

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.

In this Spotlight, we highlight some of the water-related challenges in Africa and India.

the ASSAR

SP  TLIGHT

on
Water

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Some Recent Project Highlights

Meetings and Stakeholder events

CARIAA 3rd Annual Learning Review (May 2017)
Participatory Scenario Analysis workshops in the drylands of northern Kenya (April 2017)
Namibia Transformative Scenario Planning – writeshop (April 2017)
Namibia Transformative Scenario Planning – [first workshop](#) (Feb 2017)

Capacity building

Experiential learning and dialogue in an ASSAR context – workshop (May 2017)
Linking landcover and land use to ecosystem services – workshop (March 2017)

Reflections

ASSAR showcased at the Africa Learning Forum on Adaptation 2017 (April 2017)
Fieldwork in Namibia: a natural scientist doing social science (March 2017)
Out of the frying pan, into the fire – musings of an ASSAR intern (March 2017)

Upcoming Events

June-August, 2017

Southern Africa regional team meeting, 20-21 JuneWindhoek, Namibia
Kenya Participatory Scenario Analysis workshops, 21-22 Junenorthern Kenya
Namibia Transformative Scenario Planning workshop, 5-6 JulyOngwediva, Namibia
India Transformative Scenario Planning workshop, 19-20 JulyBangalore, India
Land use and land cover workshop, 25 JulyAccra, Ghana
ASSAR Annual Meeting, 26-30 July Accra, Ghana
UCT Climate School, 24-28 July Cape Town, South Africa

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Improving water coordination and integration in the UN system

by **Josh Newton**

Independent consultant on global water political processes, governance and stakeholder engagement

In December 2016, the United Nations (UN) General Assembly adopted UN Resolution [A/RES/71/222](#), which proclaimed the period from 2018 to 2028, the International Decade for Action, “Water for Sustainable Development.” The purpose of UN International Decades is to promote and mobilise action around the selected focus, using the means of the United Nations system.

What was interesting about this Decade was that there was a paragraph in the Resolution (12) that asked the President of the General Assembly to convene a series of two dialogues to discuss an issue that has become more and more a topic of debate within UN circles: “integration and coordination of the work of the United Nations on the water-related goals and targets under its sustainable development pillar, with a particular emphasis on the 2030 Agenda for Sustainable Development (the Sustainable Development Goals; SDGs).”

The problem is that the UN lacks a strong mechanism with a mandate to force the 31 different UN agencies that deal with water to optimise their activities in a coordinated manner to avoid duplication and overlap.

While there is no “global water policy”, nor a UN agency dedicated to water (nor is either politically or practically feasible), coordinating the efforts of the UN system as it addresses water issues will help in the achievement of the water-related goals and targets of the 2030 Agenda for Sustainable Development.

In the UN system, sovereignty still rules, and any talk of global coordination mechanisms, especially on water, raises red flags for many Member States who are intent on controlling the water that falls within their borders.

While customary international law and even a UN Convention exist for principles on water sharing, it can’t be said there is consensus on issues around sharing transboundary waters.

In addition to issues around sovereignty, competition exists between the agencies responsible for different aspects of freshwater, who are always jostling for mandate and budget. Water has long been fragmented at the national government level, residing in various departments and ministries, and this is reflected in the UN system as well, where water does not have a centre of gravity, or a home, which complicates coordination around the issue.

The two dialogues convened by the President of the General Assembly took place on 22nd March and 30th May 2017, and showed there is much work to be done, both in terms of examining the functional gaps that exist in the UN system with regards to water, and determining the best, and most politically feasible, options for moving forward.

Integration and coordination of water-related activities in the UN system need to be improved, but Member States are still not in agreement as to how best make that happen.



Josh Newton is an independent consultant on global water political processes, governance and stakeholder engagement for organisations such as the International Institute for Applied Systems Analysis (IIASA), World Bank Group, Global Water Partnership and African Development Bank. He holds a PhD in International Relations from Tufts University - The Fletcher School of Law and Diplomacy, and acts as a connector in the international water community.

www.joshswaterjobs.com

The lack of coordination evident across different UN sectors is reflected at country levels (between different government departments), at different levels of governance (from national to local), and in communities, where different water users come into conflict in rural and urban areas.



south ASIA

Governing water across scales: The Karnataka experience

by **Ritwika Basu and Chandni Singh**

*ASSAR South Asia Researchers
Indian Institute for Human Settlements*

The history of managing India's water sector has been tumultuous. Driven by the sub-continent's unique geography, with the monsoon characterising the economy, livelihoods, society and cultural practices, the governance of water poses many challenges.

