

Confronting Drought in Africa's Drylands

Opportunities for Enhancing Resilience

**Findings and recommendations
of a major new study**

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Collaborators and contributors

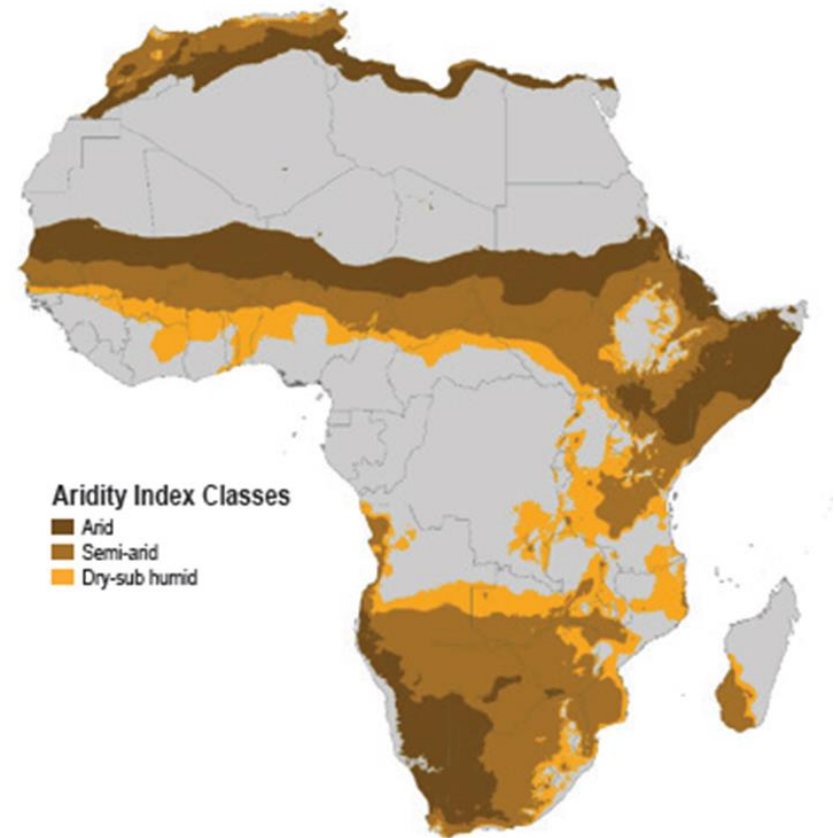


Africa Re-greening
Initiative



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)

