



ASSAR

ADAPTATION AT SCALE
IN SEMI-ARID REGIONS
2014–2018

PUTTING **PEOPLE** AT THE
CENTRE TO ENABLE
EFFECTIVE **CLIMATE**
ADAPTATION IN
SEMI-ARID REGIONS

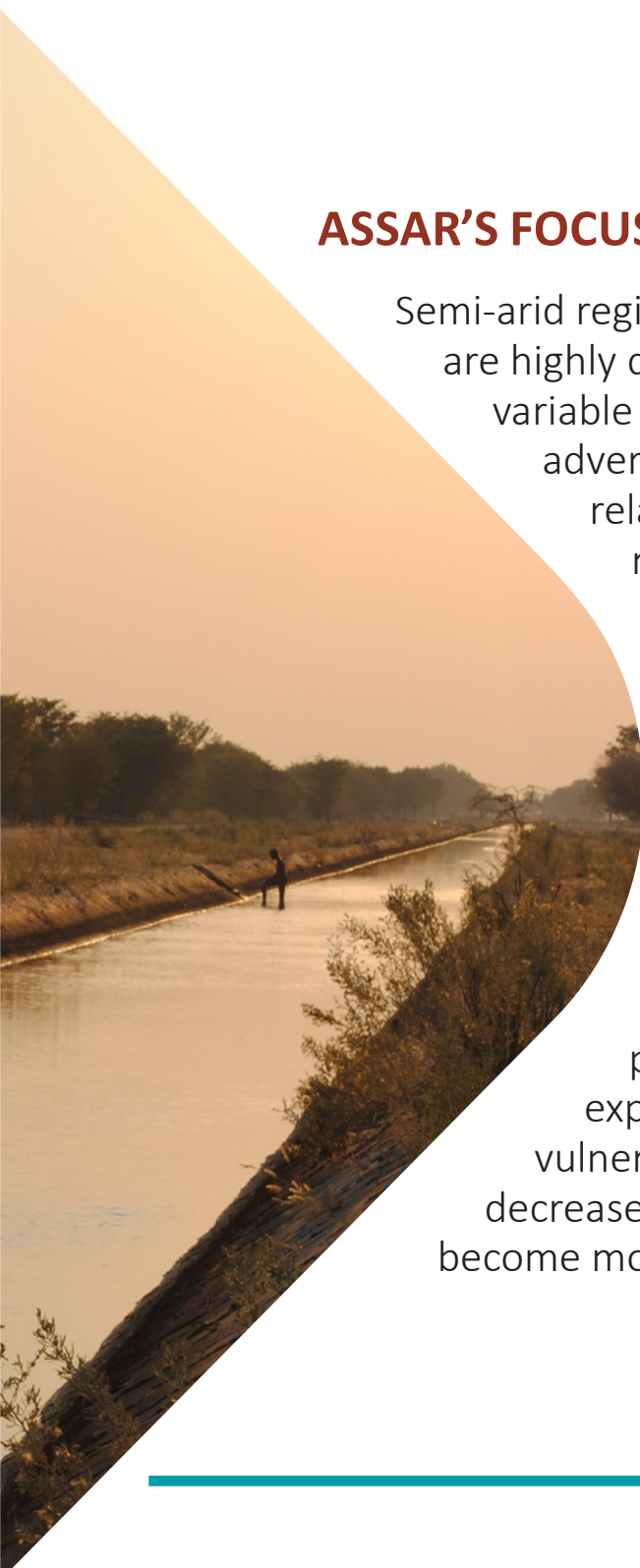
INSIGHTS FROM NAMIBIA



VULNERABILITY AND ADAPTATION TO CLIMATE CHANGE IN SEMI-ARID NAMIBIA

ASSAR'S FOCUS IN NAMIBIA

Semi-arid regions like north-central Namibia, are highly dynamic systems that experience variable and sometimes extreme climates, adverse environmental change, and a relative paucity of and decline in natural resources. Historically, people living in these regions have adopted several coping mechanisms to deal with these conditions. Today, however, many communities exhibit low levels of adaptive capacity due to challenges such as marginalisation, underdevelopment, poverty, inequality, weak governance, maladaptive policies, and increasing population growth. Climate change is expected to augment existing levels of vulnerability, as temperatures rise, rainfall decreases, and seasonal climate patterns become more variable.



