

Localised Climate-Related Security Risk Assessment:

A Case Study in Gwanda District, Matabeleland South Province, Zimbabwe

An overview of climate-related security risks with concrete solutions and recommendations on how to address them.



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OVERVIEW

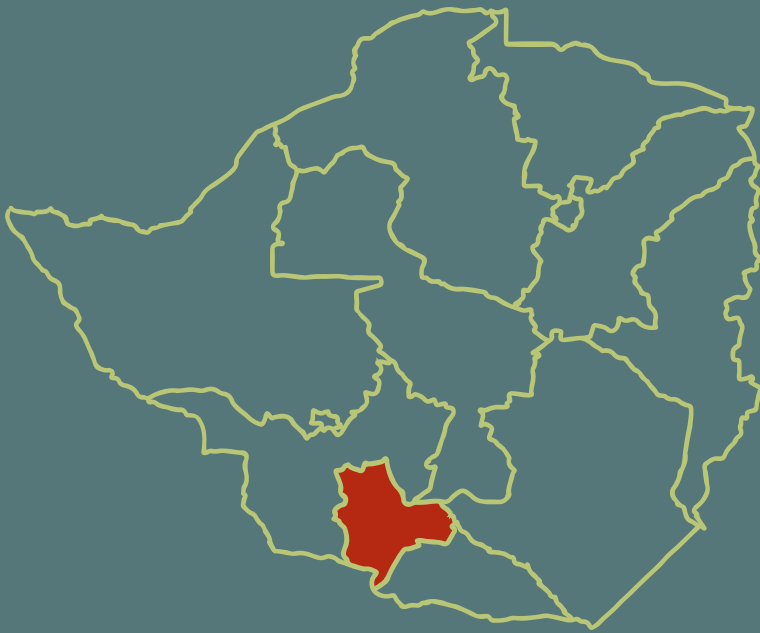


Photo credit: This map of Zimbabwe is divided into provinces. Gwanda district is highlighted in red within the province of Matabeleland South. Centre for Environmental Management, University of the Free State

Gwanda District in Zimbabwe is predominantly a semi-arid area that is greatly impacted by climate change hazards. These hazards also act as enablers of fragility risks that often exacerbate pre-existing vulnerabilities and socioeconomic inequalities.

