

HOA DRIVE, IBLI PAYOUT SUMMARY REPORT - KENYA

MARCH - SEPTEMBER 2023 SEASON, PHASE 1 (March to May)

1. BACKGROUND

DRIVE is a Horn of Africa project, funded by the World Bank and implemented by governments with an aim of enhancing pastoralists' access to financial services for drought risk mitigation, include them in the value chains, and facilitate the livestock trade in the Horn of Africa. After the signing of the Project Financing Agreement in June 2022, DRIVE was declared effective in October 2022, and has two components:

- Component I: Package of financial services for climate resilience
- Component II: Livestock Value Chains and Trade Facilitation.

ZEP-RE (PTA Reinsurance Company) oversees Component I implementation in the four countries (Kenya, Somalia, Ethiopia, and Djibouti). This component has insurance, savings, digital accounts, and platform coordination. Component II is implemented by the Kenya Development Corporation (KDC) and the State Department of Livestock (SDL). In Kenya, the government is targeting implementation of the DRIVE Project in 21 arid and semi-arid lands (ASAL) with an aim of reaching pastoralists with resilience building tools against drought as well as develop capacity for the livestock value chain development. The IBLI product was developed to be used to back pastoralists' savings in the case of severe drought. It is designed to keep animals alive in an affordable way and to rapidly trigger and distribute payouts without the need for evidence of livestock dying. The IBLI product is designed based on a forage scarcity index developed using anomalies in Normalised Difference Vegetation Index (NDVI) based on EVIIRs data from 2002 to 2021.

This report covers the first payout of the Long Rains, Long Dry Season (LRLD) covering the months of March 2023 – May 2023, covering 10 counties i.e., Samburu, Mandera, Garissa, Tana River, Wajir, Isiolo, Marsabit, Kajiado, Turkana, Laikipia.

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-Scores¹ have been validated² by data service providers and validation agent, Planet.

¹ 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.

² See Final Data Report for more details.

2. UNDERWRITING DETAILS

Insured: Pastoralists in Kenya against prolonged forage scarcity caused by drought ONLY.

Product description: The product's main aim is to provide cover against prolonged forage scarcity ONLY

because of 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 the NDVI index. The pricing and payouts are the same within each

UAI³ level.

Period of Insurance: Cover 1: 1st October 2022 to 30th September 2023 (annual cover purchased in

September 2022).

Cover 2: 1st March 2023 to 28th February 2024 (annual coverage purchased in

February 2023).

Calculation period: 1st March 2023 to 31st May 2023 (Long rains, Phase 1).

Type of Cover: Index based livestock insurance based on Normalized Difference Vegetative Index,

NDVI.

Scope of Cover (Perils): Forage scarcity because of drought.

Areas of Cover: Kenya (Samburu, Mandera, Garissa, Tana River, Wajir, Isiolo, Marsabit, Kajiado,

Turkana, Laikipia).

No. of insured farmers: 74,552 (*Cover 1 - 16,829, Cover 2 - 57,723*⁴).

Total Sum Insured: Ksh. 5,118,409,395 (*Cover 1 - Ksh. 1,314,830,136, Cover 2 - Ksh. 3,803,579,235*).

Total Premium: Ksh. 1,008,957,600 (Cover 1 - Ksh. 250,475,778, Cover 2 - 758,481,840).

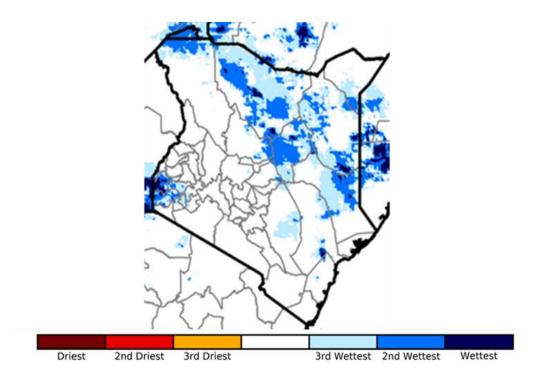
³ UAI – Unit Area of Insurance per region as is determined based on the homogeneity of vegetation conditions and pastoral migration extents. Also, rangeland dominance, forage availability, seasonality and drought history are also considered.

