Confronting Drought in Africa’s Drylands

Opportunities for Enhancing Resilience

Findings and recommendations of a major new study

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Why this study?

- Drylands (including arid, semi-arid and dry sub-humid areas) account for:
  - 43% of land area
  - 50% of population
  - 75% of agriculture land

- About 75% of Africa’s poor (living on less than $1.25/day) live in countries where people living in drylands make up more than 25% of total population
Context

Many initiatives

• AGIR (Sahel),
• Global Alliance (Horn of Africa)
• Sahel Initiative (WB)
• Sahel Action Plan (AfDB)
• Great Green Wall (WB)

A fragmented dialogue

• Many parallel conversations
• Large range of views
• Lack of consensus
• High degree of sensitivity
Overall goal: Inform next generation of policies and programs for resilience

Specific objectives

1. Characterize current and future challenges to reducing vulnerability and increasing resilience in drylands

2. Identify main interventions to enhance resilience, estimate their costs, and assess their effectiveness

3. Provide an evidence-based framework to improve decision making on alternative options to enhance resilience

4. Promote sharing of regional and global knowledge on resilient development in drylands
Three core messages

1. Business as usual is not an option
   • By 2030, up to 70% increase of population vulnerable to drought
   • Strong push to drop out of existing livelihoods (e.g. pastoralism)

2. Better management of livestock, farming, and natural resources is effective and affordable
   • Opportunity to reduce by 50% or more the size of the problem
   • The cost ($0.4 - 1.3 billion/ year) is in the range of current development budgets

3. But these interventions need to be complemented by
   • Better safety nets
   • Contingent finance mechanisms
   • Alternative livelihoods
   • Landscape restoration
Scope of analysis

Drylands are defined based on the Aridity Index, which is consistent with UNCCD practice. Particular emphasis is given to the vulnerable areas in West and East Africa. Some 300 million people are estimated to live in drylands in East and West Africa.
Multiple challenges faced by drylands:

• Climate variability
• Poor infrastructure
• Land degradation
• Conflict
• Political marginalization
Result: Negative development outcomes

Poverty headcount by aridity zone (2010, selected countries)

Figures refer to Niger, Nigeria, Ethiopia, Uganda, Malawi, Tanzania
Result: Lagging development indicators

- Food consumption scores lower in drylands
- Proportion of underweight children higher in drylands
Result: Pastoralists particularly disadvantaged

Vaccination rates lower in dryland pastoral areas

Primary school enrolment lower in dryland pastoral areas
Vulnerability profiles will change in the future

<table>
<thead>
<tr>
<th>Change drivers</th>
<th>Exposure</th>
<th>Sensitivity</th>
<th>Inability to cope</th>
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<tr>
<td>Population growth</td>
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<td>Climate change</td>
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<td>Economic transformation</td>
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- Population growth and climate change will increase the number of vulnerable people living in drylands
- Economic transformation will reduce the number of people living in drylands who are sensitive to shocks and unable to cope
Climate change likely to shift the location of drylands

- Climate models used to analyze a range of climate change scenarios
- Drylands areas will expand and shift as the result of climate change
- Some zones might become incapable of sustaining livestock production and intensive agriculture
- In the driest scenario, drylands extent can increase up to 20%
Many people are already vulnerable...

Percent of people vulnerable to and affected by drought, 2010, selected countries
...and the problem is likely to intensify

Vulnerable people living in drylands in 2030 (2010 = 100)
Study focuses on seven interventions to enhance resilience

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Arid</th>
<th>Semi-Arid</th>
<th>Dry Sub-humid</th>
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<td><strong>Individual Themes</strong></td>
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<td>Support to pastoralist livelihoods</td>
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<td>Light Brown</td>
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<td>Irrigation</td>
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<td>Support to rainfed agriculture</td>
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<td>Tree based systems</td>
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<td><strong>Cross-cutting</strong></td>
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<td>Landscape approach</td>
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<td>Markets and trade</td>
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<td>Social Safety Nets</td>
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Investing in livestock systems

Impact of different interventions on the resilience status of livestock-keeping households, 2030
Mapping the irrigation potential
Irrigation: technically and financially viable to quadruple area, but significance in drier areas is more limited

About 60% of the potential for irrigation expansion in East and West Africa is in drylands. About 85% of this area (about 8 million ha) is suitable for small-scale systems.
Investing in rainfed agriculture

Raising the productivity of rainfed agriculture will have enormous payoffs

Improved technologies available for dryland cropping systems

- Modern varieties
- Improved land and water management
- Crop-livestock systems
- Tree-based systems
Investing in tree-based systems

Trees can contribute to enhanced resilience

Farmer-managed natural regeneration

Planting of trees for wood and non-wood products

Returns to farmer managed natural regeneration under three discount rates
Investing in landscape approaches

Use of landscape approaches could lead to triple wins:

1. Improved productivity
2. Higher climate resilience
3. Carbon sequestration

Emerging experience in Africa and elsewhere points to the potential for enhancing the effectiveness of individual interventions and reducing risks of conflicting resilience interventions.
Investing in market integration

Removing physical and regulatory trade barriers can help build resilience in normal years; and facilitate movement of food in crisis years.

Improving infrastructure can enlarge marketsheds and lower food prices.
Investing in safety nets
Expanding safety net coverage is cost effective...

The annual cost of safety net coverage...

..is lower than annualized cost of humanitarian response in times of crisis

West Africa: Average annual cost (US$ million) of safety net support to poor households as compared with humanitarian response
Investing in safety nets

…but the fiscal cost of complete coverage is large

Cost of insuring resilience through safety net support, selected countries, 2030
Potential to reduce vulnerability through technical interventions varies between countries

Contributions of technical interventions to resilience, 2030
Optimal mix of interventions varies between countries

Relative contributions of technical interventions to reduced vulnerability, 2030
Findings and recommendations (1)

1. The number of people in dryland areas of East and West Africa vulnerable to drought will grow considerably.

2. Faster, more inclusive growth will reduce the number of vulnerable people, but it will not eliminate vulnerability.

3. Economic transformation of drylands is inevitable due to demographic forces, so the question is how best to manage that transformation.

4. Technical interventions to improve the productivity of traditional livelihoods can reduce the number of vulnerable people in some countries, but technical interventions will not be able to eliminate vulnerability entirely.
Findings and recommendations (2)

5. Investing in scalable safety nets can be a cost-effective way to protect vulnerable people and potentially provide a pathway out of poverty

6. Fiscal realities will reduce the scope for safety net coverage in some countries

7. For the vulnerable who cannot be reached by technical interventions or covered by safety nets, opportunities will have to be found outside of dryland zones

8. Demographic growth will bring new challenges but also new opportunities; if the transformation is well managed, the future is bright
New publication with complete study results
Annex slide
Structural transformation will reduce the share of agriculture in total employment

Starting at $600 of per capita GDP, a 2.5 % growth over 20 years may lead to a reduction in labor share of agriculture from 52% to 40%, thereby possibly reducing the relative exposure to shocks.