Building climate and disaster resilience in Africa: Lessons from the African Risk Capacity (ARC)

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Oxford Policy Management is committed to helping low- and middle-income countries achieve growth and reduce poverty and disadvantage through public policy reform.

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Oxford Policy Management is undertaking a 10-year independent evaluation of ARC, commissioned by the UK Department for International Development (DFID). Contact felicity.lequesne@opml.co.uk for more information.
Introduction

ARC is a pioneering initiative seeking to build resilience to climate risks across Africa by combining sovereign risk insurance with strengthening of disaster risk management (DRM) systems and frameworks. Findings from a formative evaluation of ARC have recently been published and provide important insights and lessons pertinent to the global conversation on climate risk insurance and, more generally, on building the resilience of countries and vulnerable populations. The evaluation was commissioned by DFID and undertaken by OPM.

The full evaluation report is available online here. This brief highlights some of the main findings relating to the themes of data, innovation, and knowledge.¹

An innovative approach to addressing vulnerability to climate change and building resilience to shocks

Regional insurance pools have emerged in recent years with the goal of providing a more rapid and reliable source of response funds in the event of a disaster. ARC, while integrating learning from such early experiences, also offers a highly innovative approach.

ARC has two parts: ARC Agency, a Specialised Agency of the African Union, and ARC Ltd, a mutual insurance company. Through a pooled insurance model, ARC offers African countries competitive pricing for sovereign insurance products. Importantly, however, ARC’s offering goes beyond the insurance product: at the national level, ARC helps governments to better anticipate, plan, and respond to disaster risk by strengthening capacities, awareness, and action for DRM. At the local level, it helps to improve the resilience of vulnerable households to disasters through the delivery of timely and appropriate support by directly linking the provision of insurance with pre-agreed contingency plans through which the response to affected households can be tracked.

Uniquely, countries that wish to join the ARC risk pool must first undergo a capacity-building programme covering early warning, risk modelling, contingency planning, DRM, and risk financing. This includes training on Africa RiskView (ARV), ARC’s proprietary software, which uses data to estimate drought-related humanitarian response costs and define triggers for the parametric insurance. In the event of a disaster, a payment to the affected government is triggered and resulting funds are then used for pre-agreed rapid response plans that complement existing social safety net programmes or other humanitarian response.

Since its inception, ARC has paid out over US$ 36 million to four countries (Senegal, Niger, Mauritania, and Malawi) affected by drought events. Additionally, ARC has continued to innovate its product offerings and is developing products to cover additional perils such as floods and tropical cyclones, an Extreme Climate Facility, replica insurance coverage (matched coverage by non-governmental organisations), and outbreak and epidemic insurance.

¹ This brief was originally produced for a InsuResilience newsletter on the theme of data, innovation, and knowledge.
Knowledge generation to guide innovative product and service development

In 2015, DFID commissioned a 10-year independent evaluation of ARC. The long time horizon of the evaluation, along with the emergent and dynamic nature of the ARC initiative itself, brought specific considerations to bear in the evaluation design. In particular, it was necessary to balance a rigorous evaluative process that tracked progress over time, with sufficient flexibility to respond to and accommodate the inevitable (but unknown) changes that ARC would undergo during the period.

The evaluation is being undertaken in four stages: two formative evaluation stages (the first of which has now concluded), and two impact evaluation stages further down the line. It adopts a theory-based approach focused on a detailed depiction of the changes that ARC aims to bring about, in the form of the Theory of Change. At the formative evaluation stages, mixed-methods approaches to data collection and analysis are being applied to test the pathways in the Theory of Change and provide recommendations to enhance progress. For the first formative evaluation, these approaches included qualitative fieldwork in three countries (Kenya, Malawi, and Mauritania), interviews with 30 international experts in the areas of climate insurance and reinsurance and DRM, a perceptions survey with 30 representatives of 17 African countries, and a ‘baseline assessment’ of disaster risk and DRM trends across African Union countries. ARC staff also contributed to the evaluation, offering insights into the successes, advancements, and challenges involved in their work. The data emerging from these workstreams was applied to the Theory of Change through a contribution analysis, resulting in a comprehensive assessment of the extent to which, and how/why, the anticipated pathways of change are in fact being realised.

It is too early to assess the contribution that ARC has made toward its desired outcomes and impact. However, the first formative evaluation allows for an understanding of ARC’s progress, as well as where headway is being made, what challenges exist, and where assumptions might not be holding.

Learning from ARC’s early experiences

Several of the more significant findings are highlighted below.

