



PHOTO L. SHARMA

How does climate exacerbate root causes of conflict in Zimbabwe?

An impact pathway analysis

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This factsheet gives answers on how climate exacerbates root causes of conflict in Zimbabwe, using an impact pathway analysis. Two main impact pathways are identified:

- 1. Food insecurity and competition over access and use of natural resources:** Projected increases in temperatures, droughts and floods may negatively impact agricultural and livestock production and productivity which, in turn, can undermine food security, reducing the opportunity costs of participating in violent acts as well as incrementing and exacerbating the risk of patronage, rent seeking and resource competition among the elites;
- 2. Water scarcity and conflict in Bulawayo and Matabeleland North:** The climate crisis can compound current water scarcity issues in the provinces of Bulawayo and Matabeleland North, exacerbating existing inequalities and tensions, and potentially leading to violent conflict between the opposition and the government elites.

This publication is part of a factsheet series reporting on the findings of the CGIAR FOCUS Climate Security Observatory work in Africa (Kenya, Mali, Nigeria, Senegal, Sudan, Uganda, Zimbabwe). The research is centered around 5 questions*:

1 How does climate exacerbate root causes of conflict?

Impact pathways

[Kenya](#) [Mali](#) [Nigeria](#) [Senegal](#) [Sudan](#) [Uganda](#) [Zimbabwe](#)

Econometric analysis

[Kenya](#) [Mali](#) [Nigeria](#) [Senegal](#) [Sudan](#) [Uganda](#) [Zimbabwe](#)

[Scopus analysis**](#)

2 Where are the climate insecurities hotspots?

Spatial analysis

[Kenya](#) [Mali](#) [Nigeria](#) [Senegal](#) [Sudan](#) [Uganda](#) [Zimbabwe](#)

3 What is the underlying structure of the climate, conflict, and socio-economic system?

Network analysis

[Kenya](#) [Mali](#) [Nigeria](#) [Senegal](#) [Sudan](#) [Uganda](#) [Zimbabwe](#)

4 Are climate and security policies coherent and integrated?

[Policy coherence analysis](#)

5 Are policy makers aware of the climate security nexus?

Social media analysis

[Kenya](#) [Mali](#) [Nigeria](#) [Senegal](#) [Sudan](#) [Uganda](#) [Zimbabwe](#)



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* Questions 1, 2, 3, 5 are analyzed at country level through a Climate Risk Lens (impact pathways, economic, spatial, network and social media analyses). The policy coherence and scopus analyses are at continental level.

**Scopus is one of the largest curated abstract and citation databases, with a wide global and regional coverage of scientific journals, conference proceedings, and books. We used Scopus data for analyzing: (1) how global climate research addresses the dynamics between climate, socio-economic factors, and conflict, and (2) how the countries studied are represented in the database.

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PATHWAY#1:

Food insecurity and competition over access and use of natural resources

1. The effects of the climate crisis can impact food, land, and water systems in various ways, reducing their production and productivity, increasing food insecurity and potentially lead to conflict because of the reduced opportunity costs of participating in violent acts.

2. The effects of the climate crisis may also increment and exacerbate the risk of patronage, rent seeking and resource competition which are at the heart of food insecurity and malnutrition. The interests of the Zimbabwe African National Union – Patriotic Front (ZANU-PF) elites to protect their economic interests to continue monopolizing resources, including food aid, is likely to increase state violence against the opposition as well as sponsoring political violence, including the use of their constituencies to attack opposition members. This, in turn, may increase the likelihood of radicalization of opposition activists and the spark of violent reactions that could escalate into violent clashes between the ZANU-PF and the Movement for Democratic Change (MDC) supporters.