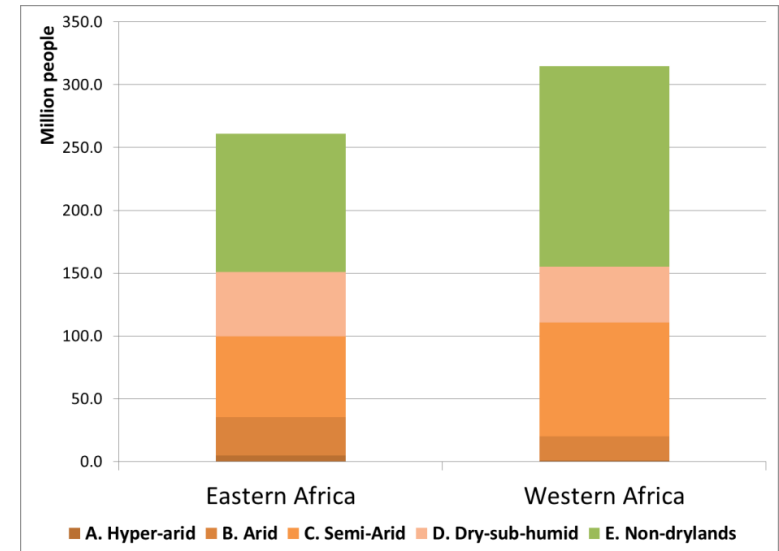
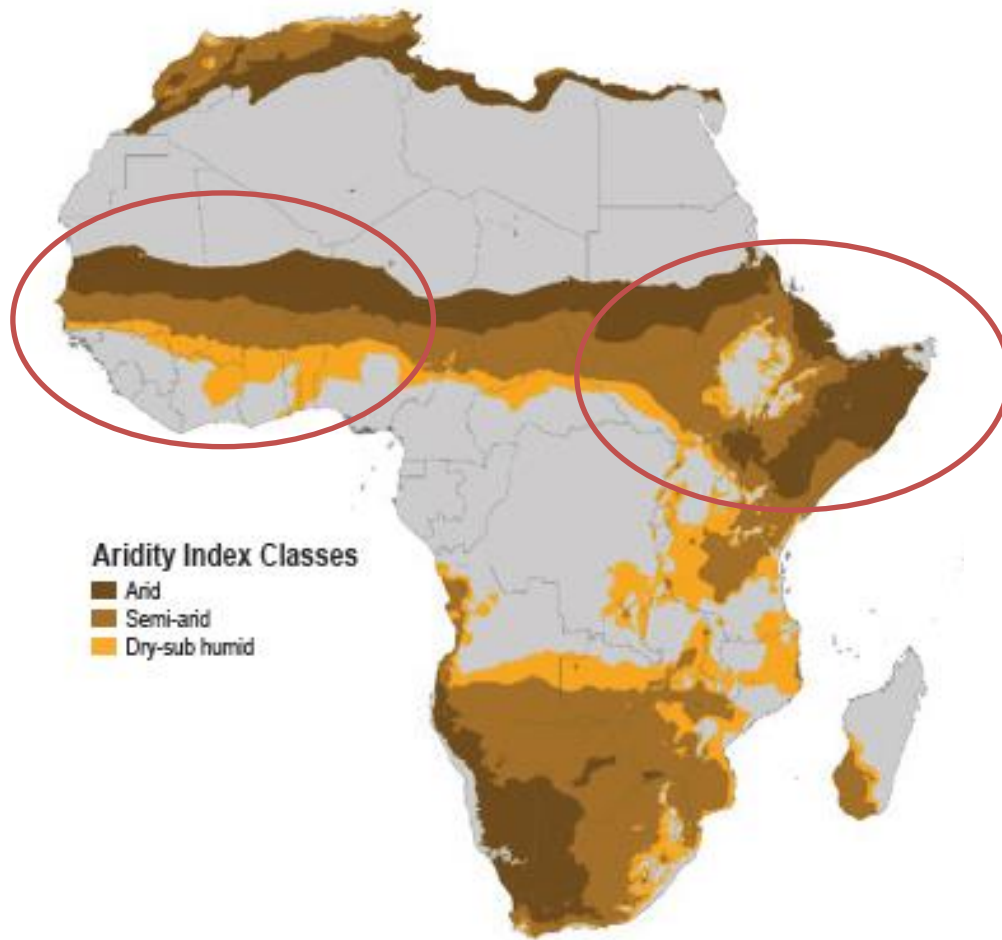
2. Better management of livestock, farming, and natural resources is effective and affordable

- 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



Some 300 million people are estimated to live in drylands in East and West Africa

