



Climate Change and Agriculture in Southern Africa: the science-policy-investment interface: – experiences from OneWorld's work in South and Sub Saharan Africa

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Belynda Petrie December 2013

From local to global: strengthening the science policy investment interface

Why a science-policy-investment interface?

Local to national : science-policy interface status quo

National to global: science-policy interface status quo

Local to global: gap analysis and priorities



Why a robust science-policy-investment interface?

Globally, climate change responses bridge political, economic, social and environmental domains – it has long since evolved from being an environmental science issue

Science is about building a case for responding in a particular way; policy is about facilitating implementation of related decisions and investment is about implementation



Local to national : science-policy interface context

Decisions are needed in a changing development and climate context

'Exact' science is thus difficult **and takes time**

Local agricultural conditions are becoming harsher – climatically and economically (droughts and floods; inadequate market access and reduced input expenditure)

Agricultural conditions vary greatly between locations-with varying implications for national level policy

Research tends to be more technology solutions oriented (than services and institutionally focused) – so we know more about pumps and seeds than how to introduce them/and or provide better support to farmers) = **lots of recorded technology failures**

Policy decisions are needed on key issues (land use & water resource management; agro value chains) where little information is available



Examples of policy shortfall

- Mtera dam and Kidatu power station
 - Irrigation or power production?
- Human settlement in peri-urban areas
 - Flooding
- Achieving the MDGs
 - Maternal health
 - Deforestation



Local to national : science-policy interface status quo (PPCR Gaza, Mozambique; Majeng, Northern Cape SA)

Policy decisions/reform	Evidence available (A)/Needed (N)	A/N	Investments?
Govt facilitated insurance for agro dealers	Feasibility (number of potential insured parties; accessibility; affordability; role of private sector)	N	Private sector investments; International Cooperating Partner role/investment; role for IFC?
Govt investments in agro processing & infrastructure (rice factories; tomato paste; slaughterhouses)	Optimal locations; investment required; role of private sector? Crop differentiated commercial and technical feasibility studies	N	Slaughterhouses; value add processing plants
Govt investments in markets	Optimal market access conditions?; Market infrastructure and location? Cost recovery models?	N	Market infrastructure; market access
Land management policy	Carrying capacity & livestock grazing and crop management analysis (to inform whether to have policy based on carrying capacity or rotational grazing systems)	N	Improved extension services



Comments from local decision/policy makers

(PPCR Gaza, Mozambique; Majeng, Northern Cape SA)

Recommendations should inform provincial and district land use plans; provincial plans

District and municipal level knowledge and figures poor (numbers unreliable and cant be used in provincial plans in Mozambique for example)

Inadequate information on value chains and where the blockages are – impedes decision making

Differentiated numbers on livestock and crops not available

Inadequate knowledge of diversification options (eg charcoal)

Policies and regulatory environments are not entrenched – disincentive to diversification from agro (charcoal)

Technologies are slow to adopt and do not solve the main problems

Change needed is more about behavior and institutions than technologies

Extension services need reform and further investment



National to global: science-policy interface status quo

National policy informs regional (e.g. Member States inform SADC FANR policy development)

Regional policy often developed through country level analysis, aggregated; misses the transboundary and regional aspects

Increasing body of transboundary/regional science (regionally developed: RCCP R&V analysis; OneWorld Zambezi & Limpopo R&V analysis – all food security etc focused; UNEP Emissions Gap Report for Africa) **but seldom used in regional policy making (regional policies rely on national level research)**

Significant opportunity for adaptive management, (learning by doing) to provide a feedback loop into policy and investment decisions and ongoing international negotiations – e.g from climate smart and conservation agriculture (CAADP & COMESA activities)



National to global: science-policy gaps

Globally, the negotiations under the Durban Platform are discussing an *Adaptation Goal*. But what does this mean for Africa? **Neither Member States nor the region have a clear sense of what our Adaptation Goal should be** and science needs to inform policy here

Regionally, policy and legislation on climate change adaptation and agriculture is thin although there is the emerging basis of a foundation and some clear gaps:

- SADC Water has a CC adaptation strategy in place and regional water policy integrates climate change to some extent;
- SADC FANR has recently commenced a process of developing a regional CC strategy that will draw on existing national strategies in Member States and the process will be consultative
- SADC FANR have been working on REDD for a few years
- Biodiversity, agriculture and land use and water still need stronger integration for regional and national resilience building
- **There is insufficient evidence for regional and transboundary benefit sharing: there are research gaps in analysing trade offs between sectors and countries and the economic argument for benefit sharing remains weak as a result.** Water use and management in particular is negatively impacted as competition for scarce resource remains difficult territory to navigate without clear cross sectoral cost benefit and multi criteria analysis.



Adaptive Management: critical to successful policy making locally and globally



Experience

- Reinforce knowledge networks
- Share learning
- Tell the story
- Apply results in new plans and decisions
- Apply results in innovations

Scientific knowledge and analysis

- Innovative, rapid analyses (e.g. hazard mapping)
- Collect, analyse and integrate knowledge into plans
- Tell the story
- Integrate gender, culture and equity
- Promote learning
- Stimulate applied / demand driven research

Management practise

- Monitor performance
- Evaluate regularly
- Implement plans and grants
- Analyse and adapt (results based)
- Consider new opportunities
- Innovate

Decision making

- Inform and revise workplans
- Inform stakeholders and partners
- Build learning into grants decisions
- Maintain flexibility
- Integrate communities in municipal decision making processes

National to global: science-policy interface status quo

Women are taking increasing responsibility for farming yet have little decision making power over land

Gender based research has increased; policy decisions and implementation have not

There are lessons from within Africa and around the world that demonstrate the value of policy reform: COP 17 Legacy Project: *"Thato ya Batho"*



Laws for land: Kenyan legal frameworks are reformed to give women greater participation and decision making powers around natural resource management - adaptive change follows.