PATHWAY#2:

Water scarcity and conflict in Bulawayo and Matabeleland North

The provinces of Bulawayo and Matabeleland North have suffered from political, social, and economic marginalization which has fostered a distinct identity that overlaps ethnicity and political sentiments. Bulawayo and Matabeleland North are also two of the most affected regions by climate variability and extremes. Water scarcity and water quality is a core issue that particularly affects Bulawayo and Matabeleland North. The impact of the climate crisis on water scarcity and other existing socio-economic vulnerabilities could exacerbate existing political inequalities and tensions, potentially leading to a violent conflict between the opposition and the government elites over the control of the scarce resources.

1. OBJECTIVE AND RESEARCH QUESTIONS

The Impact Pathway Analysis (IPA) aims to identify, describe, and represent the complex and non-linear interactions between climate, conflict, and existing vulnerabilities and risks with a special focus on food, land, and water systems. In particular, the IPA intends to address the following questions:

- What are the potential climate security pathways through which climate may act as a threat multiplier?
- Which specific vulnerabilities and risks, that are at the heart of insecurity and conflict, may be exacerbated by the climate crisis?
- How can dimensions such as natural resources, livelihoods, mobility, governance and food, land, and water systems, inform climate security pathways in specific contexts?

2. METHODS AND DATA

The IPA follows a systematic literature search and review to find, collate, analyze and synthesize insights from relevant knowledge products, including reports, policy briefs, fact sheets from grey literature, as well as books, journal articles, and other sources of documented evidence in academic literature and public media. The construction of a narrative is then followed by consultation with a designated set of experts and stakeholders through interviews and written feedback to gather evaluation and incorporate suggested revisions.

3. RESULTS

3.1 Climate exposure and impacts

Zimbabwe is currently one of the most affected countries in the world by the changing climate conditions. It faces a high exposure to ecological threats (Institute for Economics & Peace 2020) and it is highly vulnerable to climate disruptions (University of Notre Dame 2019). Like many other African countries, Zimbabwe is highly dependent on natural resources which makes it especially vulnerable to extreme weather events and climate variability. Agriculture, livestock, forestry, tourism, mining, and hydropower generation, which are essential to sustain the Zimbabwean economy, are very climate-sensitive sectors (The World Bank Group 2021; UNDP 2017; Chagutah 2013; Lautze et al. 2017; Hirji and Davis 2014; Brazier 2015). The climate in Zimbabwe is projected to become more erratic. The country is predicted to suffer from increasing temperatures, droughts, increasing rainfall variability, floods, and increasing frequency of storms (Mtisi and Prowse 2012; UNDP 2017; USAID 2019a; Brazier 2015). These phenomena will heavily impact Zimbabwe's agricultural sector due to its high climate vulnerability. Its great dependence on rainfed agriculture makes it highly vulnerable to droughts and rainfall variability. This is expected to have a great repercussion on the economy and society as agriculture employs 70% of the total population, contributes to approximately 10% of the gross domestic product (GDP), and is a key industry in the fight against poverty and food insecurity (USAID 2019a).

Impact on the economy

The impact of extreme weather events can compromise economic growth and hinder years of development effort while requiring considerable economic resources to meet the needs of the affected communities, further weakening the overall state capacity (Swain et al. 2011; Chagutah 2013). For instance, Cyclone Idai¹ brought in 2019 storms, heavy rains and intense winds that originated

¹ A tropical cyclone that originated in the Indian Ocean and hit Zimbabwe in March 2019, affecting mainly the Eastern districts of Chimanimani and Chipinge (Eckstein et al. 2021).

numerous floods and landslides, leading to a humanitarian crisis, causing 341 fatalities, affecting more than 270,000 people and leaving homeless a total of 17,608 households (IFRC 2019). The cyclone also created catastrophic damage, devastating health facilities schools and road infrastructure as well as the agriculture and livestock industry. All the damages led to considerable economic losses that have been estimated to be nearly 2,000 million USD (Eckstein et al. 2021).

