



Save the Children

ZIMBABWE

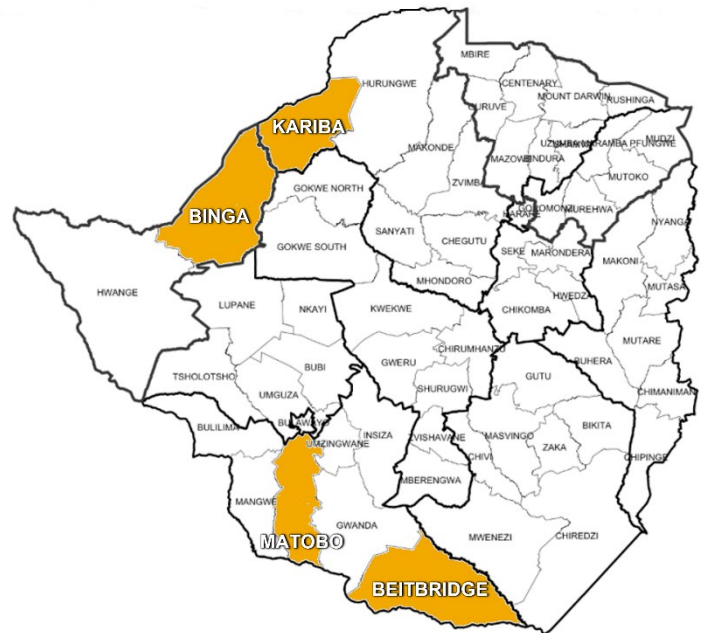


ASSESSMENT SUMMARY

Climate change impacts on food production and farming practices in Beitbridge, Matobo, Binga, and Kariba

Background

In Zimbabwe, approximately 80% of agricultural production is rain-fed. Increasing climate change impacts, coupled with large scale environmental degradation due to unsustainable practices, is threatening rain-fed agriculture, as droughts and floods become more frequent, and rainfall becomes more irregular and unpredictable. For instance, Zimbabwe expected to receive normal to above normal rainfall October 2021 through March 2022; instead, a protracted dry spell persisted through March 2022, following Tropical Storm Ana in January, which brought heavy rains, water logging, and leaching to some parts of the country. Crops in most areas, particularly in the central and southern parts of the country, suffered extreme moisture stress, and crops for some households in the worst-affected districts are a complete write-off. The scale of crop failures and uncertainty of rainfall in the last month of summer points to significantly reduced harvests across the country during the 2022/2023 consumption year.



Save the Children Zimbabwe (SC) has been promoting the adoption of climate-resilient agriculture in vulnerable districts including Beitbridge, Binga, Kariba, and Matobo, for over five years. As the long-term impact of climate change becomes clearer, with increasingly irregular weather patterns regularly affecting harvests, **SC sought to establish communities' perception of climate change and their capacity to adapt; to identify barriers to adoption of climate-smart agricultural techniques; and to assess food insecurity and its impacts.**

The study used qualitative and quantitative methods, including 720 household surveys, focus group discussions (FGDs) and key informant interviews (KIIs) with Agritex, DDC, and Extension Workers at the ward level.

Key Findings

- There was broad recognition across communities that weather patterns have changed over the years. The most cited changes to weather patterns were “less rain” (66%), “high temperatures” (62%), and “prolonged drought” (40%).
- 95% - 98% of respondents reported experiencing a climate-induced shock in the last five years, and there was consensus that the variety and frequency of climate-induced shocks and stresses have increased over the past 25 years.
- Respondents recognized that the changes in weather and environment had increased their vulnerability, with most emphasizing the direct impact on their livelihoods.
- Focus group discussions revealed that climate change has had a negative impact on household dynamics and is connected to an increase in GBV.



Effects of climate change on food production

- According to the Second Round Crop Assessment Report, there was a marked decline in yield per hectare between the 2020/21 and 2021/22 seasons; an average of 5.28 tons/ha of maize was harvested last season, compared to 1.4 ha/ton this season, representing a 73% decline in yield.
- Maize is the most popular crop to grow in these districts (53% - 98% of households), even though a successful maize harvest happens only once every 4-5 years at best, according to respondents.
- By the time of the assessment, there had not been any form of assistance provided to communities, **and most households reported that they only had cereal supplies to last on average three months.** According to ZIMVAC 2022, over 50% of households in Binga and Kariba are cereal insecure.
- **Farmers will not be able to retain any seed for posterity due to poor quality and insignificant quantities.** KIIs highlighted the need for input distribution across all four districts.

