

# The Impact of Drought and Climate-Related Shocks on Livelihood Practices in Somali

March, 2024  
Ethiopia

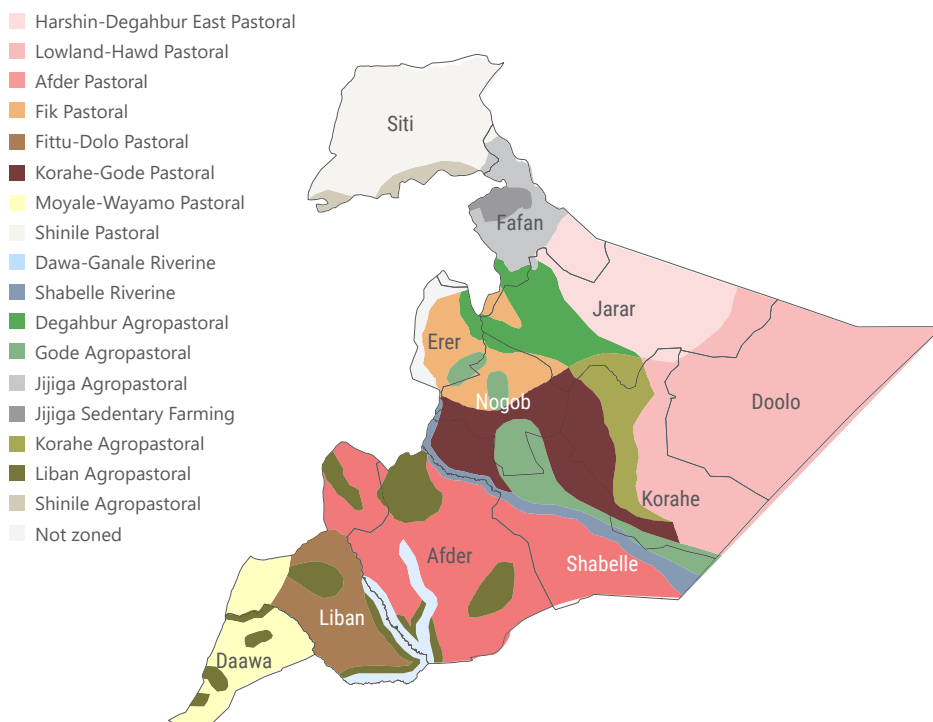
## KEY MESSAGES

- Recurrent droughts have had a devastating impact on livelihoods in the region in the past 4 years, with historically high acute food insecurity. Many of the pastoralists' herds died due to the lack of water and pasture, while agricultural production also declined, thus leading to reductions in households income up to 35% for pastoralists and 25% for crop farmers.
- Displaced households generally reported poorer food security levels and less access to sources of income and basic services. More than two thirds of the households (70%) were not able to meet more than half of their basic needs, and more than a quarter of households resorted to emergency level coping strategies.
- The *Deyr* floods significantly impacted food stocks, agricultural land, livestock, shelter and main water sources. The accumulation of shocks, further reduced the resilience and recovery of households, particularly in Daawa, Liban and Afder, as well as of displaced households.
- Results indicate poor sanitation and hygiene conditions and a general lack of access to health and nutrition services, making the population more vulnerable to outbreaks of diseases such as cholera.

## CONTEXT & RATIONALE

Following the historically severe and long 2020-2023 drought,<sup>1</sup> communities in the Somali region in Ethiopia are grappling with acute food insecurity, water scarcity, and the consequential impact on livelihoods.<sup>2</sup> While in the past, Ethiopian pastoralist communities have employed various coping mechanisms to counteract the effects of drought, compounding challenges of conflict and extreme flooding triggered by El Niño are straining the resilience of communities.<sup>3</sup> The prevailing dire situation in the region is compounded by conflict and climate induced adversities, including massive displacement with more than 1 million IDPs, food price inflation, and disease outbreaks such as cholera.<sup>4</sup>

Map 1: Livelihood zones in the Somali region<sup>5</sup>



## ASSESSMENT OVERVIEW

Considering the severe impact of these multiple shocks, REACH conducted a livelihood coping assessment in Somali region in October 2023, during *Deyr* rain season. This assessment sought to fill information gaps on the impact of the drought on livelihoods, as well as enhance emergency response prioritisation, early recovery and resilience building response approaches.

## METHODOLOGY:

A total of 2,633 household-level interviews were conducted across 9 of the 11 administrative zones in the Somali region. Data collection took place between 12 November 2023 and 30 December 2023. Findings are representative at the zonal level (admin 2) for host and IDP households, across the 9 selected zones. For more details refer to page 12.

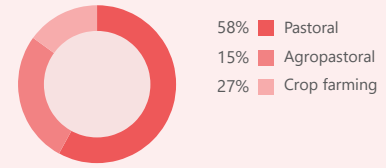
## LIVELIHOOD SYSTEMS

Livelihoods in the Somali region have been split into 17 different zones (see Map 1), which fit into three categories: pastoral, agropastoral and cropping. Differences among zones mainly arise from the relative availability and quality of pastures and watering points, as well as from geographical factors and isolation from markets.<sup>7</sup>

Due to the high dependency on rainfall patterns, pastoralist, agropastoralist and crop producing communities have diversified their income and food sources to sustain their livelihoods.<sup>8</sup> Thus, households rely on gifts and remittances, casual or daily labour, own business, salaried work, loans or humanitarian aid as other primary income or food source

(see figure 6 and 32).

Figure 1: % of rural population by type of livelihood zone (2007 census)<sup>9</sup>



## SHOCKS

**41%** of households reported experiencing a shock or difficulty during the 3 months prior to data collection.

Map 2: % of households reporting having experienced difficulties or shocks in the three months prior to data collection

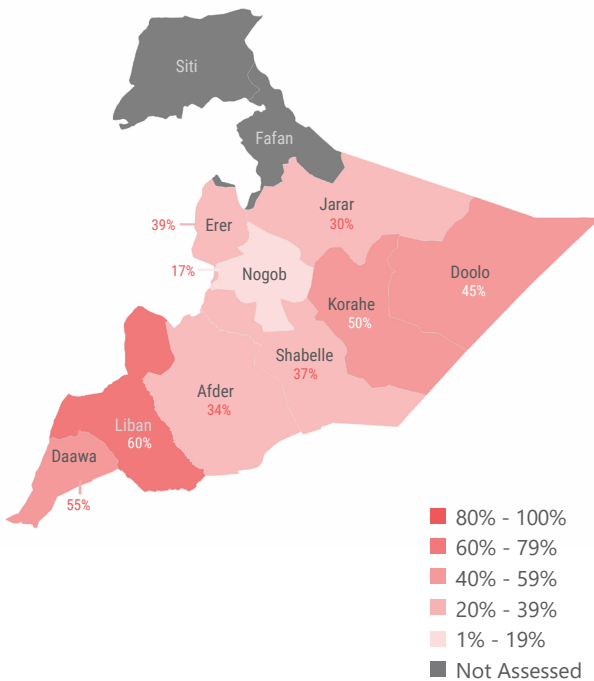


Figure 2: Most commonly reported shocks or difficulties reported by households, by % of households in the assessed zones<sup>6</sup>

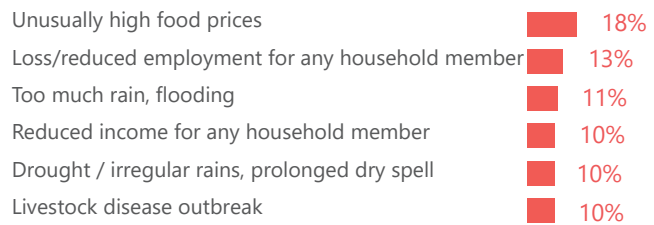


Figure 3: Amongst households who reported experiencing a shock or difficulty in the 3 months prior to data collection (41%), the most frequently reported impacts were, by % of household<sup>6</sup>



## DISPLACEMENT



**Drought-induced factors** were the main cause of displacement for **54%** of displaced households and households with displaced members

**10%**

of households migrated in the three years prior to data collection (2020-2023)

Figure 4: Place of origin for displaced households in the Somali region

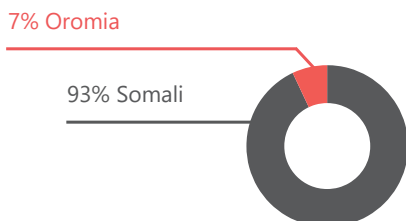


Figure 5: Most commonly reported displacement reason for households or members of the household<sup>6</sup>

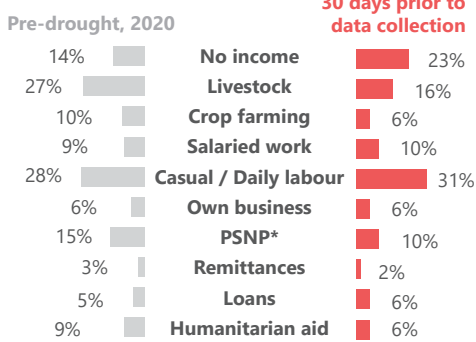


While drought and related environmental factors were key drivers for displacement amongst communities currently residing in Somali, conflict has also played a major role. **From households reporting being displaced from Oromia, 91% of them cited conflict or fear of conflict as a reason for their displacement.**

## LIVELIHOODS

**53%** of households reported having **lower income** during the month prior to data collection compared to 2020, before the drought.

**Figure 6: Primary sources of household's monthly income<sup>6</sup>**



\* Productive Safety Net Program (PSNP)

Consequences of the three-year lasting drought, rising food prices, and damages caused by the *Deyr* floods, deteriorated livelihood practices in Somali region.

### PASTORALIST PRACTICES

Pastoralist livelihoods relying on livestock rearing as their primary income source, are predominant in Somali region.<sup>10</sup> However, findings indicate a significant decline in livestock ownership since the beginning of the drought across all zones. While **43%** of households reported owning livestock in 2020, prior to the start of the drought, only **18%** reported owning any in December 2023, during data collection.<sup>11</sup>

**Figure 9: Household's average monthly income amongst those reporting livestock as primary source of livelihoods, in birr**

Pre-drought (2020)      December 2023

**6,680**

**4,360**

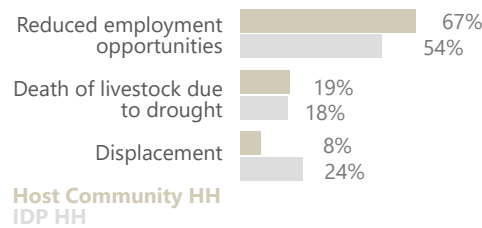
Household income for those reporting livestock as their main source of income, plummeted compared to pre-drought levels, particularly in Daawa (reported decline of 80%) and Erer (of 45%).