Impact on the energy sector

Climate variability and extremes also pose a serious threat to the energy sector in several SADC countries, including Zimbabwe. Water availability and river flow rates depend on rainfall, which is becoming more erratic, affecting the hydropower energy generation. In the case of Zimbabwe, the hydropower generation capacity of the Kariba Dam has been hindered by the severe drought episodes of 1991/1992 and 2015/2016. These phenomena are likely to become more frequent, potentially affecting energy security and the overall capacity the state requires to meet the energy needs of its economy and its citizens (USAID 2019a; Chanza and Gundu-Jakarasi 2020; The World Bank Group 2021).

3.2 Socio-economic and political risks

The effects of the climate crisis will impact an extremely fragile context with several socio-economic and political vulnerabilities. The country has experienced decades of authoritarian rule characterized by corruption and weak governance (Transparency International 2020; Cain 2015). In the last two decades, (ZANU-PF) government has developed a strong network of patronage, acquiring control over land and mineral resources, using them to benefit the ruling party elite and to buy political support of the citizenry – especially those living in rural areas (Alexander and McGregor 2013). In recent years, the Zimbabwean economy has been characterized by low or even negative economic growth along with high unemployment and poverty, rapid population growth, low agricultural productivity, and episodes of hyperinflation (Gebremichael and Fitiwi 2018).

The outset of long-lasting president Robert Mugabe created expectations for a democratic transition, but the new presidency led by Emmerson Mnangagwa has not shifted much from the practices of its predecessor (Noyes 2020). The repression of demonstrations and the arrest, abduction, torture, and sexual assault of human rights activists, trade unionists, and opposition members has continued (Amnesty International 2020; Industrial 2019; DW 2020). The new president is a known political figure of the ruling party (ZANU-FP) that has been involved in authoritarian practices in the past, including the killing of MDC supporters after the 2008 elections, and is considered responsible for the Gukurahundi massacres that took place in the 1980s when he was Minister of State Security (Lange 2019; Swain et al. 2011).

Forced internal displacement

Several government actions in the past 20 years have led to forced internal displacement. During Operation Murambatsvina the Zimbabwean police and army evicted around 700,000 people from slums in urban areas around the country. The operation particularly affected the most vulnerable people, leaving thousands food and water insecure and worsening the humanitarian crisis (Tibaijuka 2005). These practices have continued to take place until present days, often linked to commercial interests of lands aimed for farming or mining as well as corruption and the interests of ZANU-PF elite (Sengupta 2017; HRW 2021; Mlevu 2021). These types of actions increase the vulnerability of the communities and the country to extreme weather events (UNDP 2017).

3.3 Climate security pathways

In this context, there are multiple pathways through which climate could act as a threat multiplier in Zimbabwe, exacerbating existing socio-economic risks and vulnerabilities and potentially aggravating instability, insecurity, and violence (Figure 1).

PATHWAY #1: Food insecurity and competition over access and use of natural resources

The lack of natural resource governance is a core root cause of the vulnerabilities and inequalities that are present in Zimbabwe. Corruption, patronage, and the mismanagement of resources as well as macro-economic challenges such as high inflation are at the heart of food insecurity and malnutrition which have also been affected by external factors such as international sanctions, the withdrawal of international non-humanitarian support, the recent COVID-19 pandemic and climate shocks and extremes that are increasingly present due to climate change (HRW 2004; IPC 2020; Chamunogwa 2021a; IMF 2020; UNDP 2017).

#PATHWAY 1.1. Food insecurity and conflict

The effects of the climate crisis can impact food, land, and water systems in various ways, reducing their production and productivity which, in turn, can undermine livelihoods and increase socio-economic vulnerabilities.

Impact on agriculture

Climatic shocks are also a relevant factor influencing food insecurity and malnutrition through its impact on agricultural productivity. These types of shocks have been linked to food crisis episodes in the past such as the 1991/1992 and the 2015/2016 drought or the more recent Cyclone Idai 2019 (IMF 2020; UNDP 2017). Both slow-onset and rapid-onset events are likely to increment in the future, further increasing the vulnerability of the country and the communities. The combined effect of increased temperatures and reduced rainfall is projected to result in decreasing yields and/or crop failure, reducing overall agricultural production and productivity (Hunter et al. 2020; Chanza and Gundu-Jakarasi 2020; Kandji et al. 2006; USAID 2019a; 2019b). Projections estimate that certain staple crops such as maize, sorghum, beans and groundnut will be negatively impacted by the rise in temperatures and the decrease or variability in rainfalls, reducing arable land as well as productivity (Hunter et al. 2020).