From 2014–2018, ASSAR’s Namibia team worked in the Onesi Constituency in the Omusati region of Namibia to better understand these existing and upcoming challenges. Made up of a team of researchers and practitioners from the University of Namibia (UNAM), University of Cape Town (UCT), Oxfam GB and the Desert Research Foundation Namibia (DRFN), we worked with stakeholders from national to household levels to understand what makes people vulnerable to climate change, what the barriers to adaptation are, and what could enable more effective, sustained and widespread adaptation to climate change.

Key insights

- Adaptation policy approaches should consider that factors like gender, ethnicity, age, household composition, marital status, social capital, and class are important determinants of people’s vulnerabilities, and of their capacities to respond to climate risks and impacts. These intersecting factors need to be considered explicitly to enable the most marginalised to adapt.
- Building on Namibia’s decentralised water reform, water and drought governance could be strengthened if there was a better understanding of and support for local challenges. This could be partly achieved by increasing the awareness and willingness of decision makers to be more inclusive of the knowledge that community members and other marginalised groups provide, building the capacity of local actors to proactively engage in governance, and by providing more targeted support for managing water better at the village level.
- Improved collaboration – among government, non-governmental organisations (NGOs), academia and communities – can lead to the production of climate and adaptation information that is reliable

and relevant to local subsistence farmers. It can also ensure that this is disseminated to those who need it in a timely manner.

- By engaging with traditional and religious leaders, and considering their value systems, adaptation policy makers and practitioners can promote adaptation responses that work in conjunction with cultural and social norms. Doing so will assist in helping to reduce group-specific vulnerabilities. This should also be done on a case-by-case basis considering the implications of these social norms on gender equality and human rights more broadly.
- More long-term, targeted responses to climate change are needed. Government needs to support people’s livelihoods by building adaptive capacity, providing vocational training and jobs, and creating markets. These efforts must also lead to rural development processes that address water scarcity, food insecurity, and human development needs.

ABOUT THE RESEARCH

Research priorities

ASSAR’s research in Namibia had two main areas of focus. The first aimed to explore the socially-differentiated nature of vulnerability to climate change by understanding how different people vary in their sensitivity, exposure, and capacity to respond to climate risks and impacts. To do this, we worked to explicitly incorporate into our research and engagement activities the experiences of different ethnic groups, and of men and women, as well as their relations of power and influence. As our work progressed and new findings emerged, we also began to explore in more detail the way that factors such as age, household composition, and social networks augment or reduce vulnerability and adaptive capacity.



Our second research focus was on the barriers and enablers to effective adaptation to climate change in relation to agriculture, water and drought management, and climate information. Here, we specifically worked to understand how access to water is governed at the local level and what the capacity constraints are, why farmers don't adopt new agricultural approaches and resist selling livestock, how drought is managed, whether rural to urban migration contributes to improved wellbeing of rural households, and the demand for and dissemination of climate information.

Throughout our work we aspired to work with communities, government, and other actors to understand how they can adapt to climate change and co-develop solutions. Educating communities on what climate change is, and highlighting what other countries are doing to adapt, was key. Finally, we sought to influence the development of project proposals for adaptation funding and the implementation of interventions.

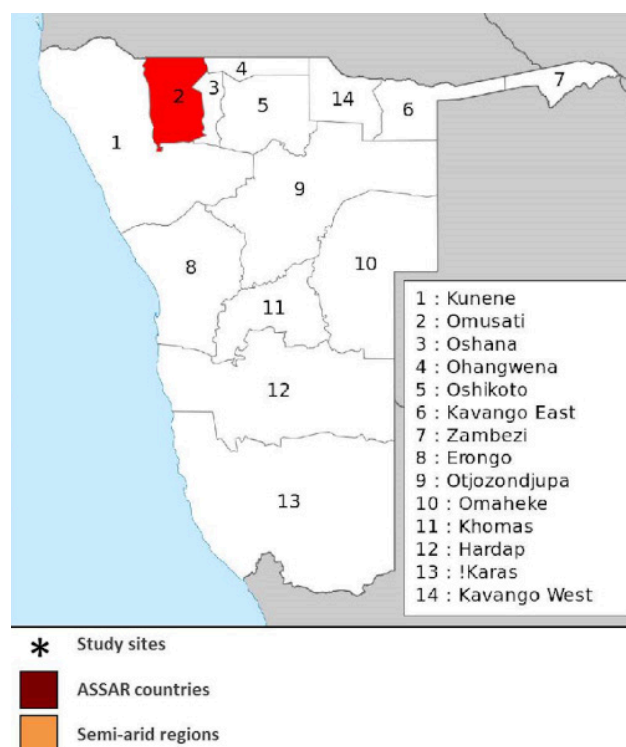
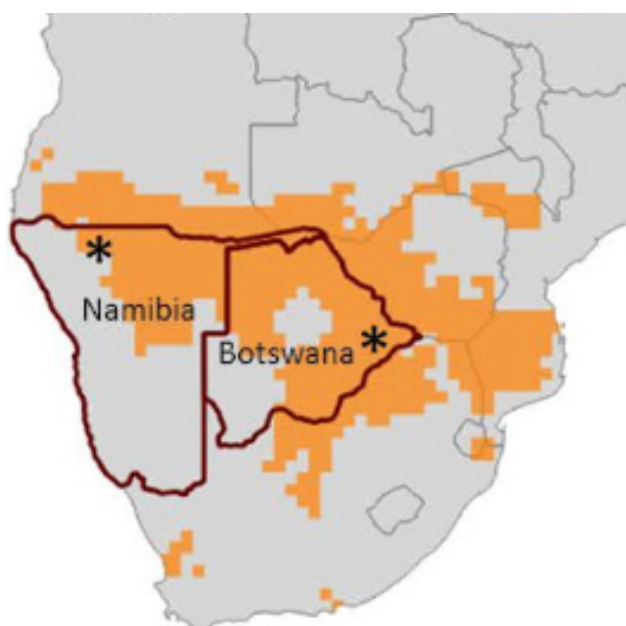
Case study sites