⁴ This number consists of 56,619 pastoralists, whose details are known and 1,104 pastoralists whose location details are unknown, and efforts are being made to locate them and allocate them into the correct UAIs.

3. DROUGHT SITUATION⁵

Rainfall: The recently concluded 2023 March to May long rains were cumulatively more than 150 percent of the 40-year average across much of northern and eastern Kenya and over 110 percent of the average over much of the southeastern marginal agricultural areas and the Lake Victoria basin. The 2023 long rains were also the third or second wettest season across much of northern and northeastern Kenya recorded in the past 40 years (Figure 1). In April, flooding in Samburu destroyed property and displaced more than 111 households in Waso and Nyiro wards, while in Turkana households in Township, Kanamkemer, Songot, Kalobeyei, and Kalokol were displaced, and about 1,400 sheep and goats, 68 camels, and 40 cattle were lost. In Isiolo, about 630 households were temporarily surrounded by water after River Ewaso Nyiro broke its banks flooding the entire Iresaboru location in Sericho ward, Garbatulla sub-county.

Figure 1: CHIRPS Season Precipitation Rank since 1981, March 1, 2023, to May 31, 2023



The month of May⁶ registered seasonal cessation, where several parts of the ASALs received less than normal amounts of rainfall ranging between 75mm to 11mm. The long rains generally led to general improvement on the vegetation and forage condition across the ASALs. The state of pasture and browse improved by between 75 percent and 83 percent respectively in all counties except parts of Kajiado, Turkana and Taita Taveta counties. Water recharge in most of the open water sources was over 80 percent charged in most of the ASAL counties.

The Arid and Semi-Arid counties recorded positive impacts of the just-ended March to May rainfall season. Three (3) counties are in the drought recovery phase while 17 are in the normal phase. Isiolo, Marsabit and Kwale are in recovery phase, while the 17 counties in normal drought phase include Makueni, Lamu, Kajiado, Tharaka Nithi, Wajir, Samburu, Mandera, Baringo, Kilifi, Tana River, West Pokot, Turkana, Garissa, Kitui, Laikipia, Meru and Narok. (Those in bold are those where sales of IBLI have occurred under DRIVE.)

However, Taita Taveta county remained in Alert drought phase during the month of June 2023.

⁵ As Kenya recovers from historic drought, Crisis (IPC Phase 3) outcomes persist | FEWS NET

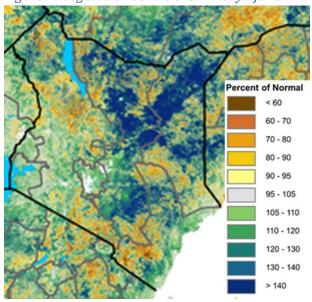
⁶ Monthly drought updates - June 2023 (ndma.go.ke); 6977-national-monthly-drought-updates-july-2023 (ndma.go.ke)

Figure 2: Drought Phase Classification, June 2023.



Forage and pasture: The satellite-derived eVIIRS normalized difference vegetation index (NDVI), indicates vegetation greenness is over 105 percent of the 10-year average across the country, except in localized areas across northern, eastern, and southern Kenya where vegetation conditions are likely less than 90 percent of the 10-year average (Figure 3). However, across most of the northern and eastern parts of the country, vegetation greenness is over 130 percent of normal following the above-average rainfall and recovery of rangeland resources. Because of improvements in forage and water availability, the return trekking distances from grazing areas to water sources for livestock range from 4.5 to 7.6 kilometers and are 17 to 54 percent shorter than the three-year average but remain similar to the three-year average in Garissa and Turkana. The improvement in vegetation and increased water access is lowering the distance livestock travel and helping improve livestock body conditions.

Figure 3: Vegetation conditions in Kenya June 2023.



