



HOA DRIVE, IBLI PAYOUT SUMMARY REPORT - ETHIOPIA

OCTOBER – DECEMBER 2023 SEASON

1. EXECUTIVE SUMMARY

This report covers the payouts of the DRIVE Index Based Livestock Insurance (IBLI) product being sold in Ethiopia. The product's main aim is to provide cover against prolonged forage scarcity ONLY due to a drought. It triggers payment to pastoralists to help maintain their livestock in the face of severe forage scarcity. The payment amount depends on the value derived from a Normalised Difference Vegetation Index (NDVI). The pricing and payout methodologies are the same across all UAIs and result in the same price/payout within each UAI¹ level.

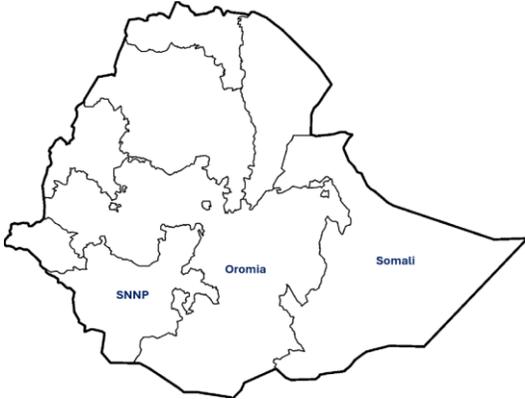
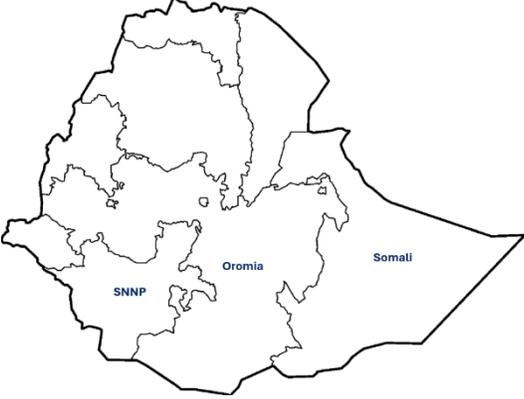
This report covers payouts for the Short Rains season, covering the months of October 2023 – December 2023 for the various regions under cover i.e. Oromia, Somali, South Ethiopia and Southwest Regions, for two covers whose details are outlined below:

Table 1: Cover descriptions

	Cover 1²	Cover 2
Product Structure	Two payout phases per season Short Rains: Phase 1 – October - November Phase 2 – December Long Rains: Phase 1 – March - April Phase 2 – May - June	One payout phase, at the end of each season Short Rains: October - December Long Rains: March - June
Period of cover	1 st March 2023 to 29 th February 2024	1 st October 2023 to 30 th September 2024
Regions	3 Regions - Oromia, Somali, SNNP	4 Regions - Oromia, Somali, South Ethiopia, and Southwest

¹ UAI – Unit Area of Insurance per region as is determined based on the homogeneity of vegetation conditions and pastoral migration extents. Also, rangeland dominance, forage availability, seasonality and drought history are also considered.

