



SOUTHERN AFRICA

Regional Diagnostic Study

Report Summary



CARIAA
Collaborative Adaptation Research
Initiative in Africa and Asia



ASSAR
Adaptation at Scale in Semi-Arid Regions

About the Regional Diagnostic Studies

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What is ASSAR

Home to hundreds of millions of people, the semi-arid regions of Africa and Asia are particularly vulnerable to climate-related impacts and risks. Working in 11 countries in these regions, ASSAR is a research project that seeks to understand the factors that have prevented climate change adaptation from being more widespread and successful. At the same time ASSAR is investigating the processes - particularly in governance - that can facilitate a shift from ad-hoc adaptation to large-scale adaptation. ASSAR is especially interested in understanding people's vulnerability, both in relation to climatic impacts that are becoming more severe, and to general development challenges. Through participatory work from 2014-2018, ASSAR aims to meet the needs of government and practitioner stakeholders, to help shape more effective policy frameworks, and to develop more lasting adaptation responses.

ASSAR has recently completed its Regional Diagnostic Study phase which took stock of the current state of knowledge on the extant and emergent climatic and non-climatic risks in Africa and India. During this phase ASSAR explored why different people are differentially vulnerable to these risks and how people, governments and other stakeholders at various scales are responding to current and future climatic and non-climatic challenges.

Regional to Sub-National Context

The semi-arid areas of southern Africa are culturally and ecologically diverse characterised by a high proportion of poor people with limited access to services, high unemployment levels, high levels of inequality, and high levels of HIV and AIDS. In addition to agriculture, the people living in these areas are reliant on a variety of natural resources, employment and remittances for their livelihoods due to the relatively low agricultural productivity of land.



Climate Change Trends and Projections

Semi-arid areas in southern Africa are characterised by seasonal and highly variable rainfall (inter-annually and intra-seasonally), frequent droughts and flash floods. Temperatures are predicted to increase in semi-arid areas in southern Africa by between 1 and 4°C by 2050 and substantial multi-decadal variability in rainfall is predicted to continue into the future, without certainty in the direction of change in rainfall in any area.

Risks, Impacts and Vulnerability

The socio-ecological context that people in semi-arid areas are exposed to makes them vulnerable to the effects of climate change. This includes: poverty, unemployment, low levels of education, population growth and health problems. Other factors that contribute to vulnerability include: limited access to loans and insurance, limited access to agricultural extension, limited implementation of national policies, limited service provision, reliance on subsistence agriculture and livestock, loss of traditional knowledge and networks, low productivity of land, high pressure on resources, inappropriate infrastructure and migration. The main impacts of climate change are expected to include: reduced water availability, increased occurrence of vector and water-borne diseases, reduced crop and livestock

productivity and damage to transportation infrastructure and buildings. Women are particularly vulnerable to the impacts of climate change as in many areas they are responsible for the provision of food, water and firewood and these commodities become difficult to obtain during times of drought. In some places there are conflicts between national and customary institutions which impedes the implementation of activities locally.

Adaptation

Numerous coping and adaptation interventions have been implemented and suggested for semi-arid areas in Southern Africa. The main coping mechanisms include relying on social networks for assistance, reducing the size of livestock herds and supplementing livestock with food and water. Adaptation interventions include those related to forecasting, storage of food, water efficiency, water management and water harvesting, environmental improvement interventions such as soil and water conservation, tree planting, wind breaks



and conservation agriculture, and the diversification of livelihoods, crops and livestock, spatial and temporal changes e.g. moving livestock, changing planting dates of crops and accessing other land and water. At the national level, adaptation plans and processes are occurring to different degrees across the region. The issue is on the national agenda but not a high priority for most governments.

There are a number of barriers to adaptation that have been reported in the literature. These include a number of governance related issues including a lack of coordination, technical capacity and availability of resources. At the local level factors such as a lack of access to information, natural and financial resources, technical know how and incentives play a role.

Key knowledge gaps identified during the RDS phase include limited information on the impacts of climate change on individual households and community needs during drought, measures of adaptation, appropriate crop varieties and other adaptation options, costing of adaptation measures and socio-economic impacts and the effectiveness of existing policy and practice with regards to the implementation of adaptation measures.

Conclusions

The adaptation measures that are currently being implemented in southern Africa are unlikely to help communities adapt to climate change into the future. Despite the lack of knowledge regarding the effectiveness of current measures in reducing vulnerability and how to measure adaptation, the nature of climate into the future is likely to require transformation and not merely adaptation. Limited mainstreaming of adaptation currently and plethora of barriers that already exist to the implementation of adaptation require that an evidence base is built to influence policy and practice towards enabling widespread and sustained adaptation. In addition, more integration and a common goal is needed across different sectors in their policy and practice to work towards achieving the implementation of widespread and effective adaptation, information on adaptation options needs to be made more readily available to practitioners and alternative livelihood options need to be created at the local level and this requires policies that enable and promote new and diverse livelihood options.



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