Changes in climate will also increase water and heat stress, and reduce the growing season, adversely impacting the agricultural sector and especially damaging smallholder farmers (Hunter et al. 2020; Chanza and Gundu-Jakarasi 2020). The production of maize, the main staple crop covering 50% of Zimbabwe's agricultural land, will be particularly affected by increasing temperatures and droughts (Hunter et al. 2020; Chanza and Gundu-Jakarasi 2020). Estimates predict that maize production will decrease by 57% due to climate and non-climatic factors while the rest of countries in the Southern African Development Community (SADC) will witness a production increase of at least 8% (Chamunogwa 2021b). The impact of climate is particularly worrisome for subsistence farmers as a reduction in crop yields and/or output may entail the unavailability of locally produced food and the undermining of their capacity to buy food in the market because of the loss of income, leaving them food insecure (Swain et al. 2011).

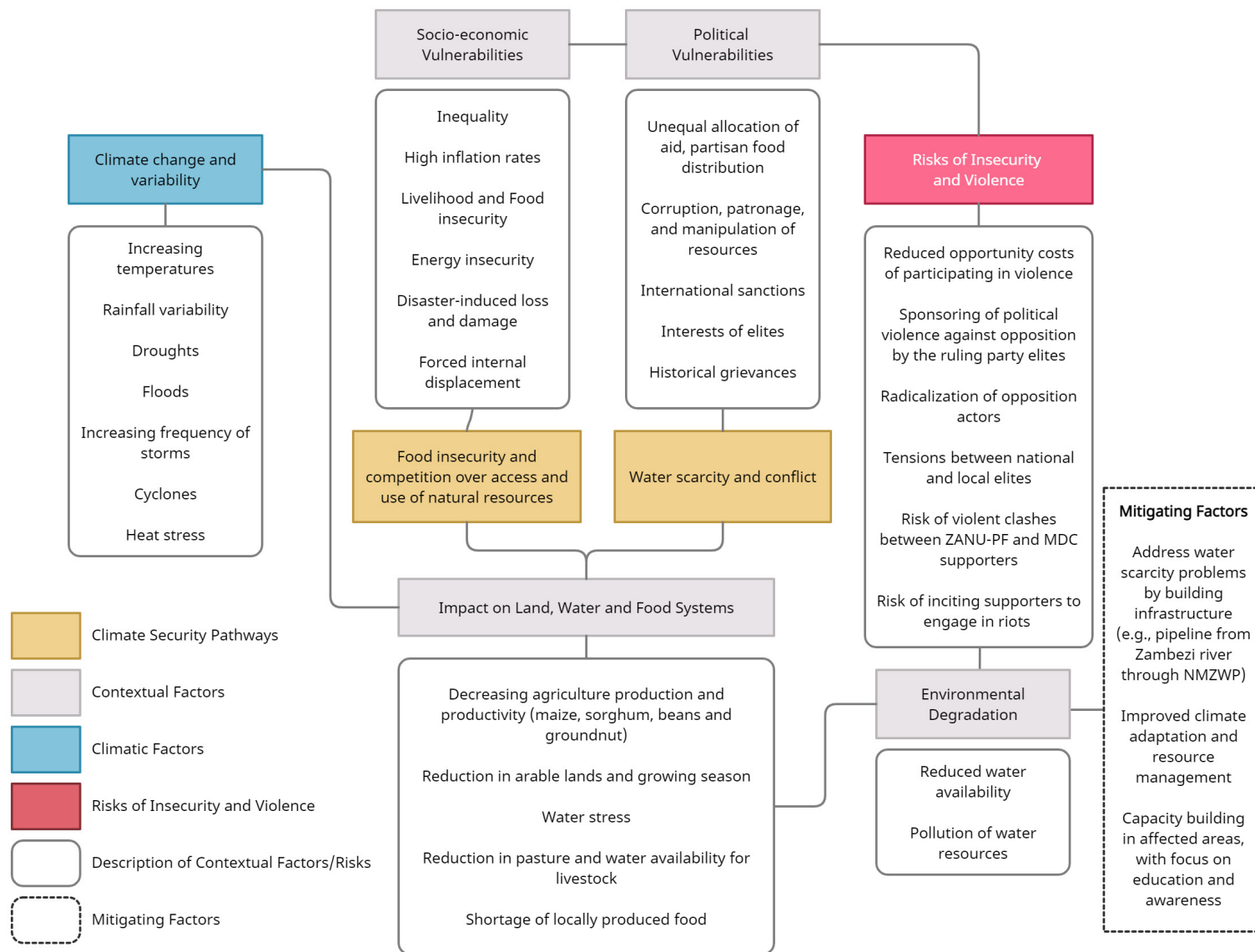


Figure 1: Climate Security Pathways for Zimbabwe

Impact on livestock

Increasing temperatures, heavy rainfall events and recurrent droughts also impact the livestock industry of Zimbabwe. Livestock can be affected directly by heat stress and indirectly by the reduction of pasture and water availability as well as disease and pests created by climate variability (USAID 2019a; Kandji et al. 2006). The outcome is that cattle owners lose an essential source of nutrition as well as the capacity to generate income (USAID 2019a). This is particularly worrisome considering that many workers have shifted from agriculture to livestock production as an adaptation strategy (Chanza and Gundu-Jakarasi 2020).

Food insecurity and conflict

The effects of the climate crisis can impact food, land, and water systems, reducing their production and productivity, increasing food insecurity and potentially lead to conflict in countries that are highly dependent on agriculture (Vesco et al. 2021; Vestby 2019). In combination with other socio-economic and political vulnerabilities such as environmental degradation and grievances, food insecurity can then increase the likelihood of conflict as increasing levels of food insecurity reduce the opportunity costs of participating in violent acts (Vesco et al. 2021; Vestby 2019; Delgado et al. 2021). Higher levels of conflict could then, in turn, further impact food, land, and water systems, disrupting food supply chain and additionally increasing food insecurity (Delgado et al. 2021; Brück and d'Errico 2019)

