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CLIMATE CHANGE IMPACTS ON THE LIVELIHOODS IN UMZINGWANE DISTRICT, MATABELELAND SOUTH, ZIMBABWE

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ABSTRACT

Umzingwane District in Zimbabwe has experienced recurrent drought which have had negative impacts on the communities. This study intended to establish the impacts of the drought situation on the communities, as well as suggest measures that could be employed to mitigate challenges. The study was pragmatic in nature and it adopted mixed research method whereby it triangulated quantitative and qualitative methods. The study found out that households had reduced yield from their fields. Their livestock also perished from the effects of drought. Water sources dried up and women and girls walked long distances in search of water. Households also obtained water from unsafe sources; hence they were exposed to diseases such as cholera and diarrhoea. Levels of personal hygiene also dropped. The study recommends that households should grow drought resistant crops and short varieties. They should reduce their herds as well as diversify their livelihoods by engaging in beekeeping and agroforestry.

Keywords: Climate change, drought, food insecurity, livelihoods, Umzingwane District

1.0 BACKGROUND TO THE PROBLEM

Globally, climate change-induced drought has caused devastating impacts on peoples and economies. Several countries particularly in the sub-Saharan Africa have suffered from frequent and severe droughts (Ayanlade, Oluwaranti & Ayanlade, 2022). Droughts in Sub-Saharan Africa have several impacts that deeply affect multiple sectors. These events significantly impact human health, food security, economic stability, infrastructure, natural ecosystems, and even national and global security (Lombe, Carvalho & Rosa-Santos, 2024).

Farmers and rural communities in the region depend almost exclusively on rain-fed agriculture, hence they are vulnerable to increasingly erratic rainfall patterns and extreme climate conditions (Kaliza, 2024). This in turn leads to reduced agricultural yields, widespread food insecurity, water shortages, and increased reliance on imports. Due to lack of pastures and water there is an increase in the deaths of llivestock (Tofu, 2024). Farmers also suffer from reduced incomes as they lose their main sources of income. Drought often results in high food prices because of diminished supply (Shahbazi, Shahbazi & Zare, 2025).

Social challenges are a significant result of recurrent droughts. Hunger and malnutrition are main features especially among children and vulnerable groups (International Rescue Committee, 2022). Drought often leads to selective rrural-urban migration where able bodied people leave drought-stricken areas (Karutz and Kabisch, 2023). Rural areas are therefore deprived of labour force. Drought acts as a “crisis catalyst”. It exerts stress often indirectly

through the loss of income/employment and are hence less visible (Ahlquist & Baldiga (2019) Drought leads to conflicts over resourcesFor example, competition for water and grazing land sparks clashes among communities. In 2022, the intensification of drought in Turkana and Marsabit further heightened competition over scarce resources, leading to more frequent and violent clashes between communities. These resource-based conflicts were often fuelled by the struggle for access to diminishing pasture and water (Ndinawe, 2025). Drought contributes to displacement of population through internal and cross-border migration. Within the Sahel, Chad hosts the largest number of refugees and asylum seekers, with half a million, followed by Niger with 250,000 (United Nations High Commissioner for Refugees, (2021). Burkina Faso, similarly saw internal displacement rise from 72,000 in 2018 to nearly 1 million by 2020 due to violence and drought (United Nations High Commissioner for Refugees, (2021). Hunger and poor sanitation caused by drought are interconnected environmental and social factors that have a bearing on waterborne diseases and weakening immune systems (Wang, 2025). Drought. Recurring climate change induced droughts exacerbate pre-existing inequalities by harming vulnerable communities, women and children disproportionately. These are people with fewer resources to adapt (Ghani et al., 2025). This leads to food insecurity, displacement, and health crises. It also perpetuates a cycle of poverty and increased vulnerability.