4. DATA AND MAPS

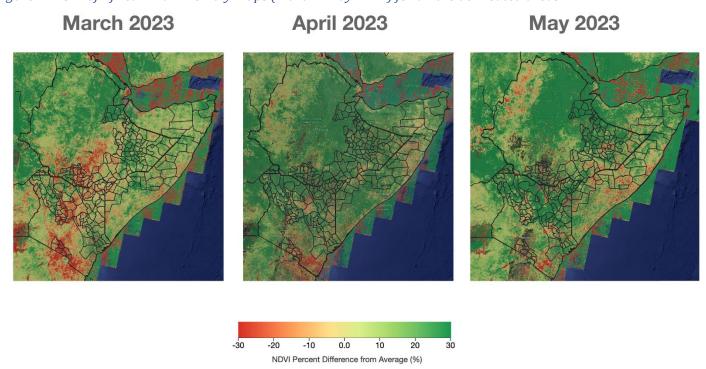
The table below shows a brief description of the data set used.

Table 1: 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 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						

The map below shows the vegetation progression, within the East African Region, from the month of March 2023 to May 2023, with the level of greenness increasing in the outlined areas under coverage.

Figure 4: Horn of Africa NDVI Anomaly Maps (March - May 2023) for all the delineated areas.



5. PAYOUT DETAILS

Period Of Loss: 1st March 2023 to 31st May 2023 (Long Rains, Phase 1)

Date Reported: July 2023

Calculated payout: USD 873,396 (KSh 113,309,181)

The maximum payout is Ksh 36,804,975 (32.5% of total payout) from Tana River County.

The table below shows the distribution of the payouts per county.

Table 2: Distribution of total payouts per County (Long Rains, Phase 1)

County	Total Premiums (OND + MAM)	Total Number of Pastoralists Covered	Total Number of Pastoralists receiving payouts	Total Payouts for OND 2022 Pastoralists ⁷	Total Payouts for MAM 2023 Pastoralists	Total Payouts (Phase 1)	Payout percentage ⁸
Garissa	146,099,179	9,903	6,585	6,880,681	8,159,773	15,040,454	1.15%
Isiolo	79,886,483	6,182	2776	-	7,119,204	7,119,204	1.22%
Kajiado	30,098,243	1,913	1415	-	15,825,810	15,825,810	9.32%
Laikipia	23,341,944	1,790	1790	-	7,711,970	7,711,970	6.48%
Mandera	62,917,736	6,323	-	-	-	-	0.00%
Marsabit	128,087,252	8,675	2196	-	4,598,006	4,598,006	0.94%
Samburu	104,302,709	8,529	6275	7,380,877	11,917,507	19,298,384	3.37%
Tana River	189,932,267	13,178	13178	20,257,684	16,547,291	36,804,975	4.96%
Turkana	106,489,340	8,609	-	-	-	-	0.00%
Wajir Unknown ⁹	122,641,307 15,161,126	8,188 1,262	2,281 1,262	2,022,140 253,307	2,920,165 1,714,765	4,942,305 1,968,072	0.81%
Total	1,008,957,586	74,522	37,758	36,794,689	76,514,492	113,309,181	2.02%

Due to improved vegetation conditions, the amount of payouts continue to reduce as seen with the pastoralists who were onboarded in October 2022. The payouts for this group have declined from Ksh 173m for Short Rains, Phase 1 and Ksh 82m for Short Rains, Phase 2 and further down to Ksh 37m for the Long Rains, Phase 1.

The improved vegetation conditions are primarily due to the early onset of the MAM Long rains as highlighted in the previous section.

In aggregate, 8 counties out of 10 recorded lower than expected vegetation levels leading to a payout. Only **Turkana** and **Mandera** counties did not trigger a payout. This is because over the 3-month observation period of March – May 2023, the pasture conditions recorded were higher than the set threshold, thus leading to no payout.

⁷ For OND 2022, the product was only sold in 4 counties i.e., Garissa, Samburu, Tana River and Wajir.

⁸ This is as a percentage of the total sum insured, but the maximum payout percentage is capped at the number of months for the observation period. Expected maximum payout for the Long Rains, Phase 1 was 20% after allowing for the deductible of 5%. A 5% deductible is applied to the payout percentage whereby, if the payout percentage is greater than 5%, then the final payout percentage will be (x-5%), if it is less than 5%, then the final payout % will be 0%.

⁹ Unknown – These are pastoralists who paid without registering their locations and are still being traced and the payout percentage is an average of all the UAIs payout percentages.