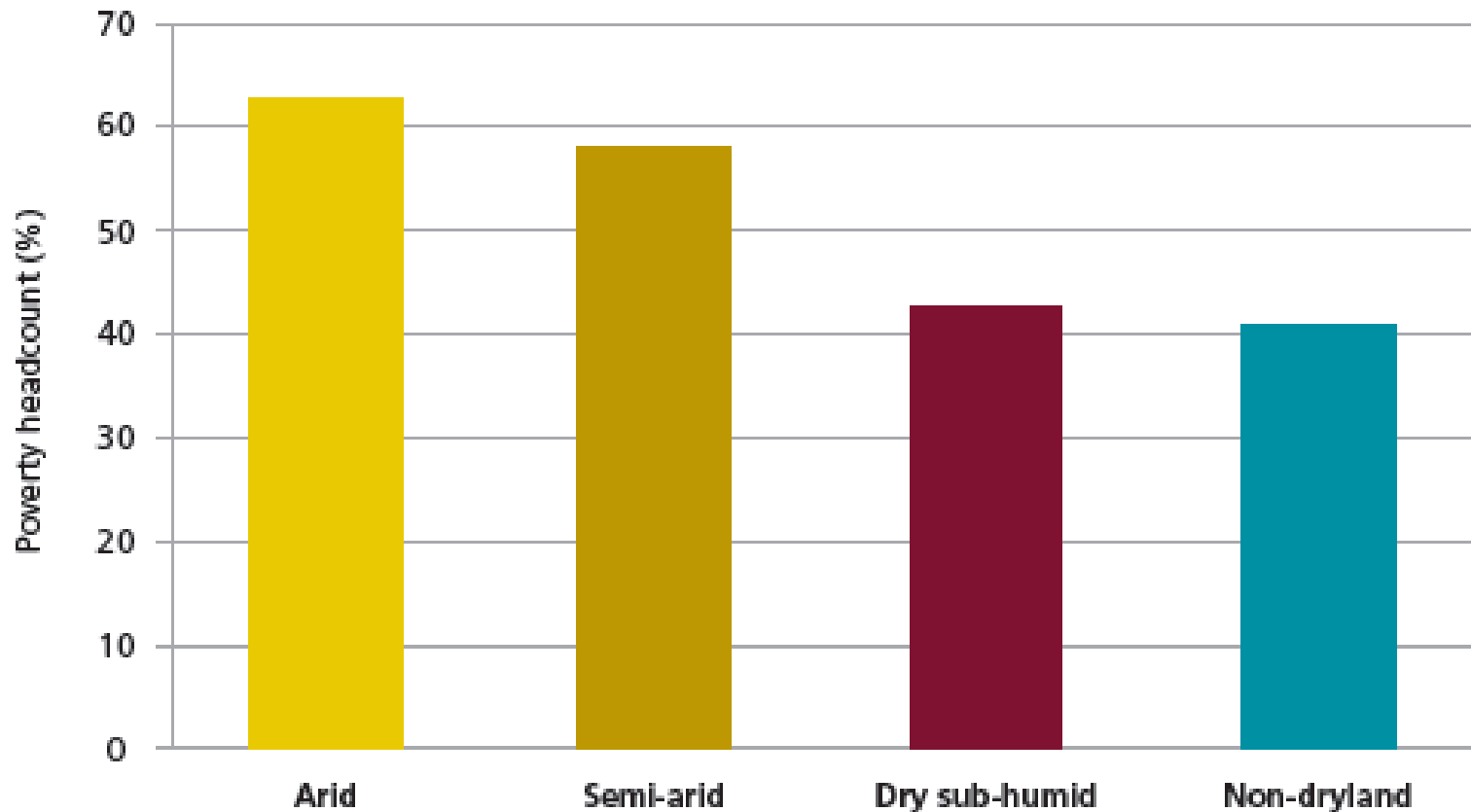
Drylands are defined based on the Aridity Index, which is consistent with UNCCD practice
Particular emphasis is given to the vulnerable areas in West and East Africa

Multiple challenges faced by drylands:

- Climate variability
- Poor infrastructure
- Land degradation
- Conflict
- Political marginalization

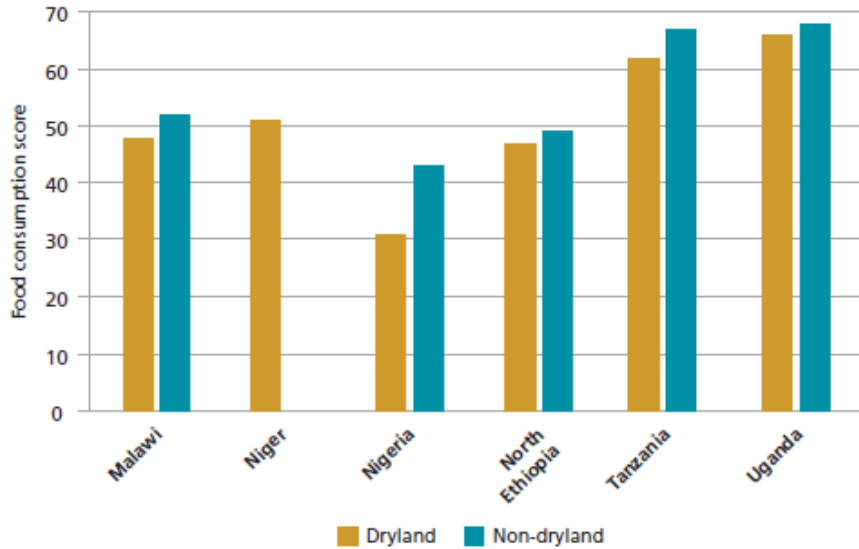
Result: Negative development outcomes

Poverty headcount by aridity zone (2010, selected countries)