Our main study site was the semi-arid Omusati region in north-central Namibia. Our household survey spanned a wider area and was carried out in seven constituencies across three neighbouring regions in the north, including the Omusati, Oshana and Oshikoto regions. Most of our research took place in the Onesi Constituency in Omusati, where we worked with local communities in several different villages. However, we also engaged with stakeholders at a regional level in Outapi and Ongwediva, and at the national level in Windhoek.

In Omusati, agriculture – in the form of subsistence and small-scale cropping and livestock farming – is fundamental to people's food security, income, and cultural identity. There is little opportunity for livelihood diversification and many people rely on cash remittances sent from relatives in urban areas, financial grants from the state (e.g., for pension or disability), and drought relief. There is also a lack of investment in critical infrastructure and poor access to basic services in the north of the country, despite the fact that most of Namibia's population resides in this largely-rural region. A high dependence on natural resources, combined with underlying factors such as poverty, inequality, marginalisation, governance challenges, and natural agro-constraints, means that local communities are highly vulnerable to climate variability and change. Consequently, droughts, floods and increasing rainfall variability are of particular regional concern.

Approach

We began our stakeholder engagement with initial meetings with key state and non-state actors, in which we introduced ASSAR and discussed the issues stakeholders considered to be most important in the adaptation field. We then conducted key informant interviews (KIIs) at regional and national levels, with the aim of gaining a better understanding of the adaptation landscape and barriers to adaptation in Namibia. The interviews were conducted by a postdoctoral researcher, PhD student, and master's degree students.



During a stakeholder influencing mapping workshop that we held in Windhoek early on in the project, together with stakeholders we noticed how different groups of actors (e.g., government and NGOs) have different perspectives on who has the most influence with regards to adaptation. The findings from this workshop formed the basis of a stakeholder [power and influence mapping](#) exercise and helped to inform who should attend a [Vulnerability and Risk Assessment](#) (VRA) workshop. The VRA illustrated how climate variability and change affects different social groups in different ways, depending on their exposure and sensitivity to climate impacts, and their capacities to adapt to these impacts. Through this participatory workshop, government stakeholders came to recognise that community members have valuable knowledge. As stakeholders had also requested more information on climate change and adaptation options, we produced a [documentary](#) on climate change impacts and solutions in Omusati.

Effective climate change adaptation requires effective governance. Governance was thus the focus of a set of KII and focus group discussions (FGDs) that we conducted at the national, regional, and local levels with government stakeholders from various line ministries and departments. These interviews highlighted the disconnects between the local and national levels in terms of what adaptation activities were being planned, and what was actually happening on the ground. They also led us to focus our work on water governance.

The theme of water fed into our [Transformative Scenario Planning](#) (TSP) process, which involved a training event and two workshops during which we explored the future of water for productive use in Omusati. Participants at these workshops included government officials, traditional authorities, community members, village headmen, farmers, NGOs, members of parastatal organisations and development agencies, the private sector, and academic/research institutions, among others. From the feedback gathered through questionnaires and short video interviews, we found that the participants highly valued the TSP methodology, and recognised the need for more integrated planning and improved water harvesting, capture, and storage.