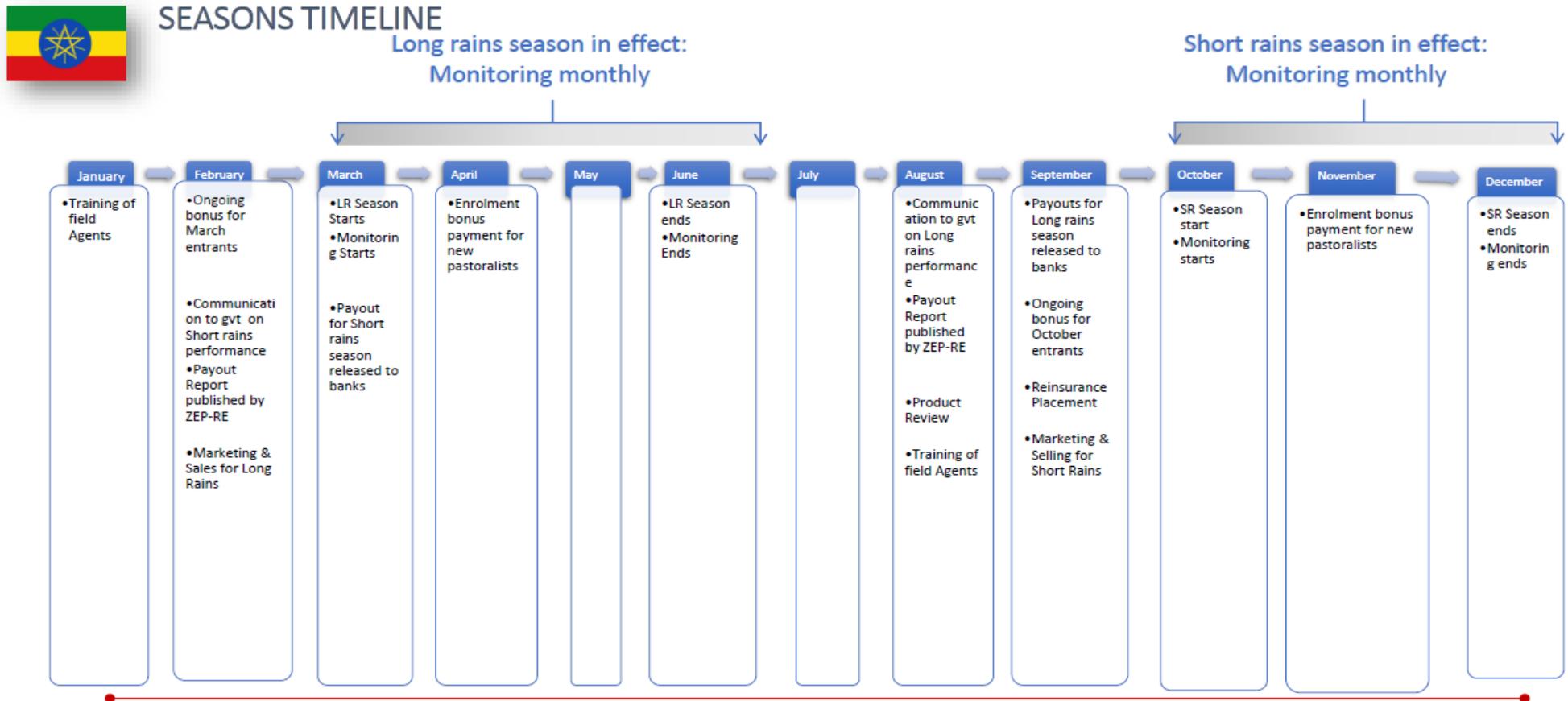
² Cover 1 product structure (two payout phases per season) is only applicable until the end of March 2024, thereafter we fully transition to the Cover 2 product structure of having only one payout applicable at the end of each season.

	 <p>Only one UAI was covered in SNNP</p>	 <p>SNNP is further delineated into South Ethiopia and Southwest regions</p>
Number of pastoralists	52,805	29,916
Total Premium	ETB 365,517,980	ETB 173,932,785
Total Sum Insured	ETB 1,883,928,243	ETB 821,430,048
Payout calculation period	OND Phase 1 – 1 st October – 30 th November 2023 OND Phase 2 – December 2023	1 st October – 31 st December 2023
Payout Amount	ETB 20,723,217	ETB 4,232,639

The variance in payout amounts between Cover 1 and Cover 2 can be attributed to the differing calculation methodologies resulting from adjustments in the product structure. Under Cover 1, monitoring occurs on a monthly basis, allowing for the detection and accumulation of minor deviations from the average vegetation conditions over the three-month season. Conversely, for Cover 2, monitoring takes place at the season's end, focusing on the cumulative average performance across the three months, thereby mitigating the impact of small deviations from the seasonal average.

The calendar timeline for payouts is as shown below:

Figure 1: Calendar timeline for payouts³



The payout calculations have been done by ACRE Africa, in their role as the payout calculation agent, and have been internally reviewed by ZEP RE. Further, the Z-Scores⁴ have been validated⁵ by data service providers and validation agent, Planet.

³ This timeline is in relation to the new product structure under Cover 2.

⁴ The z-score describes the variation in the NDVI relative to the historical time series by subtracting the average and dividing by the standard deviation of the historical NDVI readings.