To understand these difficulties at the national and sub-national scale, we scrutinised peer-reviewed and grey literature, and interviewed 31 key informants, from concerned government line departments, and academic and policy circles. We also drew on findings from participatory focus group discussions and in-depth interviews conducted in our field sites in Karnataka: Kolar, Gulbarga and Bangalore. Additionally, we tracked newspaper articles over a year to unearth key debates and responses on water-related issues in the state, as well as the country.



Here are some of our findings on the challenges around water governance at the sub-national scale:

- Poor participation in terms of continuous engagement by relevant stakeholders in the regulation of local water use.
- The lack of adequate capacity within government line departments is a key barrier to implementing schemes and shifting towards integrated water resource management, and is considered of greater concern than the widely-discussed financial barriers.
- A mismatch of implementation effort and operational scale (e.g. natural river basins or watersheds) presents one of the biggest hurdles to realistically assessing water availability and ensuring water security.
- The poor uptake of lessons learnt during different phases of a scheme (or between different schemes) necessitates an urgent overhaul of the ways that schemes and projects are evaluated and fed into policy processes.
- Multiple challenges in practice mean that research findings are used rarely and negligibly in development. For example, research on crop varieties rarely reflect in practice due to the unavailability of seeds at the start of the agricultural season.
- There is a lack of vision across departments operating on project-cycle timelines. For example, key informant interviews highlighted a disconnect between interventions – such as the 'Sujala' Watershed Project and the 'Krishi Bhagya' water conservation scheme – which slows down the process of transformational change.

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We found that across stakeholders and scales, water is perceived and reported as a scarce and costly resource. However, responses to managing it are mostly focused on augmenting supply rather than managing demand, and the processes used to govern it are mostly reactive with very few examples of flexible, forward-looking decision-making. Such institutional rigidity and failure to take a proactive approach to managing climate variability and water scarcity, highlights the need for an adaptive governance approach in water management.



southern AFRICA

Dealing with the strain of drought in Botswana

by **Gina Ziervogel**

*ASSAR Southern Africa Researcher
University of Cape Town*

The impacts of drought are felt by all

Botswana is a semi-arid country and no stranger to drought. However, the recent drought years put a severe strain on the agricultural practices that support most households living in rural areas. In Ngamiland, drought led to widespread hunger and some farmers had to stop farming and instead make furniture for extra income. This affected food security, which ultimately impacted on nutrition, especially for children.

The drought also had a major impact on the capital city, Gaborone. The city dam ran dry. Access to tap water was restricted to alternate days only, and people had to find other ways of meeting their daily water needs.

The outcry over this water shortage prompted the Water Apportionment Board to change the way that water is allocated. They retracted water rights from certain areas and became much more cautious about water allocation.

They are also aiming to develop new strategies that ensure that the biggest users of water pay for the resource.

Why the water shortage?

Although limited rainfall contributed to this drought, urban growth, poor infrastructure and planning, and poor water-demand management have been recognised as the main underlying problems. According to a hydrological engineer from the Department of Water Affairs, the conjunctive use of

surface water and groundwater needs to be improved and this requires more expertise than is currently available in the country. Water sector reforms are underway. Mandates are not yet clear, and decisions are often based on outdated data and understanding.

Switching to water-resilient livelihoods?

In addition to the general improvement of water management, there is a need to reduce the reliance on agriculture. This is particularly necessary given the likelihood of climate change worsening droughts in future. Yet, farming is such a large part of people's identity and culture, that shifting to other livelihoods will be difficult. One agricultural research officer said that it was not possible to move away from farming now, as 80% of people in the country are agriculturalists. He added that a livelihood switch might be suitable for future generations, but for now people need to focus on making their agricultural livelihoods more resilient. Although there are many agricultural support programmes and subsidies, these do not contribute to building resilience, and unfortunately, it seems that some of the ways that rural communities used to cope with rainfall variability are not as strong as before.

