with dignity, respect, and compassion	960,910
Supporting fixed and mobile clinics	1,372,729
Total	13,688,786

Nutrition	
Surveillance and M&E operations	934,641
Mobile clinic and Nutrition rehabilitation vans	1,869,282
Vitamin A Supplementation	140,196
People living with HIV and AIDS	186,928
Deworming	140,196
Capacity building	1,401,961
Procurement of material and rehabilitation	1,869,282
Health promotion and community mobilization	934,641
Implementation and operational support	1,869,282
Total	9,346,408
Education	
Learning spaces	1,170,000
Teachers	789,600
Learning materials/ kits	265,584
CEC structures to be supported	175,500
Data Tracking Costs	263,250
Total	2,663,934
Urban Development & Municipal Services	
Shelter	14,302,800
Education	4,535,018
Health	307,830
Water and Sanitation	585,408
Jobs	27,060,480
Institutional Strengthening	1,500,000
Total	48,291,536
Social Protection & Safety Nets	
Injection of minimum capacity in MoHADM and MoPIED	28,000
Social Protection Policy and Framework, Vulnerability Analysis, Capacity Development of Government, Communication Strategy	252,500
Database Inventory and Analysis	16,667
Design of pilot incl. registry, targeting methodology, transfer systems, monitoring systems, grievance mechanism, vetting	833,333
Pilot of system in select geographic areas (incl. urban and rural) targeting 100,000	1,066,667
Total	2,197,167
Food Security	
Continued Humanitarian Assistance for Drought affected People	3,333,333
Livelihood Support for Drought affected People	833,333
Support for the development of a national food security strategy	20,000
Support for the development of a national poverty reduction strategy	40,000
Total	4,226,667

Livelihoods & Employment	
Support to Women and Youth to engage in the renewable energy sector	3,333,333
Support to Govt. Institutions to improve and/or establish Labor Market Information Services	316,667
Support To FGS and Federal State Govts to coordinate the E&L sector	33,333
Total	3,683,333
Gender & Social Inclusion	
Implementation of sex, age disaggregated data (SADD) and gender analysis tools	716,667
Gender-responsive governance and promote women's participation and leadership	733,333
Promote gender equality in disaster risk reduction	583,333
Women sustainable economic and livelihoods development	4,750,000
Gender based Violence (GBV) and targeted responses	583,333
Total	7,366,667
Governance	
Total	TBD
Displacement & Migration	
Collection of sex and age disaggregated profile data of displaced and returning populations	333,333
Monitoring costs (social cohesion, displacement movements, etc.)	83,333
IDP personal identity documentation and civil registration	166,667
Capacity building of state and local authorities to promote recovery and resilience of IDP populations	166,667
Support Community-based participatory planning processes	333,333
Support for the participation in civic life, dispute resolution and peaceful co-existence in displacement affected areas.	166,667
Promoting land tenure security through improved policies and frameworks, including improved land use planning	83,333

Development and adoption of federal policy on internal displacement and reintegration of returnees	83,333
Assessment of conditions for safe return through area-based solutions analysis	83,333
Collect population profile data on remote/rural	166,667
Skills development and livelihoods restoration	2,000,000
Support for market access and strengthened value chains for partial returns (including those with family member remaining in urban areas)	166,667
Support the establishment and strengthening of local authorities	166,667
Communication and sensitization to support re/integration of IDPs and to enable participation in civic life, dispute resolution and peaceful co-existence.	166,667
Establish/strengthen transparent dispute resolution mechanism to manage land disputes	166,667
Total	4,333,333
DRR	
DRM Policy, Legislation and Institutional Harmonization	70,833
Capacity building of National DRM institutions	262,500
Early warning and information management system.	354,167
Drought Management system	145,833
Total	833,333
Macro Impact	
Component 2.1: Mobile money for drought response	333,333
Component 2.2: Regulatory support for the ICT Sector	66,667
Component 2.3: Developing a National ID system	16,667
Component 3: Financial Services	166,667
Total	583,333

Puntland

Overview and Pre-Drought Conditions

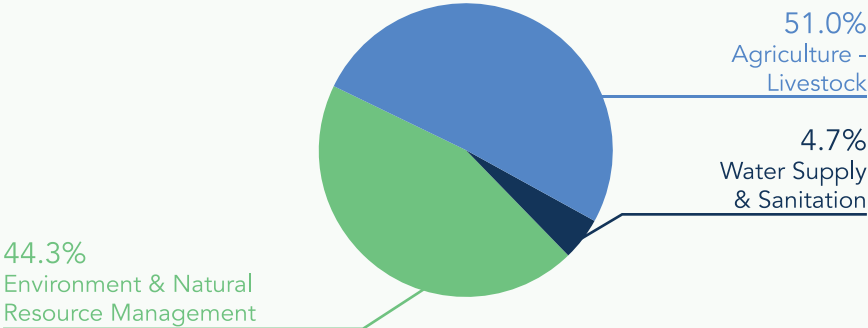
Puntland, situated in the northeast of Somalia with its capital at Garowe, is considered one of the more stable states in Somalia in terms of socio-economic conditions and poverty reduction.²⁰ A major seaport in its largest city, Bosaso, is situated in the Gulf of Aden next to one of the world’s largest trade routes. This, along with its potential to serve the greater Horn of Africa region with a customer base of more than 100 million people, points to the potential for the development of Puntland as a trade and logistics hub.²¹

Puntland has a large livestock sector with the capacity to increase the quantity and quality of its livestock exports, as well as to develop a value addition industry such as leather tanning and the design and production of leather products.

DINA Findings²²: Drought Impact²³

With damages amounting to USD 310 million and losses estimated at USD 624 million, the total effects of the drought in Puntland are expected to exceed USD 934 million. The productive sector (Irrigated & Rain-fed Crops, Livestock and Fisheries) accounts for 62.7 percent of all the effects, while the physical (Water & Sanitation, Environment and Transport), social (Health, Nutrition and Education), and cross-cutting themes make up 31.1 percent, 0.8 percent, and 1.2 percent, respectively. The two most affected sectors are Livestock, and Environment & Natural Resource Management, comprising 62.7 percent and 29 percent of the total effects, respectively. A breakdown of damages and losses²⁴ for Puntland can be found below:

Figure 13: Distribution of Puntland Damages



²⁰ Federal Government of Somalia. 2016. National Development Plan (2017-2019).

²¹ Ibid.

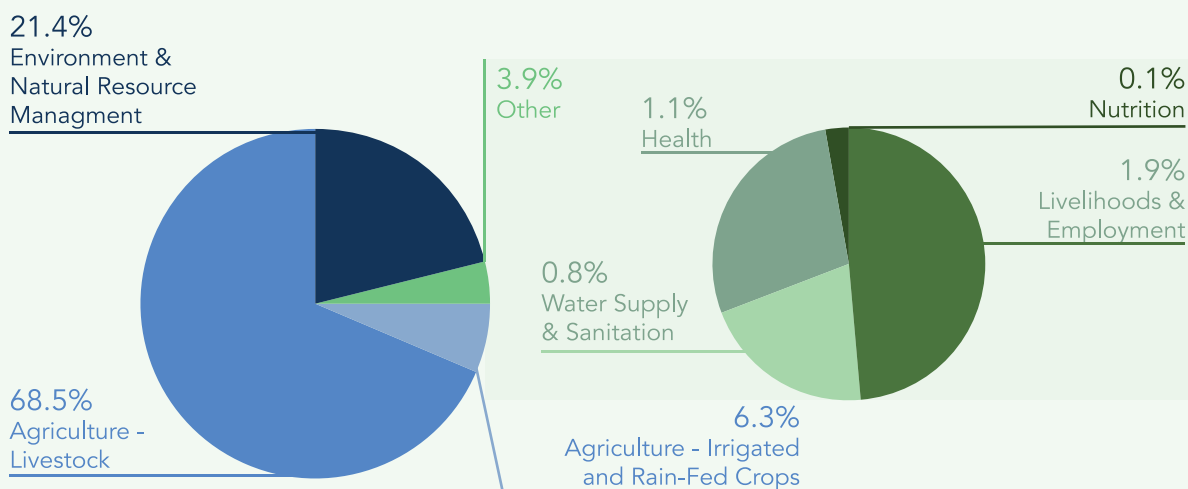
²² This report is based on regionally disaggregated data for Bari, Nugaal, Sool, Sanaag and the northern half of Muduug. The inclusion or exclusion of regions in a given FMS does not imply any judgment on the part of the authors of this report on the legal status of any territory or the endorsement or acceptance of such boundaries.