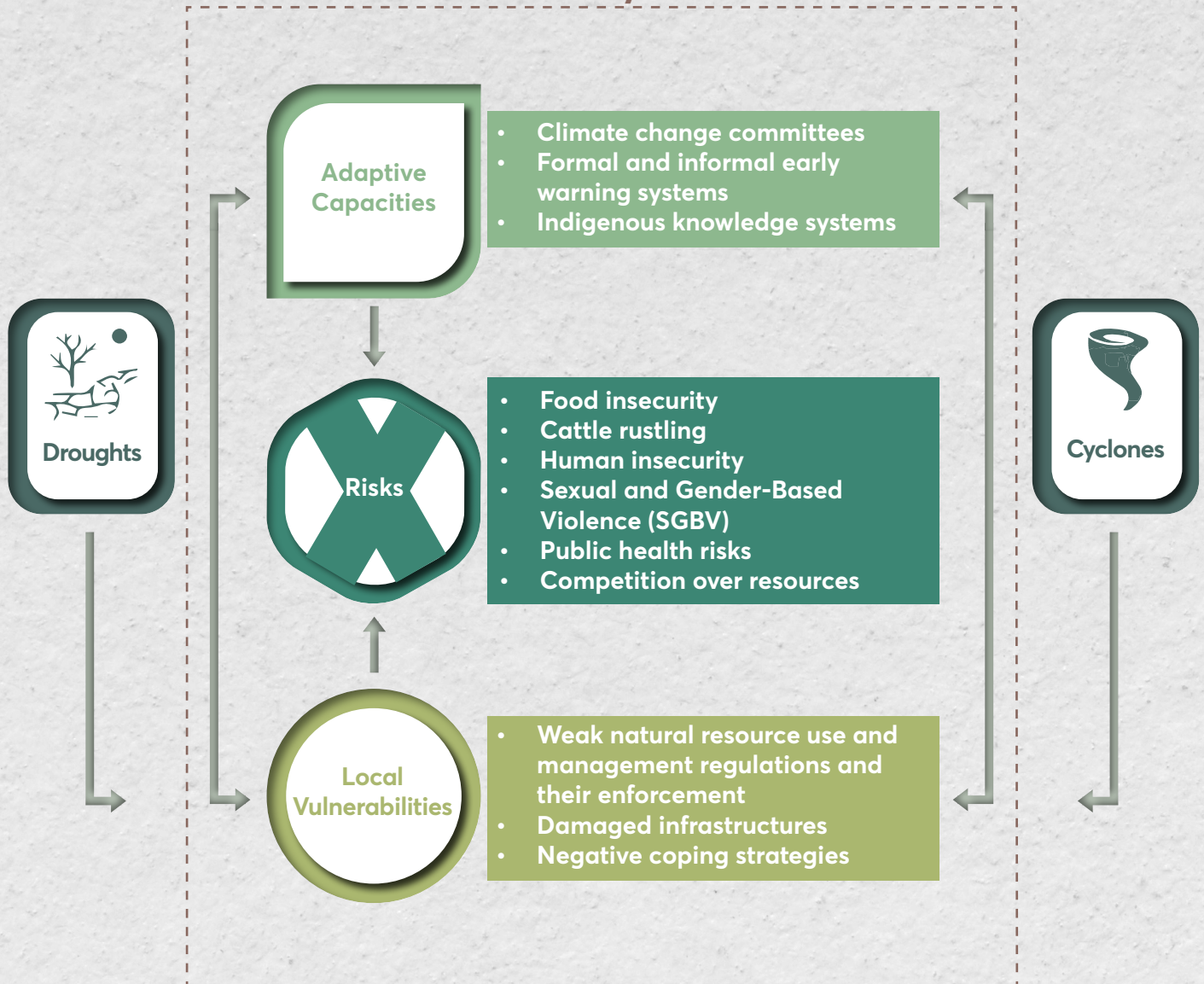
Over the past few decades, Gwanda has experienced an increase in prolonged dry spells and high temperatures with erratic rainfall patterns. Extreme droughts have led to decreased productivity of agricultural land, climate-induced migration, food insecurity, loss of income and livelihoods, public health risks, and conflict between communities. Cyclones – which have also become a regular phenomenon in Gwanda – bring flash floods that inundate local communities and livestock, damage infrastructure – including bridges, roads, and buildings – as well as destroy crops.

The following climate-related security risk assessment (henceforth, the risk assessment) applies GPPAC's Step-by-Step Guidance Note for Localising Climate, Peace and Security¹ in Gwanda. It outlines the key climate-related security risks and shares concrete recommendations on how local peace actors, donors, and policymakers can adjust their responses to climate-related security risks in order to improve peace and security in Gwanda.

1. The Guidance Note was developed on the basis of the toolbox developed by the UN Climate and Security Mechanism (UN CSM). See more, UN Climate and Security Mechanism, 2020, 'Checklist to help climate-proof political analysis'. Available at: https://clppa.un.org/sites/default/files/csm_toolbox-4-checklist.pdf

Climate-Related Security Risk Assessment in Gwanda

Local Community Risk Scenario



Solutions:

- Support local peacebuilders in facilitating a continued and inclusive dialogue on climate, peace and security
- Encourage collaboration between formal and informal early warning mechanisms
- Integrate local indicators and indigenous knowledge systems in early warning systems
- Develop long-term community-level adaptive capacities and positive coping strategies
- Strengthen natural resource use and management regulations and their enforcement

The Climate-Related Security Risk Assessment Process: Opportunities and Challenges

The inclusive and participatory design of the risk assessment in Gwanda enabled local government officials, local community leaders (i.e., ward councillors and traditional leaders), and community members – including security actors, climate change committees, climate experts, and peacebuilders – to jointly work together to identify and sustainably address climate-related security risks. The risk assessment brought forward the following non-exhaustive list of highlights:

STEP 01 UNDERSTANDING THE LINKS BETWEEN CLIMATE AND SECURITY:

Working together, climate, peace and security experts from local governments, local communities, and other institutions can develop a shared understanding of the contextual pathways through which climate change impacts security.² The security sector in Gwanda, especially the police and intelligence units, viewed climate change hazards as a non-security matter and, therefore, outside their purview. Simultaneously, the climate-related government sector – including the Meteorology (MET) Department, Environmental Management Agency (EMA), and Forestry Department – did not adequately capture the linkages between climate change and fragility. As local peacebuilders traditionally see community risks from an integrated perspective, their expertise helped draw these linkages in the context of Gwanda. The discussions organised by local peacebuilders helped apply an inclusive conflict analysis to understand and respond to key questions such as: why communities are disengaging from agriculture; what is causing low crop yields; why there is a boom in illegal small-scale mining; what is influencing the increase in illegal activities and violent crime; and who are the key actors that need to be engaged to respond to the climate-related security risks sustainably? See Step 1 in the *Guidance Note* for additional information.