⁵ See Final Data Report for more details.

Following the concluded Short Rains season and the finalization of the payout calculations for the season, **the total payout for the 82,721 pastoralists covered in the 4 regions is ETB 20,723,217 for Cover 1 and ETB 4,232,639 for Cover 2**, with the details shown in the tables below:

Cover 1 – Policies sold in MAM 2023

Table 2: Distribution of total payouts per region (Short Rains, Phase 1&2)

Region / UAI	No. of Pastoralists	Total TLUs	Pastoralists Payment (10%)	Total Premium	Total Sum Insured	Total Payout ⁶
Oromia	21,242	103,087	13,038,834	153,968,950	773,152,500	-
Bada Hiddi	1,531	7,655	1,001,274	10,774,015	57,412,500	-
Bada Yabello	694	3,470	462,906	5,182,740	26,025,000	-
Badda Arero	837	4,185	510,570	5,822,298	31,387,500	-
Ganda Qonan Bula Teltele	2,571	12,855	1,619,730	18,051,484	96,412,500	-
Garacha Dire	2,079	9,948	1,472,896	15,203,385	74,610,000	-
Garacha Tula Dhas	96	358	42,244	524,219	2,685,000	-
Golba Arero	727	3,635	460,918	5,432,826	27,262,500	-
Golbo	268	989	110,948	1,530,963	7,417,500	-
Golbo Dire	970	4,850	560,660	7,170,566	36,375,000	-
Gomole	1,571	7,215	974,025	11,991,053	54,112,500	-
Malbe Dillo	238	1,190	140,896	1,716,181	8,925,000	-
Malbe Teltele	304	1,520	163,917	2,273,873	11,400,000	-
Malbe Yabello	793	3,965	397,298	5,992,412	29,737,500	-
Mirga Arero	380	1,900	222,708	2,923,292	14,250,000	-
Miyio	2,000	8,437	1,003,504	11,872,603	63,277,500	-
Moyele	3,889	19,445	2,293,237	31,386,978	145,837,500	-
Qaqalo Moyale	2,294	11,470	1,601,103	16,120,063	86,025,000	-
SNNP	3,438	17,712	2,578,500	25,785,000	132,841,132	20,723,217
Dasenech	3,438	17,712	2,578,500	25,785,000	132,841,132	20,723,217
Somali	28,125	130,391	18,576,403	185,764,030	977,934,611	-
Moyele	464	2,144	346,144	3,461,440	16,083,350	-
Kalfo	950	4,834	729,605	7,296,050	36,255,661	-
Hargele	2,758	11,077	1,600,825	16,008,250	83,074,546	-
Dolobay	2,314	8,015	1,195,000	11,950,000	60,108,821	-
Erer	194	969	149,574	1,495,740	7,270,987	-
Measo/Mulo	1,900	9,500	1,442,100	14,421,000	71,246,776	-
Afdem	412	2,061	283,044	2,830,440	15,459,420	-
Goro Baqaqsa	1,482	7,416	948,480	9,484,800	55,617,629	-
Dolo Odo	4,974	20,677	3,141,140	31,411,400	155,079,024	-
Debeweiny	705	3,524	520,290	5,202,900	26,426,405	-
Cherati	4,148	20,727	2,903,600	29,036,000	155,451,668	-
Elkare	522	2,611	333,558	3,335,580	19,580,407	-
E/Ime	4,973	25,174	3,216,167	32,161,670	188,808,295	-
Bokolmayo	1,030	5,168	731,300	7,313,000	38,758,088	-
Bare	923	4,616	731,016	7,310,160	34,618,321	-
Kebribeyah	376	1,879	304,560	3,045,600	14,095,211	-
Grand Total	52,805	251,190	34,193,737	365,517,980	1,883,928,243	20,723,217

⁶ This is the payout for OND Phase 1, covering the months of October and November 2023. No payout was recorded for OND Phase 2 covering the month of December 2023.

