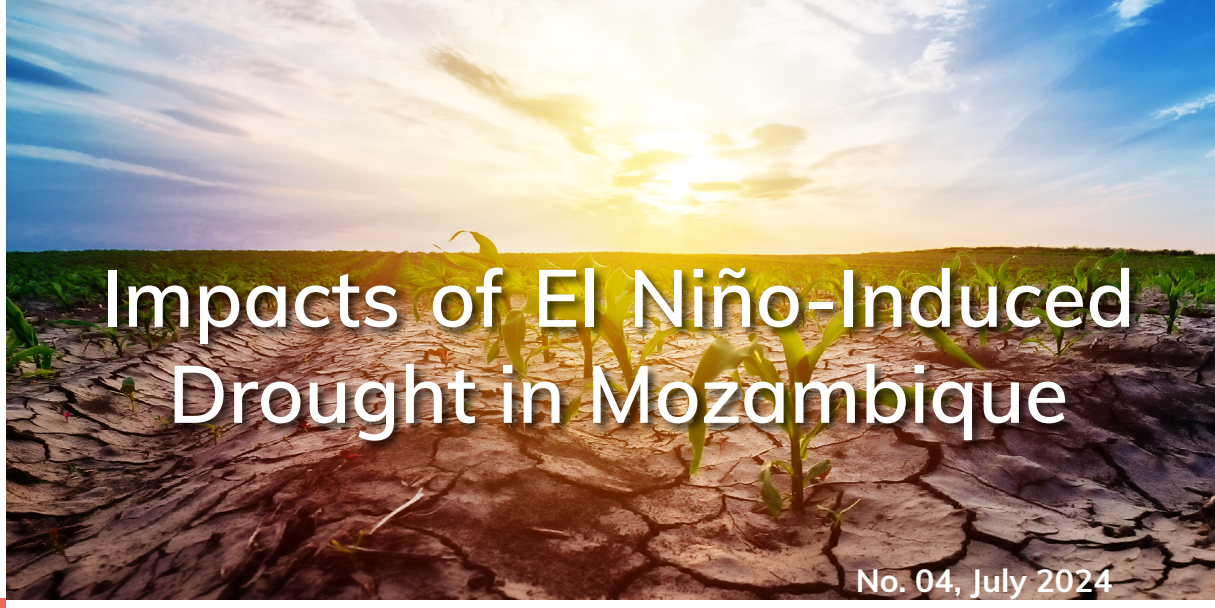

Impacts of El Niño-Induced Drought in Mozambique

No. 04, July 2024

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AKADEMIYA

El Niño 2024 in Southern Africa Series

Introduction

Like the rest of the Southern Africa region, Mozambique has been experiencing strong El Niño weather effects since 2023. These effects intensified later that year and are expected to continue until mid-2024. Characterized by above-average temperatures and below-normal rainfall, climate variability related to this phenomenon is considered one of the strongest drivers that impact agricultural production in Southern Africa. Most countries in the region have reported potential declines in staple crop production (especially Maize) due to the *El Niño* drought.

Maize is a major staple crop and a key source of food calories in Mozambique. Water stress during agricultural seasons caused by prolonged dry spells due to *El Niño* can be devastating for the country and expose households to the risk of food insecurity.

This brief aims to analyze the overall effects of the droughts at the national level and the spatially differentiated impacts across the country. It is crucial to note that some areas in the country might be more susceptible to intense drought than others. Moreover, the scale of devastation will be more significant in areas of the country where the severity of drought and population densities are highest. This brief focuses on several spatial aspects of the drought that impact community vulnerability, highlighting hot-spot areas that urgently require targeted intervention and attention.

Drought Index and Drought Exposure for Mozambique in 2024

Drought index measures the severity of drought conditions across a geographical space. As the value approaches zero, the severity of the drought increases, and values above 1 indicate the absence of drought conditions. The drought index for Mozambique in 2024 is shown in Figure 1. Though pockets of droughts are observed in several parts of the country, the areas in the Niassa province bordering Malawi (Lake Nyasa and Lake Malawi) and Tete province bordering Zambia are the most affected by the drought conditions. Large areas of the country are less affected by droughts, including Gaza, inhabane, and Maputo.

