

CLIMATE ADAPTATION READINESS FOR AGRICULTURE: DROUGHT LESSONS FROM THE WESTERN CAPE, SOUTH AFRICA

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EXECUTIVE SUMMARY

Agriculture is a critical component of national and sub-national economies, yet it is also highly vulnerable to weather extremes and scarce water resources. Climate change is increasing disaster risks in Southern Africa. Despite progress on integrated climate change and disaster risk management frameworks, the 2015/2016 El Niño-linked drought severely affected the region. The focus remains on disaster relief rather than on risk reduction and adaptation for long-term resilience. A case study for the Western Cape province of South Africa indicates that improved drought resilience can be observed where sustainable land management practices have been taken up by farmers. Further progress is contingent on strengthened co-operation across all tiers of government and across sectors, adequately resourced relief funds, availability of financial mechanisms for

RECOMMENDATIONS

- 1 National, provincial and local governments should be capacitated to proactively plan for and implement responses to severe droughts under the guidance of comprehensive integrated climate change adaptation and drought risk management policy frameworks and plans. These 'roadmaps' to resilience should develop out of inclusive and contextualised stakeholder-driven processes, link top-down guidance with bottom-up perspectives and incorporate social vulnerability considerations.
- 2 National governments should provide sufficient drought relief assistance through both national and provincial contingency funds. These should be rapidly released to the most vulnerable farmers and rural communities. Simultaneously, governments and financial institutions should develop financial mechanisms to encourage proactive drought risk reduction and the transition to climate-resilient agricultural and food systems.
- 3 National and provincial departments of agriculture should prioritise joint co-operative planning with their counterparts in the water sector for the achievement of climate change adaptation readiness in water-scarce regions. The dismantling of bureaucratic barriers to adaptive water resources planning requires urgent attention.

post-drought recovery and the clearing of bureaucratic bottlenecks that hamper adaptive water planning. Local experiences and stakeholder participation are essential for appropriately contextualised adaptation planning.

INTRODUCTION

In Southern Africa, 70% of the population depends on agriculture for food, income and employment. Agriculture is highly exposed to climate variability and weather extremes, notably droughts and floods. The SADC region is experiencing the worst drought in 35 years, associated with an acute El Niño weather phase in 2015/2016. Crop harvests were substantially reduced for two consecutive seasons and 643 000 livestock deaths were recorded.² An estimated 23 million people need emergency humanitarian assistance of \$2.7 billion (ZAR³ 39 billion).⁴ The consequences of food shortages and prices, destroyed livelihoods and stalled economic growth go beyond the agricultural sector.⁵ Evidence is mounting that climate change is already altering the magnitude and frequency of extreme climate events.⁶ The 2015/2016 drought has been compounded by unprecedented heat waves. At every level, farmers are exposed to increasing climate risks. Small-scale and subsistence farmers are particularly vulnerable due to a lack of resources for effective on-farm risk management.

SADC governments and donors have responded by raising funds for on-farm relief and emergency food supplies. In South Africa, the government allocated ZAR 528 million (\$38.5 million) to smallholder farmers.⁷ However, the funding shortfall is very high,⁸ and the dependence on relief is clearly becoming financially unsustainable.⁹

The drought presents an opportunity to assess progress on climate adaptation readiness, based on the 'strength and existence of governance structures and policy processes which determine whether adaptation takes place'.¹⁰ This briefing for SADC's policymakers draws on experiences between 2014 and 2016 in the agricultural sector of the Western Cape province, South Africa, with valuable lessons for the SADC region.