Cover 2 – Policies sold in OND 2023

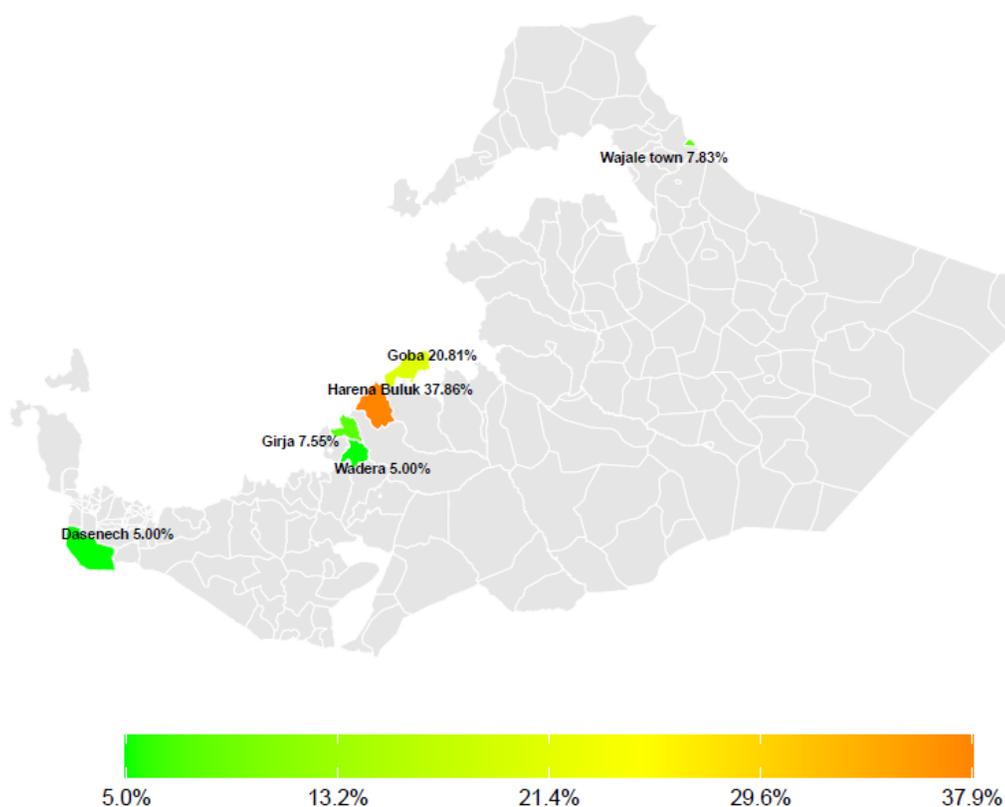
Table 3: Distribution of total payouts per region (Short Rains)