STEP 02 UNITING KEY ACTORS AROUND A COMMON GOAL:

Local ownership advances the sustainability of interventions through open multi-stakeholder dialogue. Local community ownership was a key priority to ensure the sustainability of the risk assessment. Local actors – together with local government representatives, security sector actors, peacebuilders, climate experts, and development partners – co-designed an approach and led the mapping of relevant stakeholders, hazards, challenges, needs, and potential solutions. The risk assessment was built on a safe and open dialogue which was required in a locality like Gwanda that is deeply polarised along political, ethnic, and social class lines. The risk assessment helped identify community-based Climate Change Committees (CCCs³), which the local government established to facilitate information and knowledge transfer on climate change issues to local communities. It also led to a recognition of a formal early warning

2. UN CSM, 2020, 'Climate Security Mechanism Toolbox - Conceptual Approach'. Retrieved from: https://dppa.un.org/sites/default/files/csm_toolbox-2-conceptual_approach.pdf

3. Community-based Climate Change Committees (CCCs) work with the Disaster Risk Reduction (DRR) department under the Gwanda Rural District Council (RDC). The CCCs are composed of community members whose key role is to identify climate risks that threaten the peace and security of the community and report their findings to the RDC. Unfortunately, the CCCs are currently inactive due to the lack of financial and technical support to sustain their data collection and reporting process to relevant local government departments.

and early response system under the African Union Political Affairs, Peace and Security (AU PAPS) the Continental Early Warning System (CEWS) Southern Africa Region⁴ that complements the early warning system run by the Southern Africa Development Community (SADC)⁵ and the national government. The dialogue contributed to community cohesion and recognition of the interdependencies among various stakeholders, as well as to the sustainability of the solutions identified through the risk assessment. *See Step 2 in the [Guidance Note](#) for additional information.*

STEP
03
DEVELOPING
DATA
COLLECTION
AND ANALYSIS
METHODS:

Indigenous knowledge systems effectively support data collection methodologies and help inform climate, peace, and security action.

The inclusive and participatory design of the risk assessment led to the development of context-specific indicators and data collection methodology and analysis. The data collection and analysis prioritised the engagement of local community members, government authorities, and traditional chiefs. One example of action highly respected at the community level is the traditional ceremonies of consulting the Njelele Shrine – a rain-making shrine which ensures adequate rainfall for every season.⁶ During this risk assessment, the District Development Committee (DDC) – district-level governing bodies – acknowledged the importance of such traditional practices and demonstrated enthusiasm to engage indigenous knowledge systems in their everyday work. *See Step 3 in the [Guidance Note](#) for additional information.*

Climate-Related Security Risks in Gwanda

STEP
03
&
04

The following climate-related security risks and solutions are based on local perceptions and experiences collected by eight community-based data collectors elected by the community actors between November 2022 and March 2023 through key informant interviews (KII), group discussions, and community surveys: *See Steps 3 and 4 in the [Guidance Note](#) for additional information.*

4. With support from the United Nations Development (UNDP), and the African Union Political Affairs, Peace and Security (AU PAPS) the Continental Early Warning System (CEWS) Southern Africa Region is coordinated by the Southern African Partnership for the Prevention of Conflict (SAPPC). SAPPC directly supports the AU CEWS through data collection, analysis and early warning reporting to the AU's CEWS Department and relevant partners through its network of members informally at the local level.

5. Southern African Development Community, (n.d.), 'Regional Early Warning Centre'. Available at: <https://dev-www.sadc.int/sadc-secretariat/services-centres/regional-early-warning-centre#:~:text=The%20overall%20objective%20of%20the,Indicative%20Plan%20for%20the%20Organ>

6. The local legend suggests that a voice from the shrine would give instructions and advice on weather and future events to communities. The traditional leaders and local communities believe the current droughts and climate hazards are due to neglect of the shrine hence the gods have stopped speaking and warning the nation of the adverse climate hazards.