#PATHWAY 1.2. Unequal allocation of food aid and competition over resources

The partisan allocation of food aid is an example of corruption and mismanagement of resources by the central government that has notably affected food insecurity. The influence over traditional leaders in the rural areas allows the government to control food distribution and limit the access to free or subsidized food to those that are considered members or supporters of the opposition parties, with a clear and direct effect on their food security (Chamunogwa 2021b; HRW 2004). Even during the COVID-19 pandemic which has severely impacted people's livelihood, partisan food distribution has continued to be present in Zimbabwe (IPC 2020).

The occurrence of extreme weather events and the effects of slow-onset events may increment and exacerbate the risk of patronage, rent seeking and resource competition (Chagutah 2013). The interests of ZANU-PF elites to protect their economic interests to continue monopolizing resources is likely to increase state violence against the opposition as well as sponsoring political violence, including the use of their constituencies to attack opposition members (Swain et al. 2011). The ruling party and ZANU-PF elites have a history of exerting violence, corruption and patronage as well as manipulate the state resources and natural assets to favour their supporters and punish the opposition (Swain et al. 2011; UNDP 2017). This patronage mechanisms include the manipulation of disaster response and food aid to reward citizens that remain loyal to the ruling party while weakening the opposition. This, in turn, increments people's climate vulnerability but also increases the likelihood of a radicalization of opposition activists and the spark of violent reactions that could escalate into violent clashes between ZANU-PF and MDC supporters (Swain et al. 2011). Citizens from the affected regions that regard the state as a weak and partial institution may engage in violence as a means to solve disputes with the central government and within its community (Swain et al. 2011). Meanwhile, opposition elites could also mobilize their supporters, instigating them to engage in riots by exploiting their fears and insecurities (Swain et al. 2011).