Small-scale farmers' perception and awareness of climate change

- **There is high awareness that extreme weather patterns are caused by climate change; however, there is low understanding of the causes of climate change.** More than 80% of respondents acknowledged the extreme weather patterns related to climate change, but many had limited knowledge of the causes of climate change; 36% of respondents perceived the “desire of god” as the major cause of climate change, followed by “natural reasons” (34%) and “deforestation” (19%).
- Four major sources of information on climate change are radio (42%), peers (37%), government (30%) and NGOs (28%). Four major sources on forecasting information include government extension services (60%), relatives (60%), radio (59%), and indigenous knowledge (57%).
- Households' use of weather forecast information for farming varied across communities, from 50% in Kariba (reflecting its remoteness), to 85% in Beitbridge (reflecting its proximity to South Africa). In addition to connectivity challenges, respondents cited a lack of understanding on how to use the forecast information, and broadcasts in English and Shona, rather than the local Tonga language.



Key Findings

Barriers to climate change adaptation

- While 80% of respondents said they are familiar with climate-resilient agricultural practices, 59% of respondents said that they were not familiar with, not trained, or did not apply these practices.
- Whilst respondents were aware of the need for households to adapt to the changing climate with technology or different techniques, **84% of respondents cited lack of financial resources as the major impediment to climate change adaptation, followed by lack of knowledge (76%), lack of understanding (70%), and high labor requirement (68%).** Only 29% of respondents expressed disinterest in switching to climate resilient agriculture, as they felt there was no major difference.
- When asked what could be done to overcome the barriers, 89% of respondents cited financial assistance, followed by capacity building (88%), labor resources (84%), and inputs (84%).
- To ease the task of land preparation, households highlighted the need to organize farmers into groups through which they can prepare planting basins, while KIIs suggested mechanization of *pfumvudza* as key, through the supply of ox/donkey-drawn ripper to prepare planting lines to replace basins.

Analysis of Climate Resilience Agricultural (CRA) Practices

- Only 35% of respondents were familiar with, practiced, and trained on CRA, (most commonly 'growing small grains' at 58%). Highest uptake is Matobo (67%) and Beitbridge (42%), where SC is implementing its EU-funded SUPER EVC climate resilience project, compared to 29% in Kariba and 14% in Binga.
- Growing small grains (58%) and crop rotation (47%) are most practiced CRA, and integrated pest management (27%) and minimum tillage (29%) are the least practiced due to costs.

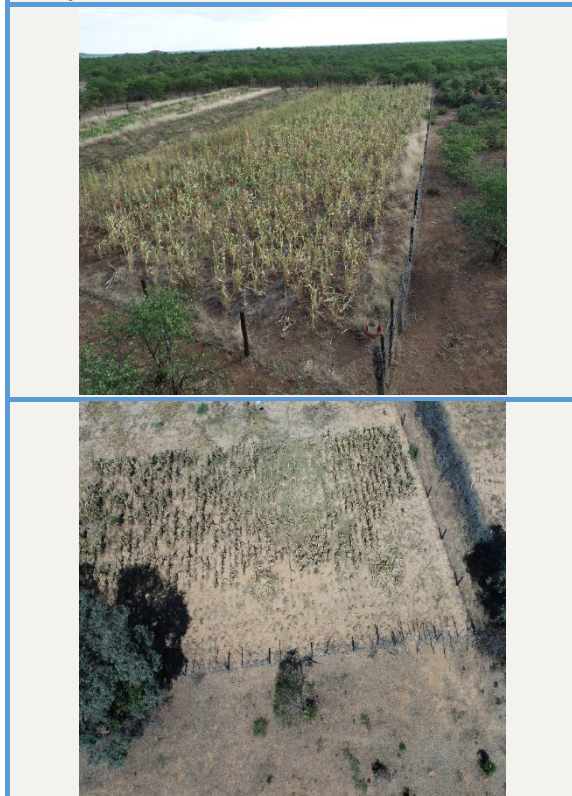
Coping strategies

- To mitigate climate-induced shocks, households depend on food and cash from NGOs (48%) and government (21%). 11% sell off their livestock.
- **18% indicated that they reduce the number and size of meals and compromise the quality through eating less preferred foods.** Notably, the prevalence of Global Acute Malnutrition among children 6-59 months increased from 2.8% in 2021 to 7% in 2022, with rates as high as 11% in Matebeleland South, including Beitbridge and Matobo districts (ZimVAC).

Protection risks in a climate-changing context

- FGDs in Matobo and Beitbridge indicated that an increase in GBV may be attributed to climate change. One group **estimated 20% of women experienced intimate partner violence due to tensions caused by drought-induced food insecurity.**
- According to IOM and the SC *Children on the Move* program, **unsafe migration to South Africa is increasing** as food insecurity and economic challenges worsen.