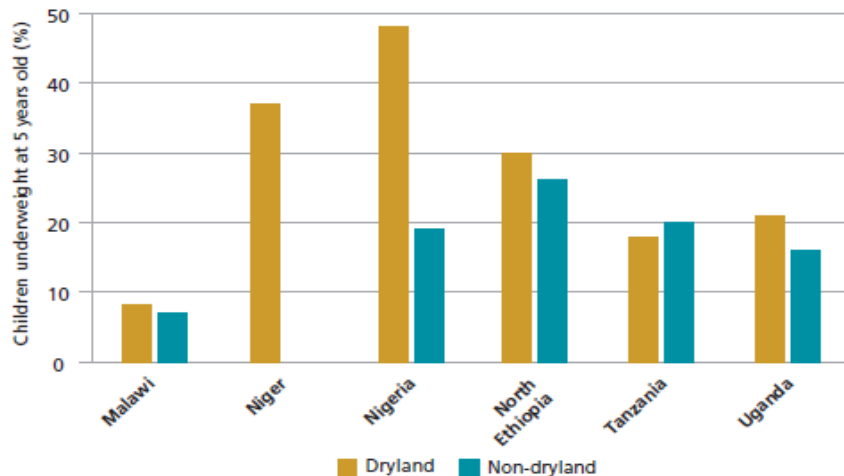


Figures refer to Niger, Nigeria, Ethiopia, Uganda, Malawi, Tanzania

Result: Lagging development indicators

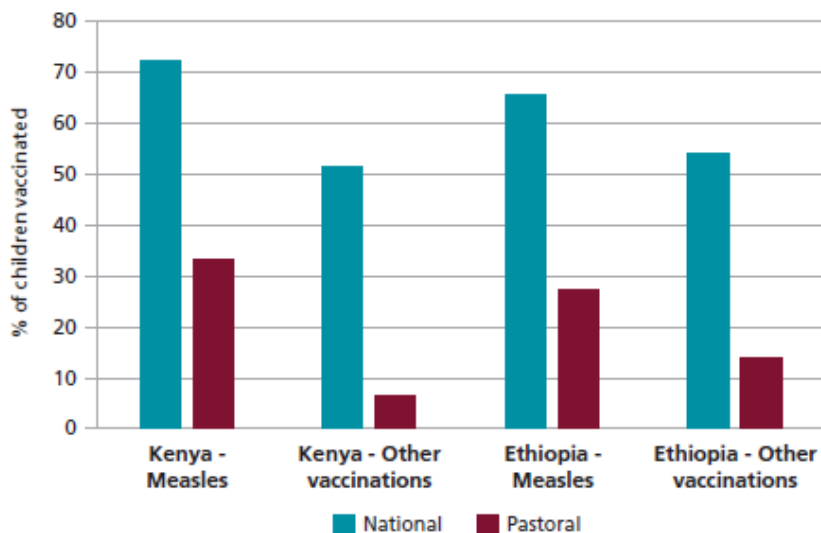


Food consumption scores
lower in drylands



Proportion of underweight
children higher in drylands

Result: Pastoralists particularly disadvantaged



Vaccination rates lower in dryland pastoral areas



