Impacts of El-Niño-Induced Drought in Zimbabwe

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El Niño 2024 in Southern Africa Series

Introduction

Zimbabwe, like the rest of the Southern Africa region, has been experiencing strong *El Niño* weather effects since 2023. These effects intensified later that year and are expected to continue till mid-2024. Above-average temperatures and below-normal rainfall usually characterize this weather. Climate variability related to this phenomenon is considered one of the strongest drivers impacting agricultural production in Southern Africa. The majority of countries in the region have reported a potential decline in staple crop production, notably maize, due to the *El Niño* drought.

Zimbabwe is one of the major maize producers in the Southern Africa region. It is a strategic food commodity in the country, being a staple and raw material for agro-industrial processes. Maize accounts for over 50% of the population's average calorie intake and is used as raw material for producing flour, oil, grit (used for making snacks), and starch. Its production is highly dependent on rainfall because the majority of maize farmers depend on rain-fed production. Therefore, a drought such as the one induced by *El Niño* can be devastating for maize production and may expose households to the risk of food insecurity. While the overall effects of the drought are experienced at the national level, there are differentiated impacts spatially. Some areas in the country might be exposed to more intense drought than others. Furthermore, the scale of devastation will be more significant in areas of the country where the severity of drought and population densities are highest.

Understanding the nuances of spatial impacts of drought and community vulnerability will be critical for prioritizing areas for intervention during crises such as the current drought. Moreover, it allows for better planning and implementation in normal times, while informing long-term interventions to foster community resilience. This brief focuses on several spatial aspects of the drought that impact community vulnerability to shed light on hot-spot areas that require priority intervention and attention.

Drought Index and Exposure for Zimbabwe 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 Zimbabwe in 2024 is shown in Figure 1. Most of the areas in western parts of the country (mainly Matabeleland, Bulawayo, the midlands, and southern parts of Mashonaland west) are the most affected by the drought conditions. On the other hand, Mashonaland Central, Mashonaland East, Masvingo, and Matabeleland South are less affected by the drought. 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

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high levels of drought and have high population density, hence requiring priority intervention. Based on the map in Figure 2, pockets of high population density and high drought are identified in the Northern parts of Midlands, Southeastern parts of Mashonaland West, Bulawayo, extensive areas in Mashonaland Central, and large areas of Manicaland in the Eastern part of the country. Some areas highly impacted by drought, e.g. Matabeleland North, Midlands, and Northern parts of Matabeleland South, are low-population density areas.

Figure 1: Zimbabwe Drought Index in 2024
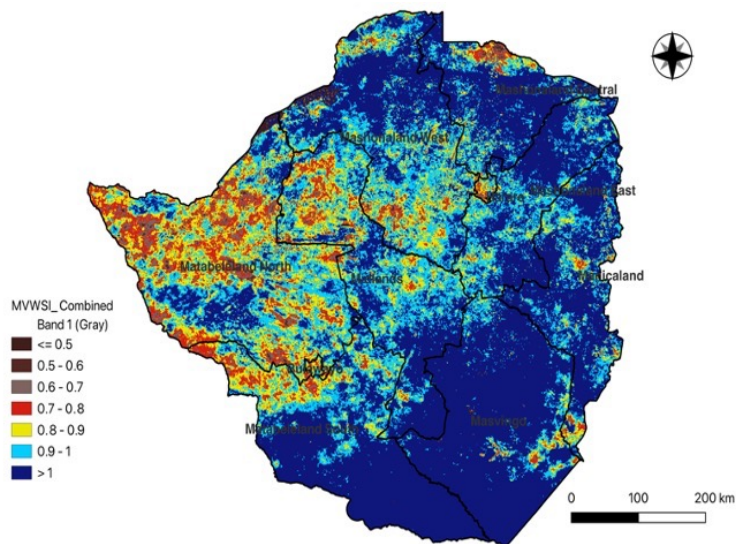
Source: AKADEMIYA2063 AAgWa, 2024