We focussed other KIIs on issues surrounding the adaptive capacities of crop and livestock farmers, as well as trends in livelihoods based on non-timber forest products. We also used a [life history approach](#) to interview stakeholders in Omusati. We fed findings from these interviews into cross-regional work looking at mobility as a strategy for adapting to climate variability and change. Following a pilot survey, we carried out an extensive household survey across three neighboring regions in north-central Namibia. We fed findings from the survey into our work on migration, climate information, and social differentiation. We also used risk and choice experiments from the field of economics alongside the

household survey to research how behavioural attitudes, climate information, subsidies, and trust affect technology choice in climate change adaptation.

We supplemented our field data with iterative feedback from workshops and in-depth literature reviews (including of relevant grey literature, and for both the Regional Diagnostic Study ([RDS](#)) phase of ASSAR and specific research themes).

Through our methods, we were able to explore differentiated vulnerability, livelihoods, and adaptive capacity profiles of different groups and households. We were further able to understand adaptation barriers and enablers across different themes and governance scales – from village and constituency levels, to regional and national scales, and across the rural-urban continuum.

FINDINGS AND RECOMMENDATIONS

ETHNICITY, GENDER, AND AGE AFFECT THE ABILITY OF PEOPLE TO RESPOND TO CLIMATE CHANGE

Factors like gender, ethnicity, and age intersect with social and economic characteristics like household composition, social capital, marital status, income, and education level to determine people's capacity to effectively respond to climate risks and impacts. These intersecting factors need to be considered explicitly to enable the most marginalised to adapt.

In north-central Namibia, the [patriarchal influence](#) on decision making, agency, and resource control can leave women more vulnerable than men. However, this is not always the case: some unmarried women and widows have greater autonomy than married women, and some unemployed men can be more vulnerable than women employed in off-farm labour (e.g., domestic work). Nonetheless, because of their household responsibilities, women can seldom take part in activities that are far from their homes. This limits their livelihood and adaptation opportunities, as well as their access to information and services. On the other hand, men and youth do have the option of migrating to urban areas to find work, although they are also often faced with vulnerability in urban areas when they don't find well-paying jobs. Their freedom to travel and spend time away from their villages means that men tend to be better represented in multi-stakeholder workshops and policy processes.

Of the women who do attend engagement and planning events, those who are formally employed and who can speak English are more thoroughly involved than those working informally (e.g., female farmers).

Ethnic nuances can also determine household-level differences in vulnerability and adaptive capacity. For example, [married Kolonkadhi women](#) typically have more say in household decision making than do married Dhemba and Ndongona women. Kolonkadhi women also participate more frequently in governance and have greater access to information and social networks than do Dhemba and Ndongona women. Socioeconomic factors linked to ethnicity can have influence too, with the poorer, less educated, and more marginalised Kolonkadhi and Dhemba people being more affected by climate variability and change than the better-off Ndongona people.

People living within the same household also have different vulnerabilities. For example, [age can significantly constrain people's adaptive capacity](#), with the very old and very young being particularly exposed to drought and flood risks. A converse of this, however, is that young male household heads who cannot access pension or disability grants may be more financially vulnerable than elderly females. Furthermore, as households become more food insecure, so youth become more likely to engage in risky behaviour. All of these nuanced risks and their consequences can affect relationships within the household; when household cohesion is weakened, so is the resilience of the family to climate-related impacts.

The intersection of social, economic, and other aspects largely contributes to determining levels of vulnerability at an individual level. As such, it is neither possible nor helpful to categorise people and the way they are affected by climate change nor their (in)ability to respond to climate change impacts based solely on gender, ethnicity, or age.

Recommendations

- Adaptation and risk-reduction strategies are often [based on assumptions](#) about who is most vulnerable, how people respond to risk, and what needs to be done to help them. However, greater collaboration with communities is needed to [better understand local contexts](#) and the specific vulnerability profiles of communities and households.
- [Households should not be treated as homogenous units](#). Instead, researchers, practitioners, and decision makers should recognise the diversity of each household, the ways in which power and responsibilities are shared, the relationships that exist within them, and how these factors lead to



particular risk management outcomes and [levels of wellbeing](#) for different household members.