Figure 2 combines the drought index and population density to generate a drought exposure map. The map provides additional information on areas that are affected by high levels of drought and have high population density, hence requiring priority intervention. Based on the map in Figure 2, areas in Tete province bordering Malawi are highly vulnerable because of the high levels of drought coupled with high population density. In contrast, areas of Tete province bordering Zambia, though impacted by severe drought, are less densely populated; hence, the level of drought exposure is lower.

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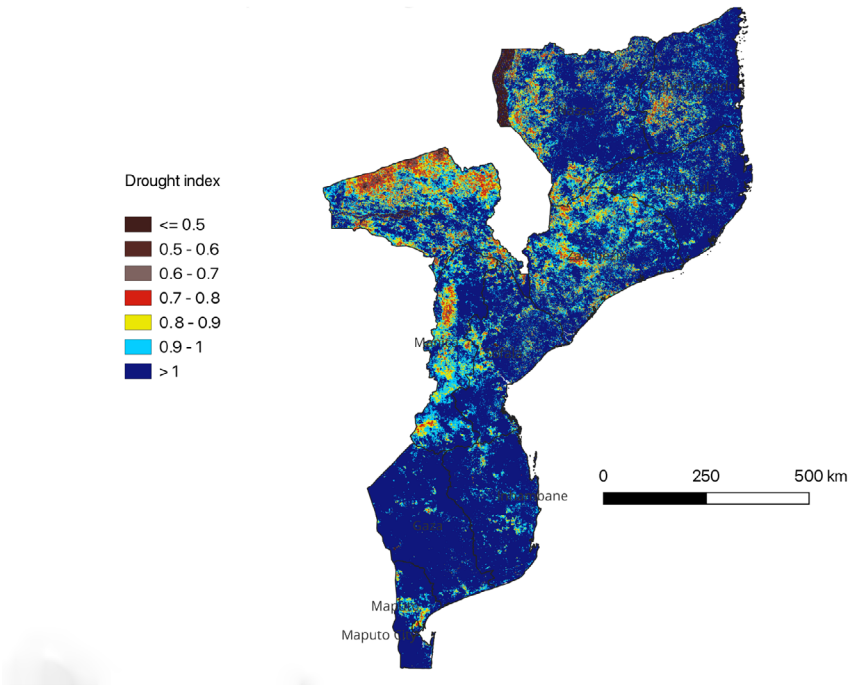
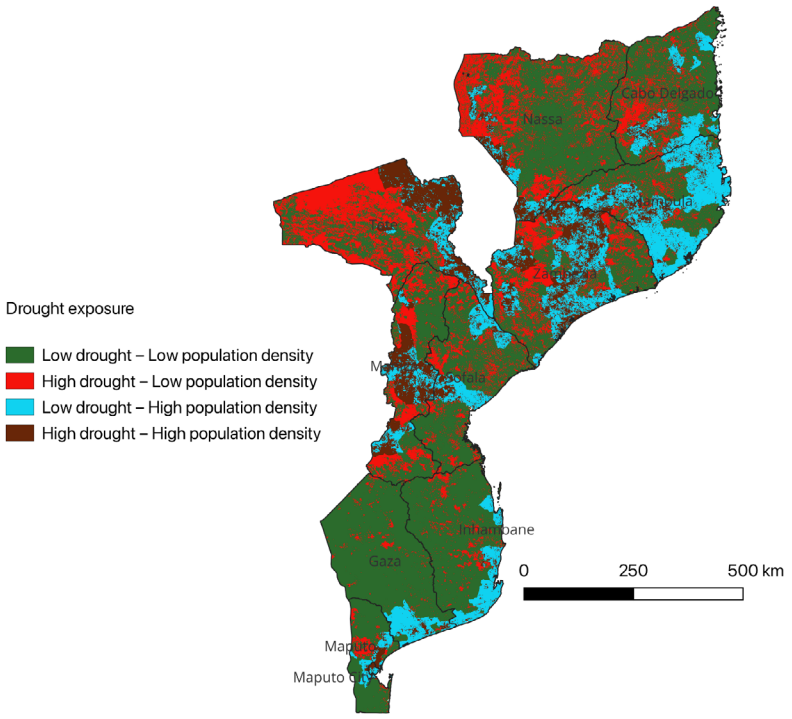
Figure 1: Mozambique Drought Index in 2024



Source: AKADEMIYA2063 Africa Agriculture Watch (AAgWa), 2024

Figure 2: Mozambique 2024 Drought Exposure



Source: AKADEMIYA2063 Africa Agriculture Watch (AAgWa), 2024

Impact of Drought on Maize Production

Maize production forecasts for 2024 show a significant reduction in production levels in 2024 compared to 2023 (see Figures 3 and 4).

