

A quick guide to ASSAR in **NAMIBIA**



ASSAR

Adaptation at Scale in Semi-Arid Regions

1. Vulnerability and responses

Vulnerability and adaptation to climate change in semi-arid areas in southern Africa

1. Full report
2. Summary report
3. Working paper

This report examines the nature of vulnerability and responses to climate change in Namibia and Botswana. In Namibia, a developing dryland country, climate change is expected to worsen existing vulnerability, which is driven by underlying structural factors that have led to chronic poverty and inequality. Concurrently, the natural characteristics of drylands make communities further vulnerable. Existing government responses primarily address immediate development needs and are unlikely to be sufficient in the face of long-term climate change. Adaptive and even transformative responses need to be considered and implemented.

Namibia country narrative

4. Poster: English
5. Poster: Oshiwambo

This poster highlights the research activities and main findings of ASSAR's work in Namibia, and provides recommendations for the future. There is an urgent need to respond to climate change in Namibia, where social, economic and ecological systems are increasingly at risk to climate-related impacts. To enable more effective, sustained and widespread adaptation to climate change, a more proactive, long-term, integrated, strategic, and culturally-specific approach is required. There is also a need for improved collaboration between sectors and governance scales.

African small-scale farmers need more than just land to survive climate change

Newspaper article in
The Namibian

When drought hits a region as dry as northern Namibia, subsistence farmers can weather the crisis better if they have more than just their land to depend on for their food or livelihoods. Many communities do better if they can rely on state support or a family member sending wages back from an urban economy. How people on the Namibian-Angolan border are coping with the current drought gives vital lessons for how small farming communities in southern Africa need many layers of support if they are to adapt to a hotter, drier climate.

Climate change impacts and adaptation in north-central Namibia

6. Info brief: English
7. Info brief: Oshiwambo

This information brief explains what climate change is, how Namibia's climate is changing and what the impacts of this change might be. It also highlights what adaptation measures can be taken by local farming communities and provides examples of techniques that have worked elsewhere. Farming communities in north-central Namibia need to understand how the climate is changing, and what they can do to adapt to this change. Planting pits, composting, and stone bunds are some of the methods that can improve crop yields and therefore ensure that there is enough food for people and livestock in the future.

Understanding climate change: An information manual for communities in Omusati

8. Info manual: English
9. Info manual: Oshiwambo

This training manual explains what climate change is, how Namibia's climate is changing, and what the impacts of this change might be. It suggests what adaptation measures can be taken by local farming communities. It also details short exercises that practitioners can use in workshops or trainings to create spaces and interactions that generate energy and creativity, and allow participants to explore climate change challenges experientially.

Barriers and enablers to climate change adaptation in north-central Namibia

10. Info brief
11. Poster: English
12. Poster: Oshiwambo

In Namibia there are various financial, technological, informational, institutional and social factors that inhibit adaptation. Overcoming these barriers is possible but requires champions to drive the climate change agenda and to leverage opportunities for adaptation funding and support. Building relationships and networks, engaging stakeholders at all levels, aligning policy priorities, and integrating science with traditional knowledge are also essential for enabling effective, sustained and widespread adaptation to climate change.

Vulnerability and responses

Vulnerability and risk assessment in Namibia's Omusati Region: Fostering people-centred adaptation to climate change

13. Full report
14. Summary report

This report presents the findings of the VRA workshop held in Outapi in 2016. The VRA illustrated the complexity of living with and responding to hazards and social issues experienced at the community level. It also illustrated the potential adaptive strategies that could be strengthened. Some of the responses are happening in small ways and need to be more systematically supported, while others are relatively new.

Planning for a harsher future

15. Brochure: English
16. Brochure: Oshiwambo
17. Poster: English
18. Poster: Oshiwambo

Using stories to illustrate the long-term consequences of adaptation decision making, this brochure and poster describe the importance of planning for harsher climates in the future.

2. Climate trends

Regional climate messages for southern Africa

1. Report
2. Info brief
3. Video

The climate across southern Africa varies from arid to humid subtropical conditions. Over the past 50 years there has been substantial multi-decadal variability in rainfall, with large parts of the region experiencing wetter than average conditions in the 1970s and drier than average conditions in the 1990s. Temperatures across the region have increased by 1 to 1.5°C on average over the past 50 years. Future projections of temperature change show significant increases across the region. Rainfall trends over the past 50 years are less evident than for temperature. Future projections of rainfall change show both potential increases and decreases. The impacts of future climate change on different sectors are complicated by the spread of model projections and the complexity of natural and societal systems. The impacts of climate change on water availability are unclear but the increased evaporation that is likely to occur with increased temperatures may place additional stress on vulnerable systems. Many studies suggest that crops will be adversely affected by climate change but the precise impacts vary across regions and cropping systems, and some regions may be positively influenced by climate change.