²³ Unlike assessments following rapid onset disasters, drought assessments typically show larger economic losses than physical damages since the drought impact is predominantly felt in economic terms rather than physical impact. The combined damages and losses in turn are typically greater than the recovery needs, particularly in the case of Somalia where many of the biggest immediate needs in food security, nutrition and social protection are covered by the HRP and not the DINA. In addition, the cost of inputs required for recovery is typically less than the value of outputs lost due to drought.

²⁴ Damages are defined as total or partial destruction of physical assets existing in the affected area. Damages occur during and immediately after the disaster. Their monetary values are expressed as the replacement costs according to prices prevailing just before the event. Losses are defined as changes in economic flows arising from the disaster. They occur until full economic recovery and reconstruction is achieved, in some cases lasting for several years, but for the purposes of this assessment, losses have been projected up to January 2018. Typical losses include the decline in output in productive sectors (agriculture, livestock, and fisheries).



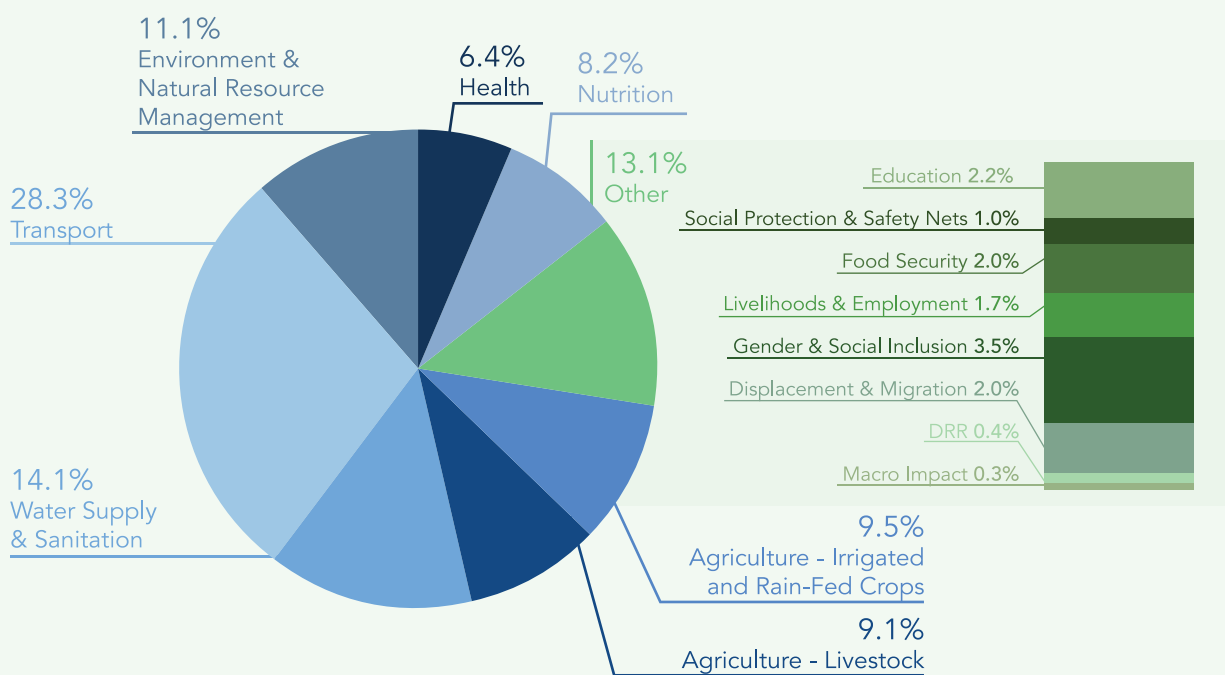
Figure 14: Distribution of Puntland Losses



DINA Findings: Recovery Needs

Total recovery needs are estimated at USD 317 million. Transport, and Water & Sanitation have the largest needs, representing 28.6 percent and 14.3 percent of total needs, followed by Environment, Clean Energy and Natural Resource Management (11.2 percent), Irrigated and Rain-fed Crops (9.6 percent), Livestock (9.2 percent), Nutrition (8.3 percent) and Health (5.6 percent).

Figure 15: Distribution of Puntland Needs





DINA Field Visits and Consultations: Key Findings

The Ministry of Planning, Investment and Economic Development (MoPIED) and UN colleagues coordinated a field visit to Garowe, in collaboration with the Puntland Ministry of Planning and International Cooperation, with line ministries, UN agencies operational in the state, and civil society representatives, regarding data collection, needs assessment and recovery strategies. Based on these consultations, the following sectors were identified as key priorities for recovery and resilience in Puntland State:

Agriculture – Crops, Livestock and Fisheries: The majority of pastoralists have lost their livestock due to the lack of grazing land and water, leading to a reluctance to rear livestock. Therefore, a restocking process will need to be undertaken, as well as the promotion of other industries such as growing Moxor (frankincense) and fisheries. More losses in crops are also expected.

Water Supply and Sanitation: A number of boreholes have been damaged due to the extreme usage and limited spare parts as a result of the drought, resulting in water shortages in many rural areas.

Transport: Many of the roads have been damaged due to the lack of maintenance. Some of these roads are situated in towns, while others connect towns and districts.

Health and Education: A number of existing facilities need to be repaired and reconstructed, while new facilities need to be constructed in drought-affected districts as well as towns hosting larger numbers of IDPs, such as Galkayo.

With regard to cross-cutting areas, gender and employment creation were identified as important focus areas in terms of promoting small industries and macro-finance programs.

Annex 9: Total Damages, Losses and Needs for Puntland²⁵

Table 9: Total Damages, Losses, and Needs for Puntland			
	Cost (USD)		
	Damages	Losses	Needs
Productive Sectors			
Agriculture - Irrigated and Rain-fed Crops	-	38,979,638	30,441,176
Agriculture - Livestock	157,974,303	426,885,140	29,248,412
Agriculture - Fisheries	-	-	-
Productive Sectors Total	157,974,303	465,864,778	59,689,588
Physical Sectors			
Water Supply & Sanitation	14,662,500	5,120,154	45,184,500
Transport	-	-	90,625,000
Environment & Natural Resource Management	137,117,713	133,177,363	35,463,378
Physical Sectors Total	151,780,213	138,297,517	171,272,878
Social Sectors			
Health	-	6,954,530	20,533,178
Nutrition	-	810,474	26,271,384
Education	-	-	7,132,469
Social Sectors Total	-	7,765,003	53,937,032
Cross-cutting Issues			
Urban Development & Municipal Services	-	-	-
Social Protection & Safety Nets	-	-	3,295,750
Food Security	-	-	6,340,000
Livelihoods & Employment	-	11,655,542	5,525,000
Gender & Social Inclusion	-	-	11,050,000
Governance	-	-	-
Conflict	-	-	-
Displacement & Migration	-	-	6,500,000
DRR	-	-	1,250,000
Macro Impact	-	-	875,000
Cross-cutting Issues Total	-	11,655,542	34,835,750
Grand Total	309,754,516	623,582,840	319,735,247

²⁵ Governance needs are pending a determination of functional assignments within Government on drought recovery.

Annex 10: Detailed Sector Damages, Losses and Needs Tables for Puntland

Table 10: Detailed Sector Damages, Losses and Needs Tables for Puntland	
DAMAGES	COST
Agriculture - Livestock	
Camels	52,951,322
Sheep and Goats	105,022,981
Total	157,974,303
Water Supply & Sanitation	
Boreholes	12,980,000
Shallow Wells	1,667,500
Berkads	15,000
Total	14,662,500
Environment & Natural Resource Management	
Xeric shrublands and grasslands desiccated	43,649,664
Tree cover loss in montane xeric woodlands	10,354,500
Expansion of land colonized by <i>Prosopis juliflora</i>	228,000
Soils eroded (wind erosion, tons)	396,523
Loss of soil fertility and associated functions	6,547,450
Reduction in yields of cereals and legumes	330,436
Trees lost as a result of increased charcoal production	75,611,141
Total	137,117,713
LOSSES	COST
Agriculture - Irrigated and rain-fed Crops	
Cowpeas	981,833
Sorghum	21,267
Lemon	104,888
Dates	11,447,751
Tomatoes	9,733,960
Onions	2,100,000
Legumes	14,145
Frankincense	14,575,795
Total	38,979,638
Agriculture - Livestock	
Camel Milk	124,495,819
Cow Milk	118,568
Sheep and Goat Milk	30,463,162
Camel Live Weight/Value	108,726,715
Cattle Live Weight/Value	77,732