Figure 3: Predicted Maize Production in Mozambique in MT (2024)

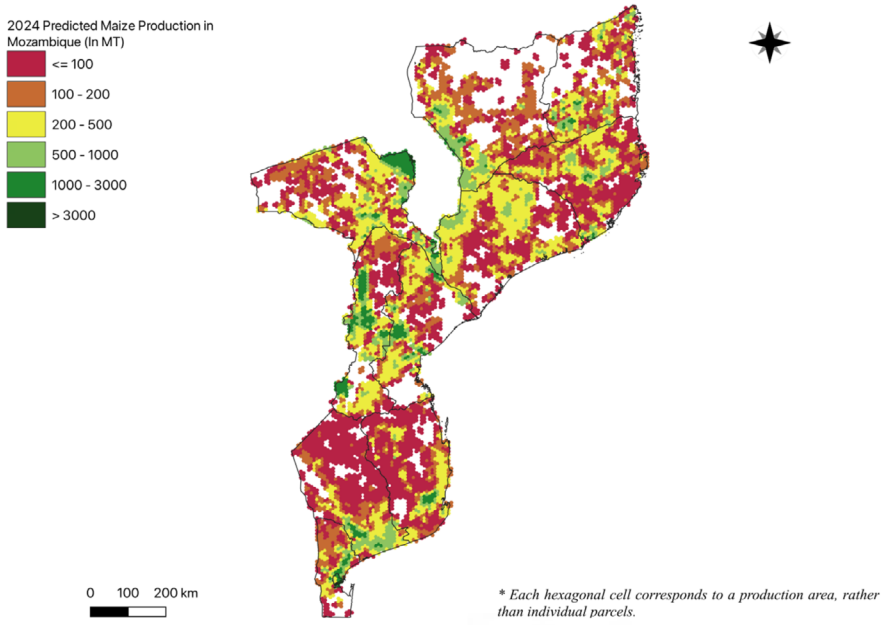
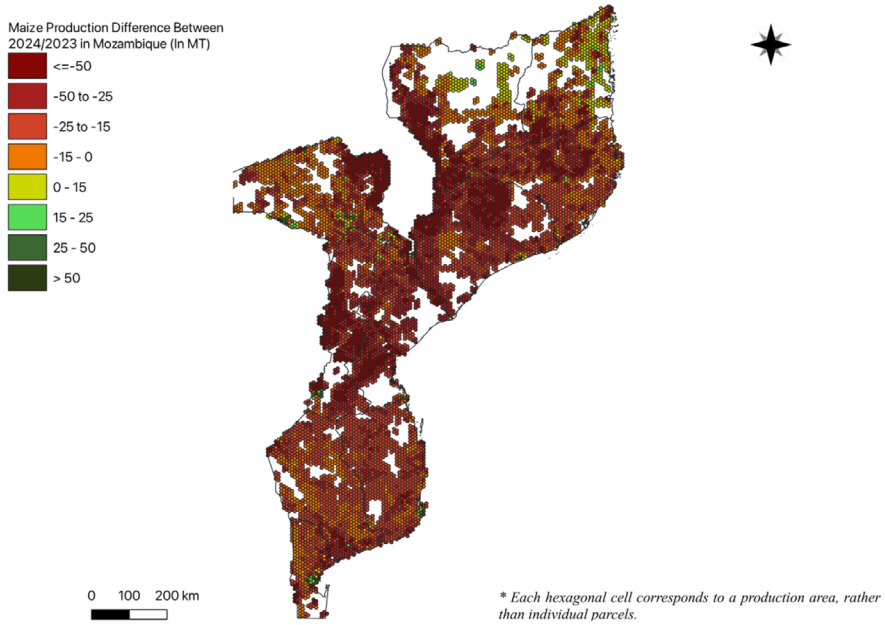


Figure 4: Maize Production Difference Between 2024/23 in Mozambique



Maize production in Mozambique for 2024 is forecasted to be lower by about 10 percent (see Annex Table 1) compared to 2023 production. The reduction in production is predicted to vary spatially across the country, with the highest reduction expected mainly in Manica province (e.g., Macossa: 33 percent), Maputo province (e.g., Namaacha: 27 percent) and Sofala province (e.g., Muanza: 27 percent).