**This decrease in income reflects the reduction in herd size and challenges posed by the repeated droughts** (see figure 10).

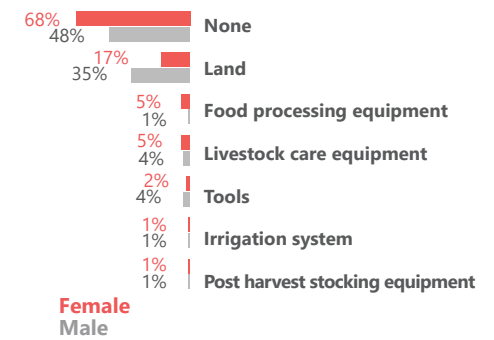
Whilst the drought was the most frequently reported reason for herd reduction amongst those who reported a decrease in livestock owned (28%), a combination of other factors also contributed to this decrease, impacting the coping capacity of pastoralists further.

One third (33%) of the 41% of households reporting having experienced a shock in the last quarter of 2023, reported constraints in accessing their main livelihood activity due to the shocks, with the highest impacts in Korahe (75%), Shabelle (70%) and Afder (53%) (see figure 3).

**Figure 7: 53% of households reported having lower income compared to pre-drought, the main reported reasons were<sup>6</sup>**

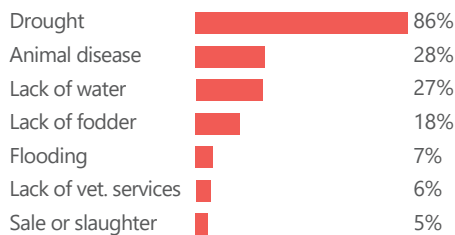


**Figure 8: Main productive assets for livestock and/or agricultural production, by gender of the head of household**



Differences between male and female heads of households in the ownership of productive assets are indicative of different gender roles in the livelihood systems.

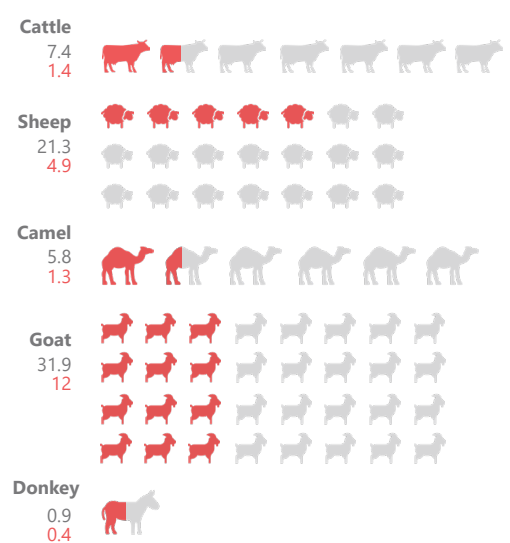
**Figure 10: 28% of households reported a decrease in livestock owned, the main reported reasons were<sup>6</sup>**



Animal disease outbreaks were most frequently cited by households in Afder (72%), and Liban (43%) as one of the main reasons for the decrease. The loss of livestock due to diseases during the second half of 2023 in the Somali region was reportedly estimated to amount to 192,398 animals.<sup>12</sup> Lack of veterinary services was cited by 26% of the households in Jarar. While in both Liban and Shabelle zones, 3% of households reported armed groups as one of the main reasons for such a decrease.

The largely above average rainfall during the *Deyr* season further impacted pastoralists households. (see page 6). From the 23% of households who reported having been affected by the floods, 32% reported the loss of half or more of their herd, including **9% reporting the loss of their entire herd**. Host communities in Shabelle and Afder reported the highest proportions of loss of entire herd, with 18% and 16% respectively. Damage to livestock care assets was reported in Liban (13%), Shabelle (7%) and Afder (6%).

**Figure 11: Average number and type of livestock owned by households pre-drought, and at the time of data collection<sup>11</sup>**



While it is anticipated that it will take several seasons for livestock to recover from the drought,<sup>13</sup> reports indicate that livestock have bred as forecasted.<sup>14</sup> Parturition (calving) for cattle, camels and goats is expected to be in the early 2024 *Gu* rainy season, between March and April, reducing the strain on households relying on cattle as an income source and contributing to their resilience efforts.<sup>15</sup> However, the recovery is reportedly challenged by persistent disease outbreaks in most livestock species, whilst below-average livestock productivity is affecting milk production.<sup>16</sup>

### Coping with lack of water and pasture

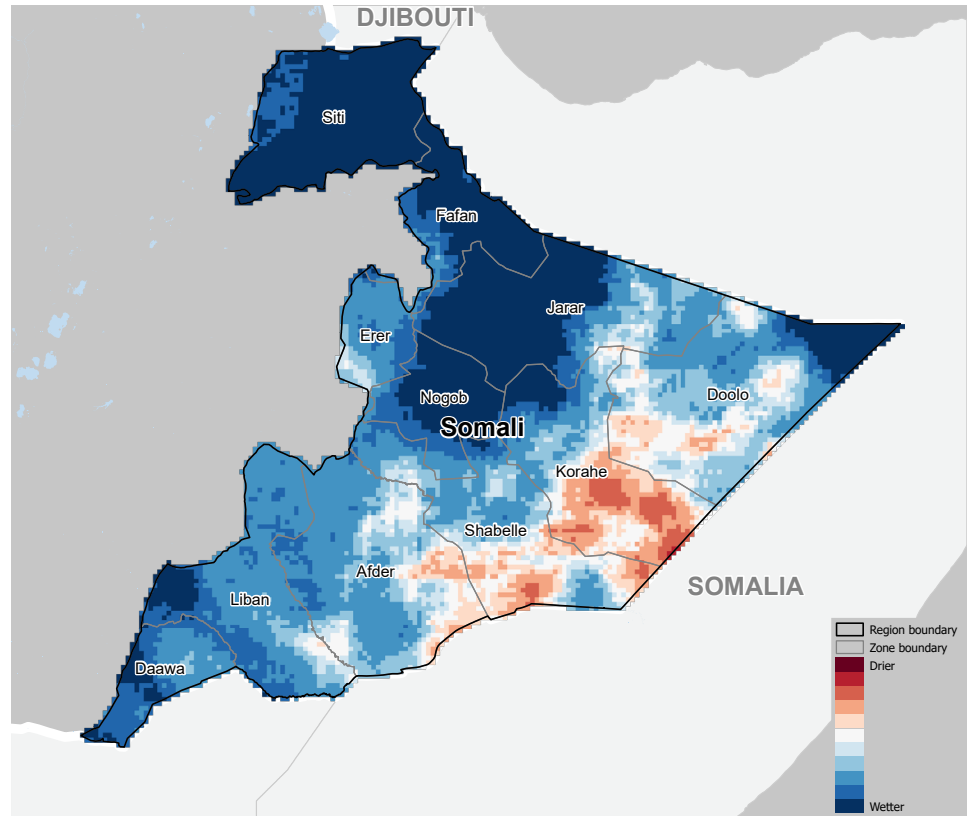
Results from the SPI analysis show that the 2024 *Gu* and *Deyr* rain seasons were wetter than the previous years, indicating better water and pasture availability in the assessed zones of the Somali region at the time of data collection (see Map 4 and Annex II).<sup>17</sup> Nonetheless, a similar proportion of households reported relying on specific strategies to cope with the lack of pasture and water before the drought (18%) and during the 6 months prior to data collection (15%).

**Figure 12: Most frequently reported strategies used by households to cope with lack of pasture and water during the second half of 2023 (n=416)<sup>6</sup>**

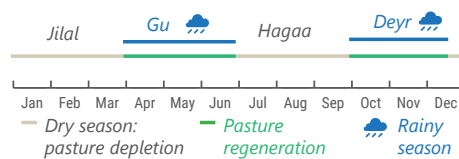
Household splitting	<span style="display:inline-block; width:15px; height:15px; background-color:red; margin-right:5px;"></span>	27%
Seeking employment	<span style="display:inline-block; width:15px; height:15px; background-color:red; margin-right:5px;"></span>	26%
Slaughter of old / weak animals	<span style="display:inline-block; width:15px; height:15px; background-color:red; margin-right:5px;"></span>	16%
Labour migration	<span style="display:inline-block; width:15px; height:15px; background-color:red; margin-right:5px;"></span>	15%
Herd splitting / migration	<span style="display:inline-block; width:15px; height:15px; background-color:red; margin-right:5px;"></span>	14%
Charcoal and wood fuel selling	<span style="display:inline-block; width:15px; height:15px; background-color:red; margin-right:5px;"></span>	10%

Households in Liban (24%), Erer (22%), Daawa (21%), and Shabelle (19%) more frequently reported using strategies to cope with pasture and water shortages. Notably, the most commonly used strategy varies between zones, such as splitting households (74%) in Afder, seeking employment (61%) in Korahé, and slaughtering animals (30%) in Shabelle.

**Map 3: Standardised Precipitation Index (SPI-3) corresponding to *Gu* rains (March - May 2023)**



**Figure 13: Seasonal livestock feed availability in the Somali region<sup>19</sup>**



The Standardised Precipitation Index (SPI) highlights rainfall anomalies for a specified time period. Negative values (increasingly darker red) are indicative of potential drought, whilst positive values indicate excess rainfall (increasingly darker blue).<sup>18</sup> See Annex I for SPI-3 during the drought.

### CROP FARMING

Crop farming is a main source of income for cropping and agropastoralist communities in the Somali region. Due to drought and other drivers, in late 2023, **only 6% of the households reported primarily relying on this activity to sustain their livelihoods** compared to 10% pre-drought (see figure 6). Further, income generated from agricultural practices amongst those reporting crop farming as their main source of income dropped substantially compared to pre-drought levels. This downturn not only reflects the direct impact of the extreme weather conditions but also underscores the broader vulnerabilities of agropastoralist communities to climatic and economic fluctuations.