COUNTY LEVEL ANALYSIS

1. Garissa County

GARISSA	October 2022 Pastoralists	March 2023 Pastoralists	Total Pastoralists Covered	October 2022 Pastoralists	March 2023 Pastoralists	Total Pastoralists Receiving Payouts	Total Premiums (OND + MAM)	Total Payouts for OND 2022 Pastoralists	Total Payouts for MAM 2023 Pastoralists	Total Payouts (Phase 1)	Payout percentage
Balambala	248	231	479	248	231	479	7,455,284	122,024	97,291	219,315	0.60%
Benane	109	286	395	-	-	-	6,080,940	-	-	-	0.00%
Bura Garissa	417	344	761	417	344	761	12,123,826	2,453,463	2,005,385	4,458,848	7.00%
Central Garissa	877	1,648	2,525	877	1,648	2,525	34,169,903	2,351,157	3,759,597	6,110,754	3.30%
Dadaab	129	808	937	-	-	-	12,409,218	-	-	-	0.00%
Danyere	1	31	32	-	-	-	469,529	-	-	-	0.00%
Hulugho	126	30	156	-	-	-	2,419,370	-	-	-	0.00%
ljara	154	171	325	-	-	-	5,048,263	-	-	-	0.00%
Jarajila	407	177	584	407	177	584	10,091,769	136,726	61,394	198,120	0.40%
Liboi	18	245	263	-	-	-	3,489,383	-	-	-	0.00%
Masalani	396	627	1,023	396	627	1,023	15,861,032	433,041	692,029	1,125,070	1.30%
Modogashe	199	573	772	-	-	-	11,185,375	-	-	-	0.00%
Sangailu	100	49	149	100	49	149	2,508,410	109,330	53,715	163,045	1.30%
Sankuri	462	602	1,064	462	602	1,064	16,710,039	1,274,940	1,490,362	2,765,302	3.30%
Shant-Abak	45	393	438	-	-	-	6,076,839	-	-	-	0.00%
TOTAL	3,688	6,215	9,903	2,907	3,678	6,585	146,099,179	6,880,681	8,159,773	15,040,454	1.15%

Pasture conditions in March were bad for all UAIs in Garissa, with NDVI signals worse than average, thus breaching the trigger. There was improvement in the months of April and May leading to better than average pasture conditions. However, we still had 7 UAIs out of 15 that had poor pasture conditions, thus triggering a payout.

2. Samburu County

SAMBURU	Octob er 2022 Pastor alists	March 2023 Pastor alists	Total Pastoralist s Covered	Octobe r 2022 Pastor alists	March 2023 Pastor alists	Total Pastoralists Receiving Payouts	Total Premiums (OND + MAM)	Total Payouts for OND 2022 Pastoralists	Total Payouts for MAM 2023 Pastoralists	Total Payouts (Phase 1)	Payout percentage
Angaba	401	729	1,130	401	729	1130	16,451,187	1,789,010	3,233,837	5,022,847	5.40%
Elbana	454	759	1,213	-	-	-	12,086,139	-	-	-	0.00%
Ndoto	115	262	377	115	262	377	3,989,959	279,899	593,581	873,480	4.00%
Nyiro	347	323	670	347	323	670	9,695,751	1,331,774	1,104,894	2,436,668	4.60%
Wamba	433	874	1,307	433	874	1307	14,548,596	1,377,583	2,518,217	3,895,801	5.60%
Wamba West	991	1,792	2,783	991	1,792	2783	36,405,734	2,586,891	4,466,978	7,053,869	4.00%
Waso	368	673	1,041	-	-	-	11,040,381	-	-	-	0.00%
Unknown	8	0	8	8	-	8	84,962	15,719	-	15,719	0.00%
TOTAL	3,117	5,412	8,529	2,295	3,980	6,275	104,302,709	7,380,877	11,917,507	19,298,384	3.37%

Pasture conditions in March were bad for all UAIs in Samburu, with NDVI signals worse than average, thus breaching the

trigger. There was marginal improvement in the region in the months of April and May with only 2 UAIs out of 7 **not** triggering a payout.