Drought often results in the increase in vice· Young males' resort to gold panning whilst females turn to prostitution to sustain themselves as crops will have wilted. According to Nyabereka (2025) minors as young as 10-12 years old are turning to prostitution to fend for their families. Furthermore, gold panners prey on the vulnerable young girls with money and goodies. There is also increased dependency on food aid and relief programmes. The above discussion shows challenges faced by households exposed to climate change induced drought and it is against this backdrop that this study was conducted with a focus on Umzingwane District in Zimbabwe. Umzingwane District has been experiencing recurrent droughts over the past years.

1.1 Statement of the problem

Umzingwane District is exposed to recurrent climate change induced droughts. The drought situations have negatively impacted on the lives and livelihoods of households in the district.

1.2 Objectives

The study was premised on the following objectives:

- To explain the prevailing situation in the study area under drought conditions.
- To identify the effects of drought caused by climate change on livelihoods in Umzingwane District.
- To establish measures that can be taken by various stake holders to ameliorate the impacts of drought on livelihoods in Umzingwane District.

2.0 CONCEPTUAL FRAMEWORK

The study was informed by the Vulnerability and Resilience Conceptual Framework. This conceptual framework analyzes a system's susceptibility to harm (vulnerability) and its ability to recover and adapt to stressors (resilience). Vulnerability comprises exposure to hazards,

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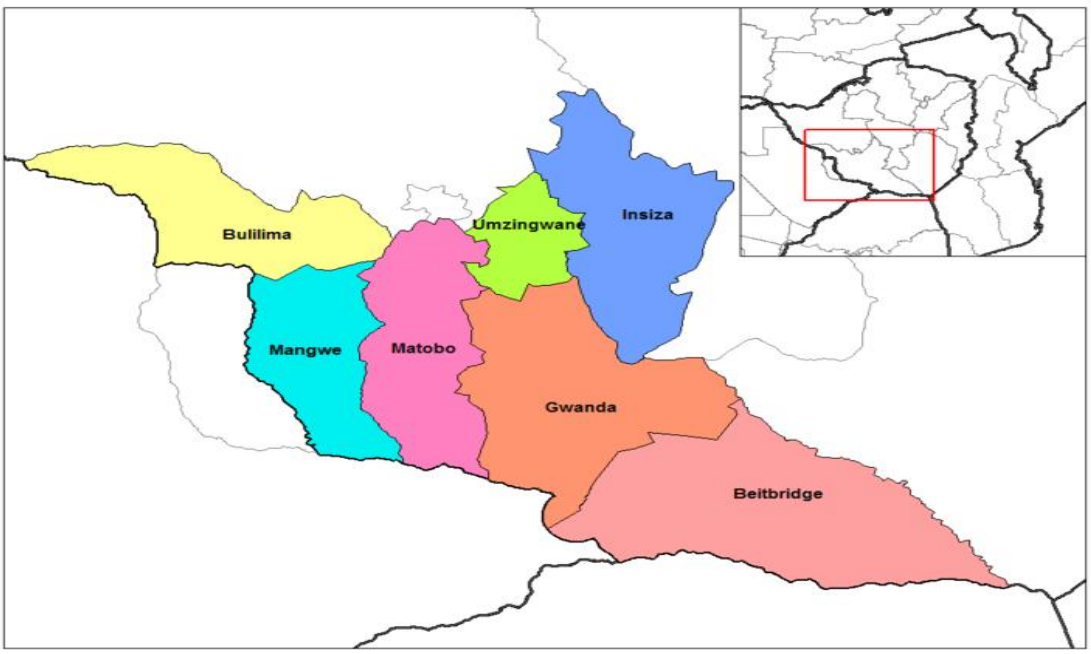
sensitivity to those hazards, and a lack of adaptability. Such hazards include drought. Resilience, conversely, is built upon adaptive capacity, along with absorptive capacity (ability to absorb impacts) and transformative capacity (ability to change to a new form after a disturbance). In this situation there is a connection whereby low adaptability increases vulnerability, while high adaptability promotes resilience. On the one hand vulnerability has three significant components. These are exposure, sensitivity and adaptability. Households in Umzingwane District are exposed to drought which is a stressor or hazard. The issue of sensitivity looks at how households are affected by the drought. Adaptability looks at how the households that are affected by drought are coping and adjusting their livelihoods to the drought. On the other hand, resilience is viewed as having three components, that is adaptive, absorptive and transformative capacities. According to the conceptual framework, households in Umzingwane District should develop the ability to learn and modify its approach in response to changes and uncertainties brought about by drought. Through the absorptive capacity, they should have the ability to soak up or absorb the immediate impacts of drought. Finally, the households should devise strategies to overcome persistent challenges posed by the drought or they return to a preceding form after the disturbance by the drought.