- Regional government-driven participatory approaches aimed at strengthening communities' adaptive capacity should ensure that there is equal opportunity for all participants to engage in a safe and welcoming environment. This means [unpacking the relations of power, inclusion and exclusion in decision making](#). Open dialogue between men and women, and among people from different ethnic groups, age categories, and socio-economic backgrounds, should be encouraged both within and beyond the confines of multi-stakeholder workshops.
- Adaptation policies and programmes should be more sensitive to the socially-differentiated nature of people's everyday realities and experiences. Rather than considering only sex-disaggregated data, these strategies should seek to address the underlying causes of vulnerability and question the traditional and cultural norms that have led to unequal rights and opportunities among different groups. [Changing aspirations](#) (e.g., from rural to urban livelihoods) should also be considered when planning adaptation and development strategies.
- Vulnerable men and women need support from government to deal with the multiple challenges they face. They should be equipped with the technical capacity, basic skills (e.g., literacy), infrastructure (e.g., for improved access to potable water), and services (e.g., childcare, agricultural extension services) that they need to become more resilient. Providing information and improving access to jobs, resources, and markets can help vulnerable people to diversify their livelihoods and reduce the likelihood that some may be driven to risky or illegal behaviour out of desperation.

IMPROVED WATER GOVERNANCE NEEDS INCREASED UNDERSTANDING AND TARGETED SUPPORT

In semi-arid Namibia, there are ongoing efforts to increase community participation in water governance through decentralisation. However, local actors do not have enough capacity to participate effectively, nor do decision makers involved in water governance properly understand local challenges. If the intended goals of this water reform are to be achieved, then capacity building and enhanced awareness at both ends is needed.

Since 1997, Namibia has followed a [community-based water management strategy](#). This means that rural communities are responsible for managing and paying for water services. The strategy is implemented through the Directorate of Water Supply and Sanitation Coordination, although it is locally-elected volunteer members of community Water Point Associations (WPA) who are tasked with running and maintaining water points in their villages. The aim of this decentralised approach is to shift the responsibility for water provision and management across levels so that local actors are also involved. In reality, though, [decentralisation has not had the desired impacts](#) of inclusive water governance and effective participation. Although water access has improved in many places, within villages there is differential access, making some people more vulnerable than before.

Part of the problem is that most of the WPA volunteers have [high levels of illiteracy and live in poverty](#). They find it difficult to balance their water point responsibilities with doing what they need to survive, like farming. Due to the demand placed on their time, in many villages people have been unable to continue volunteering at the water points, which have hence had to close. Committee members have also not been equipped with the technical and managerial skills needed to run water points properly, nor do they have enough funds for maintenance and logistics. When infrastructure breaks, volunteers often don't know who they should tell, and don't have the skills to make repairs themselves. Often, government responses are slow and extension officers do not have enough funds to visit all the villages frequently. Many local people would like to voice their concerns with government about water issues, but they do not know what communication lines to follow to do so.

Recommendations

- The management of a resource as scarce and susceptible to change as water is increasingly critical, especially since [future climate conditions](#) are set to put more pressure on Namibia's water sector. [Our findings](#) indicate that a clear division of responsibilities and proper platforms for coordination are needed to make water governance more effective and inclusive at the local level.
- While technical solutions are important, successful water reform equally requires meaningful participation from local actors. As part of this, decision makers need to understand the unique context of each community and consider how factors like gender, age, wealth, education level, and ethnicity impact people's abilities to participate in water governance.



- People taking part in local water governance need to be supported and empowered to fulfill their responsibilities. This requires local government to work with traditional leaders to build the skills and capacity needed for the management and provision of water resources and the maintenance of water infrastructure, as well as developing ‘soft’ skills for mediation and conflict resolution. Decision makers also need increased awareness of their role in this process.

*CLIMATE ADAPTATION
INFORMATION SHOULD BE
RELEVANT, ACCESSIBLE, AND
DELIVERED IN TIME*

There is a shortage of climate and adaptation information that is both reliable and relevant to local subsistence farmers, and often a mismatch between the information that is available, and that which is needed. Improved collaboration – among government, NGOs, academia and communities – can address this mismatch and ensure that relevant information is disseminated timeously to those who need it.

Local farming communities in north-central Namibia rely largely on traditional ecological knowledge to inform their practices. Some receive [climate information, such as forecasts](#), from the radio, while others get information from friends or relatives. In general, however, there is a lack of awareness around climate change, and limited knowledge about adaptation options at the local level. Part of the problem is that very few households have access to extension services and communications infrastructure. There also seems to be a [lack of coordination and collaboration](#) between the generators, communicators, and users of knowledge. The co-creation and dissemination of adaptation information to intended targets is particularly poor.

There are also other nuances, such as age, culture, and religious beliefs, that need to be considered when communicating climate information at the local level. With an increasing rate of rural to urban migration among younger members of the population, many remaining farmers are older and subscribe to traditional norms, while others believe that events such as droughts, floods, and the timing of seasonal rainfall are [God’s will](#). These norms and beliefs have implications for people’s trust in external information, their propensity to take risks, and the degree to which they are willing to change their practices.