Sheep and Goat Live Weight/Value	163,003,144
Total	426,885,140
Water Supply & Sanitation	
Additional cost of water sold from Boreholes	4,661,640
Supplementation cost of water from dried, free sources	458,514
Total	5,120,154
Environment & Natural Resource Management	
Xeric shrublands and grasslands desiccated	60,624,533
Tree cover loss in montane xeric woodlands	1,150,500
Expansion of land colonized by <i>Prosopis juliflora</i>	7,600,000
Soils eroded (wind erosion, tons)	793,046
Trees lost as a result of increased charcoal production	63,009,284
Total	133,177,363
Health	
Increased Incidence of Cholera	187,774
Increased Primary-basic Healthcare costs	6,700,164
Increased Incidence of Measles	66,592
Total	6,954,530
Nutrition	
Increased Cost of treating General Acute Malnutrition	686,018
Increased Cost of treating Severe Acute Malnutrition	124,455
Total	810,474
Livelihoods & Employment	
Transporters	5,234,221
Petty Traders	1,634,761
Milk Traders	4,758,894
Skins and Hides	27,666
Total	11,655,542
NEEDS	COST
Agriculture - Irrigated and rain-fed Crops	
Water and watershed management	30,441,176
Total	30,441,176
Agriculture - Livestock	
Veterinary services development	22,432,235
Feed development	1,058,824
Restocking with focus in southcentral regions	1,588,235
Rehabilitation of livestock water infrastructures	1,058,824
Rangeland management	1,323,529

Capacity Development	529,412
Poultry Production	330,882
Bee keeping	264,706
Genetic research and breeding	661,765
Total	29,248,412
Water Supply & Sanitation	
Construction of new Boreholes	19,250,000
Rehabilitation of Boreholes	3,800,000
Construction of new Shallow wells	483,750
Rehabilitation of Shallow wells	546,000
Construction of new Berkads	50,750
Rehabilitation of Berkads	54,000
Urban/Rural sanitation (drainage, sewage, and solid waste management)	12,500,000
Institutional strengthening and Capacity building	8,500,000
Total	45,184,500
Transport	
Construction and Rehabilitation of Roads	90,625,000
Total	90,625,000
Environment & Natural Resource Management	
Immediate capacity building of government forest rangers	500,000
Immediate re-seeding of selected rangelands with fast-growing grass species	1,250,000
Setting up germplasm mother blocks (seed production zones for indigenous fruit tree species)	1,250,000
Improvement of energy efficiency of existing charcoal carbonization and kilning systems	2,000,000
Scaling up evergreen agriculture by integrating with trees-on-farm agroforestry systems and ISFM	3,000,000
Development of legislation to support zoning of wildlife parks, migratory corridors	250,000
Training forest end users on sustainable extractive techniques for NWFPs	1,250,000
Puntland private sector energy grid expansion and institutional strengthening	15,000,000
Technical capacity improvement of Somali government - remote sensing, GIS, national lab	1,000,000
Capital expenditure costs for setting up LPG plant in Mogadishu and Bossaso	6,000,000
Rehabilitation of selected gullies and other severely degraded ecosystems	2,000,000
Promoting wide-scale adoption of low-cost integrated soil fertility management (ISFM) for improving soil resources	750,000
Assisting the Somali government with the development of a biomass energy policy	750,000
Macro Component 1.1: Develop a Power Master Plan	213,378
Macro Component 1.6: Cross-border Electrification and Interconnector Study (being designed for approval)	250,000
Total	35,463,378

Health	
Engaging the public in promotion of health, hygiene and safe drinking water, sanitation, environmental hygiene, food safety, and safe waste disposal	1,029,547
Promoting food-borne diseases laboratory-based surveillance by developing food safety guidelines and interventions	1,029,547
Introducing standardized rapid diagnostic technologies for prevalent communicable diseases	617,728
Active disease surveillance and early warning system	1,029,547
Prepositioning medical supplies and kits to undertake coordinated rapid response	1,029,547
Establishing an effective health information system that provides accurate and timely health data for evidence planning and implementation supported by monitoring and evaluation	617,728
Increasing cholera treatment centers in all regions	2,059,094
Promoting participation in improving public health at community level	1,029,547
Ensure availability of essential medicines, vaccines, and commodities	5,501,795
Establishing emergency response services	1,029,547
Ensuring immunization of all children and pregnant women against the major child killer diseases	2,059,094
Deploying more health care workers that are competent on tasks and treat patients with dignity, respect, and compassion	1,441,366
Supporting fixed and mobile clinics	2,059,094
Total	20,533,178
Nutrition	
Surveillance and M&E operations	2,627,138
Mobile clinic and Nutrition rehabilitation vans	5,254,277
Vitamin A Supplementation	394,071
People living with HIV and AIDS	525,428
Deworming	394,071
Capacity building	3,940,708
Procurement of material and rehabilitation	5,254,277
Health promotion and community mobilization	2,627,138
Implementation and operational support	5,254,277
Total	26,271,384
Education	
Learning spaces	3,140,000
Teachers	2,104,200
Learning materials/ kits	710,769
CEC structures to be supported	471,000
Data Tracking Costs	706,500
Total	7,132,469

Social Protection & Safety Nets	
Injection of minimum capacity in MoHADM and MoPIED	42,000
Social Protection Policy and Framework, Vulnerability Analysis, Capacity Development of Government, Communication Strategy	378,750
Database Inventory and Analysis	25,000
Design of pilot incl. registry, targeting methodology, transfer systems, monitoring systems, grievance mechanism, vetting	1,250,000
Pilot of system in select geographic areas (incl. urban and rural) targeting 100,000	1,600,000
Total	3,295,750
Food Security	
Continued Humanitarian Assistance for Drought affected People	5,000,000
Livelihood Support for Drought affected People	1,250,000
Support for the development of a national food security strategy	30,000
Support for the development of a national poverty reduction strategy	60,000
Total Needs	6,340,000
Livelihoods & Employment	
Support to Women and Youth to engage in the renewable energy sector	5,000,000
Support to Govt. Institutions to improve and/or establish Labor Market Information Services	475,000
Support to FGS and Federal State Govts to coordinate the E&L sector	50,000
Total	5,525,000
Gender & Social Inclusion	
Implementation of sex, age disaggregated data (SADD) and gender analysis tools	1,075,000
Gender-responsive governance and promote women's participation and leadership	1,100,000
Promote gender equality in disaster risk reduction	875,000
Women sustainable economic and livelihoods development	7,125,000
Gender based Violence (GBV) and targeted responses	875,000
Total	11,050,000
Governance	
Total	TBD
Displacement & Migration	
Collection of sex and age disaggregated profile data of displaced and returning populations	500,000
Monitoring costs (social cohesion, displacement movements, etc.)	125,000
IDP personal identity documentation and civil registration	250,000
Capacity building of state and local authorities to promote recovery and resilience of IDP populations	250,000
Support Community-based participatory planning processes	500,000
Support for the participation in civic life, dispute resolution and peaceful co-existence in displacement affected areas.	250,000

Promoting land tenure security through improved policies and frameworks, including improved land use planning	125,000
Development and adoption of federal policy on internal displacement and reintegration of returnees	125,000
Assessment of conditions for safe return through area-based solutions analysis	125,000
Collect population profile data on remote/rural	250,000
Skills development and livelihoods restoration	3,000,000
Support for market access and strengthened value chains for partial returns (including those with family member remaining in urban areas)	250,000
Support the establishment and strengthening of local authorities	250,000
Communication and sensitization to support re/integration of IDPs and to enable participation in civic life, dispute resolution and peaceful co-existence.	250,000
Establish/strengthen transparent dispute resolution mechanism to manage land disputes	250,000
Total	6,500,000
DRR	
DRM Policy, Legislation and Institutional Harmonization	106,250
Capacity building of National DRM institutions	393,750
Early warning and information management system.	531,250
Drought Management system	218,750
Total	1,250,000
Macro Impact	
Component 2.1: Mobile money for drought response	500,000
Component 2.2: Regulatory support for the ICT Sector	100,000
Component 2.3: Developing a National ID system	25,000
Component 3: Financial Services	250,000
Total	875,000



Somaliland

Overview and Pre-Drought Conditions

Somaliland was formed in 1991 in the wake of the collapse of the central government of Somalia. Its capital is Hargeisa, and other major population centers include the port town of Berbera and the livestock center of Burao. While still a characteristically pastoral society, Somaliland has experienced an accelerated process of urbanization with the percentage of the population living in cities now exceeding 50 percent.²⁶ Nomadic communities constitute 34 percent of the total population.