3.0 RESEARCH METHODOLOGY

3.1 Study Area

Umzingwane District is located in the north-eastern part of Matabeleland South Province, Zimbabwe. Its administrative seat is in the Esigodini Growth Point, which also serves as the district capital. Umzingwane District lies just south-east of Bulawayo City. The district covers an area of 2,797 square kilometres and shares its borders with Umguza, Insiza, Gwanda, and Matobo districts. Umzingwane District is located on the latitude of -20.34704 and longitude of 28.94994. The map below shows the location Umzingwane District in relation to other districts in the Matebeleland Province.



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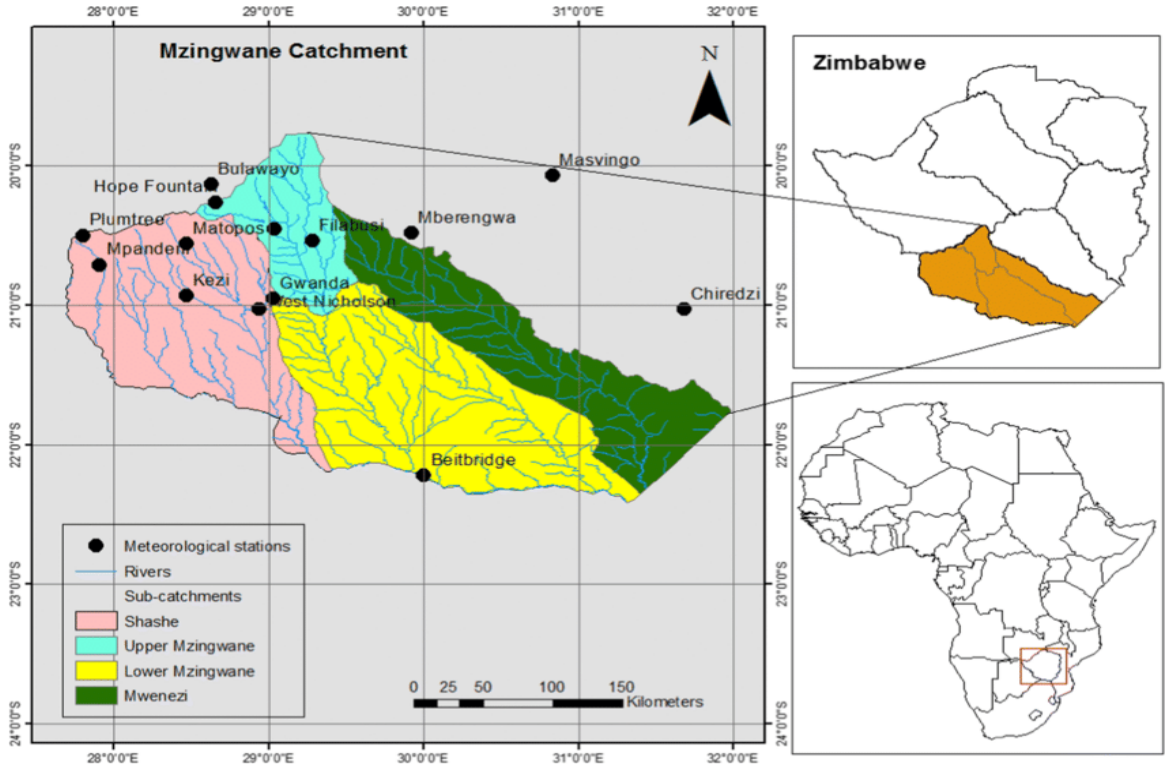

Figure 1: Map of Umzingwane District. Source: Ncube (2010).