PATHWAY #2: Water scarcity and conflict in Bulawayo and Matabeleland North

The provinces of Bulawayo and Matabeleland North have suffered from political, social and economic marginalization which has fostered a distinct identity over the years. The region has an important presence of the Ndebele community, an ethnic group that originally descends from the Nguni people and represent around 17% of the Zimbabwean population (Britannica 2010; Minority Rights Group International 2018). During the post-colonial era, Mugabe's government executed a genocide attempt against the Ndebeles with the Operation Gukurahundi (1982-1987), killing more than 20,000 Zimbabweans (Ndlovu 2019). The Ndebele community progressively became a strong component of the political opposition to the national government led by the ZANU-PF which has been mainly supported by the Shona people (Ndlovu-Gatsheni 2008; Mabhena 2014; Swain et al. 2011). The main opposition parties during post-colonial times, the Zimbabwe African People's Union (ZAPU) and the Movement for Democratic Change (MDC) as well as other minor separatist forces, have historically drawn considerable support from the Ndebele community in the provinces of Matabeleland and Bulawayo, where the government has concentrated most of the state-sponsored violence and deliberately suffered from an economic and political marginalization (Mabhena 2014; Swain et al. 2011; Ndlovu-Gatsheni 2008). Nowadays, Matabeleland North is one of the poorest provinces in Zimbabwe with a poverty rate of more than 60% (Viceisza et al. 2020). These factors have led to a frequent overlap between ethnic, political, and regional identities that is imperative to understand current conflict dynamics (Mabhena 2014; Swain et al. 2011).

Bulawayo and Matabeleland North are also two of the most affected regions by climate variability and extremes. Estimates project that this dynamic will continue in the following decades which will potentially contribute to accentuate existing socio-economic vulnerabilities such as food and water insecurity (Swain et al. 2011; The World Bank Group 2021). This illustrates a potential risk that draws from the overlap between a highly climate vulnerable region and the existence of strong ethnic, regional and political identities and grievances (Swain et al. 2011).

Water scarcity and water quality is a core issue that particularly affects Bulawayo and Matabeleland North. The water quality problems in Zimbabwe are linked to the pollution of water resources, including sediments from artisanal mining and agriculture as well as pathogens from wastewater and discharges from industrial activities (Hirji and Davis 2014). These polluting factors contribute to the overall water scarcity problem that is heavily influenced by weak natural resource governance as well as the economic crisis and the international sanctions that Zimbabwe suffers since the late 1990s and the 2000s which have deteriorated the infrastructure and worsened the problem since the 1990s (Hirji and Davis 2014). The lack of water supply has been particularly alarming in Bulawayo, where water scarcity has also been heavily influenced by government inaction and confrontation with local authorities over the administration of water supplies (Swain et al. 2011). Under these conditions, population growth becomes another stressor that reduces per capita water availability. Even in the best-case scenarios, estimations say that Zimbabwe could move from "water stress" to "absolute water scarcity" according to the UN's categories (Swain et al. 2011; Hirji and Davis 2014).

On top of the socio-economic and political elements, water scarcity is also influenced by the changes in climate which will particularly impact both rural and urban areas in the south and west of Zimbabwe. In fact, Matabeleland North has the second lowest adaptive capacity, meaning that it lacks the

capability to mitigate the effects of climate change and variability (Hunter et al. 2020). The main climate stressor is drought which has directly impacted water scarcity in Zimbabwe during the recurrent drought episodes, including those that took place in 1982-84, 1991/1992, 1994/1995 and 2007/2008 and the 2015/2016 (Kinsey et al. 1998; UNDP 2017; Nangombe 2014). These persistent episodes deteriorate water supply by reducing water availability – mainly surface water which accounts for 90% of the national supply (Brown et al. 2012). Estimates indicate that evaporation rates in river basins will decline between 4 and 25% while runoff will also decrease as far as 40%, especially affecting the Zambezi Basin. Simultaneously, annual rainfall levels are predicted to decrease between 5 and 20% by 2080 in Zimbabwe's main river basins. This, in turn, will severely curtail water availability and compound water scarcity. According to these estimates, Bulawayo and Matabeleland North are among the regions that will suffer the most acute problems of water scarcity (Brown et al. 2012).

