



Transformative adaptation in Africa's Agriculture

Contribution Note for Africa Progress Panel meeting “Expert Consultation: an African Agenda for Green, Low Carbon Development”

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1 . The Risk Environment of Africa

“In many cases, we are not prepared for the climate-related risks that we already face. Investments can pay dividends both in the present and for the future”

Vicente Barros, Co-Chair of Working Group II, Intergovernmental Panel on Climate Change, March 2014

Climate change poses particular risk to Africa. Most of the poor are rural dwellers and dependent on subsistence agriculture which is rain-fed and highly vulnerable to climate variability. Despite economic growth and impressive poverty reduction overall in sub-Saharan Africa over the last 15 years of the Millennium Development Goals, many are still below the poverty line (Chandy et al. 2013).

Climate change is being experienced already. The most recent IPCC Fifth Assessment Report brings together the latest data which demonstrate that average annual temperatures have already risen by about 1°C in much of Africa (Niang et al. 2014). Temperature rise in the region by the end of 2100 is expected to be above 2°C, with impacts across the region of drought, extreme temperature and sea level rise, although impacts on rainfall are uncertain in most models. Africa’s food production systems are among the world’s most vulnerable for four reasons:

- Africa relies on rain-fed crop production
- The African continent suffers already from high intra- and inter-seasonal climate variability
- Africa’s recurrent droughts and floods affect both crops and livestock
- Underneath this, Africa’s persistent poverty limits the capacity to adapt

As a whole, the continent is experiencing a number of demographic and economic constraints: the population has more than doubled since 1980; exceeding one billion in 2010 and is expected to reach three billion by the year 2050 if fertility remains constant. Poverty in rural areas in Sub-Saharan Africa decreased slightly from 65% in 1998 to 62% in 2008, but it is still double the prevailing average in developing countries in other regions of the world. Agriculture is the main economic activity in terms of employment share and the powerhouse of economic growth and poverty reduction for many African countries. But farming is 98% rain fed in the sub-Saharan region, so crops and livestock depend on a precarious situation (IPCC 2014).

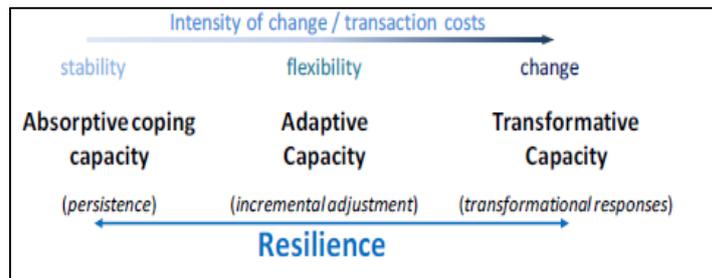
Within this future, with added impacts from climate change, are potential stresses on water resources, reduced crop productivity, changes in range and severity of human and animal disease, losses due to flooding, and losses and health impacts from extreme heat events.

2 . Adaptation Efforts in Africa’s Farming

Over the last 10 years many African countries have made significant efforts in understanding, planning for, and initiating adaptation policies and programmes. The focus of these efforts is to maintain or enhance farmer’s livelihoods and means of subsistence despite climate change – improving their *resilience* to what is unprecedented climate change and variability outside farmers’ previous experience. The process of developing adaptation approaches is to work with farmers and policy makers to apply climate science, local knowledge and uncertainty planning to the agricultural sector and existing farming and farmers’ livelihoods.

Current adaptation efforts mostly fall within a range of ‘low regret’ / ‘no-regret’ approaches that increase people’s ability to survive and cope with current climate variability, improving their ‘absorptive coping capacity’ (see Figure 1). These include early warning systems about climate and household adjustments in the case of temporary difficulty. Some adaptation efforts focus on helping people to improve their adjustment to climate change through gradual, incremental change: ‘adaptive capacity’ – this might include modifying planting seasons and crop varieties or the household’s dependence on farming as a livelihood. These broadly have an ‘agro-technology’/information technology focus with resilience building. For the most part, however, there are few truly transformational responses in place currently.