**Figure 14: Household's average income amongst those that reported crop farming as primary source of livelihoods, in birr**

Pre-drought (2020)	<b>December 2023</b>
<b>7,530</b>	<b>5,679</b>

**Map 4: 3-month SPI-3 corresponding to *Deyr* rains (October - December 2023)**

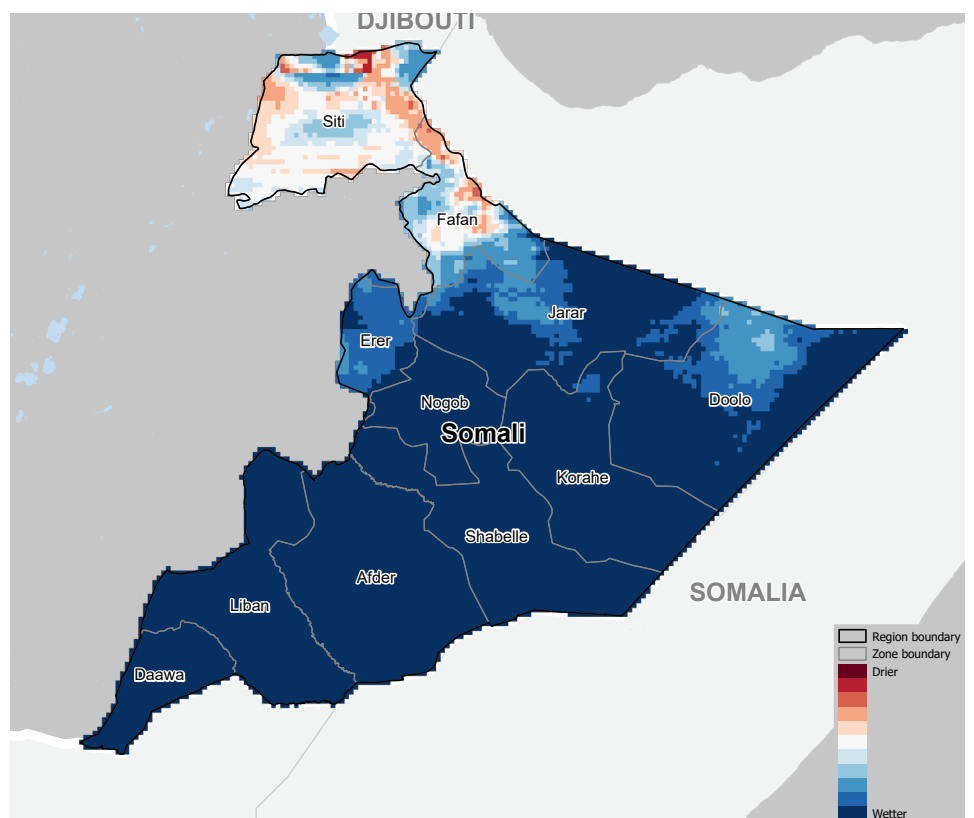
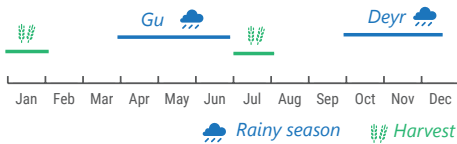


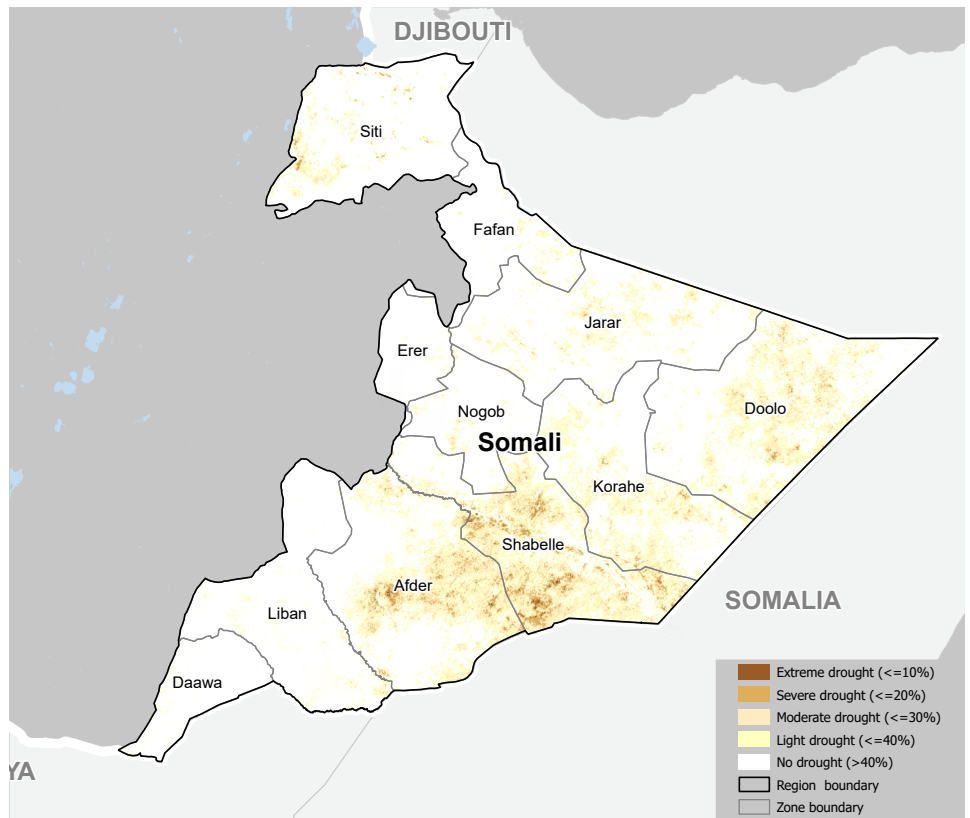
Figure 15: Seasonal calendar in the Somali region<sup>22</sup>



In Somali region, crop production depends on the rainfall performance during the two main rainy seasons, *Gu* and *Deyr* rains (see figure 15). While some parts of the region faced below-average rainfall during the *Gu* rainy season, SPI-3 reveals an improvement from 2022 levels (see Annex I for SPI-3 during the period of the drought). Similarly, despite improvements from 2021 and 2022, VCI indicates the persistence of the drought particularly in some areas of Afder, Shabelle, Koraha and Doolo.

The VCI highlights the impacts of meteorological drought on vegetation condition through comparing vegetation greenness (from NDVI/EVI) in a specified time period (e.g. a month/season) with the average long-term value for that location.<sup>21</sup> See Annex II for VCI during the drought.

Map 5: Vegetation Condition Index (VCI) corresponding to *Gu* rains (April - June 2023)



**Gu season**

*Gu* rainy season, critical for planting and early crop development, significantly influences annual food security outcomes and livelihood opportunities in the region.<sup>20</sup> Yet, only

**7%** of households reported having cereal stock from the *Gu* season harvest in December 2023.

Figure 16: % of households in the assessed regions having planted crops during *Gu* season

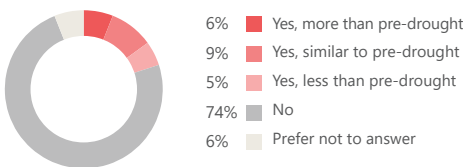


Figure 17: 79% of households reported not planting or planting less crops during 2023 *Gu* season, the main reported reasons were<sup>6</sup>

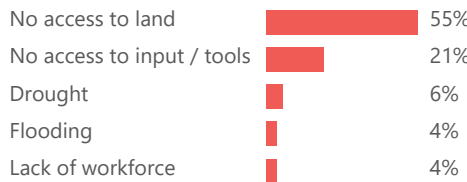
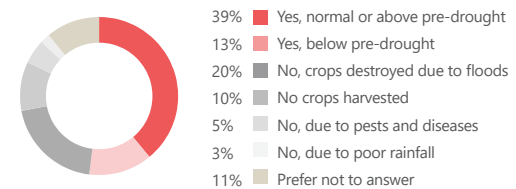


Figure 18: % of households having harvested crops, amongst those who planted during *Gu* season (n=470)



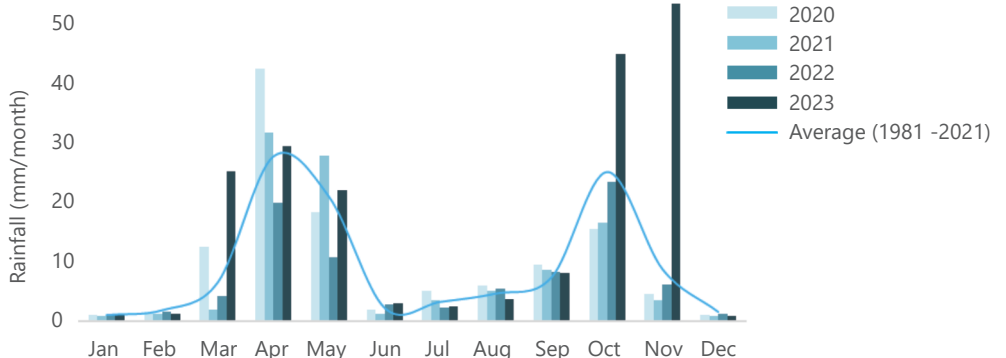
The 2023 *Gu* season was marked by extreme weather conditions, including the drought and El Niño-induced erratic rainfall patterns during *Deyr* rains (see figure 19) that have led to severe flooding in specific zones. These conditions have not only hampered the immediate recovery efforts from

the prolonged drought but have also posed significant challenges to *Gu* season planting and subsequent harvesting phases. Further, households have reported the damage of pests and diseases to harvested crops, mostly in Afder (11%), Nogob (11%), Shabelle (10%) and Koraha (6%).

**Deyr season**

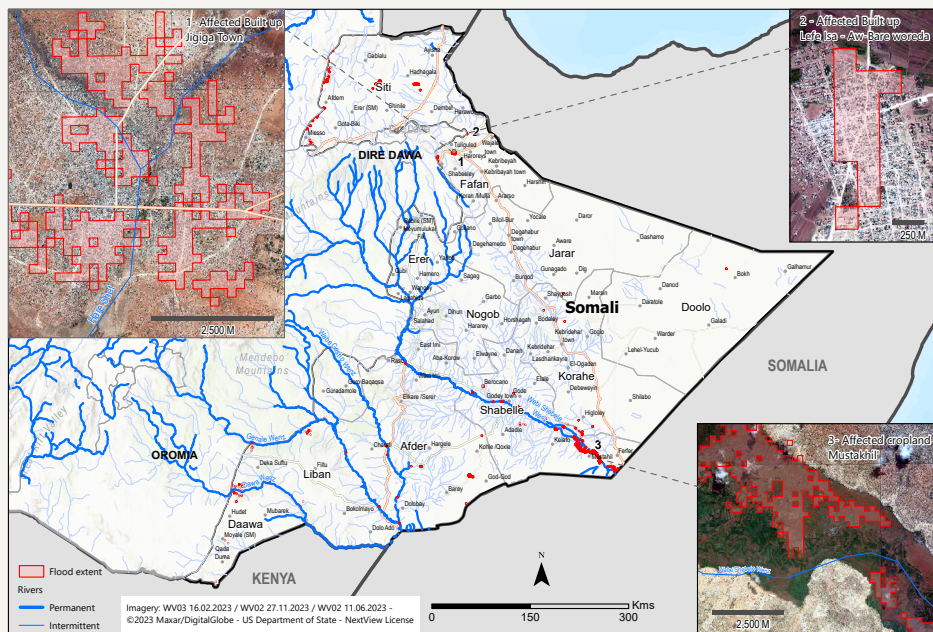
Rainfall performance during 2023 *Deyr* rains was above-average (see figure 19), leading to widespread flooding in some zones of the region (see page 6). The SPI-3 values for October - December 2023 indicate excess rainfall. These results contrast with SPI-3 values for *Deyr* seasons during the drought (see Annex I), which indicated drier conditions across all zones between 2020 and 2022.