What will global warming of 1.5°C and 2°C above pre-industrial levels mean for semi-arid regions?

4. Info brief

The Paris Climate Agreement's ambition to keep global warming below 1.5°C recognises that even this level of warming could present extremely serious adaptation challenges for the world's most vulnerable regions. Among these are the semi-arid regions (SARs) of Africa and India, which already experience harsh climates, and where climatic conditions are expected to intensify over the course of the coming decades. Hundreds of millions of people live in these areas, and these changing climates could amplify their vulnerability and compromise their livelihoods and wellbeing. To determine how SARs might be affected by different global warming scenarios, ASSAR researchers used data from the CMIP5 multi-model archive to analyse projected temperature and rainfall changes in Africa and India at 1.5°C and 2.0°C above pre-industrial levels. This brief summarises the key messages emerging from this research.

3. Ecosystem services

An assessment of climate variability on key forest ecosystem services and its impacts on livelihoods of communities in Onesi constituency, Omusati region, Namibia

- 1. Student thesis

Ecosystem Services (ES) (such as timber, fruit, medicinal plants, mopane worms, etc.) provide many benefits to rural communities in northern Namibia. However, the results of this study show that the availability of key ES has been declining due to climate change. The increasing frequency of drought and floods has also affected crop yields and livestock numbers. This has had negative implications for the livelihoods of communities and has left many people reliant on food aid. There is a need for awareness-raising, training and capacity building, which will go a long way in improving the management and sustainable use of ES. In turn, this could contribute to building the resilience of ES-dependent households.

4. Livestock

An assessment of the determinants of adaptive capacity of livestock farmers to climate change in Omusati region, a case of Onesi constituency

- 1. Student thesis
- 2. Poster: English

This student’s research sought to identify and analyse the determinants, barriers and enablers of adaptive capacity of livestock farmers to climate change in northern Namibia. The adaptive capacity of livestock farmers was found to be influenced by their access to technology, level of education, asset base, and social network/capital. The findings suggest that price setting and marketing mechanisms, improved rangeland management, land use planning and fodder production under irrigation are some of the strategies that could be employed to enhance resilience of livestock farmers to climate change.

The cultural currency of livestock

Newspaper article

For many farmers in southern Africa, a herd of cattle or goats is akin to a bank account. It’s how families save and build wealth. However, even when drought threatens the herd, they may be reluctant to cash in their investment by selling the animals. Understanding the complex reasons why farmers hold onto their livestock, even when it puts their investment at risk, can help countries in water-stressed regions respond appropriately as the climate becomes hotter, drier, and more drought-prone.



5. Transformative Scenario Planning

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| <p>What is Transformative Scenario Planning?</p> <ol style="list-style-type: none">1. Info brief | <p>Sometimes social systems get stuck. There is not enough agreement among leading actors about what is happening, or what could or should happen, for the system to be able to move forward. Transformative Scenario Planning (TSP) is an approach that brings concerned stakeholders from different, often conflicting, perspectives together around pressing sets of problems to build stories that illustrate a range of potential futures that could come from taking different paths for dealing with those issues. By doing this, the involved stakeholders learn more about their present situation and about what dynamics in that situation are serving to help or hinder progress toward a more equitably beneficial future. Read ASSAR's information brief to find out why TSP is useful and how it works.</p> |
| <p>Using Transformative Scenario Planning to think critically about the future of water for productive use in Omusati, Namibia</p> <ol style="list-style-type: none">2. Report3. Video | <p>This report describes the Transformative Scenario Planning process hosted by ASSAR and Reos Partners in Namibia. The main driving forces that could significantly impact the future of water for productive use in Omusati were agreed to be the impact of drought and political will. The main problems were thought to be inadequate water infrastructure and the lack of universal access to water. Financial deficits are a major influence in this regard, and participants were also concerned about future availability of water resources. Improved water harvesting technology and political commitment to addressing water-related challenges will be crucial for ensuring the security of water for productive use in Omusati in future.</p> |
| <p>The ASSAR Spotlight on Transformative Scenario Planning</p> <ol style="list-style-type: none">4. Magazine | <p>Through the development of possible stories, the Transformative Scenario Planning (TSP) process (developed by Reos Partners) enables multiple and diverse stakeholders to construct a shared understanding of a critical issue that affects them all, and then to act on the basis of this understanding. This Spotlight highlights the successes and challenges of a series of TSP workshops held by ASSAR in five countries, including Namibia and Botswana. The TSP process in Namibia was centred on the topics of political will and the impact of drought on securing water in the Omusati Region. It enabled people to work together on an equal footing where everyone's point of view was considered. It suggested that collective planning is needed to address challenges more holistically in future.</p> |