While there are no easy solutions to the water challenges in Botswana, it's clear that much needs to be done to develop ways of coping better with current and future climate variability at all scales - from the farm level, to the district and national levels.

Water access and governance in Namibia's Cuvelai-Etoshia basin

by **Omagano Shooya**

ASSAR MPhil Student, University of Cape Town

The scarcity of water and the lack of safe drinking water pose great constraints to the wellbeing of people living in the Cuvelai-Etoshia basin in northern Namibia.

For my Masters' study, I conducted interviews in the communities of Okalonga B and Onandjandja, situated in the Onesi constituency, to understand how people access water, what the barriers are to accessing potable water, and if and how people participate in water governance.

In both villages, the communities access water through hand-dug wells, private and communal taps, the Olushandja (Etaka) dam, oshana (seasonal flows of shallow surface water streams) and boreholes. However, there are numerous barriers to accessing this water, including: long distances to communal taps; limits to the amount of water a person can carry at a time; poor administration and maintenance of water infrastructure; people's limited abilities to pay water fees; and restrictions on the times available for water collection. Furthermore, limited access to potable water means that people instead use contaminated water that makes them ill.

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Though all these barriers negatively affect the wellbeing of these communities, their participation in water governance remains poor. This is because people do not know who is responsible for the management of different water sources, nor how to participate in water governance. Consequently, very few people – and mainly women and minority groups – attend water-related meetings and workshops.

Access to potable water would provide people with better economic opportunities and would improve their wellbeing and livelihood opportunities.

To improve this situation, the government (which lacks the manpower for ensuring regular engagement with communities) could encourage NGOs to help build community knowledge and capacity and to run water management interventions. In addition, the private sector could help to provide funding for community-initiated projects and to determine how to reduce the dependence on the government for the provision and management of potable water.



east AFRICA

Water governance at the sub-national and local levels: emerging insights from Ethiopia and Kenya

by **Poshendra Satyal**

*ASSAR East Africa Researcher
University of East Anglia*

How is water management prioritised across scales, and how is it affecting adaptation in the arid and semi-arid regions of Kenya and Ethiopia? As I discuss here, two key issues of water governance exist.

1. Competition over scarce water resources

In **Kenya**, there are various actors and institutions that govern water resource allocation for domestic use, animals, crops, and industries. In general, there is a shift towards bottom-up water governance. However, in some cases, the allocation of water is unequal, which impacts on people's lives, livelihoods and wellbeing. An increase in large-scale developments in the region is also likely to place additional demands on the water and land in the future.

Many conflicts among pastoralist groups and between pastoralists and agro-pastoralists have been reported in our study site in Isiolo, while the local system of rangeland management and the customary practices that control grazing and water access have largely broken down.

In **Ethiopia**, our case study sites in Awash are characterised by frequent drought and flood hazards, food insecurity problems, invasions by exotic vegetation (*Prosopis*), decreases in the volume of irrigation water; and significant processes of urbanisation.

There are also ongoing conflicts over the use of natural resources for the needs of pastoralist and agro-pastoralist communities versus for other purposes (e.g. 'villagisation'). To complicate things further, a variety of actors are involved in determining the allocation and use of water for these different purposes.

2. Water sector reform and emerging contradictions

In both Kenya and Ethiopia, there are a number of interesting issues emerging from the ongoing decentralisation of resources and planning control:

- The lack of nestedness in policies, practices and decision-making has implications for water governance. While there have been efforts to decentralise and involve a diversity of actors, these attempts have resulted in overlapping or unclear distributions of responsibilities and resources.
- There is a lack of coordination and integration between different sectors and levels of government and other non-state actors. This problem is exacerbated by a silo approach to water governance.
- Similarly, capacity and resource deficits at the sub-national and local levels limit support for water and adaptation governance.
- Finally, the decentralisation process (which is creating a number of new institutional and political spaces, as well as opportunities and challenges) has the potential to enhance or undermine good adaptation governance.
- While people still perceive livestock ownership as the ultimate symbol of wealth, increasingly entrepreneurship and waged labour are equally prioritised. Women, especially, now engage in a wide range of localised trading activities from camel milk trading, goat marketing, and water and firewood sales, and therefore the most successful people maintain complex relationships with a diverse network of actors.