Figure 19: Average monthly rainfall 2020 - 2023



### IMPACT OF EL NIÑO-INDUCED FLOODS

Map 6: Extension of the flood in the Somali region between 23 October and 24 November

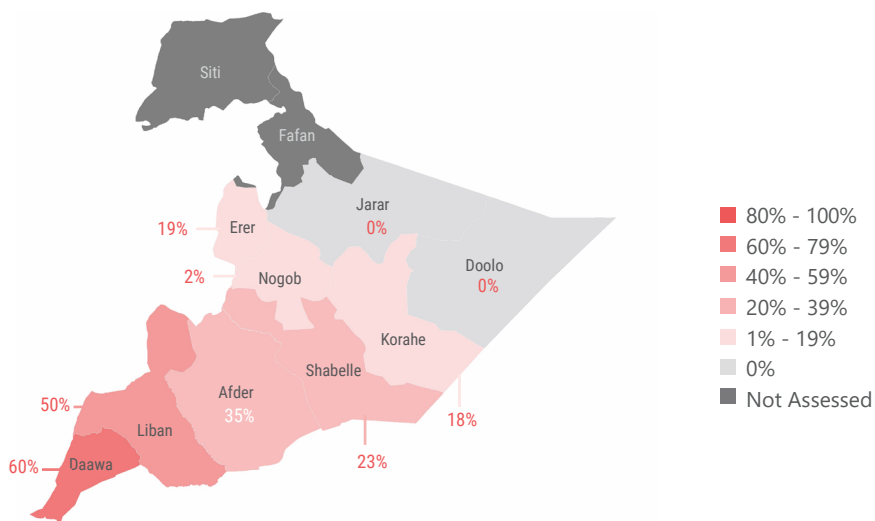


El Niño events have historically been associated with the redistribution of weather patterns, causing hazards including above-normal rainfall and floods.<sup>25</sup> A season of El Niño began in June 2023, and hit the zones of Daawa, Liban, Afder and Shebelle with floods during the October to December *Deyr* season rains.<sup>26</sup>

Remote sensing data suggests that 26.87% of the flood was located in cropland areas (see Map 6, affected cropland 3),<sup>27</sup> and it is reported that 72,295 ha were affected.<sup>28</sup> Fafan and Sijin zones, which were covered in the remote sensing analysis, show the affected built-up of the flood in Jijiga and Aw-Bare woreda.

**23%** of households reported being affected by flooding during the 2023 *Deyr* season

Map 7: % of households reporting being affected by the floods during *Deyr* season, by zone



Floods exacerbated challenges to livelihood recovery after the three year prolonged drought, reportedly causing 21,500 deaths of livestock.<sup>23</sup> Flood-affected households primarily reported damage to food stock and agricultural land (61%) (see figure 20). This shock impacted households' ability to engage in typical food and income-generating activities, and eroded their capacity to cope.<sup>24</sup>

Damage to housing and shelter amongst those affected by the floods was the most widespread in Afder, with 67% of affected households reporting severe

damage or complete destruction, and in Shabelle, with 11% of affected households reporting its complete destruction. Flooding also had an impact on water security, with 20% of flood-affected IDP households in Afder reporting the complete destruction of their main water source.

Figure 22: Top three most reported damage to productive assets for livestock and/or agriculture due to the floods, amongst flood-affected households<sup>6</sup>

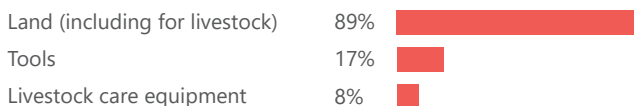


Figure 20: Impact of the flood, by % of households reporting it, amongst those reporting being affected by the floods

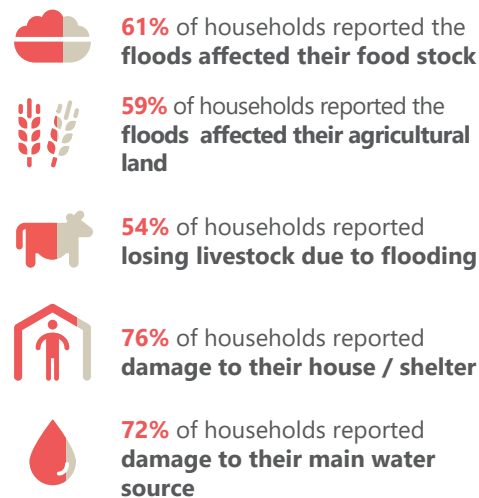
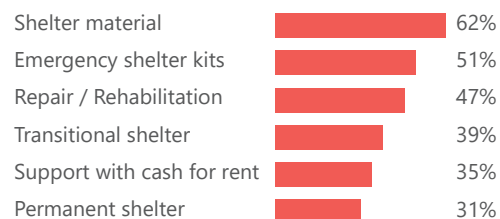


Figure 21: Top shelter needs reported by households<sup>6</sup>



## BASIC NEEDS AND COPING MECHANISMS

**70%** of households reported being able to meet half or less than half of their basic needs in the 30 days prior to data collection

**41%** of households relied on **EMERGENCY** or **CRISIS** coping strategies

### BASIC NEEDS

Figure 23: % of met monthly household basic needs, as defined by the household, by % of households, per zone and population group



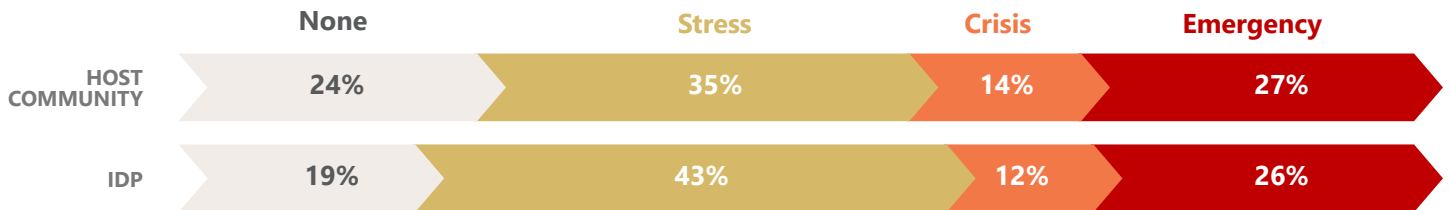
Figure 24: Main reported challenge to meet basic needs, by % of households<sup>6</sup>



The highest proportion of households unable to meet half or less than half of their basic needs were among those reportedly not earning an income (85%) and those relying on humanitarian assistance as their primary source of income (80%), followed by those relying on casual income (71%) and livestock production (69%). Better off households were those relying on their own businesses (36%). 19% of female headed-households reported not being able to meet any of their basic needs, compared to 9% male headed-households.

### COPING MECHANISMS

Figure 25: Livelihood Coping Strategy Index (LCSI), by % of households in each severity level



In response to these challenges, households have resorted to various coping mechanisms to secure food. More than a quarter (27%) have resorted to emergency strategies, which is indicative for Phase 4, Emergency, according to the Integrated Food Security Phase Classification (IPC) for Acute Food Insecurity (AFI).

The highest proportion of households coping with emergency strategies were among those with no income source (42%), those relying on loans (56%), and on crop production (34%) as their main livelihood source. When it comes to employment of emergency strategies by different population groups, the highest proportion of households relying on these coping mechanisms was found in Daawa, amongst host community households (62%) and IDP households (48%), followed by IDP households in Doolo (40%), and Jarar (35%).

Figure 26: % of households relying on each of the livelihood coping strategies, by population group

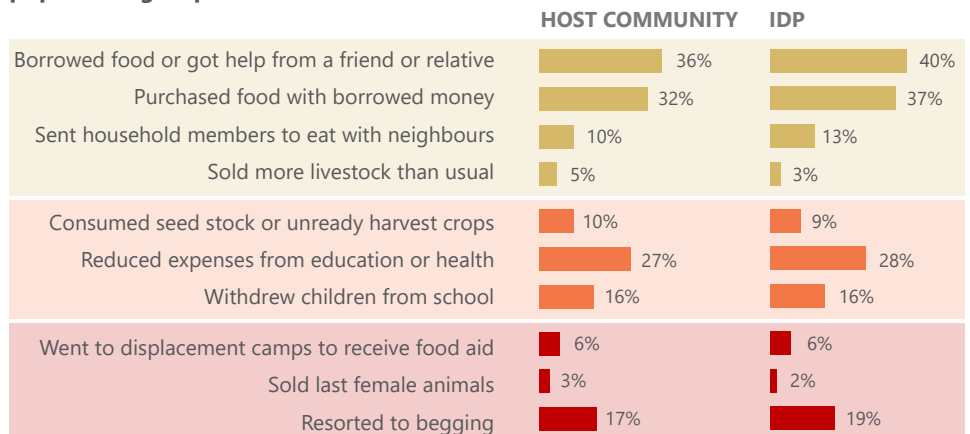
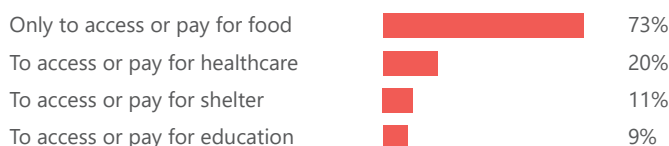


Figure 27: Reasons to employ these coping strategies<sup>6</sup>



## FOOD SECURITY

**97%** of IDP households had a **POOR** or **BORDERLINE** Food Consumption Score

**46%** of households had a **MODERATE** or **SEVERE** Household Hunger Scale

**74%** of households reported that the **average number of meals decreased** since the start of the drought, 2020

with households reporting adults and children consuming an **average of 2.2 meals** during the 7 days prior to data collection.