Region / UAI	No. of Pastoralists	Total TLUs	Pastoralists		Total Sum Insured	Sum of Total Payout
			Payment (10%)	Total Premium		
Oromia	9,043	33,570	10,500,993	52,504,965	253,687,817	-
Bada Hiddi	164	620	200,716	1,003,580	4,698,408	-
Bada Yabello	69	334	103,562	517,810	2,582,164	-
Badda Arero	213	639	194,682	973,410	4,737,557	-
Gamoji Dugda Dawa	176	820	289,138	1,445,690	6,322,259	-
Gamoji Melka Soda	338	1,230	479,009	2,395,045	9,326,499	-
Ganda Qonan Bula Teltele	565	1,695	513,626	2,568,130	12,840,650	-
Gara Mega	123	499	140,214	701,070	3,697,627	-
Garacha Dire	473	2,232	643,968	3,219,840	16,528,953	-
Garacha Tula Dhas	454	1,503	451,877	2,259,385	11,357,498	-
Golba Arero	75	291	87,762	438,810	2,211,744	-
Golbo	143	630	211,823	1,059,115	4,656,133	-
Gomole	369	1,147	363,934	1,819,670	8,659,597	-
Malbe Dillo	181	543	206,159	1,030,795	4,129,788	-
Malbe Yabello	385	1,559	562,080	2,810,400	11,594,059	-
Mata Wayama Dhas	514	2,056	601,323	3,006,615	15,444,940	-
Melka Soda	171	635	196,479	982,395	4,628,117	-
Miyo	884	3,673	1,090,168	5,450,840	27,924,385	-
Moyele	2,996	10,429	3,170,112	15,850,560	79,624,380	-
Qaqalo Moyale	750	3,035	994,361	4,971,805	22,723,058	-
Somali	12,991	43,407	13,847,622	69,238,110	325,186,344	-
Adalade	1,697	5,091	2,014,339	10,071,695	37,920,538	-
Afdem	939	2,814	1,031,800	5,159,000	21,676,471	-
Babile	2,762	8,286	2,579,708	12,898,540	61,227,247	-
Cherati	268	1,049	355,183	1,775,915	7,999,617	-
Erer	1,537	7,685	2,601,650	13,008,250	57,321,901	-
Fik	2,708	8,124	1,922,680	9,613,400	60,998,731	-
Gursum	1,324	3,972	1,414,032	7,070,160	29,840,293	-
Kebribeyah	612	1,836	559,980	2,799,900	13,971,557	-
Kebri-dahar	585	1,755	524,160	2,620,800	12,914,586	-
Moyale East	559	2,795	844,090	4,220,450	21,315,404	-
South Ethiopia	7,553	30,936	9,938,240	49,691,200	231,471,152	3,304,151
Angude	248	962	385,218	1,926,090	7,201,234	-
Asele	50	179	63,058	315,290	1,342,802	-
Ayepa	331	1,212	457,388	2,286,940	9,089,587	-
Besheda	39	166	56,235	281,175	1,244,872	-
Chorkoka	25	100	32,600	163,000	750,000	-
Dasenech	1,777	8,885	2,329,647	11,648,235	66,083,028	3,304,151
Denbayte	103	309	118,894	594,470	2,314,914	-
Dimeka_Zuriya	48	147	55,320	276,600	1,102,871	-
Erbore_Godoroba	32	149	48,755	243,775	1,117,550	-
Eriya_Kumbuli	43	144	49,536	247,680	1,080,000	-
Genbela	48	192	67,085	335,425	1,440,004	-
Kajamaken	161	719	209,646	1,048,230	5,392,130	-
Kara_Lubuk	27	108	40,114	200,570	810,057	-
Kola_Keja	123	474	208,262	1,041,310	3,554,768	-
Kopereya	474	1,680	560,088	2,800,440	12,599,460	-
Kuchuru	61	248	88,784	443,920	1,860,000	-
Lokamegnan	247	895	291,545	1,457,725	6,719,691	-
Lokorlem	908	3,542	1,007,021	5,035,105	26,556,461	-
Lopakor	403	1,474	565,455	2,827,275	11,055,559	-

Lorenkachawe	440	1,670	586,839	2,934,195	12,525,021	-
Lotomen	273	1,067	314,787	1,573,935	8,008,489	-
Minogelti	120	391	101,269	506,345	2,932,500	-
Napatokoyet	381	1,516	585,557	2,927,785	11,371,511	-
Narogoy	437	1,831	716,087	3,580,435	13,763,845	-
Nateker	150	657	226,939	1,134,695	4,927,743	-
Naweyape	136	474	161,247	806,235	3,540,259	-
Shenkora	290	1,104	360,349	1,801,745	8,280,078	-
Zegerma	42	139	46,337	231,685	1,042,374	-
Zeleketa	136	502	204,178	1,020,890	3,764,344	-
Southwest	329	1,478	499,702	2,498,510	11,084,735	928,488
Bero	50	249	90,238	451,190	1,867,508	-
Goba_	119	595	201,943	1,009,715	4,462,500	928,488
Maji	110	384	132,621	663,105	2,879,726	-
Menit_Goldiye	50	250	74,900	374,500	1,875,000	-
Grand Total	29,916	109,391	34,786,557	173,932,785	821,430,048	4,232,639

For the areas that had sales, payouts were recorded in 1 UAI, Dasenech, under Cover 1 and 2 UAIs under Cover 2 i.e. Dasenech & Goba.

Figure 2: Ethiopia Payout Map OND 2023, Cover 2



Source : Internally calculated

The map above shows the level of the payout due to the pastoralists as a percentage of the sum insured for the areas that recorded lower than average vegetation conditions.

2. DATA

The table below shows a brief description of the data set used.