**Figure 2:** Zimbabwe 2024 Drought Exposure
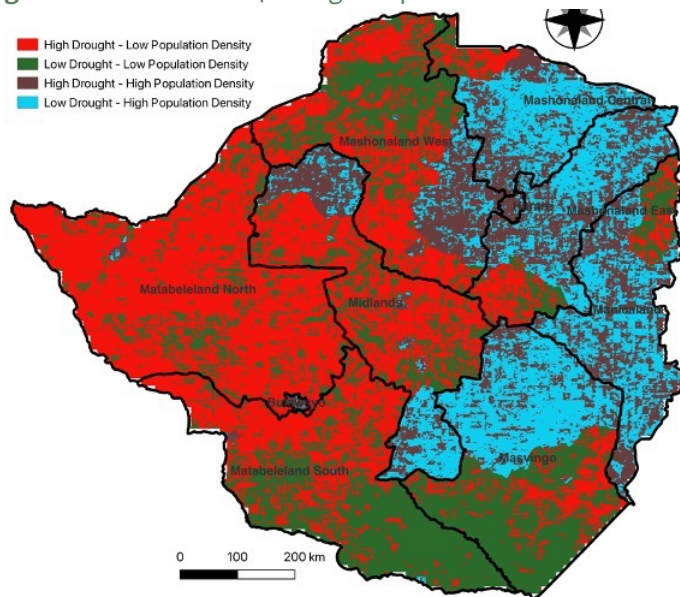
Source: AKADEMIYA2063 AAgWa, 2024
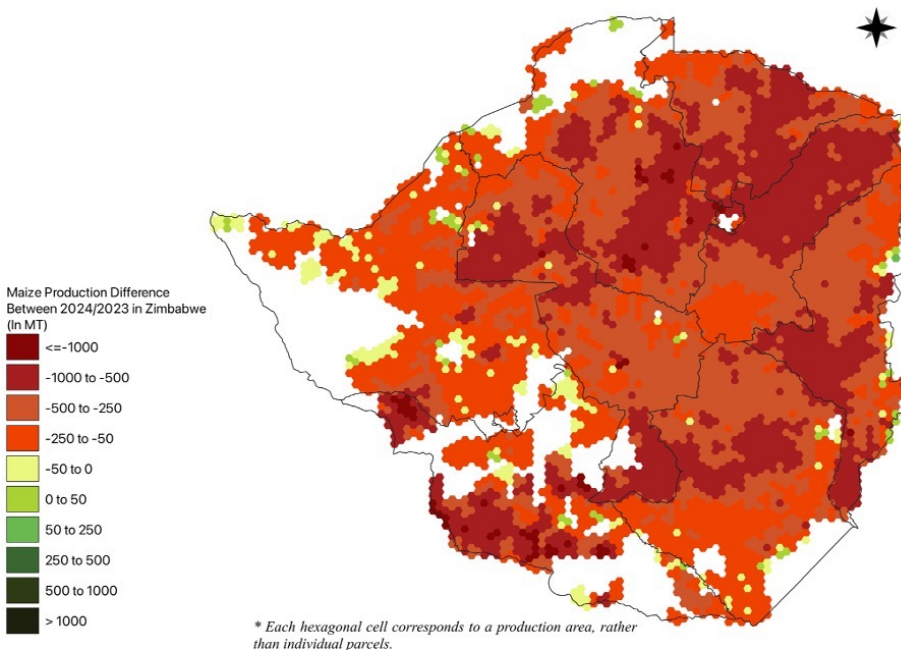
Impact of Drought on Maize Production

The maize production forecast for 2024 shows a significant reduction in production levels compared to 2023 (see Figures 3 and 4).