CLIMATE CHANGE AND THE DISASTERS POLICY LANDSCAPE IN SOUTH AFRICA

South Africa's National Climate Change Response White Paper (2011) highlights the threat of increasing climate risk and the need for strengthened disaster risk reduction and management (DRR-M). This has taken effect in the current development of provincial, municipal and

sectoral climate change strategies and plans, the National Adaptation Strategy, work on accessing climate finance, and a national monitoring and evaluation framework. The Department of Agriculture, Forestry and Fisheries' (DAFF) draft Climate Change Sector Plan (2015) likewise identifies the importance of preparing for climate disasters. Alongside the Long Term Adaptation Scenarios Flagship Research Programme, the plan also highlights the 'climate smart agriculture' (CSA) approach as an adaptation priority in agriculture.¹¹

Building resilience to greater risks of weather extremes has become the basis for DRR-M, at least at policy level. Guided by international best practice, proactive risk reduction and early warning information systems are prioritised. A milestone in integrating climate change adaptation into DRR-M was reached through the Disaster Management Amendment Act No. 16 of 2015. Thus, comprehensive and integrated policies exist that cover the spectrum of short-term relief to long-term resilience building and adaptation. However, these are not yet effectively interpreted and implemented within and across different tiers of government.

The Agricultural Drought Management Plan (2005) outlines the responsibilities of the DAFF, provincial departments of agriculture, local government (disaster management centres) and farming communities before, during and following a drought. Institutional structures, co-operative mechanisms and tasks are established. However, many of the responsible institutions are seriously hampered by a lack of human and financial resources, contested roles and responsibilities, weak inter-governmental co-operation, and a poor understanding of the paradigm shift from 'response' to 'prevention'. There remains resistance to acknowledging that 'drought' is the product not only of failing rains but also of failed soil conservation practices such as overstocking, the poor state of water infrastructure, increasingly common dry spells and droughts due to climate change, and endemic poverty in parts of the sector.¹²

The policy framework for the water sector and its response to climate change is critical to the resilience of agriculture.¹³ Agriculture uses 60% of the country's water resources and is highly dependent on water infrastructure and water resources management provided by the Department of Water and Sanitation (DWS). During times of scarcity and drought, farmers are urged to implement measures to reduce water usage. Simultaneously, the agriculture sector is calling for the acceleration of adaptive water resources

planning, such as rehabilitating and building storage infrastructure in areas of increasingly erratic rainfall.

WESTERN CAPE CASE STUDY FOR AGRICULTURAL ADAPTATION AND DROUGHT RESPONSE

This case study assesses whether government-led resilience-building initiatives have mitigated the 2015/2016 drought, and attempts to discern key weaknesses and opportunities exposed by the drought. We draw on the outcomes of two stakeholder processes led by two Western Cape government departments. The first is the development of a provincial climate change response framework and implementation plan for the agricultural sector (SmartAgri Plan, 2016).¹⁴ The second is a two-day provincial multi-stakeholder drought dialogue (June 2016) where agreement was reached on a set of 32 high-priority, actionable interventions for the provincial government to strengthen the response to the current and future droughts.¹⁵

The 2015/2016 drought and heat wave has led to losses of 200 000 tonnes of wheat (50–100% per farm), 230 ha of potatoes and 15% of fruit, with ±17 000 cattle requiring fodder assistance.¹⁶

This raises the question: have the integrated climate change and DRR-M policy frameworks stood up to the ‘drought test’, for short-term drought relief and long-term CSA and adaptation policy goals, and what still needs to be done? The provincial government has applied for drought funding (ZAR 80 million or \$5.8 million) from the national government. So far, all drought assistance to farmers has come from provincial government, organised agriculture and fellow farmers, with strong co-operation at local level. There has been insufficient support from the national government due to the absence of the necessary drought disaster declaration and lack of funding. This has placed poorer farmers, their workers and farming communities in a vulnerable position and relief will probably be ‘too little too late’. Both the SmartAgri Plan and the drought dialogue called for sufficient and timely drought relief. This should include the provision of bridging finance to keep resource-poor new farmers on their farms, and the establishment of a social security net to support drought-affected rural communities and farm workers.