3. Tana River

TANA RIVER	October 2022 Pastoralists	March 2023 Pastoralis ts	Total Pastoralis ts Covered	October 2022 Pastoralis ts	March 2023 Pastorali sts	Total Pastorali sts Receiving Payouts	Total Premiums (OND + MAM)	Total Payouts for OND 2022 Pastoralists	Total Payouts for MAM 2023 Pastoralists	Total Payouts (Phase 1)	Payout percentage
Bangahiri	1,626	1,508	3,134	1,626	1,508	3134	46,846,303	4,325,184	3,294,234	7,619,418	3.30%
Chewani	251	523	774	251	523	774	10,314,020	2,151,671	3,855,619	6,007,290	11.10%
Galole W	2,279	1,581	3,860	2,279	1,581	3860	56,096,761	5,841,201	3,081,609	8,922,811	3.30%
Garsen N	2,032	2,331	4,363	2,032	2,331	4363	61,326,150	6,159,754	5,366,584	11,526,338	3.80%
Masache	630	401	1,031	630	401	1031	15,196,918	1,739,899	949,246	2,689,145	3.30%
Unknown	16		16	16		16	152,115	39,975	-	39,975	1.12%
TOTAL	6,834	6,344	13,178	6,834	6,344	13,178	189,932,267	20,257,684	16,547,291	36,804,975	4.96%

All registered pastoralists in Tana River will receive a payout, noting that all the UAIs recorded lower-than-average vegetation conditions over the 3-month observation period, March – May 2023.

4. Wajir

WAJIR	October 2022 Pastoralists	March 2023 Pastoralists	Total Pastoralists Covered	October 2022 Pastoralists	March 2023 Pastoralists	Total Pastoralists Receiving Payouts	Total Premiums (OND + MAM)	Total Payouts for OND 2022 Pastoralists	Total Payouts for MAM 2023 Pastoralists	Total Payouts (Phase 1)	Payout percentage
Buna	232	743	975	-	-	-	15,379,807	-	-	-	0.00%
Bute	268	378	646	-	-	-	8,854,093	-	-	-	0.00%
Central W	449	855	1,304	-	-	-	18,545,420	-	-	-	0.00%
Diff	347	631	978	347	631	978	14,130,394	1,204,699	1,754,941	2,959,641	4.30%
Eldas	112	379	491	-	-	-	6,599,598	-	-	-	0.00%
Griftu	372	421	793	-	-	-	13,503,083	-	-	-	0.00%
Gurar	229	73	302	-	-	-	5,315,299	-	-	-	0.00%
Habaswein	159	238	397	159	238	397	6,775,919	50,647	74,419	125,066	0.40%
Hadado	315	373	688	315	373	688	10,886,306	637,762	701,617	1,339,379	2.50%
Kotulo	364	241	605	-	-	-	8,909,119	-	-	-	0.00%
Sebule	46	171	217	46	171	217	3,425,787	128,347	389,188	517,535	3.30%
Tarbaj	113	521	634	-	-	-	8,002,305	-	-	-	0.00%
Wajir-Bor	25	132	157	-	-	-	2,297,314	-	-	-	0.00%
Unknown	1		1	1	-	1	-	685	-	685	0.00%
TOTAL	3,032	5,156	8,188	868	1,413	2,281	122,624,445	2,022,140	2,920,165	4,942,305	0.81%

Pasture conditions were relatively good from March to May 2023 in Wajir. Only 4 UAIs out of 13 had NDVI signals worse than average, thus breaching the trigger, and ultimately triggering a payout.

5. Isiolo

Isiolo	Total Pastoralists Covered	Total Pastoralists Receiving Payouts	Total Premiums (MAM)	Total Payouts (Phase 1)	Payout percentage
Central Isiolo	1,875	=	23,441,592	-	0.00%
Garba Tulla	758	-	5,618,198	-	0.00%
Kinna	204	-	3,110,735	-	0.00%
Merti	1,654	1,653	23,643,089	3,639,533	3.30%
Oldonyiro	1,122	1,123	18,456,993	3,479,671	4.00%
Sericho	569	-	5,615,875	-	0.00%
TOTAL	6,182	2,776	79,886,483	7,119,204	1.22%

Pasture conditions in were relatively good from March to May 2023 in Isiolo. Only 2 UAIs out of 6 had NDVI signals worse than average, thus breaching the trigger, and ultimately triggering a payout.