Figure 28: Average number of days, in the seven days recall period, that each reduced coping strategy index (rCSI)<sup>31</sup> strategy was reportedly used by households, per zone

	AF	DA	DO	ER	JA	KO	LI	NO	SH
Relying on less preferred and less expensive foods	3	2	3	2	2	2	2	2	3
Borrowing food, or relying on help from friends/relatives	3	2	3	2	2	1	1	2	2
Reduction in proportion sizes at mealtime	3	2	3	3	2	2	1	2	2
Reduction in quantities consumed by adults and children	2	2	2	2	1	1	1	2	2
Reduction in the number of meals eaten in a day	3	2	2	2	2	2	1	2	2

Figure 31: Household Hunger Scale (HHS),<sup>33</sup> per population group

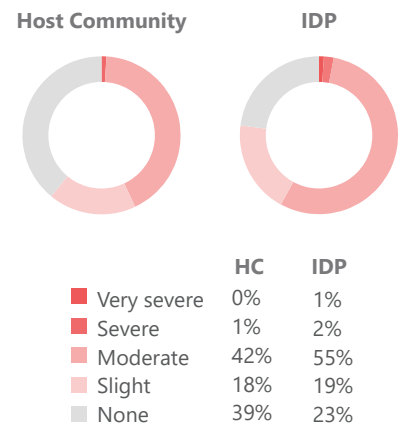


Figure 29: % of households per FCS,<sup>30</sup> per zone

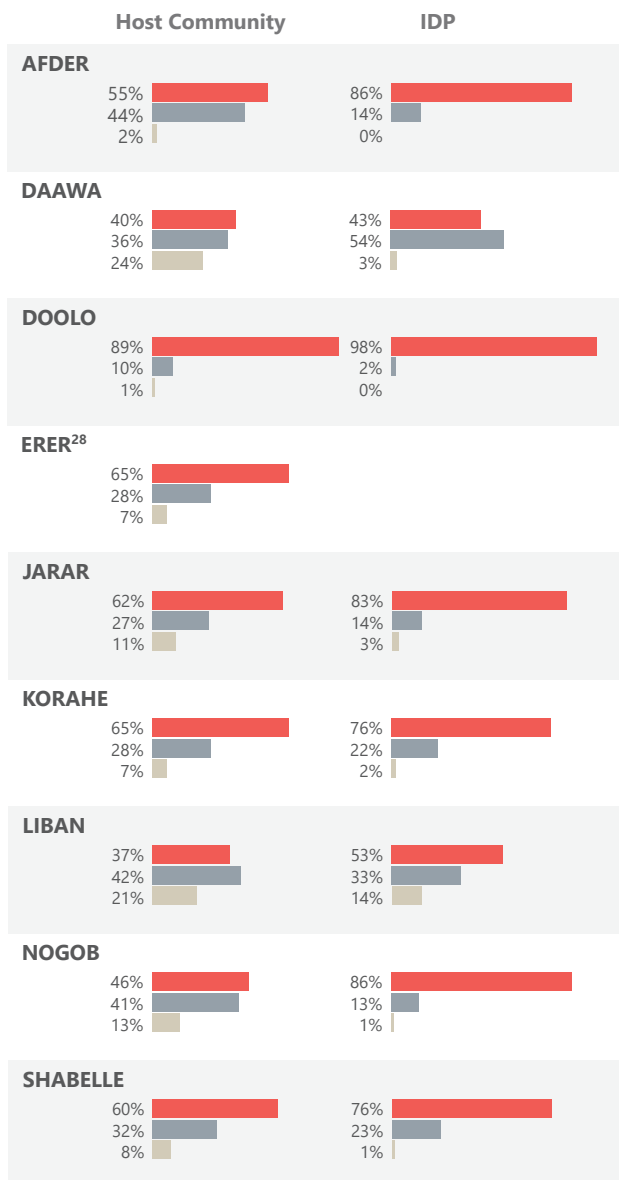
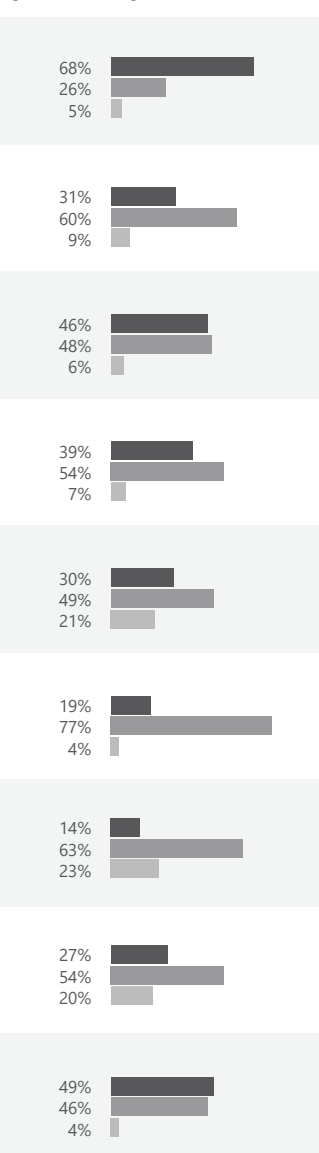


Figure 30: % of households per rCSI,<sup>31</sup> per zone



Drought and other compounding challenges to livelihoods continue to pose a serious threat to food security in the region (see figure 3), where acute food insecurity remains historically high.<sup>32</sup> Findings on food consumption indicators, supported by the analysis of contributing factors, including the deterioration of livelihoods and water security (see corresponding sections), converge around IPC AFI Phase 4, Emergency. This suggests that more than 20% of the population in the assessed regions would be mitigating large consumption gaps employing emergency livelihood strategies and asset liquidation.

Although HHS results point to IPC AFI Phase 3, results from the rCSI suggest that households could be overcoming hunger at the expense of using severe food consumption coping strategies. Findings show IDPs reported more severe hunger within the household across zones (see figure 31). Households with a very severe HHS were found amongst host communities in Daawa (1%), Erer (1%) and Shabelle (1%), and amongst IDPs in Daawa (3%), Doolo (3%), Korae (1%) and Nogob (1%). In Jarar, 8% of the IDP households were classified with a severe HHS.

Poor Borderline Acceptable

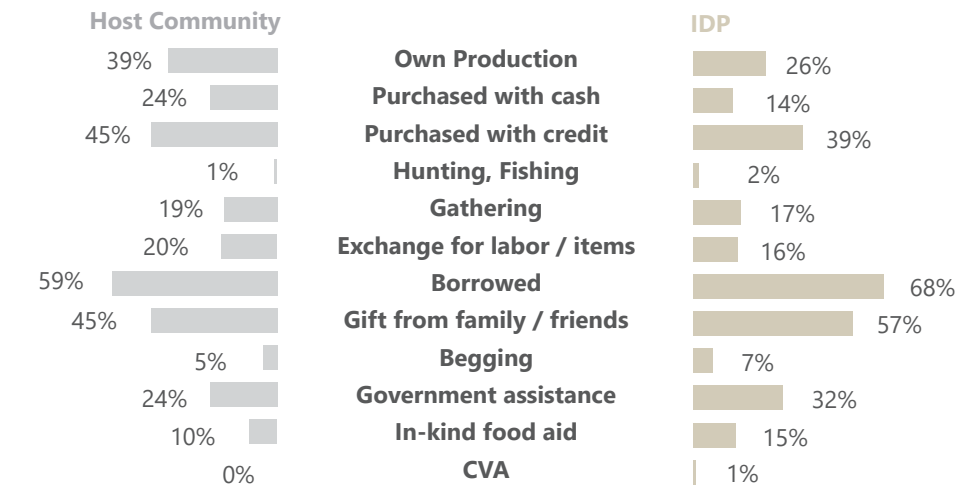
≥19 4-18 0-3



To access food, households in December 2023 generally relied on the same food sources as during the peak of the drought (2022). However, findings show a slight increase in resorting to borrowing (from 58% to 61%), gifts (from 41% to 47%) and begging (from 4% to 5%).

Further, households across zones were engaging in consumption-based coping strategies to mitigate food consumption gaps (see figure 29 and 30), with particularly high rCSI (>19) amongst IDP households (45%), and in Afder (68%), Shabelle (49%) and Doolo (46%).

Figure 32: Top sources of household food during the 30 days prior to data collection<sup>6</sup>



## CASH AND MARKETS

### Household Expenditure and Income

Figure 33: Average monthly household frequent expenditure and income, from their primary source of income, during the 30 days prior to data collection (Dec 2023)

per population group:

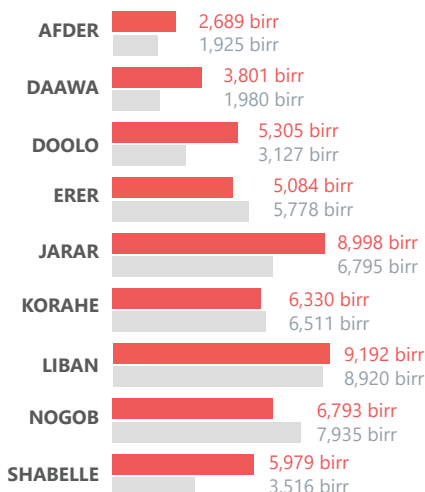
#### HOST COMMUNITY

**6,949 birr**      **5,793 birr**

#### IDP

**4,856 birr**      **4,022 birr**

per zones:



per gender of the head of household:

#### FEMALE

**6,404 birr**      **5,118 birr**

#### MALE

**7,019 birr**      **6,308 birr**

Figure 34: Average household expenditure in frequent purchases during the 30 days prior to data collection

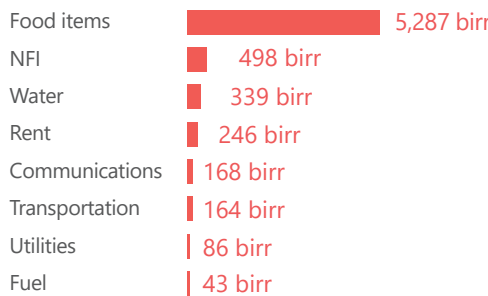
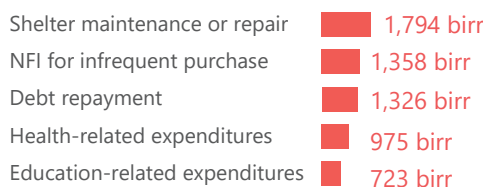


Figure 35: Average 6-month household expenditure in non-frequent purchases during the second half of 2023.



## ACCESS TO MARKETS

### Changes compared to pre-drought



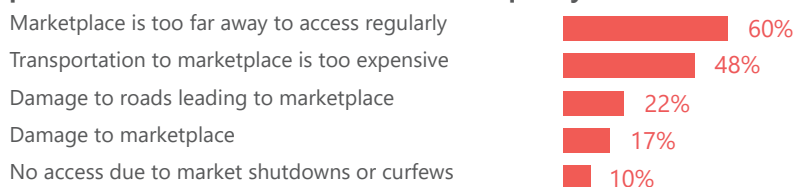
The drought and other shocks have impacted the access to marketplaces, with 54% of households reporting changes in access to markets since the beginning of the drought, and 27% reporting experiencing barriers (see figure 36). Transportation costs were a barrier largely reported amongst households in Koraha (94% of those reporting access limitations), Doolo (76%), Erer (71%), and amongst IDP households across zones (68%).