Annex – 2024 Mozambique Maize Production Forecast at Sub-district Level

Provinces	Districts	2024 Production (MT)	2023 Production (MT)	Difference (MT)	Change (%)
Cabo Delgado	Ancuabe	13900	14726	-826	-6%
Cabo Delgado	Balama	14150	15502	-1352	-9%
Cabo Delgado	Chiúre	7617	8425	-807	-10%
Cabo Delgado	Macomia	3970	4087	-117	-3%
Cabo Delgado	Meluco	2538	2643	-105	-4%
Cabo Delgado	Mocimboa da Praia	4831	4904	-73	-1%
Cabo Delgado	Montepuez	19205	20808	-1603	-8%
Cabo Delgado	Mueda	4939	5128	-189	-4%
Cabo Delgado	Muidumbe	2757	2812	-56	-2%
Cabo Delgado	Namuno	26018	28723	-2705	-9%
Cabo Delgado	Nangade	10211	10814	-603	-6%
Cabo Delgado	Palma	3828	4100	-272	-7%
Cabo Delgado	Pemba	312	327	-15	-5%
Cabo Delgado	Quissanga	153	145	8	6%
Gaza	Bilene	11090	12058	-967	-8%
Gaza	Chibuto	16044	17110	-1066	-6%
Gaza	Chicualacuala	8770	10875	-2105	-19%
Gaza	Chigubo	6739	8794	-2055	-23%
Gaza	Chókwè	27080	28214	-1134	-4%
Gaza	Guijá	14285	15324	-1039	-7%
Gaza	Mabalane	7320	8581	-1261	-15%
Gaza	Mandlakazi	18934	19971	-1036	-5%
Gaza	Massangena	2502	3622	-1121	-31%
Gaza	Massingir	5699	6414	-715	-11%
Gaza	Xai-Xai	14551	15261	-710	-5%
Inhambane	Funhalouro	9737	12233	-2495	-20%
Inhambane	Govuro	1054	1508	-453	-30%
Inhambane	Homoine	16149	16758	-610	-4%
Inhambane	Inharrime	2604	3243	-638	-20%
Inhambane	Inhassoro	474	648	-174	-27%
Inhambane	Jangamo	3189	3327	-138	-4%
Inhambane	Mabote	15055	18119	-3064	-17%
Inhambane	Massinga	10609	11853	-1244	-10%
Inhambane	Morrumbene	12360	13201	-841	-6%
Inhambane	Panda	10940	11820	-880	-7%
Inhambane	Vilanculos	7588	8599	-1011	-12%
Inhambane	Zavala	5824	6418	-595	-9%
Manica	Barue	51483	55171	-3689	-7%
Manica	Gondola	33363	36370	-3007	-8%
Manica	Guro	10749	12174	-1424	-12%

Provinces	Districts	2024 Production (MT)	2023 Production (MT)	Difference (MT)	Change (%)
Manica	Machaze	24745	28298	-3553	-13%
Manica	Macossa	1957	2925	-968	-33%
Manica	Manica	43204	47419	-4215	-9%
Manica	Mossurize	25940	26624	-684	-3%
Manica	Sussundenga	21837	25149	-3312	-13%
Manica	Tambara	4686	5381	-695	-13%
Maputo	Boane	3435	3543	-108	-3%
Maputo	Magude	10095	11358	-1263	-11%
Maputo	Manhiça	16656	17565	-909	-5%
Maputo	Marracuene	6285	6341	-56	-1%
Maputo	Matutuíne	760	979	-219	-22%
Maputo	Moamba	10622	11281	-659	-6%
Maputo	Namaacha	2911	4010	-1099	-27%
Maputo City	Boane	2310	2211	99	4%
Maputo City	Maputo	7813	7818	-6	0%
Nampula	Angoche	4902	5343	-441	-8%
Nampula	Erati	8206	9371	-1165	-12%
Nampula	Lalaua	7108	8560	-1451	-17%
Nampula	Malema	10396	12197	-1801	-15%
Nampula	Meconta	4170	4792	-622	-13%
Nampula	Mecuburi	24096	27448	-3352	-12%
Nampula	Memba	3322	3879	-557	-14%
Nampula	Mogovolas	5902	6788	-885	-13%
Nampula	Moma	14984	16236	-1253	-8%
Nampula	Monapo	7357	8311	-953	-11%
Nampula	Mongincual	1554	2194	-640	-29%
Nampula	Mossuril	2255	2742	-486	-18%
Nampula	Muecate	11758	13568	-1811	-13%
Nampula	Murrupula	2420	2945	-525	-18%
Nampula	Nacala Velha	2030	2302	-272	-12%
Nampula	Namapa	11025	12349	-1323	-11%
Nampula	Nampula	20379	21925	-1546	-7%
Nampula	Ribaue	11897	13489	-1592	-12%
Nassa	Cuamba	24628	27380	-2751	-10%
Nassa	Lago	5659	6979	-1320	-19%
Nassa	Lichinga	22286	25607	-3322	-13%
Nassa	Majune	4032	4440	-408	-9%
Nassa	Mandimba	12068	13521	-1453	-11%
Nassa	Marrupa	8189	8518	-329	-4%
Nassa	Maúa	5945	6822	-877	-13%
Nassa	Mavago	2928	2901	27	1%