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

* Each hexagonal cell corresponds to a production area, rather than individual parcels.
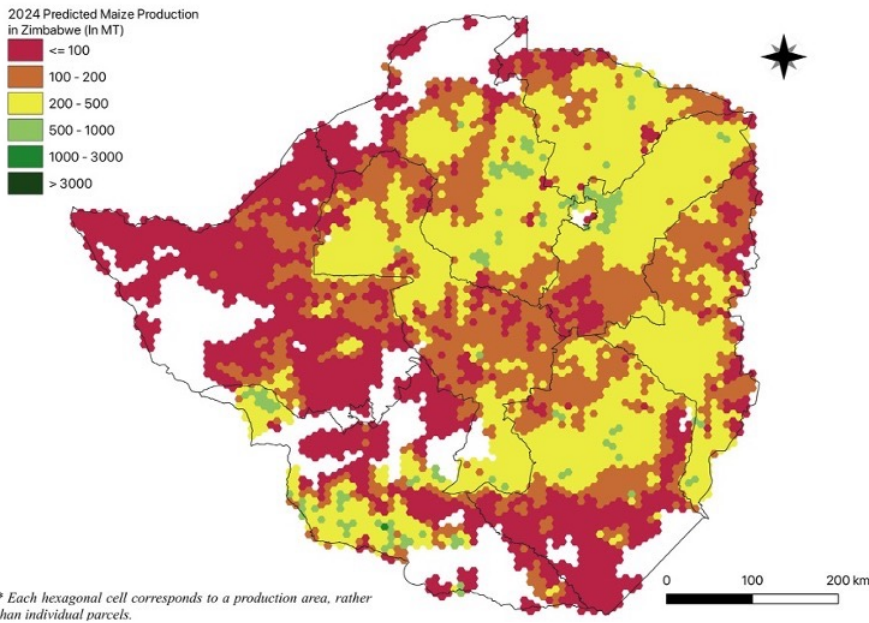
Source: AKADEMIYA2063, AAgWa 2024

Figure 4: Maize Production Difference Between 2024/23

* Each hexagonal cell corresponds to a production area, rather than individual parcels.

Source: AKADEMIYA2063, AAgWa 2024

Maize production in Zimbabwe for 2024 is forecasted to be drastically lower by about 64% compared to 2023 (see Annex Table 1). The reduction in production is predicted to be widespread across the country, with the highest reduction expected mainly in Mashonaland (Central, West, and East), the Midlands, Masvingo, Manicaland, and Matabeleland South, as shown in Figure 4. Over 99% of Zimbabwe's districts are forecasted to experience a loss in maize production above 60% compared to 2023 (Annex Table 1).

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Annex – 2024 Zimbabwe Maize Production Forecast at District Level