The region depends on livestock for up to 60 percent of its revenue base and 28 percent of its GDP. Around half of the population is classified as agropastoralists who either engage in crop production and/or livestock rearing. Before the ban by Saudi Arabia on livestock imports from Somalia was instituted in December 2016, Somaliland exported on average 3 million livestock to Gulf Arab markets. Crop agriculture is primarily subsistence in nature, and the principle crops are

sorghum and maize. Horticultural crops grown for the local market include tomatoes, lettuce, onions, peppers, cabbages, oranges, lemons, and papaya.

DINA Findings²⁷: Drought Impact²⁸

With damages amounting to USD 257 million and losses estimated at USD 617 million, the total effects of the drought in Somaliland are expected to exceed USD 874 million. The productive sector (Irrigated & Rain-fed Crops, Livestock and Fisheries) accounts for 65 percent of all the effects, while the physical (Water & Sanitation, Environment and Transport), social (Health, Nutrition and Education), and cross-cutting themes make up 32.7 percent, 0.9 percent, and 1.5 percent, respectively. The two most affected sectors are Livestock and Environment & Natural Resource Management, comprising 63.6 percent and 30.1 percent of the total effects, respectively. A breakdown of damages and losses²⁹ for Somaliland can be found on page 68.

²⁶ Somaliland NDP II: 2017-2022, pg. 25 - http://slministryofplanning.org/images/front-page/Somaliland_NDP_II_Final.pdf.

²⁷ This report is based on regionally disaggregated data for Awdal, Togdheer, Woqooyi Galbeed, Sool and Sanaag regions. The inclusion or exclusion of regions in a given FMS does not imply any judgment on the part of the authors of this report on the legal status of any territory or the endorsement or acceptance of such boundaries.

²⁸ Unlike assessments following rapid onset disasters, drought assessments typically show larger economic losses than physical damages since the drought impact is predominantly felt in economic terms rather than physical impact. The combined damages and losses in turn are typically greater than the recovery needs, particularly in the case of Somalia where many of the biggest immediate needs in food security, nutrition and social protection are covered by the HRP and not the DINA. In addition, the cost of inputs required for recovery is typically less than the value of outputs lost due to drought.

²⁹ Damages are defined as total or partial destruction of physical assets existing in the affected area. Damages occur during and immediately after the disaster. Their monetary values are expressed as the replacement costs according to prices prevailing just before the event. Losses are defined as changes in economic flows arising from the disaster. They occur until full economic recovery and reconstruction is achieved, in some cases lasting for several years, but for the purposes of this assessment, losses have been projected up to January 2018. Typical losses include the decline in output in productive sectors (agriculture, livestock, and fisheries).



Figure 16: Distribution of Somaliland Damages

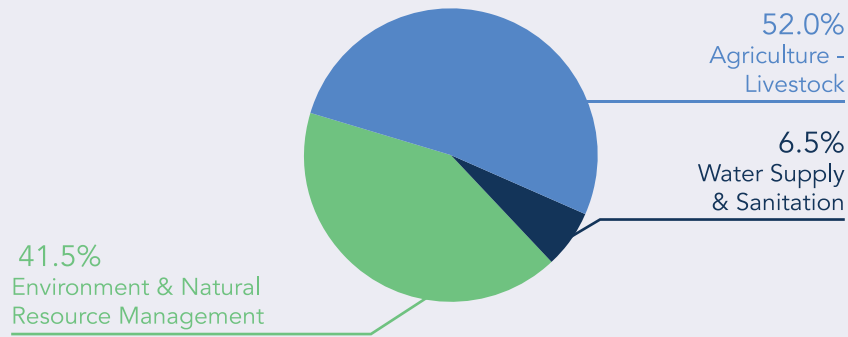
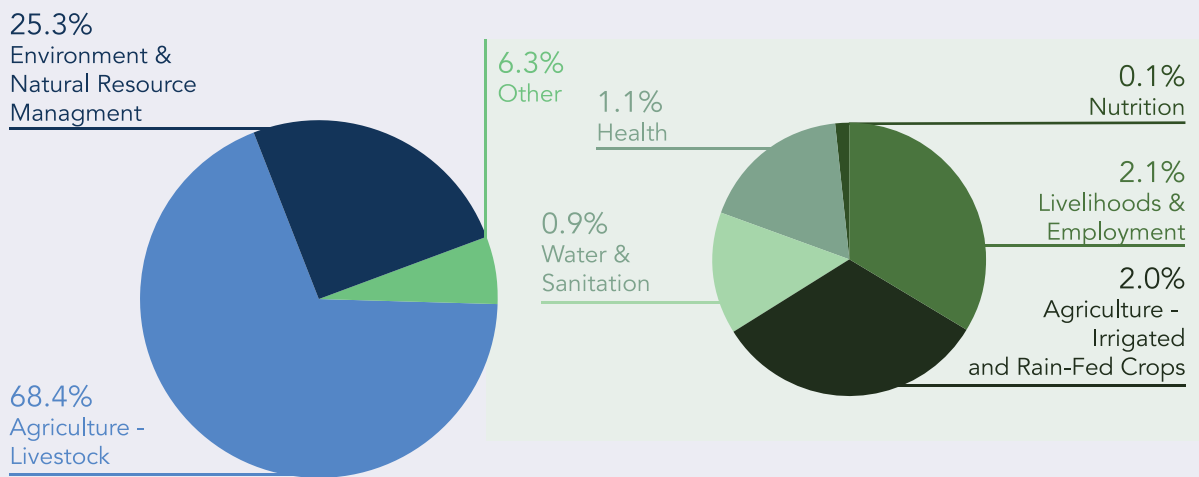


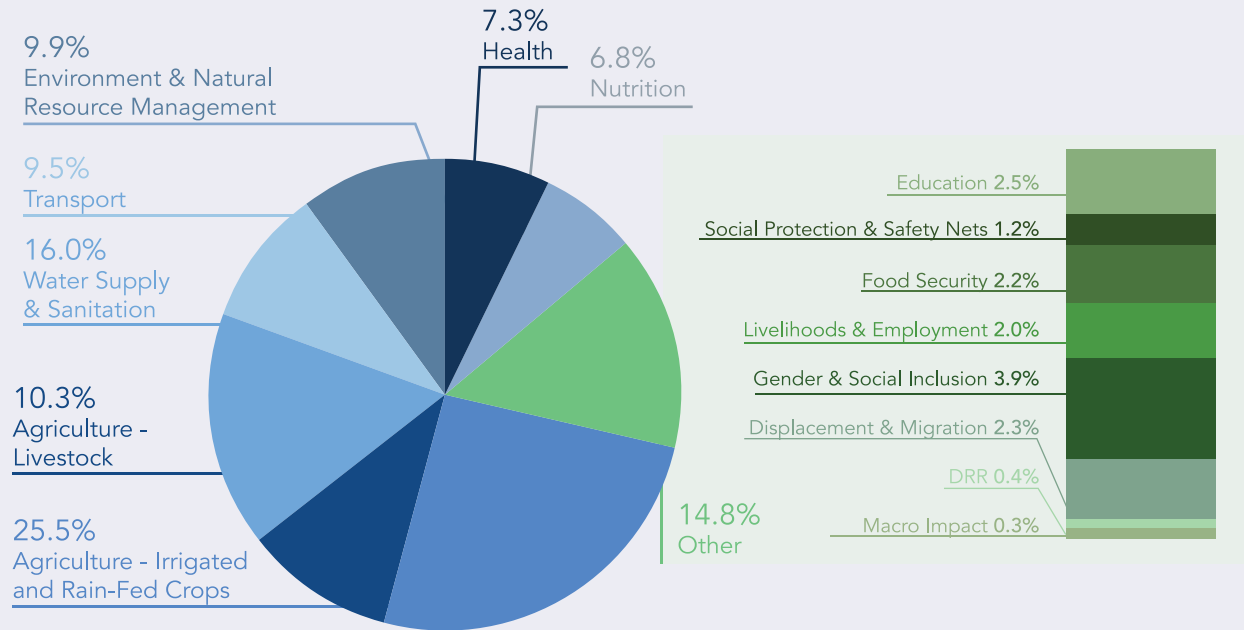
Figure 17: Distribution of Somaliland Losses



DINA Findings: Recovery Needs

Total recovery needs are estimated at USD 309 million. Of the sectors, Irrigated and Rain-fed Crops have the most needs, representing 25.9 percent of total needs, followed by Water Supply and Sanitation (16.2 percent), Livestock (10.5 percent), Environment, Clean Energy and Natural Resource Management (10 percent), Transport (9.7 percent) and Nutrition (6.9 percent).