6. Marsabit

Marsabit	Total Pastoralists Covered	Total Pastoralists Receiving Payouts	Total Premiums (MAM)	Total Payouts (Phase 1)	Payout percentage
Central Marsabit	941	941	12,526,831	2,110,259	3.30%
Central Moyale	2,337	-	39,507,689	-	0.00%
Dukana	243	-	2,411,267	-	0.00%
Gadamoji	478	478	5,651,871	944,017	3.30%
Golbo	982	-	16,650,905	-	0.00%
Kargi	295	-	2,967,815	-	0.00%
Laisamis	751	751	8,693,425	1,483,996	3.30%
Loiyangalani	26	26	366,719	59,734	3.20%
Maikona	326	-	4,536,908	-	0.00%
MT KULAL	297	-	3,989,243	-	0.00%
NORTH HORR	420	-	7,184,487	-	0.00%
Obbu	416	-	5,977,507	-	0.00%
Turbi	815	-	13,014,885	-	0.00%
Uran	348	-	4,607,701	-	0.00%
TOTAL	8,675	2,196	128,087,252	4,598,006	0.94%

Pasture conditions in March were bad for most UAIs in Marsabit, with NDVI signals worse than average, thus breaching the trigger. There was significant improvement in the region in the months of April and May with only 4 UAIs out of 14 triggering a payout.

7. Kajiado

Kajiado	Total Pastoralists Covered	Total Pastoralists Receiving Payouts	Total Premiums (MAM)	Total Payouts (Phase 1)	Payout percentage
Iloodokilani	351	-	5,426,603	-	0.00%
Kaputiei	247	247	3,903,717	1,430,126	7.10%
Keekonyokie	147	-	2,208,284	-	0.00%
Kuku	383	383	5,754,358	5,615,617	19.90%
Matapato	185	185	2,619,513	1,624,724	13.00%
Merrueshi	103	103	1,637,741	969,741	11.80%
Olgulului	243	243	4,648,800	2,864,449	12.40%
Olkeriai	253	253	3,887,792	3,319,405	17.10%
Urban	1	1	11,435	1,749	2.60%
TOTAL	1,913	1,415	30,098,243	15,825,810	9.32%

Pasture conditions have been bad in the entire County of Kajiado since March with only marginal improvements in 2 UAIs, whereby the pasture conditions were above average, thus leading to no payout, while the other 7 UAIs recorded a payout.

8. Laikipia

Laikipia	Total Pastoralists Covered	Total Pastoralists Receiving Payouts	Total Premiums (MAM)	Total Payouts (Phase 1)	Payout percentage
Mugogodo	926	926	13,090,592	4,279,660	7.10%
Salama	103	103	1,142,820	376,753	6.40%
Segera	135	135	1,674,750	523,839	5.80%
Sosian	626	626	7,433,782	2,531,717	6.60%
TOTAL	1,790	1,790	23,341,944	7,711,970	6.48%

All the UAIs in Laikipia triggered a payout for the first phase of the Long Rains, Long Dry season. This is primarily due to poor pasture conditions as recorded by the NDVI signal during the observation period of March – May 2023.

9. Unknown

These are pastoralists who did not register through the system but paid directly to the account. Minimal details are available, but efforts are being made to locate them to ensure they will receive their payout.

Their details are as shown below:

UNKNOWN	October 2022 Pastoralists	March 2023 Pastoralists	Total Pastoralists Covered	October 2022 Pastoralists	March 2023 Pastoralists	Total Pastoralists Receiving Payouts	Total Premiums (OND + MAM)	Total Payouts for OND 2022 Pastoralists	Total Payouts for MAM 2023 Pastoralists	Total Payouts (Phase 1)	Payout percentage
UNKNOWN	158	1,106	1,264	158	1,104	1,262	15,161,126	253,307	1,714,765	1,968,072	1.21%
TOTAL	158	1,104	1,262	158	1,104	1,262	15,161,126	253,307	1,714,765	1,968,072	1.21%

Due to the unavailability of location data, the payout has been estimated based on the average payout for all the regions. i.e., 1.21% for Phase 1. The next steps are to work with the State Department of Livestock (SDL) and county government officials to enable us to locate them and place them in the correct UAIs.

ANNEX TO THIS REPORT

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