IDP and host community households in the Liban zone, severely affected by the Deyr floods, largely reported experiencing access constraints compared to before the drought. In particular, households most commonly reported barriers were damage to the marketplace (51% of the 52% of households reporting changes), and damage to roads leading to the marketplace (50%).

Country-wide inflation has been rising in parallel to the climate-induced challenges. The November and December Joint Market Monitoring Initiative (JMMI) bulletins indicate that food basket prices in the Somali region increased in November (3%) and December (11%).<sup>34</sup> This was largely reported in Afder, where amongst the 89% of the households reporting changes in access to markets since before the drought, 99% of them referred to high food prices.

## Barriers

Figure 36: 27% of the households reported barriers to accessing markets in the 30 days prior to data collection, of which the most frequently mentioned barriers were<sup>6</sup>

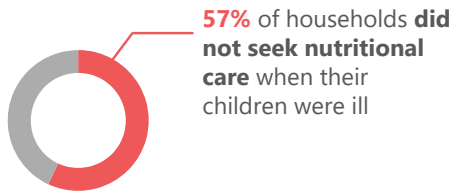




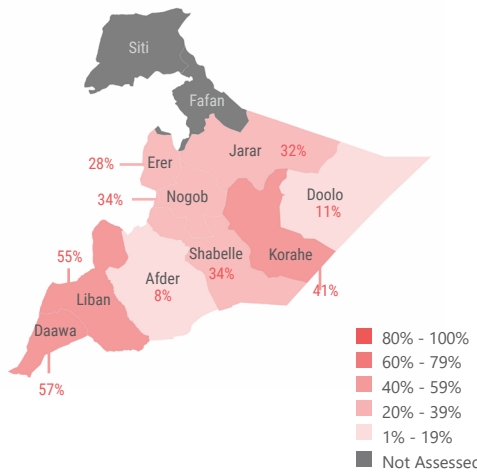
## NUTRITION SERVICES

A reported rise in child mortality associated with acute malnutrition was reported in stabilisation centres in Somali, in the last 8 months of 2023.<sup>40</sup> In this context, and considering the alarming rates of malnutrition expected in the region for the upcoming months,<sup>41</sup> findings indicate significant gaps in access to these services.

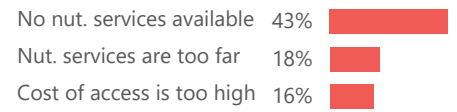
**Figure 44: % of households seeking nutritional care when their children are ill**



**Map 9: % of households reporting nutritional services available, to their knowledge, in the commune, per zone**



**Figure 45: Main reasons reported by households for unavailability of nutritional services<sup>6</sup>**



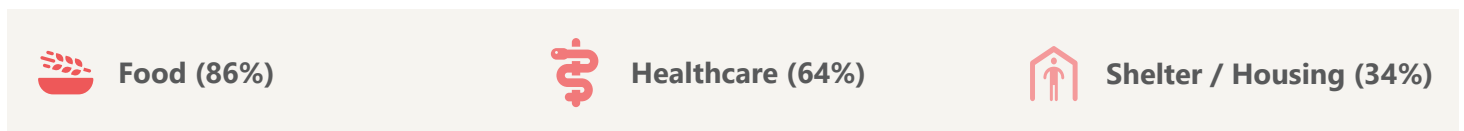
**Figure 46: 24% of households reported facing barriers to accessing nutritional services, of which the most frequently mentioned were<sup>6</sup>**



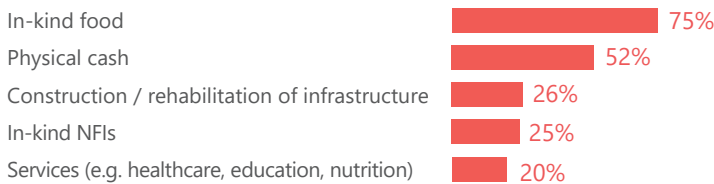
## ACCOUNTABILITY TO AFFECTED POPULATIONS

### NEEDS AND MODALITIES

**Figure 47: Top three priority needs, by % of households per type of most commonly reported priority need<sup>6</sup>**



**Figure 48: Most commonly reported modalities of assistance that households would prefer to receive in the future<sup>6</sup>**



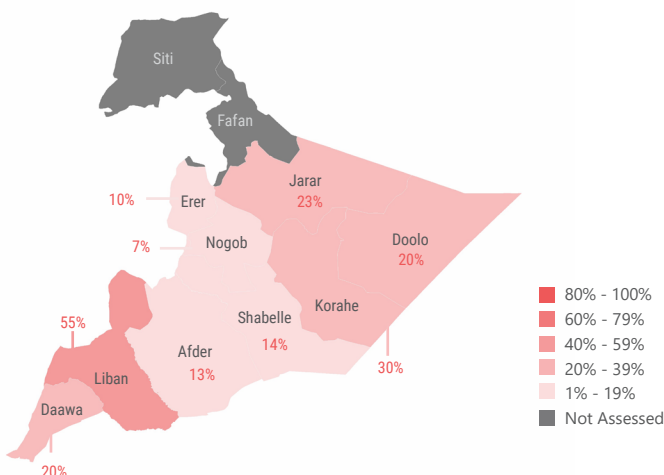
**Figure 49: % of the 24% of households having received humanitarian aid at the time of data collection, by last time aid was received**



### RECEPTION OF ASSISTANCE

**24%** of households reported **receiving humanitarian aid in the 12 months prior to data collection**

**Map 10: % of households which reportedly received assistance in the 12 months prior to data collection, per zone**



### SATISFACTION WITH HUMANITARIAN AID

**34%** of households who received humanitarian assistance were **not satisfied with the aid received**

The most common reasons reported for dissatisfaction where considering the quantity of **assistance received was insufficient** (79%), **of poor quality** (38%), **not received on time** (11%), **not what the household needed the most** (10%).

**55%** of households were **not satisfied with the way humanitarian aid workers behaved**

The most common reported reason for dissatisfaction with humanitarian workers was that **humanitarian aid workers were not available when they needed them** (54%). **Discrimination** was cited by 5% of IDP households. **Putting friends and family on the lists** (6%) and **asking for favors or payment** (5%) were also cited by both IDP and Host Community households.

## CONCLUSION

The drought and drought-related shocks have significantly undermined the livelihoods, food security, and access to essential services for the affected communities in the assessed zones of the Somali region. The drought has led to severe reductions in livestock ownership, crop failure, decreased household incomes, and a notable decline in food consumption levels. Additionally, the compounded effects of El Niño-induced floods during *Deyr* rainy season have exacerbated vulnerabilities, leading to water scarcity, deterioration in sanitation and hygiene conditions, and limited access to health and nutritional services.

The specific needs identified through this assessment include urgent humanitarian assistance focusing on **food security, livelihood and shelter restoration, access to clean water, sanitation, health services, and nutritional support**. Integrated disaster response and resilience-building measures are critical to mitigate the immediate and long-term impacts of these shocks.

## METHODOLOGY OVERVIEW





This assessment aimed to examine the impact of drought and other shocks on host and IDP households, using both structured household surveys and remote sensing analysis. It included 9 administrative zones selected based on FEWS NET Emergency (IPC Phase 4) outcomes zones as of September 2023.<sup>42</sup> The selected zones were Afder, Daawa, Doolo, Erer, Jarar, Korahe, Liban, Nogob and Shabelle zones of Somali region.

REACH conducted household interviews with 2,633 households, including 1,245 host households and 1,388 IDP households, between 12 November and 30 December 2023. Data from IOM's Displacement Tracking Matrix (DTM) was used to calculate the sample size of IDP population per zone.<sup>43</sup> Selected households were randomly sampled using a two-stage stratified cluster technique. Findings are representative at the Administrative Zone (admin 2) level, for both host and IDP communities, across the 9 selected zones, with a 95% confidence level and 10% margin of error. Data was cleaned and weighed as per REACH data quality minimum standards prior to being analysed.

## ASSESSMENT COVERAGE

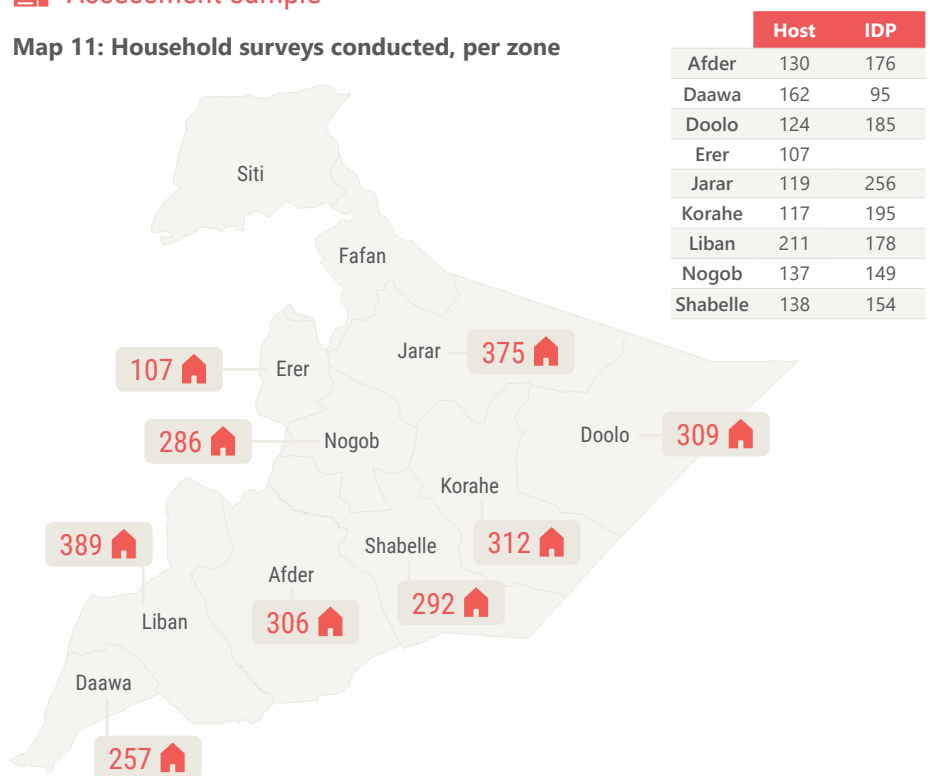
### 🏠 Household Demographics

**5.3** was the average size of the household

	<b>4%</b> of households have <b>infant children</b>		<b>3%</b> of households have <b>men suffering from a chronic illness or disease</b>
	<b>22%</b> of households have <b>pregnant or lactating women</b>		<b>3%</b> of households have <b>women suffering from a chronic illness or disease</b>

### 📊 Assessment sample

Map 11: Household surveys conducted, per zone



Quantitative findings were triangulated with remote sensing environmental analysis on the magnitude and severity of drought and floods in Somali region. High-resolution satellite images from Sentinel 2A/B satellites served as the primary data set, corresponding to *Gu* rainy season, between March and May, and to *Deyr* rainy season, between October and December for the years 2020 to 2023.