Figure 18: Distribution of Somaliland Needs



Annex 11: Total Damages, Losses and Needs for Somaliland³⁰

Table 11: Total Damages, Losses, and Needs for Somaliland			
	Cost (USD)		
	Damages	Losses	Needs
Productive Sectors			
Agriculture - Irrigated and Rain-fed Crops	-	12,505,625	80,077,529
Agriculture - Livestock	133,860,727	421,686,708	32,498,235
Agriculture - Fisheries	-	-	-
Productive Sectors Total	133,860,727	434,192,333	112,575,765
Physical Sectors			
Water Supply & Sanitation	16,722,000	5,689,060	50,205,000
Transport	-	-	29,850,000
Environment & Natural Resource Management	106,868,163	156,219,403	31,070,419
Physical Sectors Total	123,590,163	161,908,463	111,125,419
Social Sectors			
Health	-	6,936,073	22,814,642
Nutrition	-	637,656	21,446,502
Education	-	-	7,745,128
Social Sectors Total	-	7,573,729	52,006,273
Cross-cutting Issues			
Urban Development & Municipal Services	-	-	-
Social Protection & Safety Nets	-	-	3,661,944
Food Security	-	-	7,044,444
Livelihoods & Employment	-	12,950,602	6,138,889
Gender & Social Inclusion	-	-	12,277,778
Governance	-	-	-
Conflict	-	-	-
Displacement & Migration	-	-	7,222,222
DRR	-	-	1,388,889
Macro Impact	-	-	972,222
Cross-cutting Issues Total	-	12,950,602	38,706,389
Grand Total	257,450,890	616,625,127	314,413,846

³⁰ Governance needs are pending a determination of functional assignments within Government on drought recovery.

Annex 12: Detailed Sector Damages, Losses and Needs Tables for Somaliland

Table 12: Detailed Sector Damages, Losses and Needs Tables for Somaliland	
DAMAGES	COST
Agriculture - Livestock	
Camels	47,270,804
Sheep and Goats	86,589,922
Total	133,860,727
Water Supply & Sanitation	
Boreholes	14,570,000
Shallow Wells	1,980,000
Berkads	172,000
Total	16,722,000
Environment & Natural Resource Management	
Xeric shrublands and grasslands desiccated	26,850,000
Tree cover loss in montane xeric woodlands	11,505,000
Expansion of land colonized by <i>Prosopis juliflora</i>	120,000
Soils eroded (wind erosion, tons)	394,200
Loss of soil fertility and associated functions	4,027,500
Reduction in yields of cereals and legumes	328,500
Trees lost as a result of increased charcoal production	63,642,963
Total	106,868,163
LOSSES	COST
Agriculture - Irrigated and rain-fed Crops	
Maize	3,559,500
Sorghum	132,750
Tomatoes	17,232
Onions	50,667
Frankincense	8,745,477
Total	12,505,625
Agriculture - Livestock	
Camel Milk	140,705,110
Cow Milk	1,285,462
Sheep and Goat Milk	29,652,688
Camel Live Weight/Value	112,218,800
Cattle Live Weight/Value	5,164,994
Sheep and Goat Live Weight/Value	132,659,655
Total	421,686,708

Water Supply & Sanitation	
Additional cost of water sold from Boreholes	5,179,600
Supplementation cost of water from dried, free sources	509,460
Total	5,689,060
Environment & Natural Resource Management	
Xeric shrublands and grasslands desiccated	37,291,667
Tree cover loss in montane xeric woodlands	1,278,333
Expansion of land colonized by <i>Prosopis juliflora</i>	63,825,200
Soils eroded (wind erosion, tons)	788,400
Trees lost as a result of increased charcoal production	53,035,803
Total	156,219,403
Health	
Increased Incidence of Cholera	145,676
Increased Primary-basic Healthcare costs	6,692,645
Increased Incidence of Measles	97,751
Total	6,936,073
Nutrition	
Increased Cost of treating General Acute Malnutrition	502,964
Increased Cost of treating Severe Acute Malnutrition	134,692
Total	637,656
Livelihoods & Employment	
Transporters	5,815,801
Petty Traders	1,816,401
Milk Traders	5,287,660
Skins and Hides	30,740
Total	12,950,602
NEEDS	COST
Agriculture - Irrigated and rain-fed Crops	
Emergency services provision: access by destitute farmers to staple food & high-quality seeds	14,325,000
Irrigation canal rehabilitation	6,479,000
Improving farm management practices (incl. SMART, Post-Harvest Handling)	12,500,000
Institutional capacity building for better governance	3,800,000
Rebuilding agriculture research and extension system	6,150,000
Strengthening informal and building formal seed system	3,000,000
Water and watershed management	33,823,529
Total	80,077,529

Agriculture - Livestock	
Veterinary services development	24,924,706
Feed development	1,176,471
Restocking with focus in southcentral regions	1,764,706
Rehabilitation of livestock water infrastructures	1,176,471
Rangeland management	1,470,588
Capacity Development	588,235
Poultry Production	367,647
Bee keeping	294,118
Genetic research and breeding	735,294
Total	32,498,235
Water Supply & Sanitation	
Construction of new Boreholes	21,388,889
Rehabilitation of Boreholes	4,222,222
Construction of new Shallow wells	537,500
Rehabilitation of Shallow wells	606,667
Construction of new Berkads	56,389
Rehabilitation of Berkads	60,000
Urban/Rural sanitation (drainage, sewage, and solid waste management)	13,888,889
Institutional strengthening and Capacity building	9,444,444
Total	50,205,000
Transport	
Construction and Rehabilitation of Roads	29,850,000
Total	29,850,000
Environment & Natural Resource Management	
Immediate capacity building of government forest rangers	555,556
Immediate re-seeding of selected rangelands with fast-growing grass species	1,388,889
Setting up germplasm mother blocks (seed production zones for indigenous fruit tree species)	1,388,889
Improvement of energy efficiency of existing charcoal carbonization and kilning systems	2,222,222
Scaling up evergreen agriculture by integrating with trees-on-farm agroforestry systems and ISFM	3,333,333
Development of legislation to support zoning of wildlife parks, migratory corridors	277,778
Training forest end users on sustainable extractive techniques for NWFPs	1,388,889
Technical capacity improvement of Somali government - remote sensing, GIS, national lab	1,111,111
Somaliland private sector energy grid expansion and institutional strengthening	15,000,000
Rehabilitation of selected gullies and other severely degraded ecosystems	2,222,222

Promoting wide-scale adoption of low-cost integrated soil fertility management (ISFM) for improving soil resources	833,333
Assisting the Somali government with the development of a biomass energy policy	833,333
Macro Component 1.1: Develop a Power Master Plan	237,086
Macro Component 1.6: Cross-border Electrification and Interconnector Study (being designed for approval)	277,778
Total	31,070,419
Health	
Engaging the public in promotion of health, hygiene and safe drinking water, sanitation, environmental hygiene, food safety, and safe waste disposal	1,143,941
Promoting food-borne diseases laboratory-based surveillance by developing food safety guidelines and interventions	1,143,941
Introducing standardized rapid diagnostic technologies for prevalent communicable diseases	686,364
Active disease surveillance and early warning system	1,143,941
Prepositioning medical supplies and kits to undertake coordinated rapid response	1,143,941
Establishing an effective health information system that provides accurate and timely health data for evidence planning and implementation supported by monitoring and evaluation	686,364
Increasing cholera treatment centers in all regions	2,287,882
Promoting participation in improving public health at community level	1,143,941
Ensure availability of essential medicines, vaccines, and commodities	6,113,106
Establishing emergency response services	1,143,941
Ensuring immunization of all children and pregnant women against the major child killer diseases	2,287,882
Deploying more health care workers that are competent on tasks and treat patients with dignity, respect, and compassion	1,601,517
Supporting fixed and mobile clinics	2,287,882
Total	22,814,643
Nutrition	
Surveillance and M&E operations	2,144,650
Mobile clinic and Nutrition rehabilitation vans	4,289,300
Vitamin A Supplementation	321,698
People living with HIV and AIDS	428,930
Deworming	321,698
Capacity building	3,216,975
Procurement of material and rehabilitation	4,289,300
Health promotion and community mobilization	2,144,650
Implementation and operational support	4,289,300
Total	21,446,502