Recommendations

- Most farmers agree that if they had [access to information](#), they would use it to inform and modify their practices, or to adopt new practices and adaptive technologies. Consequently, local and regional authorities, and traditional and religious leaders [need to](#): help communities gain access to relevant climate information; share information about appropriate adaptation options; and [increase awareness on climate change, its impacts, and what can be done about it](#).
- However, farmers must simultaneously be equipped with the capacity, resources, and skills that will enable them to act on and respond to the information provided. While government has a key role to play in this regard, it is important for different government departments to work collaboratively with NGOs, researchers, communities, and the private sector to ensure the most effective outcomes.
- As part of these efforts, government should promote new adaptive technologies to farmer groups through [village-level outreach and engagement activities](#) and on-farm demonstrations. This will help to ensure wider acceptance and adoption of these new technologies and enable the development of [self-help groups](#).
- Workshops and field meetings should be used to improve the collaboration among government, NGOs, academia, and communities in knowledge sharing and production, as well as in the dissemination and uptake of climate information (including seasonal climate forecasts), adaptive technologies (e.g., drought-resistant seeds), and adaptive practices (e.g., conservation agriculture).
- [Integrating traditional ecological knowledge with climate information](#) provided by the meteorological office is important for building people’s trust in external information. Information also needs to be communicated in a manner in which people are likely to use it (e.g., using familiar narratives and through trusted sources). This requires ongoing collaboration between traditional leaders and scientists, frequent engagement with communities, and regular training of extension officers. Government subsidies and improved access to micro-loans and insurance would also increase people’s willingness to take risks and experiment with new practices and technologies.

CULTURE AND SOCIAL NORMS PLAY A NOTABLE ROLE IN ADAPTATION

Culture and social norms may prevent or hinder the uptake of adaptation measures, thereby making certain groups more vulnerable. When promoting adaptation responses, adaptation policy makers and practitioners need to engage with traditional and religious leaders and consider their value systems while at the same time being cognisant of gender inequality and human rights.

Smallholder farmers in northern Namibia have been slow to shift to 'climate smart' ways of farming, such as switching to drought-resistant crops, using seasonal climate forecasts, adopting conservation agriculture methods, and selling off livestock when drought conditions are predicted. This is due to a number of reasons, including a lack of awareness of changing climatic conditions, insufficient access to resources, poor technical support, and low market prices for animals.



In Omusati, we found that another major factor that keeps farmers farming the way that they have always done, is their adherence to traditional norms. For example, when making decisions about planting their crops each year, many farmers do not use seasonal forecast information. Instead, they wait for the go-ahead from a traditional leader, or will rely on generations of learned knowledge about seasons and the weather. Although this approach has been effective in the past, increasing climate variability and change means that this information is becoming less reliable, and farmers who do not adapt their practices are at greater risk to climate-related impacts. Other farmers choose to continue planting certain crops that have a strong cultural significance, even if these are not well-suited to harsher climatic conditions. Oshiwambo traditions also make many farmers reluctant to sell off their livestock, even when they are warned that a drought is coming, as cattle are a symbol of affluence, status, prestige, and security. The value of cattle is true in a literal sense too: for many farmers, their cows are akin to a bank account, and growing their herd is how they accumulate wealth. Religious faith is yet another reason that farmers in northern Namibia don't embrace the seasonal climate forecasts produced by the meteorological services. Many believe that only God knows what the future holds, and that any anomalies in climate are a form of punishment for people displeasing God in some way.

Recommendations

- Understanding the complex reasons why farmers choose not to change their practices, even when it puts their livelihoods and investments at risk, can help policy makers and practitioners to respond appropriately as Namibia's climate becomes hotter, drier, and more drought-prone.
- With religion and tradition playing such a significant role in the lives of northern Namibian farmers, it is important for government to consider how extension officers can work with communities to introduce adaptation measures that honour these beliefs, while also encouraging farmers to make decisions that help them absorb the shocks of climate variability and change.
- Positioning religious and traditional leaders as climate change champions, and integrating scientific information with traditional knowledge, could help to promote and initiate behaviour change, including the use of climate forecasts and the uptake of novel agricultural practices.