6. Power and influence mapping

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| <p>Stakeholder and influence network mapping exercise with the government, development and research actors in Namibia</p> <ol style="list-style-type: none">1. Full report2. Summary report | <p>This report details the outcomes of a stakeholder and influence network mapping exercise undertaken in July 2015 in Windhoek. The aim was to determine which stakeholders are most relevant to ASSAR's work in the Omusati Region, understand how they interact with one another, how they influence decision making around adaptation and what contribution they might make to integrating ASSAR's research findings into policy and practice in Namibia. The Ministry of Environment and Tourism was prioritised as the most influential body in the adaptation sphere while local communities were perceived to have the least influence. This indicates the highly centralised nature of climate change in Namibia, where greater integration of adaptation activities is needed.</p> |
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7. Water governance

Climate adaptation and water scarcity in southern Africa

1. Journal article

Water availability and access have a direct impact on southern Africa's agriculture sector. Some technical and behavioural interventions could be better implemented. But more attention should be given particularly to understanding the networks, people, priorities, and policies that might improve the governance of water. Case studies of the Limpopo River Basin and the City of Cape Town further show how important it is to have climate adaptation strategies in place to reduce the risks of failure in the water sector and maximise opportunities to create a more resilient future.

Rural Namibian water management gives regional lessons

Newspaper article in *The Namibian*

In near-desert southern Africa, access to water in rural areas is already precarious. Climate change will reduce overall rainfall, decreasing the quality and quantity of water resources. In Namibia, the national government has rolled out a wide network of water infrastructure, bringing piped water to many remote villages. They have handed the management of the daily water distribution, and payments for that water, to local village volunteers. While the policy is hard to implement, the better this country handles the processes of decentralised water management now, the better it will be able to adapt to the impacts of climate change in future.

Barriers and enablers to water access and community wellbeing in the Onesi constituency of Namibia: The case of Okalonga B and Onandjandja villages

2. Student thesis

The aim of this research was to understand how access to potable water affects the well-being of communities living in the Cuvelai-Etoshia basin in Namibia and to understand how these communities participate in water governance. The findings show that communities access water through hand-dug wells, private and communal taps, Etaka dam, lishana and boreholes. Barriers to accessing potable water include distance to communal taps, amount of water one can carry, administration and maintenance of water infrastructure, ability to pay set water fees and specific times allocated for collecting water. The study further found that community participation in water governance was poor.

When participation is not enough: Lessons from decentralised water governance in Namibia

3. Info brief

Decentralisation has not had the desired impacts of inclusive water governance and effective participation. This is because decentralisation efforts have paid insufficient attention to strengthening the capacity of local actors. Expecting local management and participation without providing support on how to participate can actually make it more challenging for vulnerable communities to access and manage water.

The ASSAR Spotlight on water

3. Magazine

Water availability and accessibility are two of our greatest current and future challenges. Already the ramifications of poor and inequitable water access are experienced by many around the world. This Spotlight highlights some of the water-related challenges in Africa and India. It includes an article by MPhil student Omagano Shooya, who studied water access and governance in Namibia's Cuvelai-Etoshia basin. Gina Ziervogel also writes about drought in Botswana which has, in recent years, placed a severe strain on the agricultural practices that support most households living in rural areas. Improved water governance, capacity building, investment in infrastructure and diversification of livelihoods away from agriculture are all essential for ensuring that water needs are met in future.

8. Drought

How can we better understand and manage the impacts of droughts?