Education	
Learning spaces	3,410,000
Teachers	2,284,800
Learning materials/ kits	771,578
CEC structures to be supported	511,500
Data Tracking Costs	767,250
Total	7,745,128
Social Protection & Safety Nets	
Injection of minimum capacity in MoHADM and MoPIED	46,667
Social Protection Policy and Framework, Vulnerability Analysis, Capacity Development of Government, Communication Strategy	420,833
Database Inventory and Analysis	27,778
Design of pilot incl. registry, targeting methodology, transfer systems, monitoring systems, grievance mechanism, vetting	1,388,889
Pilot of system in select geographic areas (incl. urban and rural) targeting 100,000	1,777,778
Total	3,661,944
Food Security	
Continued Humanitarian Assistance for Drought affected People	5,555,556
Livelihood Support for Drought affected People	1,388,889
Support for the development of a national food security strategy	33,333
Support for the development of a national poverty reduction strategy	66,667
Total Needs	7,044,444
Livelihoods & Employment	
Support to Women and Youth to engage in the renewable energy sector	5,555,556
Support to Govt. Institutions to improve and/or establish Labor Market Information Services	527,778
Support to FGS and Federal State Govts to coordinate the E&L sector	55,556
Total	6,138,889
Gender & Social Inclusion	
Implementation of sex, age disaggregated data (SADD) and gender analysis tools	1,194,444
Gender-responsive governance and promote women's participation and leadership	1,222,222
Promote gender equality in disaster risk reduction	972,222
Women sustainable economic and livelihoods development	7,916,667
Gender based Violence (GBV) and targeted responses	972,222
Total	12,277,778
Governance	
Total	TBD

Displacement & Migration	
Collection of sex and age disaggregated profile data of displaced and returning populations	555,556
Monitoring costs (social cohesion, displacement movements, etc.)	138,889
IDP personal identity documentation and civil registration	277,778
Capacity building of state and local authorities to promote recovery and resilience of IDP populations	277,778
Support Community-based participatory planning processes	555,556
Support for the participation in civic life, dispute resolution and peaceful co-existence in displacement affected areas.	277,778
Promoting land tenure security through improved policies and frameworks, including improved land use planning	138,889
Development and adoption of federal policy on internal displacement and reintegration of returnees	138,889
Assessment of conditions for safe return through area-based solutions analysis	138,889
Collect population profile data on remote/rural	277,778
Skills development and livelihoods restoration	3,333,333
Support for market access and strengthened value chains for partial returns (including those with family member remaining in urban areas)	277,778
Support the establishment and strengthening of local authorities	277,778
Communication and sensitization to support re/integration of IDPs and to enable participation in civic life, dispute resolution and peaceful co-existence.	277,778
Establish/strengthen transparent dispute resolution mechanism to manage land disputes	277,778
Total	7,222,222
DRR	
DRM Policy, Legislation and Institutional Harmonization	118,056
Capacity building of National DRM institutions	437,500
Early warning and information management system.	590,278
Drought Management system	243,056
Total	1,388,889
Macro Impact	
Component 2.1: Mobile money for drought response	555,556
Component 2.2: Regulatory support for the ICT Sector	111,111
Component 2.3: Developing a National ID system	27,778
Component 3: Financial Services	277,778
Total	972,222



South West State

Overview and Pre-Drought Conditions

South West state is comprised of the Bay, Bakool, and Lower Shabelle regions.³¹ The official capital is the coastal city of Berawe in Lower Shabelle. However, Baidoa in the Bay region is now the provisional capital, with the state government based here due to security concerns.

South West state of Somalia is potentially an agriculturally rich area with both the Juba and Shebelle Rivers providing a strong point for the development and expansion of irrigated and rain-fed agriculture. The Juba and Shebelle Rivers are prime locations for the development of dual-use dams dedicated to the production of electricity and irrigation programs for sustained year-round crop production. Fisheries are also a major economic driver due the presence of the nation's largest artisanal fishing communities, based in Lower Shebelle. Additionally, previous mineral prospects and surveys indicate that South West state has large, untapped deposits of iron and uranium.

DINA Findings³²: Drought Impact³³

With damages amounting to USD 202 million and losses estimated at USD 425 million, the total effects of the drought in South West State are expected to exceed USD 628 million. The productive sector (Irrigated & Rain-fed Crops, Livestock and Fisheries) accounts for 62.8 percent

of all the effects, while the physical (Water & Sanitation, Environment and Transport), social (Health, Nutrition and Education), and cross-cutting themes make up 34.9 percent, 1.1 percent, and 1.2 percent, respectively. The three most affected sectors are Environment & Natural Resource Management, Irrigated and Rain-fed Crops, and Livestock, comprising 33.4 percent, 32.8 percent, and 29.5 percent of the total effects, respectively.

In addition, South West State has been affected by the movement of displaced persons during this drought period. In Baidoa alone, as of 31st August 2017, 234,105 new IDPs had arrived since November 2016, surpassing the host community population in the city. This continues to exert pressure on service delivery and infrastructure in urban and peri-urban areas.³⁴

Suggested recovery needs over the next five years are highlighted below; however, a more detailed list of recovery interventions can be found in the *Drought Intervention and Recovery Plan, October 2017 to March 2019* of the South West State of Somalia. This describes needs by sector and by district, as well as proposing a governance and monitoring structure for interventions over 18 months.

A breakdown of damages and losses³⁵ for South West State can be found on page 80.

³¹ Federal Government of Somalia. 2016. National Development Plan (2017-2019).

³² This report is based on regionally disaggregated data for Bay, Bakool and Lower Shabelle regions.

³³ Unlike assessments following rapid onset disasters, drought assessments typically show larger economic losses than physical damages since the drought impact is predominantly felt in economic terms rather than physical impact. The combined damages and losses in turn are typically greater than the recovery needs, particularly in the case of Somalia where many of the biggest immediate needs in food security, nutrition and social protection are covered by the HRP and not the DINA. In addition, the cost of inputs required for recovery is typically less than the value of outputs lost due to drought.

³⁴ Drought Intervention and Recovery Plan, Oct 2017 to March 2019.

³⁵ Damages are defined as total or partial destruction of physical assets existing in the affected area. Damages occur during and immediately after the disaster. Their monetary values are expressed as the replacement costs according to prices prevailing just before the event. Losses are defined as changes in economic flows arising from the disaster. They occur until full economic recovery and reconstruction is achieved, in some cases lasting for several years, but for the purposes of this assessment, losses have been projected up to January 2018. Typical losses include the decline in output in productive sectors (agriculture, livestock, and fisheries).



Figure 19: Distribution of South West State Damages

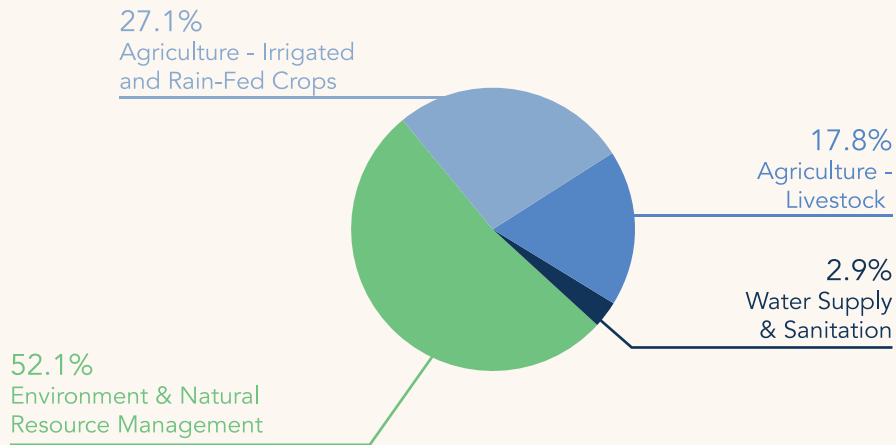
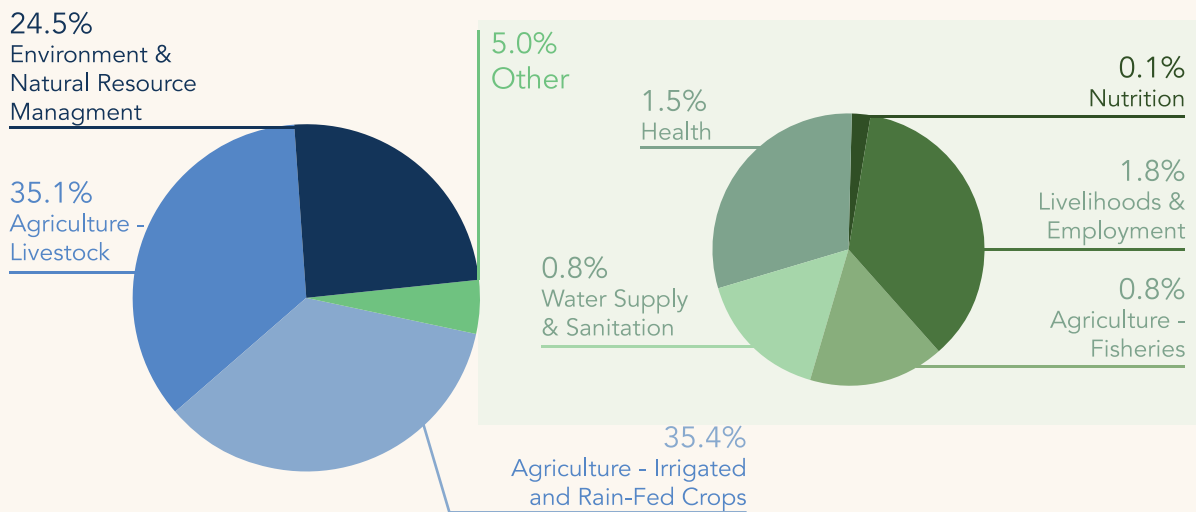