Data sources were accessed through Google Earth Engine (GEE), with further analysis of the CHIRPS and EVI data performed on this platform to create Standardised Precipitation Index (SPI) and Vegetation Condition Index (VCI) data respectively.

## LIMITATIONS

Data collection took place during the *Deyr* rain season, which began in October and to last until December 2023. Due to the above-normal rainfall levels, and consequent flooding or high risk of flooding, access to certain areas was limited, but was compensated with a 5% buffer included in the initial sampling. Although data collection teams were trained for 4 days on the objectives of the evaluation, i.e. to examine the drought shocks, it is possible that some results may be biased by the importance of the most recent shock, i.e. the above-average rainfall and flash floods that occurred in the weeks prior to data collection.

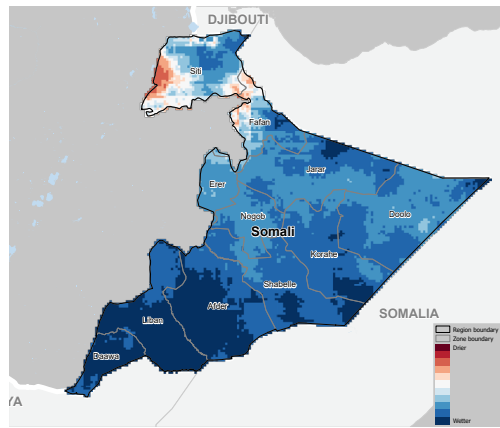
Population data at the village level was primarily estimated due to the absence of a recent census, relying on government agencies, Disaster Risk Management Bureau (DRMB) and Bureau of Finance of Economic Development (BoFED) as data sources.

## ENDNOTES

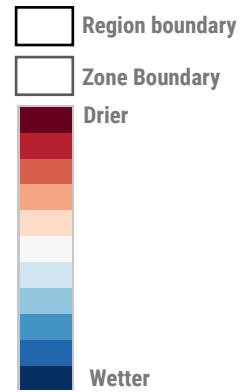
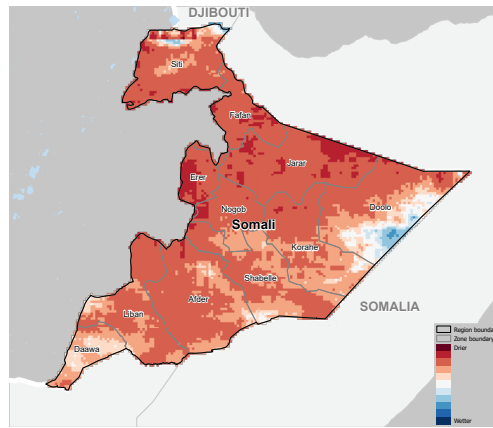
- 1 UNHCR, [The Horn of Africa Drought Situation Appeal, January - December 2023](#), February 2023.
- 2 ACAPS, [Ethiopia - Impact of the drought: Oromia and Somali Regions](#), February 2023; FEWS NET, [Ethiopia - Food Security Outlook \(October 2023 - May 2024\)](#), 2023; REACH Initiative, [SMART+ Survey Report, Afder Pastoral Livelihood Zone](#), May 2023.
- 3 FEWS NET, [Ethiopia Key Message Update November 2023: Severe flooding in the pastoral south restricts household recovery from drought](#), December 2023.
- 4 ACAPS, [Ethiopia - Impact of the drought: Oromia and Somali Regions](#), February 2023; FEWS NET, [Ethiopia Key Message Update November 2023: Severe flooding in the pastoral south restricts household recovery from drought](#), 2023; ACAPS, [Ethiopia - Drivers of the cholera outbreak](#), January 2024; REACH Initiative Ethiopia, [JMMI Dashboard](#).
- 5 FEWS NET, [Ethiopia Livelihoods Zones Map](#), 2018; The Livelihoods Integration Unit, [An Atlas of Ethiopian Livelihoods](#), 2016.
- 6 Respondents could select multiple response options, findings may exceed 100%.
- 7 The Livelihoods Integration Unit, [An Atlas of Ethiopian Livelihoods](#), 2016.
- 8 The Livelihoods Integration Unit, [An Atlas of Ethiopian Livelihoods](#), 2016; REACH Initiative, [Drought in the Horn of Africa Regional Analysis](#), February 2023.
- 9 The Livelihoods Integration Unit, [An Atlas of Ethiopian Livelihoods](#), 2016.
- 10 Ibid.
- 11 This figure represents the total reported number of animals for a proxy baseline in 2020, and at the time of data collection, for all households regardless of their main source of livelihoods. The assessment covered both urban and rural areas, however, due to access limitations, some rural villages may have been excluded. Thus, while cattle ownership pre and post-drought may appear smaller than in other sources, it is indicative of a decrease of the number of animals. For other figures regarding cattle ownership, refer to The World Bank, [Socioeconomic Survey 2018-2019](#), 2020.
- 12 Ethiopian Disaster Risk Management Commission (EDRMC), 2023 Deyr Needs Assessment Final Report, 2023.
- 13 FEWS NET, [Ethiopia Key Message Update November 2023: Severe flooding in the pastoral south restricts household recovery from drought](#), December 2023; Ethiopian Disaster Risk Management Commission (EDRMC), 2023 Deyr Needs Assessment Final Report, 2023.
- 14 Ibid.
- 15 Ibid.
- 16 Ethiopian Disaster Risk Management Commission (EDRMC), 2023 Deyr Needs Assessment Final Report, 2023.
- 17 Ibid.
- 18 Climate Data Guide (CDG), [Standardised Precipitation Index \(SPI\)](#).
- 19 FEWS NET, [Seasonal calendar](#).
- 20 Ethiopian Disaster Risk Management Commission (EDRMC), 2023 Deyr Needs Assessment Final Report, 2023.
- 21 NDIS, [What is soil moisture?](#)
- 22 FEWS NET, [Seasonal calendar](#)
- 23 FEWS NET, [Ethiopia Key Message Update November 2023: Severe flooding in the pastoral south restricts household recovery from drought](#), 2023; GEOGLAM Crop Monitor, [Crop Monitor for Early Warning | No. 89](#), December 2023.
- 24 FEWS NET, [Ethiopia - Food Security Outlook \(October 2023 - May 2024\)](#), 2023.
- 25 World Meteorological Organization, [El Niño/La Niña Update \(October 2023\)](#), 2023; ACAPS, [El Niño Overview: Anticipated humanitarian impact in 2023](#), July 2023.
- 26 ACAPS, [El Niño Overview: Anticipated humanitarian impact in 2023](#), July 2023; FEWS NET, [Ethiopia Key Message Update November 2023: Severe flooding in the pastoral south restricts household recovery from drought](#), December 2023.
- 27 Flood-affected areas were crossed with cropland coverage data from 2022 obtained from [Esri Sentinel-2 Land Cover Explorer](#).
- 28 EDRMC, 2023 Deyr Needs Assessment Final Report, 2023.
- 29 No IDP households were sampled in Erer due to access limitations.
- 30 The Food Consumption Score (FCS) is a composite score based on households' dietary diversity, food consumption frequency, and relative nutritional value of different food groups. It is calculated based on the reported consumption of food items from the 8 different food groups during a 7-day reference period. It classifies the household food consumption into three categories: Acceptable (indicative of IPC AFI Phase 1 or 2), Borderline (indicative of IPC AFI Phase 3) or Poor (indicative of IPC AFI Phase 4 or 5). WFP, [VAM Resource Centre](#); Integrated Food Security Phase Classification, [Technical Manual](#).
- 31 The reduced Coping Strategies Index (rCSI) is an indicator used to compare the hardship faced by households due to a shortage of food. The index measures the frequency and severity of the food consumption behaviours the households had to engage in due to food shortages in the 7 days prior to the survey. Index results from 0-3 are indicative of IPC AFI Phase 1, results from 4-18 are indicative of IPC AFI Phase 2, and results over 19 are indicative of IPC AFI Phase 3 to 5. WFP, [VAM Resource Centre](#); Integrated Food Security Phase Classification, [Technical Manual](#).
- 32 Ibid.
- 33 The Household Hunger Scale (HHS) is a household food deprivation developed to allow for cross-cultural comparisons. It classifies households into five categories, None (indicative of IPC AFI Phase 1), Slight (Phase 2), Moderate (Phase 3), Severe (Phase 4) and Very Severe (Phase 5). WFP, [VAM Resource Centre](#); Integrated Food Security Phase Classification, [Technical Manual](#).
- 34 REACH Initiative, [JMMI Dataset, November 2023](#); REACH Initiative, [JMMI Dataset, December 2023](#).
- 35 ACAPS, [Coping mechanisms and adaptive strategies in drought-affected Somali region](#), February 2023.
- 36 Ibid.
- 37 Health Cluster, WHO, [Ethiopia Health Cluster Bulletin](#), December 2023; OCHA, [Ethiopia Situation Report](#), 1 December 2023.
- 38 Ibid.
- 39 ACAPS, [Thematic report: Ethiopia - Drivers of the cholera outbreak](#), January 2024
- 40 OCHA, [Ethiopia Situation Report](#), 1 December 2023.
- 41 FEWS NET, [Ethiopia - Food Security Outlook \(October 2023 - May 2024\)](#), 2023.
- 42 Ibid.
- 43 International Organization for Migration (IOM), [DTM Ethiopia - Site Assessment Round 33](#), August 2023.