1. Info brief

In vast expanses of arid southern Africa, the daily struggle to cope with a changed climate is well underway. The impact of drought has been acutely felt in 2016, as El Niño hit hard. Perhaps this is what we might expect under future climate change conditions and so we need to learn how to prepare for more frequent years that record less rainfall than usual, along with the associated crippling impact on livelihoods and the economy. In northern Namibia and eastern Botswana, working with village leaders, NGOs and government officials (amongst others), ASSAR is striving to understand what is currently working and not working in relation to managing climate impacts. In both of these regions, stakeholders consider drought to be one of the three most important issues they are facing.

ASSAR documentary on droughts and floods in northern Namibia

2. Video

In the semi-arid regions of northern Namibia, the severity of both droughts and floods has increased with the changing climate. The consequences for subsistence and small-scale farmers have been grave in the Omusati Region. This documentary explores how drought and flood impacts the community, the many challenges that they are facing and how they are adapting. Developing responses to climate variability in semi-arid regions is of critical importance to the livelihoods of people and to the economy. We will always rely on water for life. But we ourselves can ensure more reliable access to it.



9. Climate information

Understanding the current state of collaboration in the production and dissemination of adaptation knowledge in Namibia

1. Journal article

This paper examines the roles of key actors in Namibia in the production and dissemination of climate adaptation knowledge. The findings show that most organizations generate their adaptation knowledge internally and through cooperation with other organizations. However, a more concerted effort towards improving collaboration between organizations, and with local communities, is recommended as a way of enhancing knowledge uptake.

The utility of weather and climate information for adaptation decision-making: Current uses and future prospects in Africa and India

2. Journal article
3. Video

A key barrier to managing the current and future risks of climate change is the limited availability of accessible, reliable and relevant weather and climate information. This paper outlines the range of information that is currently available and presents examples from Africa and India to demonstrate the challenges in meeting information needs in different contexts. Building mutual trust and contextualizing climate information to local contexts and realities are suggested as key enablers for the uptake of climate information.

From pilots to systems: Barriers and enablers to scaling up the use of climate information services in smallholder farming communities

4. Working paper

This working paper explores the key constraints to and enablers of scaling up climate information service (CIS) by drawing on case studies from research, policy and practice in Africa and South Asia. The findings indicate that transitioning from CIS pilots to systems is possible when scaling up is mainstreamed in the project design stage with a clear financial model for sustainability, includes multiple stakeholders through iterative participatory processes, identifies and engages with pilot-project champions and intermediaries, exploits new communication mechanisms, and supports effective partnerships that enable knowledge co-production.

ASSAR Spotlight on communicating climate information

5. Magazine

This Spotlight provides insight into regional challenges that have been experienced in relation to communicating climate change information and integrating it in decision making processes. From a southern Africa perspective, Dian Spear considers the role of cultural beliefs in climate science. The spotlight highlights the need to produce and communicate information that is aligned with the needs and realities of communities. Open and creative dialogue processes need to be established to develop trusting and supportive relationships with non-specialists. Effective climate science communication also requires dedicated resources and ongoing engagement activities.



10. Gender and wellbeing

Time-use and wellbeing in semi-arid regions: A case study of Onesi, Namibia

1. Student thesis

There has been limited research into the gendered experiences of time-use and wellbeing with regards to climate change vulnerability in semi-arid areas. This study assesses how time-use relates to the experiences of material, subjective and relational aspects of wellbeing in Namibia. Time-use related opportunities and constraints for improving the wellbeing of rural inhabitants in the Onesi Constituency are highlighted. Findings show that the persistence of traditional gender role division seems to have a determining effect on the time-use and wellbeing experiences of household heads in the study area.

Gendered vulnerabilities to climate change: Insights from the semi-arid regions of Africa and Asia

2. Journal article
3. Info brief

Policy approaches aimed at strengthening local communities' capacity to adapt to climate change largely fail to recognize the gendered nature of everyday realities and experiences. This paper interrogates some of the emerging evidence in selected semi-arid countries of Africa and Asia from a gender perspective, using water scarcity as an illustrative example. It emphasizes the importance of moving beyond the counting of numbers of men and women to unpacking relations of power, of inclusion and exclusion in decision-making, and challenging cultural beliefs that have denied equal opportunities and rights. Such an approach would make policy and practice more relevant to people's differentiated needs and responses.