- If agricultural advisers recommend that [farmers sell their livestock before a drought](#), then they can frame their recommendations as being financially and ecologically sound, as well as a way of preserving a farmer's social status and ability to take part in traditional cultural practices. For example, livestock play a key role in weddings and funerals. If farmers don't manage their herds adaptively and their livestock die, then they will have lost the capital needed to pay for *lobola* (bride price) and ceremonial events.

ADAPTING TO CLIMATE CHANGE MEANS DEVELOPING LONG-TERM, TARGETED PLANS

Most development activities in Namibia are aimed at reducing poverty. However, many interventions fail to effectively address climate change, while others, such as drought relief, create dependency. Instead, Namibia needs longer-term and more targeted and co-developed responses. There is a need to build the capacity of individuals and communities to adapt to changing climatic conditions.

Local communities in Namibia have historically relied on traditional coping mechanisms to maintain their livelihoods under harsh environmental conditions. However, many people today are struggling to cope in the face of [increasing climate variability and extremes](#), which are [going to get worse](#). The government has committed to addressing climate change and has implemented a number of responses related to water security, agricultural production, and disaster-risk reduction. However, these are mostly short-term, project-based interventions. Where more strategic policies and programmes do exist, these have often been financed externally and implemented by NGOs. Many existing responses are also not specific to climate change but are aimed at reducing poverty and inequality, which is a priority of the national government.

One way that vulnerable communities manage to cope in times of stress is by drawing on social protection mechanisms like state pension and disability grants, support grants for orphans and vulnerable children, and government programmes like 'food-for-work.' In extreme dry periods, the state also provides drought relief. Although this helps the most marginal groups to survive, drought relief has also created a problem of dependency and led to a [lack of innovation and limited self-organisation in communities](#).

[For community members to have a good life](#), they consider food security and crop farming, peace and social cohesion, access to government services and rural development, and education and employment for their children to be very important. Communities currently feel a sense of hopelessness and hardship with regard to crop farming (which is key to their cultural identity and [wellbeing](#)) as well as food security, with some households often not having enough food. However, communities are not adopting new farming practices that could improve their food security. There is some satisfaction with the level of community cooperation and intrahousehold relationships, which are seen as important for sustaining livelihoods and accessing labour and support. However, very few households are part of groups. Government support through the provision of tractors, seeds, water, and health facilities are seen as important, and people have average satisfaction with this. However, there is a low level of satisfaction regarding education and employment opportunities for children. Few children have tertiary or vocational training. Many do not find jobs when they move to urban areas and are therefore unable to send money home to support their relatives.

Recommendations

- More [long-term, targeted and co-developed responses to climate change are needed](#). Rather than being incremental and compartmentalised, climate change responses need to be integrated into longer-term development planning such that future development takes place in a climate compatible manner across all sectors. This includes the need for mainstreaming climate change adaptation across sectors in policies and planning.
- Local government needs to [support people's livelihoods by building adaptive capacity, and enabling alternative livelihoods](#) and people's agency more broadly, which will also prevent an over-reliance on government handouts. This includes the [skills needed to self mobilise and self organise](#) to form self-help groups. It also means investing more intensively in [skills development, sharing information more effectively, demonstrating adaptation techniques](#), ensuring access to resources, [extension services](#) and markets, and stimulating local economies. People also need to be given alternatives to agriculture-based livelihoods. Government needs to ensure that communities have access to rural and urban economies, so that they can sell their produce at markets or find alternative work to support themselves and their families. Ultimately, [considering people's wellbeing and aspirations](#) is critical to sustained and equitable adaptation.

WORKING WITH STAKEHOLDERS TO IMPROVE ADAPTATION AT MULTIPLE SCALES

ASSAR has successfully worked across various scales in Namibia, from national to local levels. Given the differing capacity needs of stakeholders at these scales, we adapted our communication and [capacity-strengthening strategies to suit different audiences](#). Through a range of activities, we worked to enhance stakeholder understanding of [vulnerability and adaptation](#), and encourage increased uptake of adaptation measures.

Ultimately, one of the goals of adaptation is to reduce vulnerability to climate impacts for different actor groups. For this to happen, people need to have the right information to make appropriate decisions. Principle 4 of Namibia's National Policy on Climate Change — on awareness generation, education, training and capacity building — resonates with the work that ASSAR has done through its Research-into-Use (RiU) approach to ensure that research is more relevant to people in semi-arid regions, as well as decision makers.