Hazard: The impacts of changing climates are exacerbated when women, who are the primary food growers for home use, have little control over land use and decision-making.

Strategy: Give women legal access to land and by definition greater decision-making control over how resources are used.

Enabler: Constitutional changes enacted by the government have enabled the necessary changes.

Lessons: Improved legal status makes a big difference to the way resilience can be improved.

Scaling Up: This example should be observed by other countries and progressively acted upon.

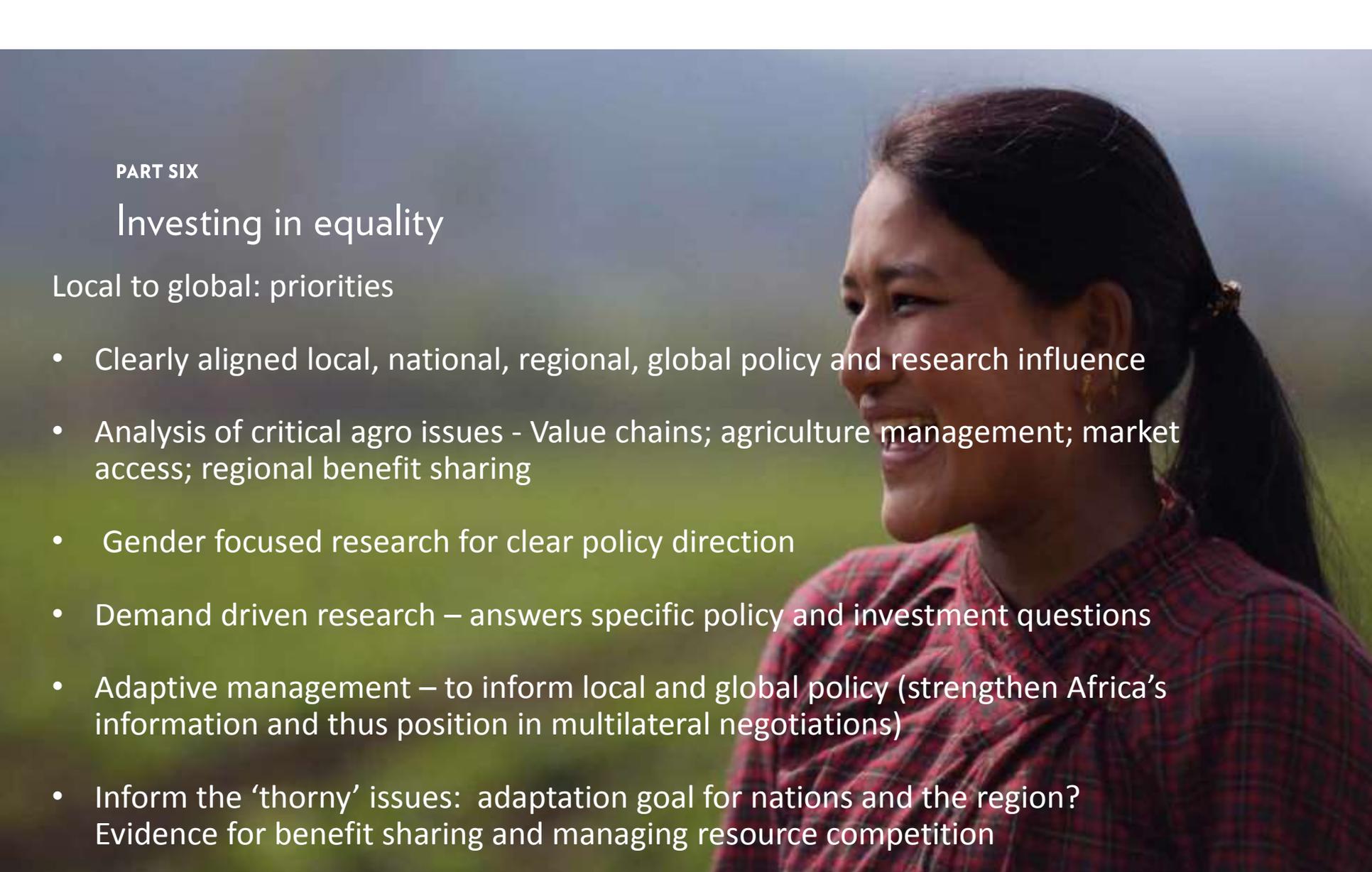
Sustainability: The outcomes are highly sustainable. Improved decision making usually results in much better outcomes.

Women negotiated with husbands over access to land for agroforestry projects

August 2010 constitutional changes allow women equal access to land – equal rights in decision making over land

Further boost from central Govt stated intention to support womens projects

Women to benefit from of a revolving fund for project subsidies - pooling members' resources

A woman with dark hair tied back, wearing a red and black plaid shirt, is shown in profile from the chest up. She is smiling and looking towards the left. The background is a soft-focus green field under a clear sky.

PART SIX

Investing in equality

Local to global: priorities

- Clearly aligned local, national, regional, global policy and research influence
- Analysis of critical agro issues - Value chains; agriculture management; market access; regional benefit sharing
- Gender focused research for clear policy direction
- Demand driven research – answers specific policy and investment questions
- Adaptive management – to inform local and global policy (strengthen Africa's information and thus position in multilateral negotiations)
- Inform the 'thorny' issues: adaptation goal for nations and the region?
Evidence for benefit sharing and managing resource competition