The impact of climate on surface water resources will increase the importance of groundwater resources. Improving the monitoring of these water resources to better assess their potential could enhance water governance and inform actions. However, the high cost of the required technologies complicates this possibility while the evaporation linked to high temperatures also threatens groundwater resources (Brown et al. 2012). Consequently, without the appropriate adaptation strategies, the number of people at very high risk from groundwater drought could reach 86% by 2100 (Hirji and Davis 2014). One of the consequences of water scarcity is the increase of water-borne diseases, which are severely impacting Bulawayo where recurrent diarrhoea outbreaks kill dozens of people every year, as well as decreasing agricultural productivity (Brown et al. 2012; Chingono 2020). Water scarcity and drought also affect agriculture and estimates highlight that the production of staple cereals such as maize and sorghum will suffer the greatest impact in the province of Matabeleland North (Swain et al. 2011).

Due to water scarcity, Bulawayo witnessed its first water restrictions in 1983 (Chagutah 2013). In 2008, it faced its worst water crisis which forced the authorities to introduce water rationing. The Zimbabwe National Water Agency tried to pressure local authorities – which are led by the opposition – to give up control over Bulawayo's water supply but the local government, reluctant to leave the control to a ZANU-PF run agency, kept the control of the water supply. Meanwhile, the national government continued to fail its promise of developing the National Matabeleland Zambezi Water Project (NMZWP), a megaproject to divert water from the Zambezi River towards Bulawayo (Nyoni 2008). This idea has been discussed for more than a century since the British South Africa Company discussed the possibility of providing Bulawayo with water from the Zambezi River. For decades the ZANU-PF government has showed a complete lack of political and economic resources to develop the project that would benefit the greatest stronghold of the opposition (Nyoni 2008; Gerede 2020).

In this context, the impact of the climate crisis on water scarcity and other existing socio-economic vulnerabilities could exacerbate existing political inequalities and tensions, potentially leading to a violent conflict between the elites over the control of the scarce resources. National and local elites may manipulate the fear of their constituencies for their own benefit (Swain et al. 2011). It is possible that a future severe drought episode could spark tensions between local and national authorities and escalate into an open political conflict. This could simultaneously lead to further social and political polarization which may lead to violent clashes between government and opposition supporters.

However, the new government seems to be keen on finally developing the NMZWP and has started taking some crucial steps. It has allocated considerable economic resources and finally started the first phase which consists in building the Gwayi-Shangani dam. Then, it needs to construct a pipeline from Gwayi-Shangani Dam to Bulawayo and finally build a pipeline from Zambezi River to link it with the Gwayi-Shangani pipeline (Gerede 2020). The NMZWP is a great step in addressing water scarcity problems and cope with the effects of climate variability and extremes, but it will take time to be completed and it is unlikely that it will solve all the existing problems. Other climate adaptation measures should be put in place to advance the overall water resource management and infrastructure in vulnerable areas like Bulawayo and Matabeleland North. These actions include building new infrastructure such as bridges, dams and flood levees, improving the monitoring and use of groundwater resources as well as capacity building that focus on enhancing education, communication and awareness (Hirji and Davis 2014; The World Bank Group 2021).

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About CGIAR FOCUS Climate Security

CGIAR aims to address gaps in knowledge about climate change and food security for peace and security policies and operations through a unique multidisciplinary approach. Our main objective is to align evidence from the realms of climate, land, and food systems science with peacebuilding efforts already underway that address conflict through evidence-based environmental, political, and socio-economic solutions.