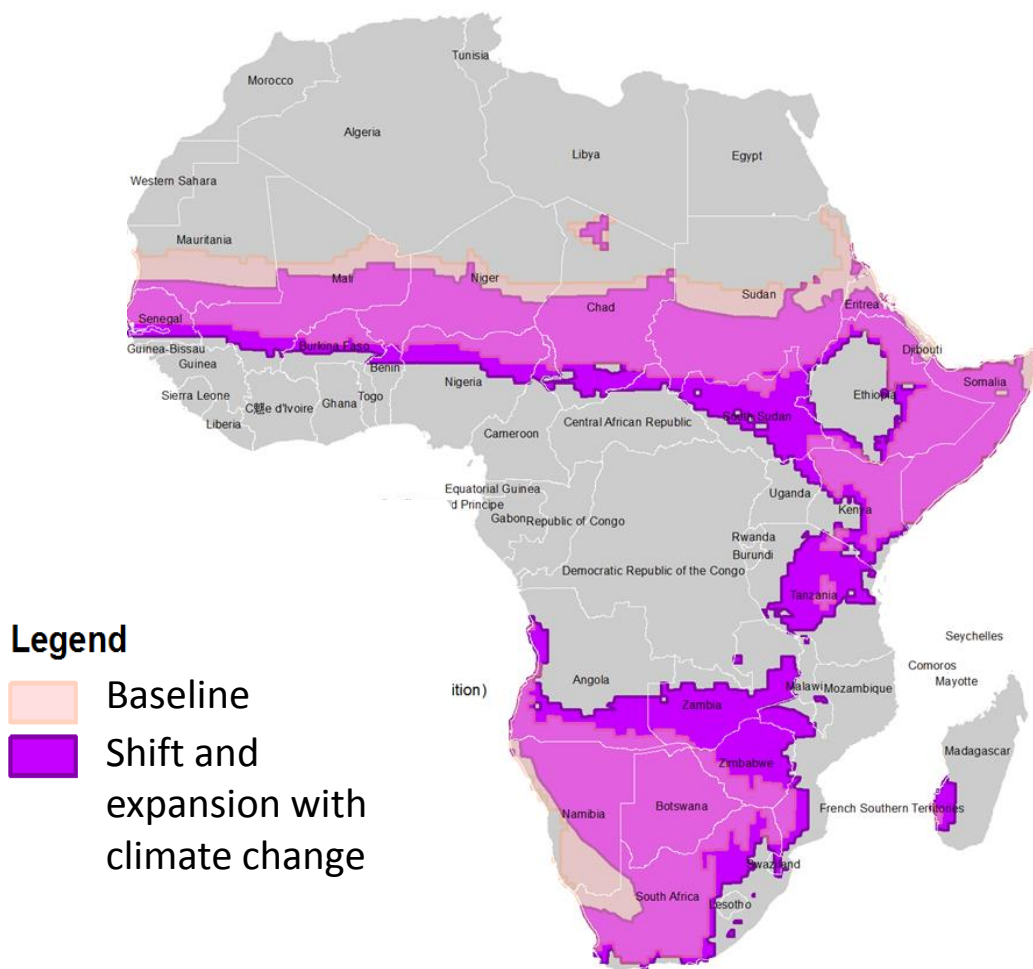
Primary school enrolment lower in dryland pastoral areas

Vulnerability profiles will change in the future

Change drivers	Exposure	Sensitivity	Inability to cope
Population growth	↑		
Climate change	↑		
Economic transformation		↓	↓

- 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

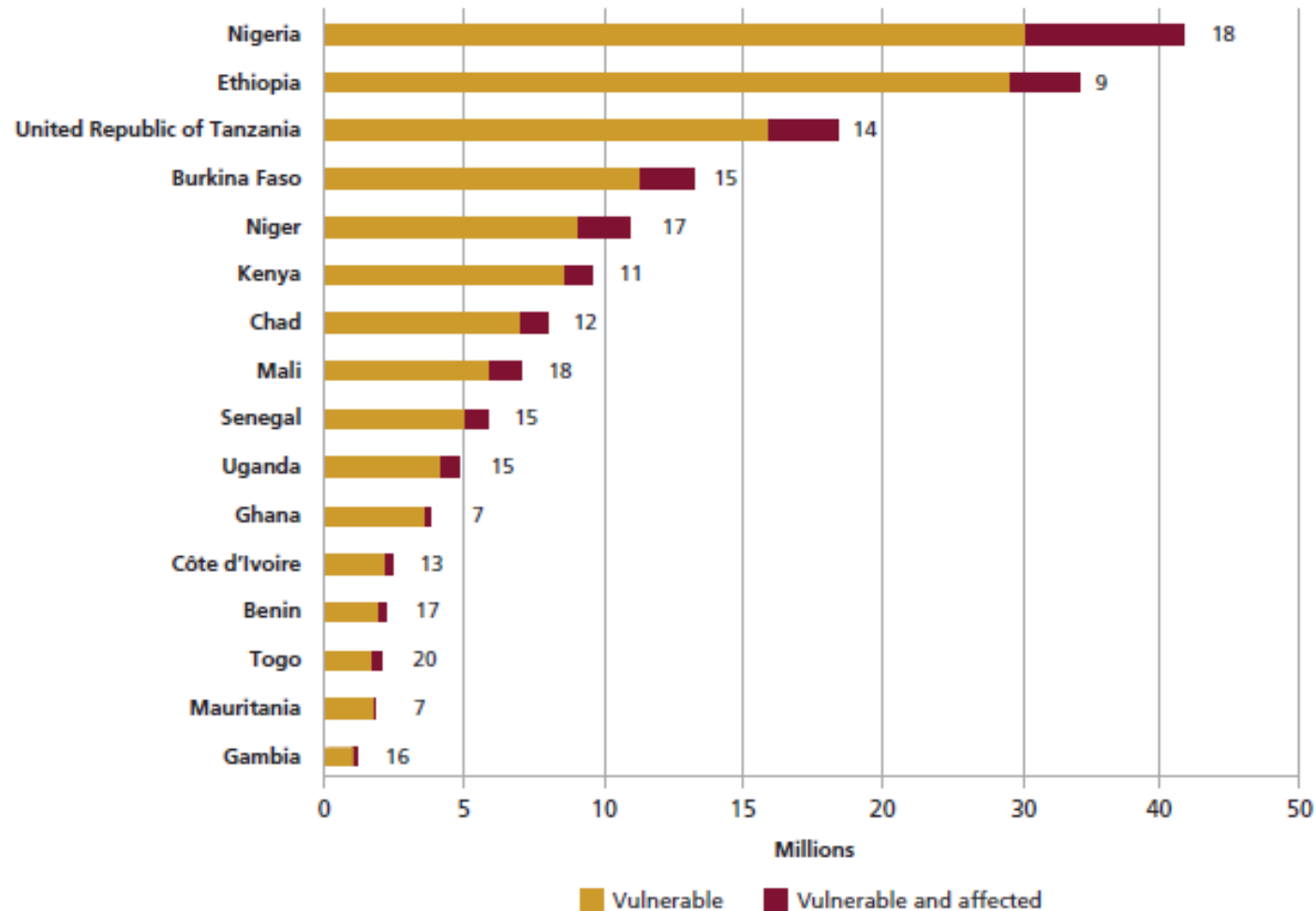
Climate change likely to shift the location of drylands