Table 4: Summary of the data characteristics

Data Source & Data Characteristic	
ITEM	Description
Data Source	eVIIRS
Characteristics	Visible and infrared imagery along with global observations of Earth's land, atmosphere, cryosphere, and ocean.
Historical time series length	10 years with an additional 10 years of backwards normalisation using eMODIS data.
Spatial Resolution	375 m X 375 m
Temporal Resolution	7- or 10-day data composited data sets updated every 5 days
Data Availability (free or premium)	Free
Instruments	Suomi National Polar-orbiting Partnership (Suomi NPP) and NOAA-20 satellites

3. DROUGHT SITUATION⁷

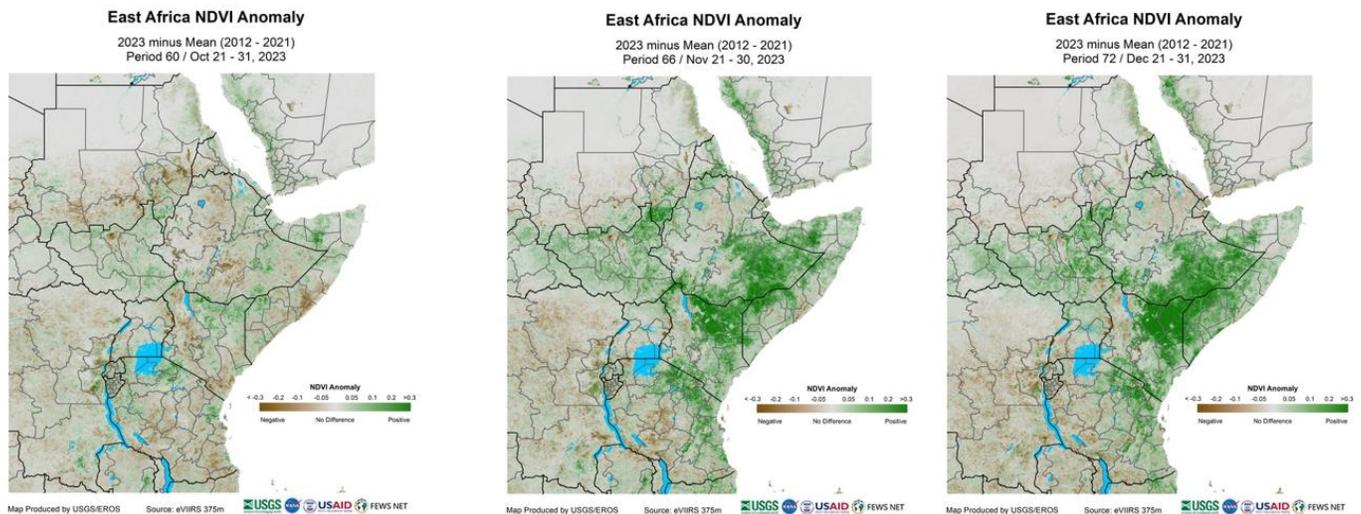
Some parts of Ethiopia, **mainly southern and southeastern areas of Somali, South Ethiopia, Southwest Ethiopia, and Oromia regions**, emerged from five consecutive seasons of below-average rain, with the March-May 2022 rainy season being the driest on record in the last 70 years. This left 17.2 million people in Ethiopia requiring lifesaving assistance in 2023. Meanwhile, most of these areas received heavy rains in the Bega/Deyr/Hageya season (October - December 2023), causing floods that affected at least 1.5 million people and displaced over 616,000 people.

Nearly **1.3 million people** were affected by drought, and over 4 million livestock were lost due to a historic length and severity of drought in the **Oromia Region** and the below-average short rainfall season of October to December 2022, which set the stage for a record-breaking five-season drought, severely affecting both pastoralist and agro-pastoral communities. However, the latest assessment shows that nearly **551,000** people are currently affected by drought in Oromia. In the Southern Ethiopia Region (SER) and Southwest Ethiopia (SWEP) Region, humanitarian partners are providing recovery assistance to communities still experiencing the residual effects of the 2021-2023 drought, albeit limited due to lack of funding. More than 50,000 people in SER and nearly 29,000 people in SWEP are drought-affected.

Further, the map below shows the vegetation progression, within the East African Region, from the month of October 2023 to December 2023, with the level of greenness increasing in the arid and semi-arid lands.