At the national level we identified various windows of opportunity and formed strategic partnerships with key institutions and individuals who play important roles with regards to climate change. These stakeholders appreciated the contribution of the project to the National Climate Change Strategy and Action Plan; and lastly, there was a demand for evidence-based research and findings, which ASSAR was able to provide. The project was also represented on the National Climate Change Committee (NCCC). As a result we could report quarterly on project activities, solicit partnerships for project activities, and share key research findings, such as the [outcomes of our VRA workshop](#) and our research on [barriers to adaptation](#). We also inputted into key platforms, such as the [vulnerability and adaptation section of the third National Communication on Climate Change](#), and the gender and climate projections sections of the fourth national communication on climate change.

Engagement with the Omusati Regional Council (ORC) through various fora — including the [Africa Drought Conference](#) and our [VRA](#) and [TSP](#) processes — led to the co-development and [co-hosting of the Omusati Regional Climate Change Conference](#) focused on water and food security. Following the conference, we developed concept notes with ORC for funding for water harvesting, including the deepening of the Olushandja Dam and regional water channeling. A delegation from ORC

presented these concept notes to the Environmental Investment Fund (EIF) and the Ministry of Environment and Tourism (MET). The involvement of the ORC in ASSAR activities helped to enhance its understanding of, and ability to plan for, climate change. The ORC has subsequently integrated multi-sectoral adaptation responses into its development planning.

An issue that emerged in both the [VRA](#) and [TSP](#) workshops was the need to develop the capacity of all stakeholders, from community to national levels, to understand and respond to climate change. With this in mind, we trained the Onesi Constituency Development Committee (CDC) [to understand climate change and its impacts](#) in Omusati. We included a Vulnerability Capacity Assessment (VCA) and — as part of disaster risk management training done in partnership with the Red Cross — helped the CDC to develop a contingency Action Plan. Both the VCA and Action Plan were shared with the Office of the Prime Minister as blueprints for disaster risk reduction in the region. The Onesi CDC is now recognised as a model for good practice in sustainable development.

In addition to our face-to-face engagement with stakeholders, we have reached audiences through several newspaper articles, focused on some of the main issues related to adaptation in Namibia (e.g., [water governance](#), published in *The Namibian*, *New Era* and *Patriot* newspapers). We also produced and co-hosted a [radio series](#) to reach Oshiwambo audiences nationwide on these same issues (e.g., the [sale of livestock and management of drought](#)).

NEXT STEPS FOR RESEARCH, POLICY AND PRACTICE

Climatic conditions in the Omusati region of Namibia are getting harsher, and the coping methods that people used previously are no longer working well. As the number of people relying on the land has increased, along with the frequency of extreme events such as droughts and floods, food insecurity has worsened. In the past people used to help their neighbours by working in each other's fields and sharing food, but now reciprocity is dwindling as people struggle to feed themselves and become more desperate. Instead, there is increased dependency on the government to provide subsidies for farm inputs and services, such as ploughing and weeding, as well as food relief.

Consequently, it is important to develop the agency of communities to enable them to work together, become more innovative, and diversify their livelihoods.

While times are harder for everyone, some people are more affected than others. Ethnicity, gender, age, religious beliefs, and traditional norms all affect people's vulnerabilities to climate change, and their responses to it. However, for everyone, a primary barrier to adaptation is the lack of availability of information on adaptation. Tied to this is a lack of understanding of climate change, and a lack of awareness of climate change vulnerabilities and what can be done about them.

Resolving this situation requires a number of next steps:

- There is need for research on [heat stress](#) and its impact on people and economically-important sectors, as well as the appropriate responses that are required.
- Participatory and collaborative planning processes are needed, such as VRA and TSP, that bring together stakeholders from different sectors and governance levels to co-create solutions.
- There is a need for co-development of adaptation information that can be made available to different levels of decision makers, from farmers to national government, in a manner that compels them to take action.
- The challenge at hand also suggests that traditional roles assigned to researchers (providers



of information), development practitioners (implementers of actions), decision makers (assigning priorities and budgets) and, in this case, people living in the Omusati region (recipients of a combination of the above), need to change and become more integrated and dynamic. This will require a transformation in the way institutions and individual view one another and the ways in which each can contribute to the adaptation challenge.

- The [urgency of the impending impacts of climate change in Namibia](#) (including temperature increases) requires a shift from reactive drought management to longer-term responses to climate change. These should include strategies, which consider gender and other social groupings, to build adaptation agency, and enable alternative livelihoods to those based on agriculture and other sectors heavily impacted by climate change.

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ADDITIONAL RESOURCES

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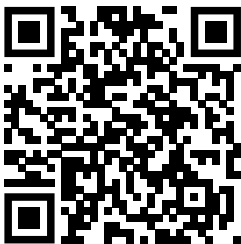
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