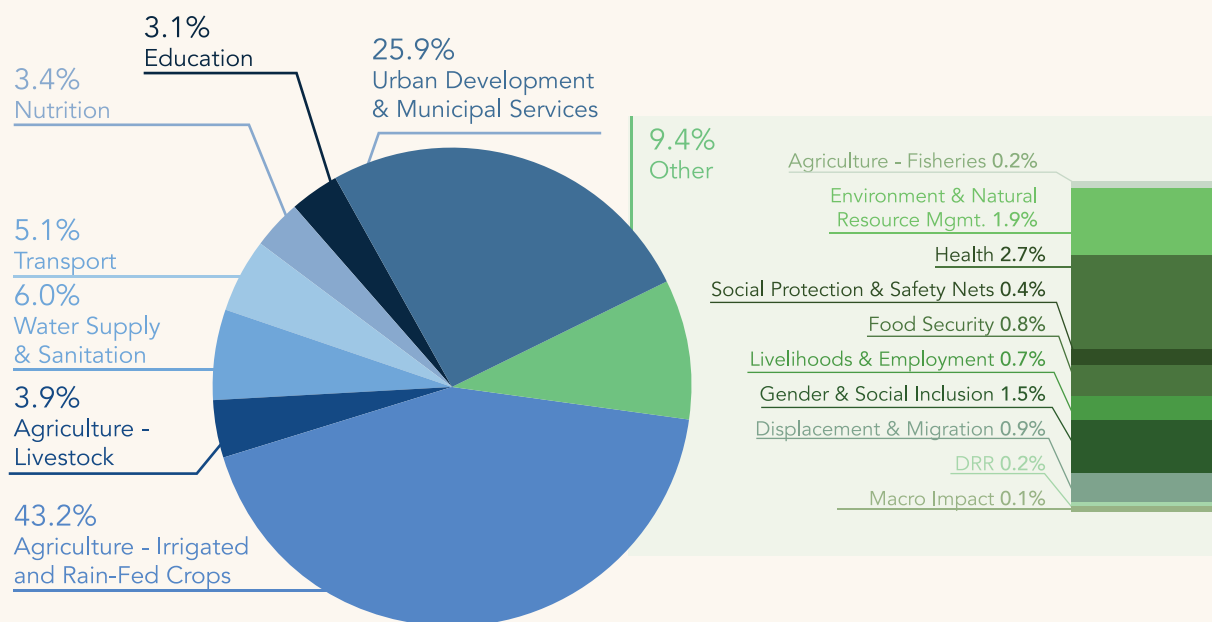
Figure 20: Distribution of South West State Losses



DINA Findings: Recovery Needs

Total recovery needs are estimated at USD 515 million. Of the sectors, Irrigated and Rain-fed Crops, and Urban Development and Municipal Services have the most needs, representing 42.2 percent and 25.3 percent of total needs, respectively. Some of the other sectors, ranked in terms of needs, are Water Supply and Sanitation (5.9 percent), and Transport (5 percent).

Figure 21: Distribution of South West State Needs



DINA Field Visits and Consultations: Key Findings

The Ministry of Planning, Investment and Economic Development (MoPIED) and UN colleagues coordinated a field visit to Baidoa to undertake consultations with state-level line ministries, UN agencies operational in the state, and civil society representatives, regarding data collection, needs assessment and recovery strategies. Based on these consultations, the following sectors were identified as key priorities for recovery and resilience in Southwest State:

Agriculture - Livestock: Livestock replenishment and the construction of a livestock market is required.

Water Supply and Sanitation: Undertaking CFW schemes for the rehabilitation and construction of water points, birkets, and shallow wells is needed. Borehole drillings will also need to be undertaken throughout the state.

Transport: Undertaking CFW schemes for the rehabilitation and construction of town cobblestone roads and feeder roads should be focused on.

Health: Implementation of Integrated Community Care Management was identified as necessary to reduce infant and maternal mortality.

In terms of cross-cutting areas, livelihoods restoration support such as seed distribution and livelihoods diversification was identified as important interventions. Targeted support to IDPs in terms of support packages for the resettlement of this population was seen as necessary considering the large numbers of displaced due to the drought.

Annex 13: Total Damages, Losses and Needs for South West State³⁶

Table 13: Total Damages, Losses, and Needs for the South West State			
	Cost (USD)		
	Damages	Losses	Needs
Productive Sectors			
Agriculture - Irrigated and Rain-fed Crops	54,961,000	150,622,742	217,269,517
Agriculture - Livestock	36,093,331	149,047,785	19,498,941
Agriculture - Fisheries	-	3,231,202	941,667
Productive Sectors Total	91,054,331	302,901,729	237,710,124
Physical Sectors			
Water Supply & Sanitation	5,914,000	3,413,436	30,123,000
Transport	-	-	25,500,000
Environment & Natural Resource Management	105,509,275	104,273,166	9,642,2552
Physical Sectors Total	111,423,275	107,686,602	65,265,252
Social Sectors			
Health	-	6,288,378	13,688,786
Nutrition	-	510,703	17,208,368
Education	-	-	15,612,404
Social Sectors Total	-	6,799,082	46,509,558
Cross-cutting Issues			
Urban Development & Municipal Services	-	-	130,161,622
Social Protection & Safety Nets	-	-	2,197,167
Food Security	-	-	4,226,667
Livelihoods & Employment	-	7,770,361	3,683,333
Gender & Social Inclusion	-	-	7,366,667
Governance	-	-	-
Conflict	-	-	-
Displacement & Migration	-	-	4,333,333
DRR	-	-	833,333
Macro Impact	-	-	583,333
Cross-cutting Issues Total	-	7,770,361	153,385,455
Grand Total	202,477,605	425,157,774	502,870,389

³⁶ Governance needs are pending a determination of functional assignments within Government on drought recovery.

Annex 14: Detailed Sector Damages, Losses and Needs Tables for South West State

Table 14: Detailed Sector Damages, Losses and Needs Tables for South West State	
DAMAGES	COST
Agriculture - Irrigated and rain-fed Crops	
Loss of Banana Trees	46,050,000
Primary Canal Damages	773,500
Direct Intake Canal Damages	1,592,500
Secondary Canal Damages	6,545,000
Total	54,961,000
Agriculture - Livestock	
Camels	15,338,931
Cattle	12,061,342
Sheep and Goats	8,693,057
Total	36,093,331
Water Supply & Sanitation	
Boreholes	5,500,000
Shallow Wells	414,000
Total	5,914,000
Environment & Natural Resource Management	
Xeric shrublands and grasslands desiccated	49,326,000
Tree cover loss in montane xeric woodlands	6,903,000
Soils eroded (wind erosion, tons)	204,750
Loss of soil fertility and associated functions	7,398,900
Reduction in yields of cereals and legumes	170,625
Trees lost as a result of increased charcoal production	41,506,000
Total	105,509,275
LOSSES	COST
Agriculture - Irrigated and rain-fed Crops	
Cowpeas	5,226,893
Maize	7,901,412
Sesame	21,658,400
Sorghum	13,644,706
Banana	45,954,778
Lemon	2,022,836
Grapefruit	10,843,747
Papaya	13,696,282
Watermelon	14,834,127
Tomatoes	13,283,287