⁷ [Ethiopia - Situation Report, 10 Jan 2024 - Ethiopia | ReliefWeb](#)

Figure 4: Horn of Africa NDVI Maps (October - December 2023)



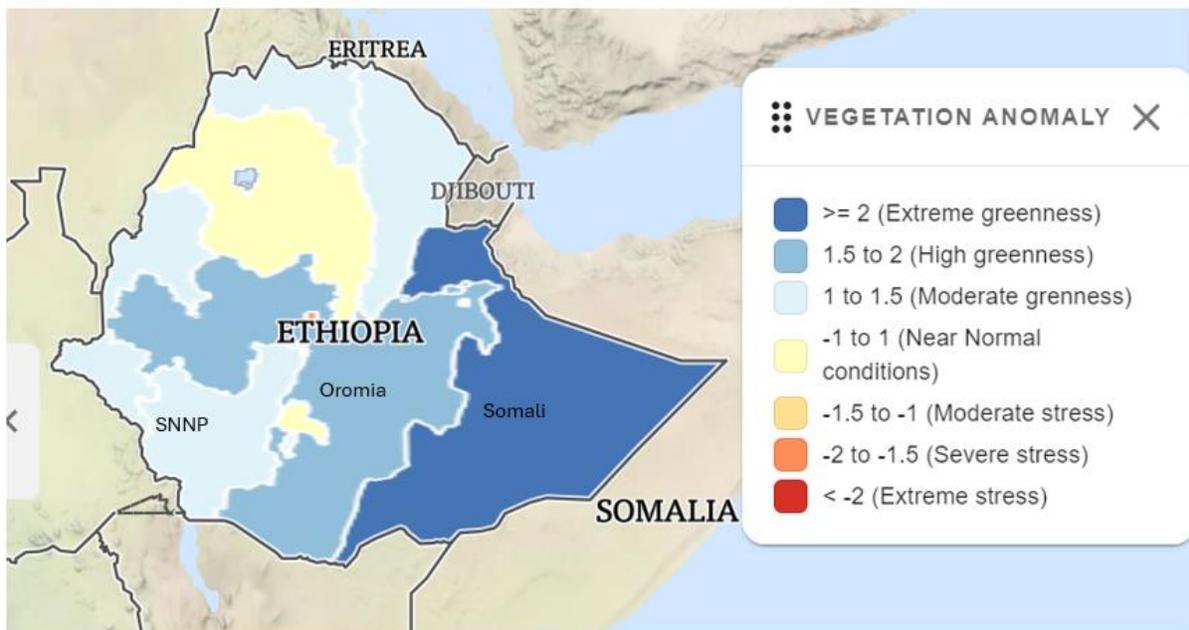
Source : <https://earlywarning.usgs.gov/fews/search/Africa/East%20Africa>

Progression of drought for the short rains season in East Africa, is consistent with the payout results indicated in this report.

Additional drought indicators were reviewed for the period under observation, and this was consistent with the payout results. These are:

1. **Vegetation Anomaly:** Positive anomalies seen as a result of increased rainfall and improved soil moisture which provided a conducive environment for vegetation growth.

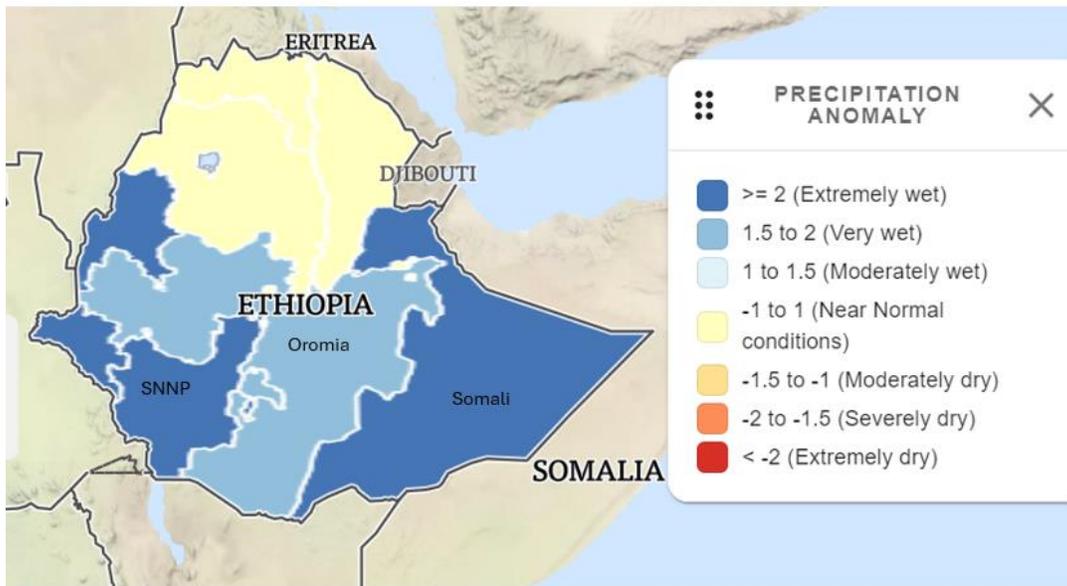
Figure 5: Vegetation Anomaly for Ethiopia IBLI regions (October - December 2023)