The Umzingwane District in Zimbabwe has a predominantly tropical climate with a short, erratic rainy season from November to April and a long, dry winter from May to October. The area receives low, inconsistent rainfall, with an average of 450-650 mm annually, and is prone to frequent droughts and long dry spells. Temperatures vary, but mean minimum temperatures can be as low as 5°C and mean maximums around 30°C.

4.0 METHODOLOGY

The study adopted the mixed research methods approach whereby quantitative and qualitative methods were triangulated. This was done to get a richer, more comprehensive picture of the impacts of the drought caused by climate change on the Umzingwane community. The method was also utilized as a strategy to capture the strengths of both quantitative and qualitative approaches. The triangulation enabled the study to generate both numerical evidence and contextual explanation regarding impact of climate change-induced drought in Umzingwane District. This therefore produces rich data. On the one hand quantitative methods relied on measurable data and standardized tools such surveys, which reduced personal bias. The results obtained could be verified and replicated, making findings more reliable. On the other hand, qualitative methods provided deeper meaning as the study team was in Umzingwane District interacting with the participants. The team was able to obtain the lived experiences as well as hearing the voices of the participants. The study was a case study on the impacts of the climate change-induced drought on Umzingwane District. This approach allowed the study to explore the impacts of the drought in greater detail, capturing complex realities. The study was able to look at the prevailing situation from different angles such as social, economic and cultural perspectives. This provided a holistic view on the impacts of drought in Umzingwane District. The individual farming households were considered as the primary sampling units. Multi-stage

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random sampling was used to select samples from respondents in the survey. Purpose sampling was utilised for the interview participants.

5.0 FINDINGS AND DISCUSSIONS

5.1 Biodata

As already mentioned, the study administered questionnaires to fifty (50) respondents in the ward. Of these thirty-five (35) were male whilst fifteen (15) were female. This means that 70 % of the respondents were male and 30 % were female. This does not mean that women are not involved in agricultural activities. Women in rural areas often shy away from participating in interviews and they leave the responsibility to men. Generally, from a cultural perspective, men are the ones who entertain strangers. It is not cultural for women in the study to give interviews to strangers. Climate change is therefore affecting everyone in Umzingwane District both men and women.

The study also established three respondents (6%) of the fifty respondents had not attained any level of education, whilst seven respondents (14%) had attained primary level of education. Twenty-nine respondents (58%) had attained secondary level of education whilst eleven respondents (22%) had attained tertiary level of education. Generally, the picture shows that the majority of the respondents were literate and could provide information on climate change induced drought. Even those without any formal education appreciated the effects of climate change-induced drought as they experienced its impacts. Education was therefore not a hindrance in terms of knowledge of climate change as well as its impacts on households.

All the respondents revealed that they depended on agriculture for their subsistence. Only fifteen (30%) had other sources of income. Basically, agriculture was pivotal for the survival of the respondents in the study area. They therefore suffered from the negative effects of droughts since they relied entirely on rain-fed agriculture.

The study established that climate change induced drought had greatly affected crop yields of the community under study. Recurrent droughts and erratic rainfall led to reduction in crop yields which translated to food shortages at the household level. All the respondents (100%) mentioned that food security and livelihoods were compromised by the recurrent droughts. They revealed that they relied mostly on subsistence agriculture which made households vulnerable to climate change-induced drought. During interviews the Agritex officer remarked that:

> Drought caused mostly by climate change has affected our yields since most farmers in this area rely on rainfall as a source of water. Drought has become the order of the day as we usually experience some dry spells during the farming season leading to severe food insecurity.

The above views are in concurrence with views by Muzerengi et al. (2023) who mentioned that drought has become regular and threatens household food security in Mwenezi.