Based on these early observations, we will be doing follow-up fieldwork that focuses on more detailed analyses of the effects of decentralisation on the governance of adaptation in the key sectors of water and disaster risk reduction.

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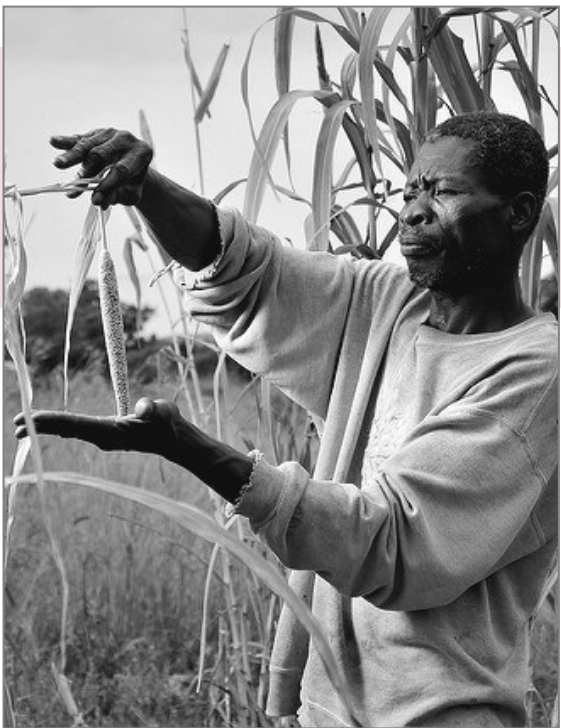
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Photos: Poshendra Satyal



west AFRICA

Exploring the competing uses of water in Ghana's Lawra District

by **Abu Thelma Zulfawu**

*ASSAR MPhil student
University of Ghana*

The Upper West Region of Ghana is experiencing increasing climate variability. This is especially true for rainfall patterns, which directly affect the quantity and quality of water for domestic, irrigation and livestock use.

The uneven distribution of boreholes and other sources of water in the region spurred me to conduct a study in four rural communities of the Lawra District in Ghana to identify how water is used and managed in a changing climate.

Farming is the main occupation in all four communities, and everyone relies on boreholes for water. However, some communities also have access to other water sources. For example, Kampuoh community has only one source of water (a borehole), whereas Metto community has access to four boreholes, a dam and the Black Volta River (which forms the border between Ghana and Burkina Faso in two of the communities).

I found that the functionality of the boreholes is poor, especially during the dry season. Throughout my research, at least one borehole was faulty in each community, while the dam and river were almost dried up during the dry season.

The communities who have more than one source of water, use differences in water quality to allocate water sources to particular uses. For example, community members perceive borehole water to have the highest quality so they use it primarily for domestic purposes. They then irrigate their crops and water their livestock using water from the rivers and dams.



Due to the scarcity of water, there is an increase in competition for the resource, which leads to an increase in water-related conflicts, especially during the dry season. The traditional leaders, which include the chief and his elders in each community, play a leading role in the resolution of these conflicts and the implementation of bylaws. This in turn helps the Water and Sanitation (WATSAN) committees to better manage water sources in the area. However, the traditional leaders believe that, unlike the boreholes, the management of the dams and rivers is not being prioritised.

With my research complete, I believe it is important to promote effective construction so as to avoid frequent breakdowns of the water systems and to ensure that water can be sustainably harvested from dams during the dry season. Solid infrastructure and technical know-how will support effective adaptation to climate change and help reduce water-related conflicts.

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ABOUT ASSAR

WHY WE FOCUS ON SEMI-ARID REGIONS

As the global impacts of climate change become more clearly understood, so too does the need for people to effectively respond and adapt to these changes. Home to hundreds of millions of people, the semi-arid regions of Africa and Asia are particularly vulnerable to climate-related impacts and risks. These climate-change hot-spots are highly dynamic systems that already experience harsh climates, adverse environmental change, and a relative paucity of natural resources. People here may be further marginalised by high levels of poverty and rapidly changing socio-economic, governance and development contexts. Although many people in these regions already display remarkable resilience, these multiple and often interlocking pressures are expected to amplify in the coming decades. Therefore, it is essential to understand how to empower people, local organisations and governments to adapt to climate change in a way that minimises vulnerability and promotes long-term resilience.