Source: [NGDI Dashboard \(ngdi-dashboard.azurewebsites.net\)](https://ngdi-dashboard.azurewebsites.net)

2. **Precipitation Anomaly:** A review of the precipitation index showed that high levels of rainfall (above the historical average) lead to extremely wet conditions which is consistent with the NDVI data.

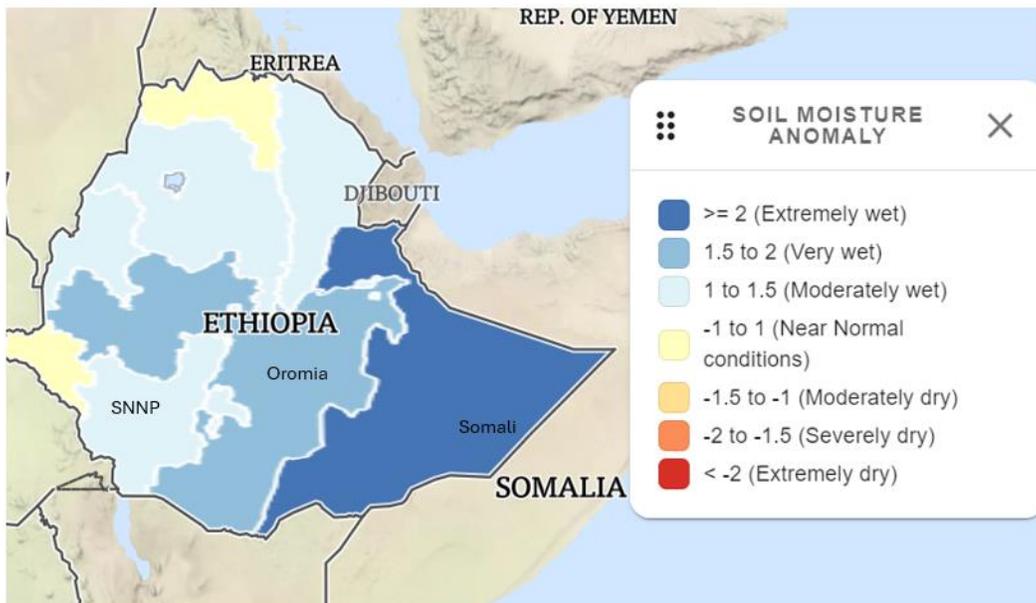
Figure 6: Precipitation Anomaly for Ethiopia IBLI regions (October - December 2023)



Source: [NGDI Dashboard \(ngdi-dashboard.azurewebsites.net\)](https://ngdi-dashboard.azurewebsites.net)

3. **Soil Moisture Anomaly:** A review of the index confirmed that the increased rainfall caused the soil to become moister making it conducive to enhanced vegetation conditions.

Figure 7: Soil Moisture Anomaly for Ethiopia IBLI regions (October - December 2023)



Source: [NGDI Dashboard \(ngdi-dashboard.azurewebsites.net\)](https://ngdi-dashboard.azurewebsites.net)

ANNEX TO THIS REPORT

1. Term sheet with the index.
2. Graphic showing the progression of the drought from October 2023 to December 2023 in the Horn of Africa.
3. Final Data Report from Planet.