Provinces	Districts	2024 Production (MT)	2023 Production (MT)	Difference (MT)	Change (%)
Nassa	Mecanhelas	42038	48184	-6145	-13%
Nassa	Mecula	1505	1425	81	6%
Nassa	Metarica	5016	5890	-875	-15%
Nassa	Muembe	4304	5218	-914	-18%
Nassa	N'gauma	10685	12241	-1556	-13%
Nassa	Nipepe	4755	5638	-883	-16%
Nassa	Sanga	6730	7667	-937	-12%
Sofala	Buzi	24488	28100	-3611	-13%
Sofala	Caia	17907	19149	-1242	-6%
Sofala	Chemba	10257	11015	-757	-7%
Sofala	Cheringoma	3991	5209	-1218	-23%
Sofala	Chibabava	11828	14014	-2186	-16%
Sofala	Dondo	8246	9013	-766	-9%
Sofala	Gorongosa	11188	12964	-1775	-14%
Sofala	Machanga	2636	2853	-217	-8%
Sofala	Maringue	12887	14876	-1989	-13%
Sofala	Marromeu	8273	9308	-1034	-11%
Sofala	Muanza	2591	3472	-881	-25%
Sofala	Nhamatanda	35065	36693	-1628	-4%
Tete	Angónia	52126	55059	-2934	-5%
Tete	Cahora Bassa	10032	10847	-815	-8%
Tete	Changara	36961	39001	-2040	-5%
Tete	Chifunde	8431	9287	-855	-9%
Tete	Chiuta	15138	16576	-1438	-9%
Tete	Macanga	22337	25797	-3459	-13%
Tete	Magoe	8792	9127	-334	-4%
Tete	Maravia	12522	13685	-1163	-8%
Tete	Moatize	23957	26778	-2821	-11%
Tete	Mutarara	27114	28883	-1769	-6%
Tete	Tsangano	26025	28213	-2189	-8%
Tete	Zumbu	5635	6465	-830	-13%
Zambezia	Alto Molocue	19959	23405	-3446	-15%
Zambezia	Chinde	2079	2561	-482	-19%
Zambezia	Gile	3848	4717	-869	-18%
Zambezia	Gurue	17288	20409	-3121	-15%
Zambezia	Ile	21535	24506	-2971	-12%
Zambezia	Inhassunge	23	57	-35	-60%
Zambezia	Lugela	8172	9909	-1737	-18%
Zambezia	Maganja da Costa	11609	13466	-1856	-14%
Zambezia	Milange	43098	50350	-7252	-14%
Zambezia	Mocuba	12155	14052	-1897	-13%

Provinces	Districts	2024 Production (MT)	2023 Production (MT)	Difference (MT)	Change (%)
Zambezia	Mopeia	6732	7990	-1258	-16%
Zambezia	Morrumbala	28192	31930	-3738	-12%
Zambezia	Namacurra	2494	2869	-375	-13%
Zambezia	Namarroi	10747	12620	-1873	-15%
Zambezia	Nicoadala	2739	3209	-470	-15%
Zambezia	Pebane	11277	12811	-1533	-12%
Total		1536782	1709820	-173038	-10%

MT (Metric tons): *1 MT is equivalent to 1,000 kilograms.*
Change: *refers to the relative difference and is calculated as (2024 prod – 2023 prod) divided by 2023 prod.*

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