- Using data and parametric modelling to understand climate risk and trigger pay-outs

Disaster risk insurance is a complex and emergent field. Accessing accurate and actionable data to estimate climate risks, and to make rapid and transparent decisions about how and where funds should be disbursed to mitigate climate-related disasters, are serious challenges. ARC’s ARV software was developed as a means of enabling such processes by modelling climate risks and their relation to vulnerability. Countries are supported in the process of building up the capacity to understand this risk modelling software and customise its parameters to accurately reflect their risk profile. This process takes considerable time, due to in-country capacity constraints and challenges accessing accurate data. As found from the three country case studies, it can take years (and regular updating) to identify and integrate the correct data sets for a refined country customisation of ARV.
This process, and the resulting early warning system, have been well received in contexts such as Mauritania, where it represented a first integrated system that, along with an insurance payout, enabled the country to respond faster than ever before to a serious drought event. However, one of ARC’s challenges has been refining its models and parametric triggers, and ensuring that data inputs are accurate enough for consistent effectiveness. The model is perceived to be highly complex by ARC member countries. The accuracy of ARV is fundamental in ensuring the correct and timely release of pay-outs, as seen in Malawi in 2016/17. This said, ARC’s technical team is consistently and proactively refining the model to address concerns that have been raised. As one of the most advanced technologies of its kind globally, ARC is continuing to improve ARV by utilising best practices and cutting-edge research and development (R&D) to overcome obstacles.

- **Building capacity for DRM planning and systems**

ARC implements a broad capacity-building programme covering early warning, contingency planning, DRM, and disaster risk financing. This element distinguishes ARC from other sovereign risk insurance pools, which tend to focus only or primarily on the insurance product. While ambitious, the ‘packaging’ of the insurance product within a broader effort to strengthen planning and delivery systems for DRM has beneficial outcomes relating to sustainability and country ownership of the risk management options in the long term. Evidence suggests that ARC’s activities have led to some improved capacity. However, most African countries start from a very low capacity for DRM, meaning that the task facing ARC in its capacity-building and contingency planning ambitions is substantial. Additional external factors such as frequent turnover of staff in country governments mean that progress is difficult to sustain and institutionalise. While there is evidence of improved understanding, countries that have completed the programme continue to require assistance from ARC.

The approach taken by ARC is, however, consistent with the mandate of the institution as an African Union Agency with the goal of not only offering African countries financial options to help in managing risks but importantly contributing to the longer-term vision of the African Union in developing the requisite risk management capacities and skills on the continent.

- **Getting insurance contracts and contingency plans in place**

Over the past four years, eight different African nations have taken out ARC policies in four annual pools, and have paid a total of US$ 55 million in premiums, with 95% of this coming directly from national budgets. Over the last two years, however, the size of the risk pool has decreased. Many contributing factors emerged in relation to this result, including a view among country representatives that premiums are expensive when compared with likely pay-outs, which is also linked to the perceived opportunity cost of premiums in terms of other risk financing options but also other public spending priorities and the reality of readily available humanitarian funding for disaster response. The presence of basis risk is also an important explanatory factor here (as is, in the case of ARV, concern about the accuracy of the model in triggering pay-outs). Country stakeholders working on disaster risk-related topics do not necessarily have a good understanding of how insurance works, and may mistrust insurance products and the industry behind them. Politics also present a major challenge, due to short-term incentives of political decision makers that are mismatched with the longer-term value proposition of insurance and an existing paradigm in which there is a reliance on the traditional humanitarian approach to managing disasters.
To make it easier for governments for whom premium payments are a challenge, ARC is partnering with organisations like the African Development Bank on initiatives to support governments in funding their premiums. The latter is an approach that has been implemented in other risk pools in an effort to ensure continued country participation toward embedding such insurance costs into national budgets. Meanwhile, ARC recognises the need to raise awareness among governments and other stakeholders on the continent as to the benefits of disaster risk insurance and has made some progress in building partnerships aligned with this agenda.

- **Effectiveness and timeliness of contingency plan implementation**

Mauritania’s experience shows that it is possible for ARC pay-outs to facilitate quick and effective emergency response. However, in this and other cases, there are political and procedural barriers to overcome. The experiences of Niger and Senegal, two of four countries that received ARC pay-outs, show there are bureaucratic obstacles in transferring funds and more generally in implementing the plan. Experiences in Malawi and Mauritania showed challenges with regards to final implementation plans to inform the use of ARC pay-outs.

It should be remembered, when setting expectations for ARC, that the implementation of contingency plans following sovereign insurance pay-outs is highly novel; there is no established ‘how-to’ or comprehensive set of best practices, and the evidence base is rapidly evolving. Insights such as the above are critical in understanding some of the challenges governments face in implementing effective and timely response, and it is expected that going forward other countries will learn from these experiences. ARC has developed and published lessons learnt documents on its website to inform updates to contingency plans for future years.

**Conclusion**

In general, ARC has exhibited a commitment to incorporating lessons learnt and, as a young organisation conducting highly innovative work, such nimbleness is important in ensuring that the institution will continue to meet its designed goals and mandate.

ARC welcomed the evaluation and chance to share its experiences – both the successes and the challenges – in delivering this critical offering to African countries. It sees such engagement as an important learning opportunity for the institution, member states, and the broader DRM and financing community. This is also part of a fundamental commitment to transparency on the part of ARC, with some of the recommendations made in the report being already actively incorporated into the operation of the institution. Prominent examples include enhancing communications, improving awareness of products among stakeholders, and the above-mentioned ongoing R&D work regarding ARV.
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