Figure 1: Spectrum of Resilience approaches



Source: Béné et al. (2012)

The issue with these approaches to date is that adaptation in agriculture is currently highly focussed on farm level, primarily technical, innovations, with little integration of the wider development angles. Why is this? Three reasons:

1. There is naturally a science-based solution focus in many agricultural research institutes. Increased productivity through agricultural intensification has increased yields substantially worldwide since the 1960s. However, there is still less consideration of real-life constraints such as limits to uptake that we have seen, for example, for decades with many conservation agriculture and agroforestry approaches.
2. Agricultural ministries may well be more concerned about increases in short term yields and poverty reduction than long term complex institutional and political issues and dealing with the complex decision making under uncertainty that climate change poses. An 'easy' solution to provide access to fertiliser for the poor will increase food security quickly in a nation and avoid more tricky issues such as unequal land holdings and land tenure issues.
3. Related, the National Adaptation Planning processes that developed the Plans of Action over the last 15 years (NAPAs) chose projects initially without applying much, or any, social cost-benefit analysis of short term, or longer term, implications. And so we see that in many cases, incremental changes are developed which are context-specific: useful, potentially, if applied with care and consideration, but very costly to design and implement effectively. And with significant challenges to upscaling this to something that is cost-effective on a broad scale.

3 . Why isn't the current approach to adaptation enough?

Firstly, this focus on adaptation ignores the rest of the farming system beyond the field and farm level. The farm system includes storage, transport, processing and marketing. There are implications and impacts for rural labour markets and regional and national markets and policy and trade throughout the region. For the poorest in rural areas, who are landless labourers or those too marginalised to be able to work the land, the implications of adaptation to climate change, and the needs for social safety nets at wide scale (for example) are little understood or considered.

Secondly, even within the rural area, adaptation for rural farmers is not just about adapting to climate change in their crops, but in their livelihoods as a whole, including the wider landscape levels. Again, efforts to consider these and integrate them into adaptation planning are very much at an initial level, spearheaded now by the FAO and Ecoagriculture with their landscapes approach and by CCAFS with their Climate Smart Villages experimentations.

Thirdly, and most fundamentally, is one of the main issues to be discussed in this consultation – that few adaptation efforts currently focus on truly 'transformative' approaches to adaptation.

4 . How is Transformative Adaptation different?

Transformative adaptation is adaptation which is:

- Much bigger scale/intensity (e.g. Regreening the Sahel)
- Involving new types of adaptation innovation (e.g. new crop varieties PLUS new partnerships between institutions)
- Involving different places and locations (e.g. resettlements)

Is this enough? There are issues with how transformational or transformative adaptation is interpreted. We need to be careful to make sure that it is not the same as ‘sustainable development’ or ‘resilience’ – something that sounds good but can be interpreted many ways. Clarity is essential here.

What we need in terms of transformative adaptation to climate change in Africa is very important. With scaling up and the nuggets of some strong policy changes in evidence in some countries, there is hope. But this still falls short of the true agricultural transformations that are needed. As last year’s Africa Progress Panel report demonstrated, rapid economic growth in the past decade in Africa has led to little trickle down on poverty reduction. Business as usual suggests that about 1/5 of the population would remain in extreme poverty by 2030. Agriculture has a critical role to play as an economic powerhouse for poverty reduction and economic growth, as the 2008 World Bank report ‘*Agriculture for Development*’ demonstrates.

So transformative adaptation needs to not ONLY be at larger scale with new innovations, bold enough to take political steps that may not be easy or quick – but ALSO transformative adaptation needs to be integrated fully into the big agriculture questions that will really transform Africa’s agriculture. These are the old and new ‘chestnuts’ of Africa’s smallholder agriculture: how to provide a way for African farmers to fill the rising urban African demands; creating opportunities for households with limited land and education; boosts for agriculture’s growth through regional trade and investments in physical infrastructure; well-targeted social protection programmes; and streamlining regulations and trade barriers (Jayne et al 2010). With a renewed, emphasis on these issues though developing political will and significant investment, transformative adaptation will be able to add its power towards the sustained transformation and reinvigoration of African economy.

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