DROUGHT → FOOD INSECURITY:

Prolonged and frequent droughts and unpredictable rain patterns lead to food insecurity due to decreased crop yields:

As the climate changes, it becomes more complicated to adapt to changing weather patterns. In 2021-2022, the local rainy season had an 'early false start,' when it rained during the last week of October to Mid-November 2021, and, as per tradition, everyone planted with the first rainfall. However, in some areas, the rains suddenly stopped for 37 to 60 days, resulting in crop damage and severe crop write-offs. The crop write-offs heavily affected maize – the main staple food – leading to acute food shortages and food insecurity.

DROUGHT → HUMAN INSECURITY AND SEXUAL AND GENDER-BASED VIOLENCE:

Food insecurity – caused by droughts and poor crop harvests – leads to violent cattle rustling to earn a living:

Community members admit facing food insecurity as they sometimes resort to reducing the number of meals per day or the quantity of those meals to preserve the little food they have. This situation, coupled with socio-economic vulnerabilities, has become a push factor for young men to engage in cattle rustling for economic sustenance. They maximise the opportunities availed by villagers moving their livestock to new locations. Rustlers set traps for livestock and wildlife animals (poaching) which they then kill and sell to butcheries. Some rustlers also steal cattle in neighbouring Botswana, forcing Botswana's communities to retaliate by impounding and sometimes killing Zimbabwean cattle.

Droughts enable illicit artisanal mining and thus enhance social fragility:

Resulting from frequent and prolonged droughts caused by minimal, erratic rainfall, poor crop yields have led communities to turn to illicit artisanal mining as an alternative source of livelihood.⁷ This situation has wide-reaching effects on increased social fragility, connected to weak natural resource use and management regulations and their enforcement:

- Miners arm themselves with machetes and guns to protect themselves and their (often illegal) mining sites from rival gangs and law enforcement and security officers. This results in fights between miners and security actors.
- Miners often resort to banned substances that pollute the surface and groundwater (such as cyanide) to mine successfully. This leads to public health risks, reduced fertility of the land, and loss of livestock, increasing food insecurity and exacerbating internal displacement.
- Artisanal miners further often violate or disregard land use regulations. For instance, unprotected gold shafts are often left uncovered after miners exhaust gold reserves, leading to humans and livestock fatally falling into them. Further, these unsupported underground shafts often

7. It is important to note that the majority of artisanal miners' activities do not have the mandatory Environment Impact Assessment (EIA) certificates as required by the Environmental Management Act CAP 20:27 of 2002 and Section 97 of the Environmental Impact Management Act. The Herald, 2018, 'The EIA and small scale artisanal miners'. Available at: <https://www.herald.co.zw/the-eia-and-small-scale-artisanal-miners/>

encroach into critical infrastructure such as railway lines, community residences, and farms, resulting in structural collapse. Data collectors confirmed that in December 2022, an illegal shaft was dug under a busy railway line, and a potential collapse could cripple the movement of goods and services to communities.

- Local women are directly affected by artisanal mining in two ways. First, women are venturing into mining in search of economic opportunities but face physical, verbal, and sexual abuse.⁸ Second, incidences of child marriages, rape, and forced pregnancies have reportedly increased as small-scale miners use their financial power to lure young girls and women from poor households who suffer sexual exploitation in exchange for economic support and protection. At the water collection points, women and young girls are also sexually exploited in exchange for easier and quicker access to water.

DROUGHT → COMPETITION OVER RESOURCES:

Recurrent droughts drive communities to move their livestock to neighbouring communities' grasslands leading to violence where pastoralist communities clash over grazing and water resources:

When water bodies and grasslands in a community dry up, members are left with little choice but to let their cattle die or to head to neighbouring communities with sufficient grassland and water. However, the host communities often refuse to host their neighbour's livestock which they chase back to the dry pastures. Sometimes the livestock is violently hacked with machetes and axes. The cattle are reportedly stolen and resold as they get lost in the new grasslands. Subsequently, the violent clashes for water and cattle pastures between the communities have resulted in human fatalities and further loss of or maiming of livestock.