Climate change

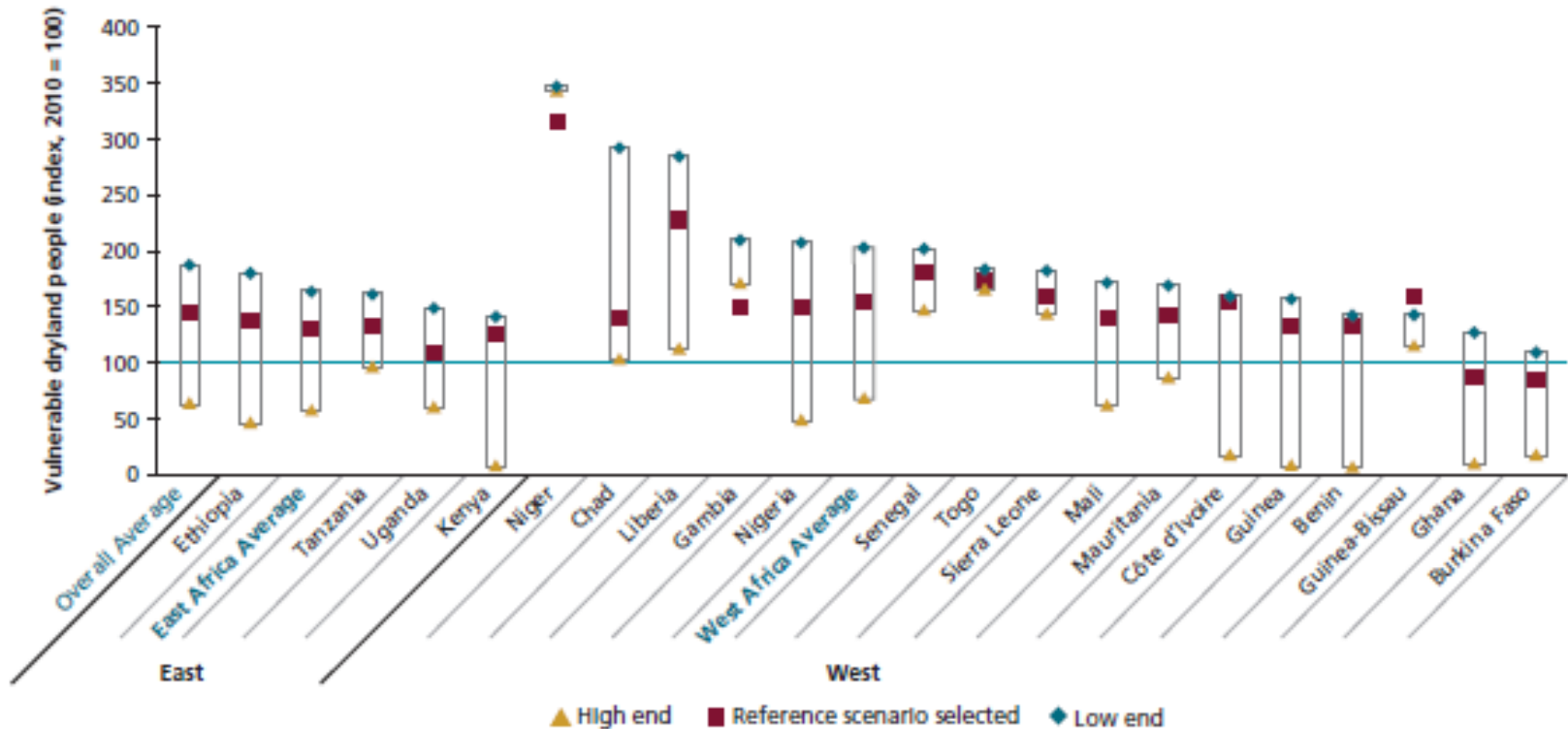
- Climate models used to analyze a range of climate change scenarios
- Drylands areas will expand and shift as the result of climate change
- Some zones might become incapable of sustaining livestock production and intensive agriculture
- In the driest scenario, drylands extent can increase up to 20%