Provinces	Districts	2024 Production (MT)	2023 Production (MT)	Difference (MT)	Change (%)
Bulawayo	Bulawayo	13	92	-79	-86%
Harare	Epworth	64	184	-120	-65%
Harare	Harare	734	2026	-1292	-64%
Manicaland	Buhera	19468	58213	-38744	-67%
Manicaland	Chimanimani	4559	12130	-7572	-62%
Manicaland	Chipinge	17916	50404	-32488	-64%
Manicaland	Makoni	20976	59293	-38316	-65%
Manicaland	Mutare	16263	47210	-30947	-66%
Manicaland	Mutare Urban	20	44	-24	-54%
Manicaland	Mutasa	5495	15205	-9710	-64%
Manicaland	Nyanga	8181	20668	-12487	-60%
Mashonaland Central	Bindura	9588	26499	-16911	-64%
Mashonaland Central	Centenary/ Muzarabani	10636	30417	-19781	-65%
Mashonaland Central	Guruve	8948	25124	-16176	-64%
Mashonaland Central	Mazowe	14741	41091	-26350	-64%
Mashonaland Central	Mbire	3472	9662	-6190	-64%
Mashonaland Central	Mount Darwin	20661	58088	-37427	-64%
Mashonaland Central	Rushinga	4894	13770	-8876	-64%
Mashonaland Central	Shamva	8268	23017	-14749	-64%
Mashonaland East	Chikomba	10372	29066	-18693	-64%
Mashonaland East	Goromonzi	15714	42876	-27162	-63%
Mashonaland East	Hwedza	6579	18613	-12034	-65%
Mashonaland East	Marondera	10483	29575	-19092	-65%
Mashonaland East	Mudzi	14142	40950	-26808	-65%
Mashonaland East	Murehwa	16797	46590	-29792	-64%
Mashonaland East	Mutoko	14003	40194	-26190	-65%
Mashonaland East	Seke	7794	22358	-14564	-65%
Mashonaland East	Uzumba Maramba Pfungwe	11369	32172	-20803	-65%
Mashonaland West	Chegutu	21293	60342	-39049	-65%
Mashonaland West	Chinhoyi	1456	4075	-2619	-64%
Mashonaland West	Hurungwe	27121	74997	-47876	-64%
Mashonaland West	Kadoma Urban	1572	4187	-2615	-62%
Mashonaland West	Kariba	2322	5964	-3642	-61%
Mashonaland West	Karoi	878	2324	-1447	-62%
Mashonaland West	Makonde	20136	56646	-36510	-64%
Mashonaland West	Mhondoro-Ngezi	11845	33739	-21894	-65%
Mashonaland West	Sanyati	15136	43332	-28195	-65%
Mashonaland West	Zvimba	31288	86259	-54971	-64%
Masvingo	Bikita	11688	32842	-21155	-64%
Masvingo	Chiredzi	20131	56603	-36473	-64%
Masvingo	Chivi	15274	43180	-27906	-65%
Masvingo	Gutu	18479	54013	-35534	-66%
Masvingo	Masvingo	19501	54289	-34788	-64%
Masvingo	Mwenezi	12956	35861	-22905	-64%
Masvingo	Zaka	17929	49234	-31305	-64%
Matabeleland North	Binga	12092	33818	-21726	-64%

Matabeleland North	Bubi	4393	11940	-7547	-63%
Matabeleland North	Hwange	3804	10037	-6233	-62%
Matabeleland North	Hwange Urban	147	492	-345	-70%
Matabeleland North	Lupane	12394	34286	-21891	-64%
Matabeleland North	Nkayi	8634	23967	-15333	-64%
Matabeleland North	Tsholotsho	11400	31274	-19874	-64%
Matabeleland North	Umguza	2933	7411	-4478	-60%
Matabeleland South	Beitbridge	6033	17018	-10985	-65%
Matabeleland South	Bulilima	13012	36662	-23650	-65%
Matabeleland South	Gwanda	22185	62146	-39962	-64%
Matabeleland South	Insiza	4859	13634	-8775	-64%
Matabeleland South	Mangwe	11972	34074	-22103	-65%
Matabeleland South	Matobo	18026	51460	-33434	-65%
Matabeleland South	Umzingwane	588	1625	-1037	-64%
Midlands	Chirumhanzu	9000	25557	-16557	-65%
Midlands	Gokwe North	15164	42940	-27776	-65%
Midlands	Gokwe South	33628	97961	-64333	-66%
Midlands	Gokwe South Urban	966	2590	-1624	-63%
Midlands	Gweru	10245	29044	-18799	-65%
Midlands	Gweru Urban	917	2438	-1522	-62%
Midlands	Kwekwe	20967	59450	-38483	-65%
Midlands	Kwekwe Urban	24	67	-43	-64%
Midlands	Mberengwa	17675	50208	-32533	-65%
Midlands	Redcliff	192	536	-344	-64%
Midlands	Shurugwi	7897	22941	-15044	-66%
Midlands	Shurugwi Town	183	514	-330	-64%
Midlands	Zvishavane	6404	18614	-12209	-66%
Midlands	Zvishavane Urban	149	428	-278	-65%
Total		**787040**	**2216549**	**-1429510**	**-64%**

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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