The Western Cape government began climate response planning in 2005. Implementation of the 2008 Western Cape Climate Change Response Strategy and Action Plan (revised in 2014) gained momentum only since 2015. National adaptation policy goals based on CSA and

risk reduction have been incorporated into provincial agricultural planning, but have been only partially resourced. Nevertheless, the Western Cape Department of Agriculture and progressive farmers have pursued several CSA- and DRR-M-aligned projects. For example, conservation agriculture (CA; ie land-use management practices that increase soil moisture-holding capacity) has been adopted by more than 70% of grain farmers. During 2015 many CA wheat farmers in the West Coast district produced yields that covered their input costs, while farmers using conventional practices are now struggling to service their debt.¹⁷

Other initiatives, such as the FruitLook water use efficiency project and the Land Care programme (supported by the DAFF), also contribute to climate change adaptation. Acknowledgement of these and other contributions, but also of the gaps, led to the establishment of a ‘roadmap’ for an integrated and inclusive response across a continuum of time scales. The SmartAgri Plan is holistic, commodity-specific and spatially explicit, and supported by scientific and local knowledge and experience. It links top-down policy guidance with practical bottom-up perspectives. DRR-M is prioritised as a strategic focus area (SFA2) in need of greater attention. If this plan is well resourced for implementation it will strengthen the ability of the sector to plan for and manage multiple interacting climate stresses and contribute to reducing vulnerability.

Effective climate change adaptation is most likely to succeed where science- and policy-guided approaches overlap with local stakeholder-led identification of weaknesses and opportunities, and where proactive drought management is understood and dealt with as a key component of long-term resilience building.¹⁸ The drought dialogue priorities correspond closely with the SmartAgri Plan. Rather than being confined to SFA2, they were spread widely across other focus areas. They intersected strongly with natural resources (soil, water) management, and focused on proactive joint planning and co-ordination, information and communications, regulatory and financial barriers and social vulnerability. The participation of the government in creating a co-operative and supportive environment emerged as the key requirement for building adaptation readiness.

One theme is consistently highlighted by diverse stakeholder groups, namely optimising surface and ground water use in agriculture and revisiting water policies, regulations and management that hamper the development of water infrastructure. These have become urgent issues

in the Western Cape, a winter rainfall area with peak water demand in summer. Evidence is emerging that shifts in rainfall patterns will increase the need for storage capacity in some areas. The DWS has the national mandate for strategic water governance, with local governance devolved to catchment management agencies. Hence well-functioning co-operative governance arrangements, including institutionalised multi-stakeholder platforms to co-ordinate development planning across various scales, are essential for the continued availability of sufficient water to farmers.

CONCLUSION

South Africa has made good progress in establishing integrated climate change and DRR-M policy frameworks, including a focus on drought planning and management for agriculture. This needs to be built upon by strengthening vertical (national–provincial–local) and horizontal (cross-sector and within-sector) processes and co-operation for implementation. Better support is needed for proactive risk reduction and adaptation projects by and for the sector, particularly those relating to finance, sustainable water management and reductions in social vulnerability. The country's climate change adaptation path runs in parallel with the sustainable development programme (including sectoral economic development), each depending on the other's success. Integrating climate change response and DRR-M efforts at local level can be particularly valuable and should be encouraged through flexible policies that allow strategies to be tailored to local conditions and developmental contexts. Sub-national governments play a pivotal role in promoting such context-specific climate change adaptation readiness, but this role can only be effective given high levels of engagement and support from national government.

ENDNOTES

- 1 Stephanie Midgley is a researcher at the African Climate and Development Initiative (ACDI), University of Cape Town. Nadine Methner is a post-doctoral researcher at the ACDI.
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- 3 Currency code for South African rand.

- 4 SADC, *op. cit.*
- 5 BFAP (Bureau for Food and Agricultural Policy), *Policy Brief on the 2015/2016 Drought*. Pretoria: BFAP, 20 February 2016, pp. ii – iv.
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- 15 Western Cape Department of Agriculture, 2016a, *op. cit.*
- 16 *Ibid.*
- 17 *Ibid.*
- 18 Schipper L *et al.*, 'Linking disaster risk reduction, climate change and development', *International Journal of Disaster Resilience in the Built Environment*, 7, 2, pp. 216–228.

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