Drought disturbs the availability of local delicacy food, such as the Mopane worm, which increases competition over such a resource and results in further environmental insecurity:

Poor harvests caused by droughts led to the loss of agricultural farmland and incentivised the transition to Mopane worm⁹ harvesting for income. Increased demand and overharvesting simultaneously drastically reduced the abundance of the Mopane. Simultaneously, increased local and international demand for the limited worm has resulted in stiff competition and increased (often violent) tensions between locals and external worm harvesters. The locals claim that the external harvesters harvest the Mopane worm unsustainably.¹⁰ Further, overcutting the mopane tree – the worm's preferred host plant – has resulted in extensive desertification and has been tied to lower local rainfall patterns. In response, frustrated locals have

8. Mining is considered to be a traditional 'men's job' and male miners believe women's menstrual cycles attract bad luck and chase away gold belts.

9. The Mopane worm - or *gonimbrasia belina* - are the larvae/caterpillars of the mopane emperor moth, and are widely consumed in Southern Africa. It is a seasonal delicacy that has a high market value. Bio Innovation Zimbabwe. Mopane Worms. <https://www.bio-innovation.org/mopane-worms-caterpillars-of-the-mopane-emperor-moth-gonimbrasia-belina/>

10. Harvesters cut down the mopane trees - this destroys the habitat where butterflies lay the eggs that hatch the mopane worm and destroys the larvae's main food source for the hatched worms exclusively feed on mopane leaves until they are harvested. The external harvesters are even known to harvest the smallest of the species, which are traditionally left to ensure the species replenishes the next season.

resorted to violent confrontations with external harvesters based on the not unfounded fear that unsustainable actions threaten the very existence of the mopane worm, which many livelihoods deeply depend on. The lack of regulatory and monitoring systems for mopane harvesting from the Gwanda local government further enables deforestation and conflict over this resource.

CYCLONES → COMPETITION OVER RESOURCES:

Infrastructures damaged during cyclones leads to community clashes over scarce water at collection points: Deforestation – resulting from the high demand for energy, mopane harvesting, household upkeep, and cattle kraal fencing – has enabled heavy water runoff during cyclones and rainfall, which caused massive soil erosion and silted dams and rivers. Due to this heavy siltation, sometimes as high as 75 percent of the riverbed, dams can only hold enough water for six weeks. This is far below what is needed to sustain communities during entire dry seasons and has led to acute water shortages.¹¹ Heavy water runoff during heavy rains has also swept away villagers and livestock, in part due to ineffective communication and understanding.¹²

NEGATIVE COPING STRATEGIES → ADDITIONAL CLIMATE-RELATED SECURITY RISKS:

Community coping mechanisms further exacerbate the effects of climate hazards and climate-related security risks. Deforestation is exacerbated by the fact that, without appropriate training in sustainable energy use, local communities heavily rely on wood for energy, cooking, cattle kraals, building, and heating. Electricity shortages and blackouts are frequent in urban Gwanda, so there is also a big demand for firewood which is illegally cut and sold by communities to help fill the financial gaps caused by the drops in crop yields.

11. Community podium news, 2021, 'Livestock, soil erosion at Bengo Dam cause massive water shortages'. Available at: <https://communitypodiumnews.org.zw/?p=2362>

12. The weather update communications use technical language and complex satellite maps and graphs that communities fail to understand and therefore do not take the necessary precautions and the information is mainly shared on social media sites whilst in rural Gwanda not all residents have smartphones.

Local Solutions and Concrete Avenues to Address Climate-Related Security Risks in Gwanda

STEP 04

The following solutions are based on the local analysis of climate and security risks, vulnerabilities and adaptive capacities and provide concrete recommendations to specific actors best positioned to address respective risks. The list of solutions is not exhaustive, and some solutions require further feasibility studies. See Step 4 in the *Guidance Note* for additional information.

Strategic partnerships between local stakeholders and national government through key institutions like the National Peace and Reconciliation Commission (NPRC) could support local peacebuilders in facilitating a continuous and inclusive local dialogue on climate, peace, and security. All relevant stakeholders from local to international levels should be involved, own work jointly, and be invested in developing conflict-sensitive adaptation and mitigation strategies. Ensuring integrated feedback requires an inclusive climate, peace and security dialogue developed in partnership with trained facilitators and coordinators. Local peacebuilding partners, such as Voices in the Vision for Africa (VIVA), have demonstrated their unique value in facilitating an open, regular, and inclusive multi-stakeholder dialogue between local communities, relevant government departments, and other internal and external stakeholders. In all localities, such a dialogue has to start at the local level, where all stakeholders can come together to jointly identify and address local climate-related security challenges in a context-specific manner. Such a space for dialogue enables diverse ethnic and political stakeholders to put their differences aside and equally contribute to the common goal.