To date, most adaptation efforts have focused on reactive, short-term and site-specific solutions to climate-related vulnerabilities. Although important, these responses often fail to address the root causes of vulnerability, nor shed light on how to proactively spur larger-scale and longer-term adaptation that has positive effects on socio-economic development. Using both research and practice to address this information shortfall, ASSAR (Adaptation in Semi-Arid Regions) seeks to produce future-focused and societally-relevant knowledge of potential pathways to wellbeing through adaptation.

Our research framework

ASSAR's overarching research objective is to use insights from multiple-scale, interdisciplinary work to improve the understanding of the barriers, enablers and limits to effective, sustained and widespread adaptation out to the 2030s. Working in a coordinated manner across seven countries in India, East Africa, West Africa and Southern Africa, ASSAR's research is case study based and strives to integrate climatic, environmental, social and economic change. The dynamics of gender roles and relations form a particularly strong theme throughout our approach.

Each of ASSAR's teams conducts regionally-relevant research focused on specific socio-ecological risks/dynamics that relate centrally to livelihood transitions, and access, use and management of land and water resources in water-stressed environments. Focal research themes in each region are: agro-intensification in West Africa; land and water access in East and Southern Africa; and land use, land cover and livelihood changes in India.

Over its five-year lifespan (2014-2018), the cross-regional comparison and integration of research findings will enable ASSAR to develop a unique and systemic understanding of the processes and factors that impede adaptation and cause vulnerability to persist.

Putting our work in practice

To ensure that project case studies are aligned with the needs and realities of those living and working in semi-arid regions, and to increase the chances that findings and recommendations are taken up, ASSAR builds relationships with a wide spectrum of stakeholders from communities, civil society organisations, research institutions, governments and non-governmental organisations.

By guiding stakeholders through participatory scenario planning processes ASSAR aims to build a common understanding of current adaptation needs and past adaptation failings, while promoting the co-production of adaptation responses that can yield appropriate, tangible and lasting benefits. By using stakeholder mapping and analysis to better understand the power dynamics of different stakeholder groups, by working with and alongside boundary organisations and the private sector, and by engaging in effective communication, capacity building and advocacy campaigns, ASSAR seeks to inform and promote sustainable development pathways that have the best prospect for enhancing the wellbeing of the most vulnerable and/or marginalised in the coming decades.

Through these activities, ASSAR will better integrate the domains of adaptation research, policy and practice. By building the adaptive capacity of primary stakeholders, policy and decision makers, practitioners, boundary organisations, and academic researchers, this integration could bring about previously inconceivable strategies for change and transformation. In time these efforts could also contribute to a change in the attitudes and behaviours of key stakeholders, prompt easier and better access to resources by vulnerable groups, and enhance the power and agency of vulnerable groups to lessen or remove adaptation barriers, and exploit adaptation enablers.

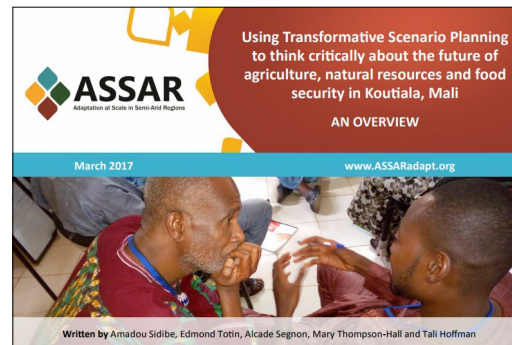
ANIMATED THEORY OF CHANGE



Photos (L-R): Salma Hegga, Poshendra Satyal, Tali Hoffman

ASSAR OUTPUTS

A selection of our 2017 outputs. For more outputs see the [ASSAR website](http://www.assaradapt.org).