The study also observed that crops wilted due to moisture stress. Participants in interviews revealed that the recurrence of droughts had become regular, resulting in very poor harvests.

Mashizha (2019) noted that recurring droughts have become a common phenomenon with rain season coming very late and ending very early putting food security into jeopardy in Zimbabwe. This has negatively impacted on households as they had to depend on food relief from government and non-governmental organizations. Reduced agricultural productivity lowered household income. They had to spend more money than before on food, even water and health care. One participant had this to say:

> *Drought brings with it food security challenges. Crop failure and livestock deaths increase malnutrition. The situation is worse as children are exposed to malnutrition and they suffer from diseases such as Kwashiorkor, marasmus.*

These views were corroborated by Dimitrova (2021) who contends that the increase in the frequency and intensity of extreme weather events such as drought, result in child undernutrition. Undernutrition is one of the main causes of death for children under five years of age and has implications on growth and development of individuals. Ultimately, undernutrition has long-term effects on health, wellbeing and labour market productivity in adulthood (Matrins et al., 2011)

The participants indicated that livestock mortality in the district was increasing due to climate change induced droughts. Droughts led to heat stress, water scarcity and poor pastures and large numbers of cattle perished yearly as a result of the aforementioned factors in Umzingwane District. This is in concurrence with observation made by Muleya (2025) that in 2024 Matabeleland South Province in Zimbabwe recorded a loss of 19 000 cattle due to drought in 2024. This had negative implications on both income and nutrition. Livestock, particularly cattle, are symbols of wealth for rural households. They fall back on cattle during hard times.

Climate change has also negatively impacted on water sources in the study area. There is noticeable reduced river flows and drying of wells and boreholes. One elderly participant had this to say:

> *In Umzingwane District the flow of streams and rivers has changed as most them are no longer perennial. Wells and even boreholes are drying up creating problems of domestic water sources. Women are travelling long distance to fetch water. They also spend several hours looking for water.*

The study further observed several women travelling long distances carrying water buckets on their heads and some men using bicycles and carts to carry water. The study observed that people in the study area, resorted to the use of water from “umthombo” also known as mufuku in Shona. Umthombo/mufuku is a hole dug in a riverbed or other dry river bank to access groundwater during dry seasons, especially in drought-prone areas of Zimbabwe. Observations made during the time of study showed that herdsmen walked long distances to water their cattle. This had negative implications on development, hygiene and health. Water in the home was reserved for very important uses such as drinking, cooking and washing of utensils. Productive time was spent in search of water, whilst water obtained from waterholes was not safe for human consumption. The study also observed that there were some conflicts among households and communities that resulted from the competition over the scarce water resources. Villagers in one ward did not allow villagers from another ward to access their water points.

The climate change induced drought has serious health impacts in the study area. The recurrence of drought increased the incidence of waterborne diseases such as cholera and diarrhoea. These were due to unsafe sources of water such as “umthombo”. During interviews it also emerged that there was a surge in bilharzia (schistosomiasis) during drought periods. One participant had this to say:

> *We always a high prevalence of bilharzia during drought. This is because households resort to unsafe sources of water such as “umthombo” for bathing and washing. Few people take precautions of boiling water because of the scarcity of fuelwood. We also observe that tick-borne diseases such as theileriosis are on the increase because veterinary activities such as dipping are reduced due to limited availability of water.*

The study also observed that there was an increase of skin and hygiene-related diseases such as scabies, skin rashes and ringworms. This was because there was reduced water availability and handwashing and personal cleanliness were no longer a priority. Similar observations were made by Enbiale and Ayalew (2018) in a study in a study conducted in Ethiopia. They observed that scabies was prevalent in drought prone areas.