Aerial view of crop situation in Beitbridge, where bare patches in grazing areas and wildfires have been observed.



Recommendations

Prevent, mitigate, and respond to immediate food insecurity and protection threats

1. Support vulnerable households facing food insecurity via cash and voucher assistance (CVA). Community-based livelihoods support should be prioritized to protect household assets, such as provision of livestock fodder and veterinary services, cash for agriculture inputs (e.g., drought resilient seeds, efficient irrigation).
2. Protection activities, including identification, referral, and support to at-risk individuals who may be experiencing increased violence and unsafe migration.
3. Nutrition sensitization and infant and young child feeding activities, to combat growing malnutrition while optimizing CVA, livelihoods support, and early recovery activities for improved nutrition outcomes.

Climate change adaptations to improve resilience of vulnerable HHs to cope with and recover from recurrent shocks and stresses

1. Provision of climate change mitigation training as well as conducting climate change campaigns aimed at fostering behaviour change.
2. Build community capacity in rangeland/grazing management for sustainable utilization of veld.
3. Considering existing low adoption of conservation agriculture practices, partial adoption tailored to community and small farmers' specific needs and resources should be considered as an entry point.
4. The need for integration of multiple practices as part of CRA requires a major transformation to established farming practices, which is not realistic to smallholder farms, where such changes can increase risk to a farmer's livelihood based on the absence of production surpluses and safety nets. The intervention should be designed to respond to constraints, including the need to mechanize farming to ease burden of labour and to ensure access to training and increased extension services.
5. The frequency and intensity of drought has increased, making success in crop farming highly unlikely without supplementary irrigation.
6. Climate change has impacted grazing and forest resources, reducing livestock viability; communities go through cycles of livestock deaths due to poverty, followed by concerted restocking efforts. Promotion of fodder production, coupled with training on on-farm ration formulation and targeted feeding, can break these cycles.
7. To mitigate the impact of climate-induced drought, assessment participants recommended solarisation of boreholes combined with provision of drip irrigation materials and training.
8. The impact of the prolonged mid-season dry spell in the just ended 2021/22 agricultural season was well articulated by all participants in the assessment. Observation by the team also confirmed a near total of total crop failure in sampled wards. It was clear that households will encounter challenges in accessing seeds locally for the next planting season and there is need for intervention from outside. The study team therefore recommends the provision of inputs as suggested by all study participants.
9. Investing in developing an anticipatory action framework enables humanitarian organizations and government institutions to collectively get ahead of a predictable shocks.
10. Diversification of livelihood sources by introducing non-agricultural micro business enterprises. Study participants suggested support (training and start-up capital) for income generating activities.



The “climate change impacts on food production and farming practices assessment” in Beitbridge, Matobo, Binga, and Kariba, revealed greater uptake of climate-resistant agriculture in Matobo and Beitbridge, where SC is implementing its EU-funded Super EVC program.

Rodha’s Story

Rodha*, 74, says farming is her only way of putting food on the table.



Rodha lives in Mbuso, a small village in Matobo district which lies in Matebeland South Province of Zimbabwe. In the past years, the district has been experiencing low rainfall and extremely hot temperatures, resulting in serious food shortages. Rodha says she has not been able to harvest enough grain to sustain her throughout the year and she had to resort to carrying out menial work in exchange for food.

Thankfully, Rodha was selected to participate in a European Union (EU) funded livelihoods project implemented by Save the Children and ICRISAT in her district, which seeks to transform agricultural practices in the face of climate change. She was trained on low-cost, yield enhancing and environmentally friendly, climate smart agriculture technologies that will help increase production and productivity in semi-arid regions like Matobo district. She was also given fertilizer and small grain seed packs which included, sorghum, pearl millet, groundnuts and velvet beans. In the past, Rodha grew maize in her field and she received little or no yields as the crop wilted due to inadequate rainfall. She received trainings on how small grains are suitable for her area as they mature early and are tolerant to drought.

Rodha put the knowledge she received to good use and she is happy with the performance of her crops. She prepared her field using the conservation method of digging holes and adding manure and she says this has proved to be efficient in retaining soil moisture. She also ploughed small grains in her field. Despite her area not receiving rains for over a month, her small grains are thriving and she expects to harvest enough to sustain her until the next farming season.

Rodha is grateful for the trainings she received as well as the quality, drought resistant seed packs she was given. She could not afford to buy the seed packs from certified suppliers and had planned to use farm-saved seeds which could potentially reduce her yields.

She encourages other farmers in her community to practice conservation agriculture and adopt small grains in order to realise maximum productivity.