Many people are already vulnerable...



Percent of people vulnerable to and affected by drought, 2010, selected countries

...and the problem is likely to intensify

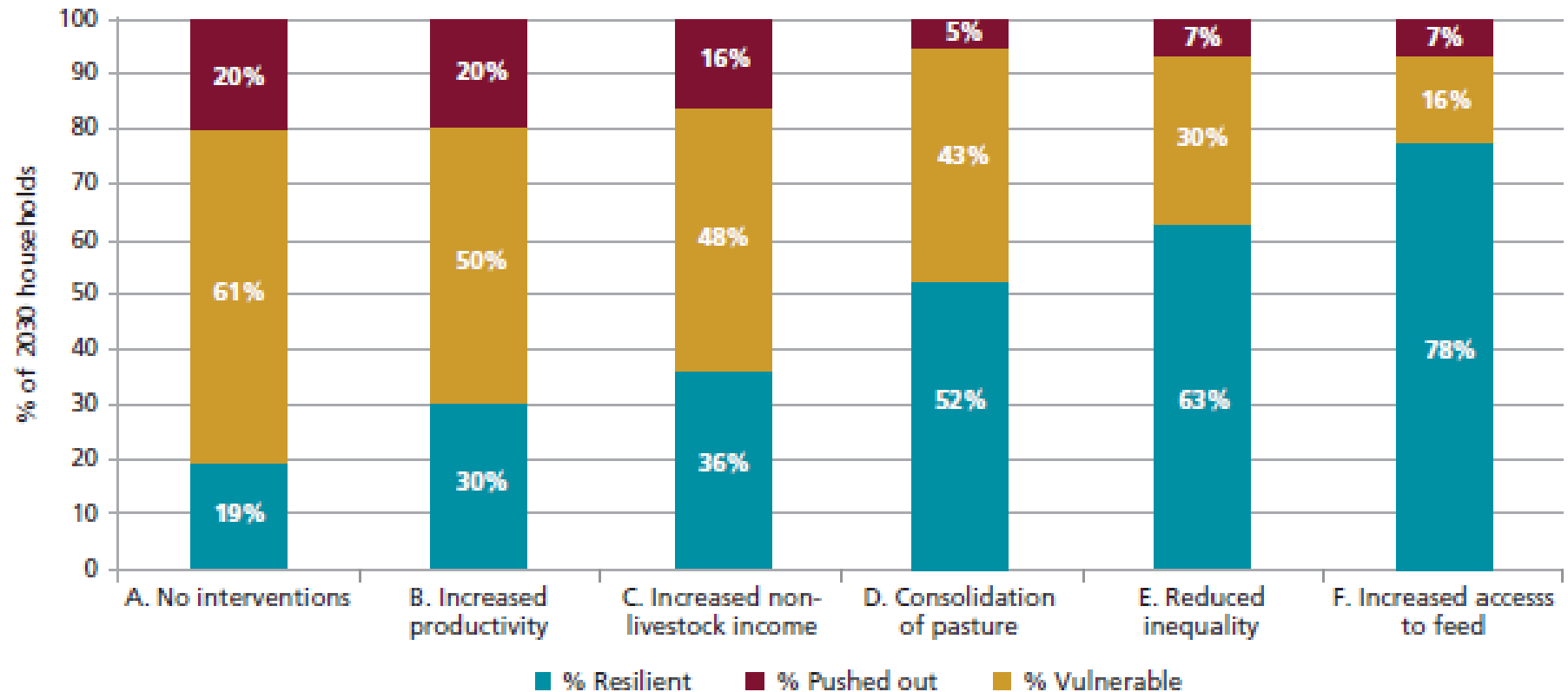


Vulnerable people living in drylands in 2030 (2010 = 100)

Study focuses on seven interventions to enhance resilience