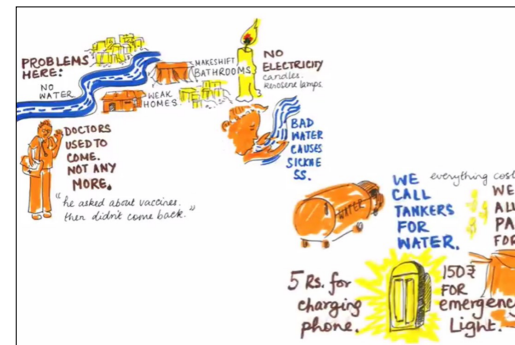
Information brief

Using Transformative Scenario Planning to think critically about the future of agriculture, natural resources and food security in Koutiala, Mali



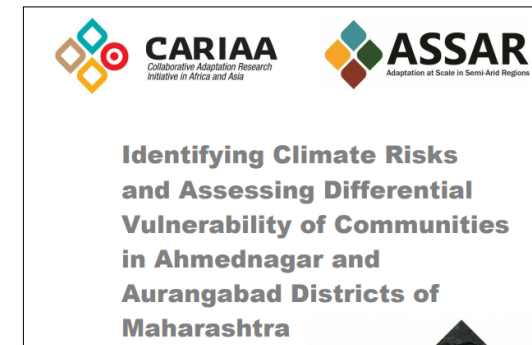
Journal article

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



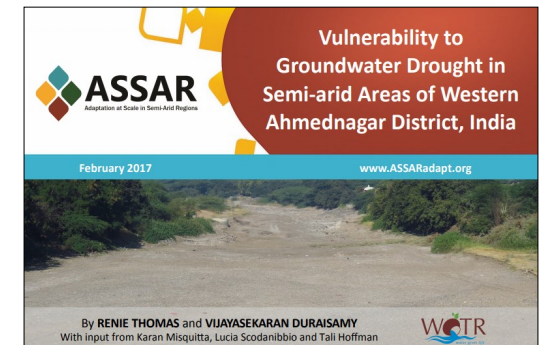
Video

Life in Hebbal Settlement, Bangalore, India: a reality sketch



Working paper

Identifying Climate Risks and Assessing Differential Vulnerability of Communities in Ahmednagar and Aurangabad Districts of Maharashtra



Information brief

Vulnerability to groundwater drought in semi-arid areas of western Ahmednagar District



Information brief

Drought and its interactions in East Africa



Photo Book

Mind the Gap: a collation of pictures depicting the lived realities of people in Bangalore's informal settlements



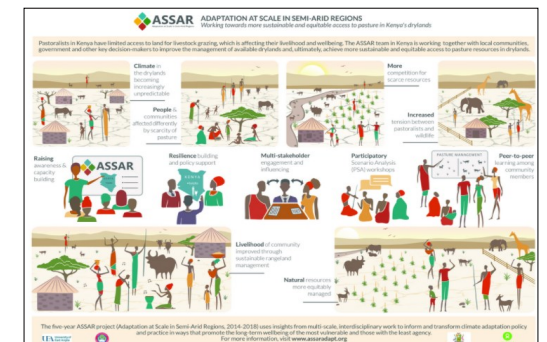
Video

Why do we study migration across ASSAR?



Information brief

Using Transformative Scenario Planning to think critically about the future of water for productive use in Omusati, Namibia:



Graphic

Illustrated impact pathway for research in Kenya



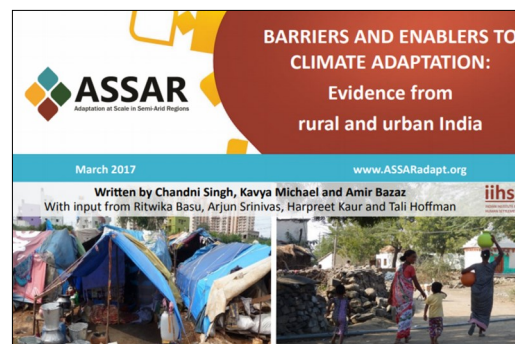
Video

Using experiential learning to understand climate change: a train the trainers workshop



Video

Transformative Scenario Planning in Ghana: Part 1 ([Introduction](#)) and Part 2 ([Scenarios](#))



Information brief

Barriers and enablers to climate adaptation: Evidence from rural and urban India



Video

The impact of drought in Latur Region, Maharashtra, India



Video

Preparing for Transformative Scenario Planning in India

ASSAR PARTNERS

The international and interdisciplinary ASSAR team comprises a mix of research and practitioner organisations, and includes groups with global reach as well as those deeply embedded in their communities.

LEAD ORGANISATIONS



PARTNER ORGANISATIONS



CARIAA PROGRAMME

ASSAR is one of four hot-spot research projects in the Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA) programme, funded by Canada's International Development Research Centre (IDRC) and the United Kingdom's Department for International Development (DFID).