Onions	1,211,759
Legumes	344,513
Total	150,622,742
Agriculture - Livestock	
Camel Milk	25,832,381
Cow Milk	19,283,669
Sheep and Goat Milk	5,435,468
Camel Live Weight/Value	32,791,800
Cattle Live Weight/Value	29,115,259
Sheep and Goat Live Weight/Value	36,589,207
Total	149,047,785
Agriculture - Fisheries	
Loss of Sales	1,839,778
Loss of Consumption	978,641
Loss of Assets	206,392
Loss of Access to Fishing Grounds	206,392
Total	3,231,202
Water Supply & Sanitation	
Additional cost of water sold from Boreholes	3,107,760
Supplementation cost of water from dried, free sources	305,676
Total	3,413,436
Environment & Natural Resource Management	
Xeric shrublands and grasslands desiccated	68,508,333
Tree cover loss in montane xeric woodlands	767,000
Soils eroded (wind erosion, tons)	409,500
Trees lost as a result of increased charcoal production	34,588,333
Total	104,273,166
Health	
Increased Incidence of Cholera	559,581
Increased Primary-basic Healthcare costs	5,697,338
Increased Incidence of Measles	31,459
Total	6,288,378
Nutrition	
Increased Cost of treating General Acute Malnutrition	382,425
Increased Cost of treating Severe Acute Malnutrition	128,278
Total	510,703
Livelihoods & Employment	
Transporters	3,489,480
Petty Traders	1,089,840

Milk Traders	3,172,596
Skins and Hides	18,444
Total	7,770,361
NEEDS	COST
Agriculture - Irrigated and rain-fed Crops	
Emergency services provision: access by destitute farmers to staple food & high-quality seeds	48,542,039
Irrigation canal rehabilitation	76,238,472
Recovery / resilience of banana plantations (small and large)	8,802,500
Improving farm management practices (incl. SMART, Post-Harvest Handling)	23,678,900
Institutional capacity building for better governance	8,707,578
Rebuilding agriculture research and extension system	20,840,038
Strengthening informal and building formal seed system	10,165,872
Water and watershed management	20,294,118
Total	217,269,517
Agriculture - Livestock	
Veterinary services development	14,954,824
Feed development	705,882
Restocking with focus in southcentral regions	1,058,824
Rehabilitation of livestock water infrastructures	705,882
Rangeland management	882,353
Capacity Development	352,941
Poultry Production	220,588
Bee keeping	176,471
Genetic research and breeding	441,176
Total	19,498,941
Agriculture - Fisheries	
Distribution of Fishing Kits	25,000
Development of Fishing Landing Sites	333,333
Development of spate fed desert aquaculture	250,000
Development of dried fish	333,333
Total	941,667
Water Supply & Sanitation	
Construction of new Boreholes	12,833,333
Rehabilitation of Boreholes	2,533,333
Construction of new Shallow wells	322,500
Rehabilitation of Shallow wells	364,000
Construction of new Berkads	33,833

Rehabilitation of Berkads	36,000
Urban/Rural sanitation (drainage, sewage, and solid waste management)	8,333,333
Institutional strengthening and Capacity building	5,666,667
Total	30,123,000
Transport	
Construction and Rehabilitation of Roads	25,500,000
Total	25,500,000
Environment & Natural Resource Management	
Immediate capacity building of government forest rangers	333,333
Immediate re-seeding of selected rangelands with fast-growing grass species	833,333
Setting up germplasm mother blocks (seed production zones for indigenous fruit tree species)	833,333
Improvement of energy efficiency of existing charcoal carbonization and kilning systems	1,333,333
Scaling up evergreen agriculture by integrating with trees-on-farm agroforestry systems and ISFM	2,000,000
Development of legislation to support zoning of wildlife parks, migratory corridors	166,667
Training forest end users on sustainable extractive techniques for NWFPs	833,333
Technical capacity improvement of Somali government - remote sensing, GIS, national lab	666,667
Rehabilitation of selected gullies and other severely degraded ecosystems	1,333,333
Promoting wide-scale adoption of low-cost integrated soil fertility management (ISFM) for improving soil resources	500,000
Assisting the Somali government with the development of a biomass energy policy	500,000
Macro Component 1.1: Develop a Power Master Plan	142,252
Macro Component 1.6: Cross-border Electrification and Interconnector Study (being designed for approval)	166,667
Total	9,642,252
Health	
Engaging the public in promotion of health, hygiene and safe drinking water, sanitation, environmental hygiene, food safety, and safe waste disposal	686,365
Promoting food-borne diseases laboratory-based surveillance by developing food safety guidelines and interventions	686,365
Introducing standardized rapid diagnostic technologies for prevalent communicable diseases	411,819
Active disease surveillance and early warning system	686,365
Prepositioning medical supplies and kits to undertake coordinated rapid response	686,365
Establishing an effective health information system that provides accurate and timely health data for evidence planning and implementation supported by monitoring and evaluation	411,819
Increasing cholera treatment centers in all regions	1,372,729
Promoting participation in improving public health at community level	686,365
Ensure availability of essential medicines, vaccines, and commodities	3,667,863
Establishing emergency response services	686,365

Ensuring immunization of all children and pregnant women against the major child killer diseases	1,372,729
Deploying more health care workers that are competent on tasks and treat patients with dignity, respect, and compassion	960,910
Supporting fixed and mobile clinics	1,372,729
Total	13,688,786
Nutrition	
Surveillance and M&E operations	1,720,837
Mobile clinic and Nutrition rehabilitation vans	3,441,674
Vitamin A Supplementation	258,126
People living with HIV and AIDS	344,167
Deworming	258,126
Capacity building	2,581,255
Procurement of material and rehabilitation	3,441,674
Health promotion and community mobilization	1,720,837
Implementation and operational support	3,441,674
Total	17,208,368
Education	
Learning spaces	6,870,000
Teachers	4,611,600
Learning materials/ kits	1,554,554
CEC structures to be supported	1,030,500
Data Tracking Costs	1,545,750
Total	15,612,404
Urban Development & Municipal Services	
Shelter	39,940,550
Education	20,183,663
Health	776,955
Water and Sanitation	5,019,294
Jobs	62,741,160
Institutional Strengthening	1,500,000
Total	130,161,622
Social Protection & Safety Nets	
Injection of minimum capacity in MoHADM and MoPIED	28,000
Social Protection Policy and Framework, Vulnerability Analysis, Capacity Development of Government, Communication Strategy	252,500
Database Inventory and Analysis	16,667
Design of pilot incl. registry, targeting methodology, transfer systems, monitoring systems, grievance mechanism, vetting	833,333
Pilot of system in select geographic areas (incl. urban and rural) targeting 100,000	1,066,667
Total	2,197,167

Food Security	
Continued Humanitarian Assistance for Drought affected People	3,333,333
Livelihood Support for Drought affected People	833,333
Support for the development of a national food security strategy	20,000
Support for the development of a national poverty reduction strategy	40,000
Total Needs	4,226,667
Livelihoods & Employment	
Support to Women and Youth to engage in the renewable energy sector	3,333,333
Support to Govt. Institutions to improve and/or establish Labor Market Information Services	316,667
Support To FGS and Federal State Govts to coordinate the E&L sector	33,333
Total	3,683,333
Gender & Social Inclusion	
Implementation of sex, age disaggregated data (SADD) and gender analysis tools	716,667
Gender-responsive governance and promote women's participation and leadership	733,333
Promote gender equality in disaster risk reduction	583,333
Women sustainable economic and livelihoods development	4,750,000
Gender based Violence (GBV) and targeted responses	583,333
Total	7,366,667
Governance	
Total	TBD
Displacement & Migration	
Collection of sex and age disaggregated profile data of displaced and returning populations	333,333
Monitoring costs (social cohesion, displacement movements, etc.)	83,333
IDP personal identity documentation and civil registration	166,667
Capacity building of state and local authorities to promote recovery and resilience of IDP populations	166,667
Support Community-based participatory planning processes	333,333

Support for the participation in civic life, dispute resolution and peaceful co-existence in displacement affected areas.	166,667
Promoting land tenure security through improved policies and frameworks, including improved land use planning	83,333
Development and adoption of federal policy on internal displacement and reintegration of returnees	83,333
Assessment of conditions for safe return through area-based solutions analysis	83,333
Collect population profile data on remote/rural	166,667
Skills development and livelihoods restoration	2,000,000
Support for market access and strengthened value chains for partial returns (including those with family member remaining in urban areas)	166,667
Support the establishment and strengthening of local authorities	166,667
Communication and sensitization to support re/integration of IDPs and to enable participation in civic life, dispute resolution and peaceful co-existence.	166,667
Establish/strengthen transparent dispute resolution mechanism to manage land disputes	166,667
Total	4,333,333
DRR	
DRM Policy, Legislation and Institutional Harmonization	70,833
Capacity building of National DRM institutions	262,500
Early warning and information management system.	354,167
Drought Management system	145,833
Total	833,333
Macro Impact	
Component 2.1: Mobile money for drought response	333,333
Component 2.2: Regulatory support for the ICT Sector	66,667
Component 2.3: Developing a National ID system	16,667
Component 3: Financial Services	166,667
Total	583,333