ASSAR Spotlight on wellbeing

4. Magazine

This Spotlight looks at how we can ensure that adaptation policies and practices are genuinely impactful, relevant and useful to the people with whom we work. It provides an overview of the 'wellbeing approach' used in ASSAR's research, highlights regional lessons learned about wellbeing under a changing climate, and reflects on a multi stakeholder workshop that sought to understand the dimensions of vulnerability and risk in Botswana. In this spotlight, Irene Kunamware also provides some insight into the impact of drought on the wellbeing of subsistence farmers in north-central Namibia. The importance of a 'people-centred' rather than 'project-centred' approach to adaptation research is emphasized.

Challenging assumptions about gender and climate adaptation: it's not always what, or who, you think

5. Infographic: English
6. Infographic: Oshiwambo

The semi-arid regions of Africa and Asia already experience multiple pressures. In recent decades, the frequency and extent of climate stressors have increased, exposing people to more risks and making them more vulnerable. How people experience and respond to risk varies, depending on factors like age, ethnicity, gender and class. Such factors are seldom considered, and decisions about risk reduction strategies and adaptation options are often based on assumptions about who is most vulnerable, how people respond and what needs to be done. At ASSAR we are working to challenge some of these assumptions, as we've learnt that when it comes to vulnerability it's not always what or who you think.

The gendered challenges of food security: Stories and lessons from ASSAR

7. Infographic: English

Home to hundreds of millions of people, the water-scarce semi-arid regions of Africa and India are particularly vulnerable to climatic and non-climatic impacts and risks. Across the ASSAR study sites, we have found that these risks affect different aspects of food security, and often in gender-differentiated ways.

11. Transformation

Transformation, adaptation and development: relating concepts to practice

1. Journal article

In recent years there has been a growing number of academic reviews discussing the theme of transformation in relation to climate change adaptation. This article aims to help researchers and practitioners relate different interpretations of transformation to practice. It proposes a typological framework that categorises forms of change and promotes structured and critical thinking in the design, implementation and analysis of adaptation and development actions. It argues that this could help reduce the risk of negative impacts on vulnerable or marginalised people, as well as ensure that societal and systemic implications around the breadth of change of a specific transformation are better understood from the outset.

Transformation in Adaptation: Learning from ASSAR's Regional Diagnostic Studies (RDS)

2. Working paper

Through its RDS phase, ASSAR has assembled information on a wide range of adaptation activity in semi-arid areas. This working paper reviews this activity through the lens of transformation. It finds that the drivers that trigger or motivate change may be predominantly environmental or social pressures, or a combination of the two in terms of socially differentiated or concentrated risks. The underlying question of what depth of change is required for it to be described as 'transformation' remains a contentious issue.

12. Beliefs and perceptions

Considering religion and tradition in climate smart agriculture: Insights from southern Africa

1. Book chapter
2. Poster: English
3. Poster: Oshiwambo

This book chapter considers the role played by religion and tradition in the adoption of climate-smart agriculture (CSA). The findings suggest that these value systems may prevent: i) the use of climate forecasts in planning agricultural practices; ii) the sale of livestock when drought conditions are predicted; and iii) the uptake of novel or alternative agricultural practices. To catalyse the uptake of CSA, the authors suggest: i) positioning religious and traditional leaders as climate change champions; ii) integrating scientific information with traditional knowledge; and ii) framing CSA in such a way that it does not conflict with religious or traditional values.

Livelihoods on the edge without a safety net: The case of smallholder crop farming in north-central Namibia

4. Journal article

This paper examines what agricultural practices smallholder crop farmers in north-central Namibia use, what their perceptions of changes in their yields are, and whether they are planning on changing their agricultural practices in future, given the projected impacts of climate change. The results suggest that support is needed from local and regional authorities, as well as traditional and religious leaders, to assist with enhancing access to information and increasing awareness on climate change and adaptation options. Implementation of adaptation further requires demonstration sites and capacity-building.

'Maybe God is angry': science, religion and tradition at the forefront of climate change response

5. Newspaper article

When farmers in many parts of southern Africa decide to plant their crops each year, they rely on generations of learned knowledge about seasons and the weather. Or they'll wait for the go-ahead from a traditional leader. Or they may believe that their fate lies in the hands of God. How, then, do extension officers work with local communities to spread the word about the latest seasonal forecasts, as temperatures across the region rise, rains are less predictable, and the seasons no longer arrive when they should? Farmers' stories from Namibia and Botswana give some insights.



Contact us

Margaret Angula, ASSAR Namibia country lead, University of Namibia

Email: mangula@unam.na

Dian Spear, ASSAR southern Africa regional lead, University of Cape Town

Email: dian.spear@uct.ac.za



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