The national government and development partners could encourage collaboration between formal and informal early warning mechanisms. In addition to the CEWS community-level data collection mechanism, the SADC Secretariat has country-specific national early warning officers in Zimbabwe that work exclusively with government departments and not with local communities or data collectors and perceive climate as a non-security issue. This leads to a lack of unified understanding of the root causes of conflict, including climate-related security risks, in response plans. Ensuring stronger collaboration between the formal and informal early warning structures would ensure more comprehensive data gathering, joint analysis, and context-specific responses with greater impact at the local level. The formalisation of collaboration between the government and SAPPC CEWS through Memorandums of Understanding (MoUs) would mark a much-needed transition from ad-hoc partnerships in crisis toward formally-agreed and mutually-shared goals, values, and purposes. The

role of the Community-based Climate Change Committees (CCCs) – as an interlocutor between the government and communities – can further be strengthened by inviting CCCs to participate in respective capacity building, knowledge sharing, and decision-making.

The SADC Secretariat and AU PAPS's CEWS could integrate local indicators and indigenous knowledge systems in early warning systems. The informal CEWS early warning system is now updated with localised climate-related security indicators, such as the movement of the Inkonjane (Barn Swallow) birds that signal an impending rainy season. Indigenous knowledge systems have proven to be relevant and effective in weather forecasting, such as the Njelele Shrine rainmaking ceremonies. Further adaptive indicators based on local and indigenous knowledge systems can ensure a more comprehensive analysis of the interlinkages between climate change and fragility.

Government actors, development partners, civil society, and all relevant stakeholders could work together to develop long-term community-level adaptive capacities and positive coping strategies. Local communities directly experience climate change's adverse effects on peace and security. However, they lack practical and technical knowledge as well as the skills for mitigation, adaptation, and resilience building. Relevant stakeholders can offer training in fundamental adaptive skills, such as the use of water-conserving technologies and alternative energy sources such as Tsotsos stoves that use less firewood; drip irrigation; diversification of income to avoid reliance on agriculture; and identifying, diversifying, and growing drought-resistant crops, such as small grains and early maturing crops, among others. Training should provide simplified material – optimally using vernacular language, clear graphs, and memorable pictures – that local communities can easily understand through available communication channels within respective communities.¹³ Solar energy and generators need to be subsidised by the government to ensure that communities can afford them. Finally, native technological innovation should be encouraged and assisted in growing to solve local challenges - this could include grants, prize achievements, and competitions aimed at addressing local vulnerabilities and climate-related security risks.

National and local governments could strengthen natural resource use and management regulations and their enforcement. First, there is a strong need to formalise small-scale mining, improve compliance and ensure enforcement. The Environmental Management Agency (EMA)'s Plan must be available to small-scale miners in a simplified format to increase their awareness and compliance. In addition, the government and development partners could provide training for small-

13. Audio and visual communication channels, such as the Ntepe Manama Community Radio Local radio station, which are more interactive and engaging can be utilized. WhatsApp groups can also be developed and maintained to provide information exchanges in areas with limited internet.

scale miners in environmentally-friendly techniques and principles of burden sharing. Second, local government could offer regulations to address water shortages and associated conflicts. Local government can allocate specific water drawing times for all miners and another time for all community members to reduce the conflicts at the water collection points. The private sector and development partners can support the District Development Fund (DDF)¹⁴ to rehabilitate silted water bodies and address acute water shortages. Third, the local government could formally recognise mopane worm harvesting by enacting laws requiring harvesters to get a permit with guiding instructions on how to harvest in an environmentally and socially sensitive manner. Lastly, the Forestry Commission can strengthen afforestation projects to ensure that trees are planted to replenish the forests and can engage economically-focused groups with ecologically sound opportunities to sustainably grow the worm market.

14. Read more about the District Development Fund at: <http://www.theopc.gov.zw/?p=1093>

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