The study observed that environmental degradation has worsened because of drought. The dependency on environment has increased because households are living on the edge and are very desperate. Deforestation is rampant as households depend on selling fuelwood. They sent the firewood to Bulawayo. The situation was exacerbated by power shortages faced by the country. Households relied on fuelwood for cooking as observed by Gogo (2019) who argued the continued power cuts in urban areas of Zimbabwe encouraged illegal fuelwood vendors and loggers to up their game. This was threatening forests in rural areas close to urban areas. Such actions were a recipe for the creation of deserts. Furthermore, the little grass was overgrazed exposing the soil-to-soil erosion. Deforestation, overgrazing, and erosion are worsened under drought. It was also observed that due to the effects of drought several young able-bodied men had turned to artisanal mining, specifically gold panning, to eke a living. This contributed to siltation, which degraded riverbeds, and reduced the water quality. Water was polluted by chemicals such as mercury and cyanide. One elderly participant had this to say:

> *Drought has worsened environmental degradation in our area. The environment was already fragile. The absence of vegetation encourages wind erosion. Several gullies have been created already. Rivers are choking with sand. Even after this menacing drought, recovery may be difficult.*

Another female participant said

> *Drought has resulted in serious gold panning. Young men have no option as they must feed their families. But look at how they are damaging the environment. They dig pits that they abandon and never reclaim.*

Pits that have not been reclaimed were a danger to livestock as well as humans. During interviews it was mentioned that some households lost their cattle as they fell into these pits. As already mentioned earlier on, cattle are always s highly regarded as a source of wealth. It was also revealed that some people had fallen into these pits and broke their limps.

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The prevalence of drought in Umzingwane District has caused a number of social challenges. There was an increase in dependency on food aid from donor organizations. Although some participants were grateful for the food aid provided to them, other argued that it took away their dignity. They revealed that it was their desire to provide for their families from their own sweat. There was an increase in vice such as prostitution. This affected the social fabric in the area of study. One respondent mentioned that:

> *Gold panners took advantage of desperate girls who were exposed to hunger because of the drought. These people have taken away our cultural values and our girl children have become immoral and decadent. Young men are migrating to urban areas and South Africa. Our place has few young men. This deprives us of the critical labour in the fields.*

Drought forces people to move out of their rural homes to urban areas. According to Webb (2022), hundreds of girls from the nation's rural regions are estimated to have migrated to the urban areas to trade in prostitution after droughts destroyed their crops. These sentiments were also echoed by Manoj and Debendra (2020) who posit that recurring drought in the western part of West Bengal State in Eastern India causes out migration as migrants seek employment in the nearby agriculturally and economically developed districts. In Kenya Turkana pastoralists are known for their seasonal migration to the nearby greener highlands of Uganda, which are 45km away during times of drought (Tandon, 2024). Drought results in unplanned movements which often destabilize both the place of origin and destination.

6.0 CONCLUSIONS

Umzingwane District experienced recurrent drought, which made households vulnerable. Households lost their livestock as well as experiencing poor harvests. They resorted to unsafe sources of domestic water which exposed them to diseases. Environmental degradation was on the increase as residents resorted to desperate practices such as gold panning. Vice was also on the increase as women and girls engaged in prostitution. There was out migration as young and energetic sought alternative sources of livelihoods in urban areas or outside the country.

6.1 Recommendations

The study recommends that:

- Households in Umzingwane District should be encouraged to grow drought-tolerant and early-maturing crop varieties such as, millet, sorghum, cowpeas. They should stagger planting dates as well.
- Households should also adopt conservation agriculture. This involves minimum tillage and those without draught power will not be affected that much. Furthermore, this method allows for residue and moisture retention.
- Households should be encouraged to diversify their livelihoods by engaging in beekeeping, agroforestry, value-adding of wild fruits as well as keeping small livestock. These will provide an alternative source of income
- Communities in the study area should increase their awareness on water-saving, food hygiene, and animal care. Awareness programmes could be done through local leadership.

- Water sources should be protected and households should prioritise safe drinking water by boiling and storing it in clean covered containers.,
- There is need to improve livestock management by having fodder banks, conservation of crop residues, and selling non-breeding stock early to avoid total herd loss during drought periods.

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