## ANNEX I: SOMALI SPI-3 DURING DROUGHT (2020-2023)

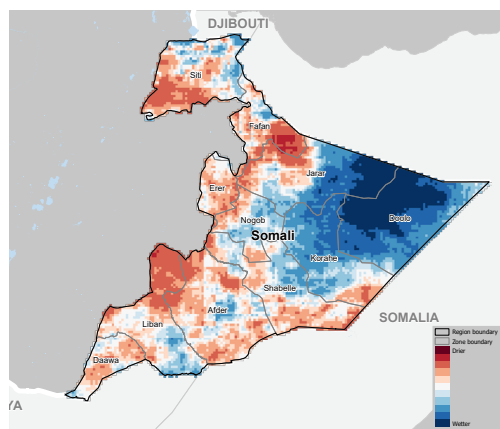
SPI-3 March-May 2020



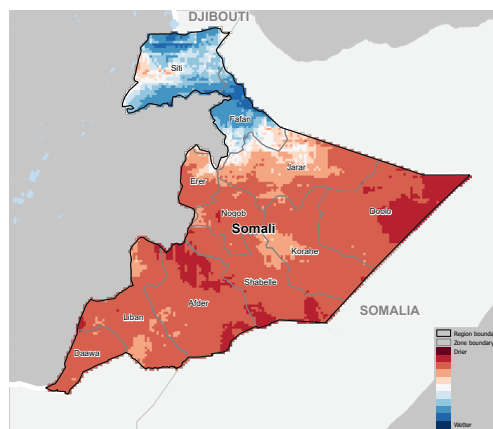
SPI-3 October-December 2020



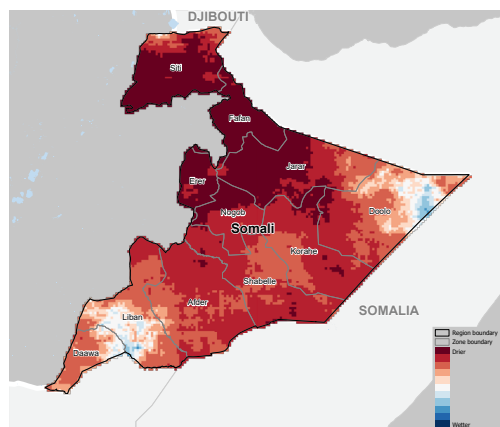
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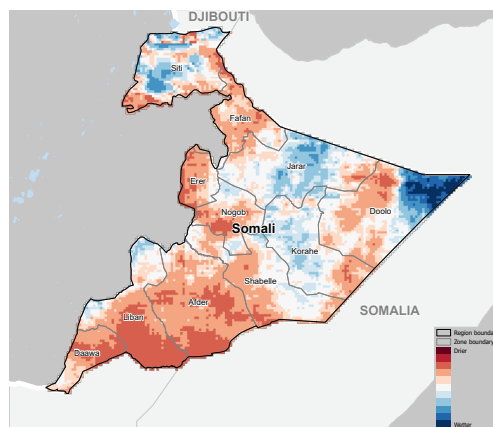
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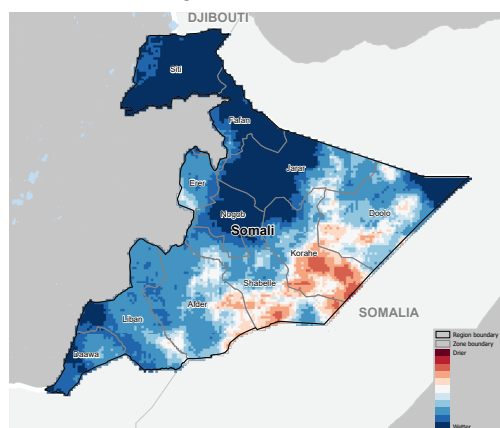
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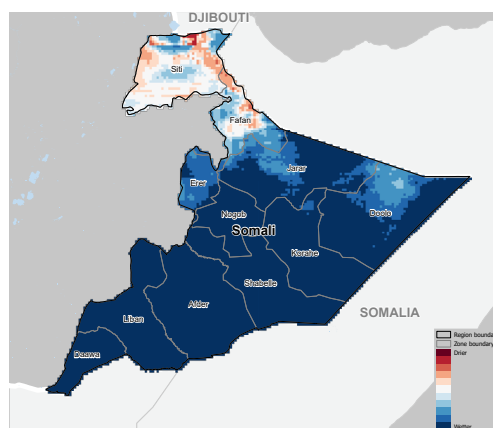
SPI-3 October-December 2022



SPI-3 March-May 2023

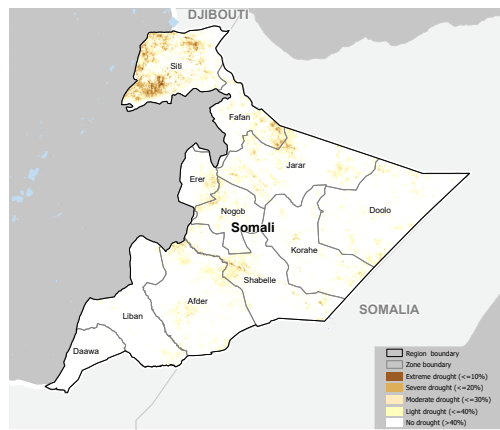


SPI-3 October-December 2023

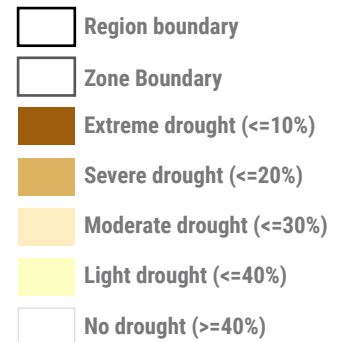
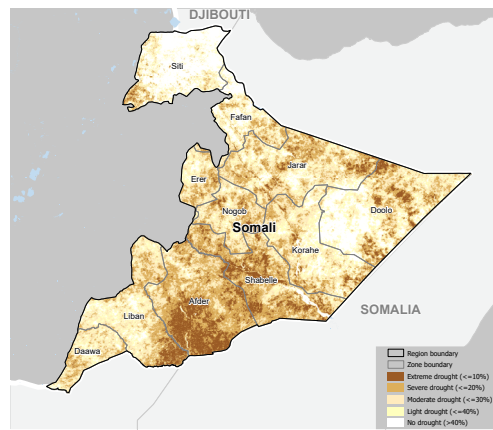


## ANNEX II: SOMALI VCI DURING DROUGHT (2020-2023)

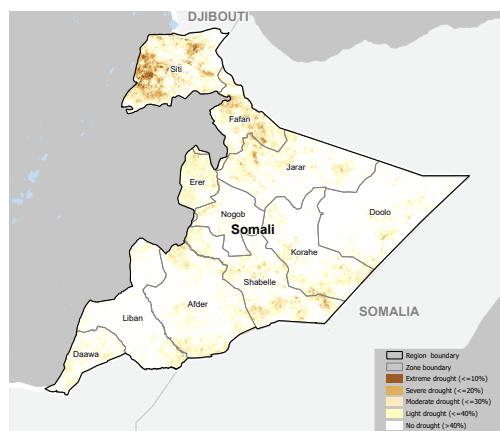
VCI April-June 2020



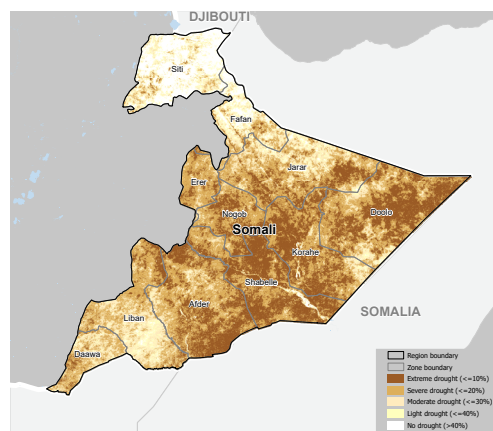
VCI November 2020 - January 2021



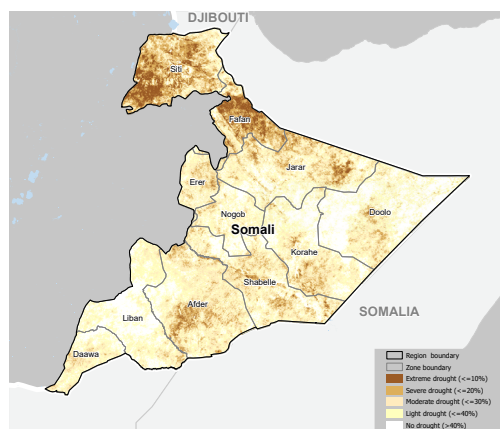
VCI April-June 2021



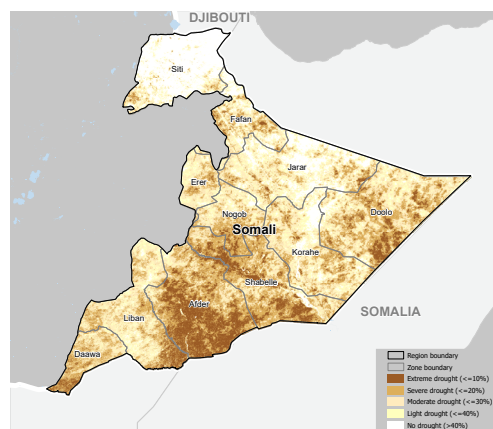
VCI November 2021 - January 2022



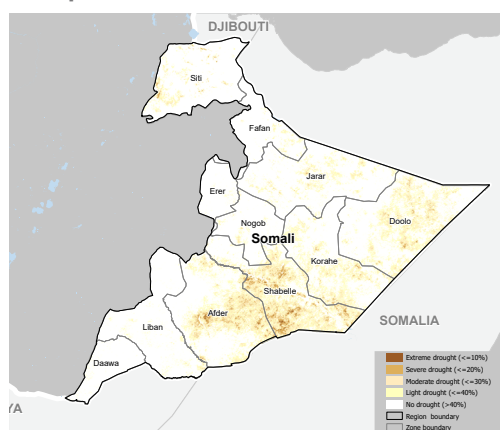
VCI April-June 2022



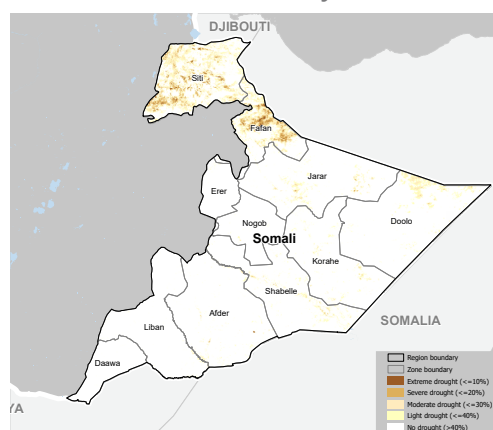
VCI November 2022 - January 2023



VCI April-June 2023



VCI November 2023 - January 2024



### ABOUT REACH

REACH Initiative facilitates the development of information tools and products that enhance the capacity of aid actors to make evidence-based decisions in emergency, recovery and development contexts. The methodologies used by REACH include primary data collection and in-depth analysis, and all activities are conducted through inter-agency aid coordination mechanisms. REACH is a joint initiative of IMPACT Initiatives, ACTED and the United Nations Institute for Training and Research - Operational Satellite Applications Programme (UNITAR-UNOSAT).