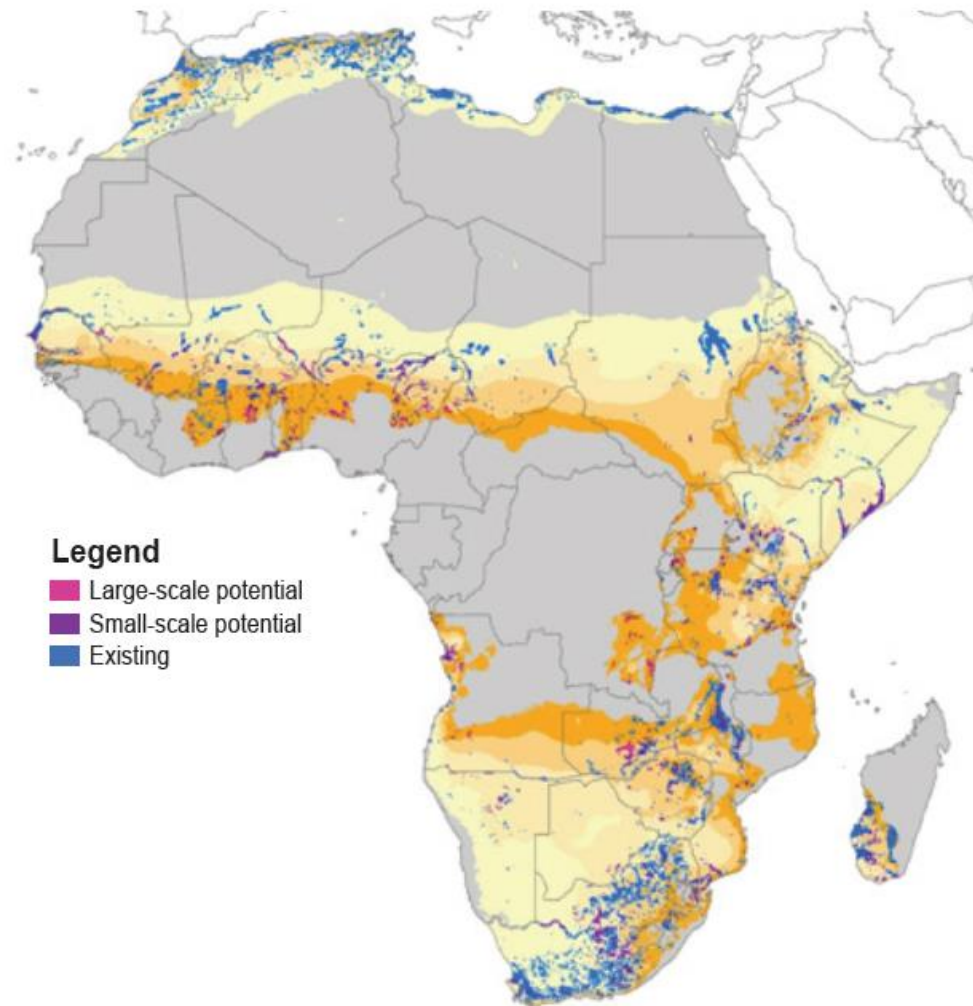
Interventions	Arid	Semi-Arid	Dry Sub-humid
Individual Themes			
Support to pastoralist livelihoods			
Irrigation			
Support to rainfed agriculture			
Tree based systems			
Cross-cutting			
Landscape approach			
Markets and trade			
Social Safety Nets			

Investing in livestock systems

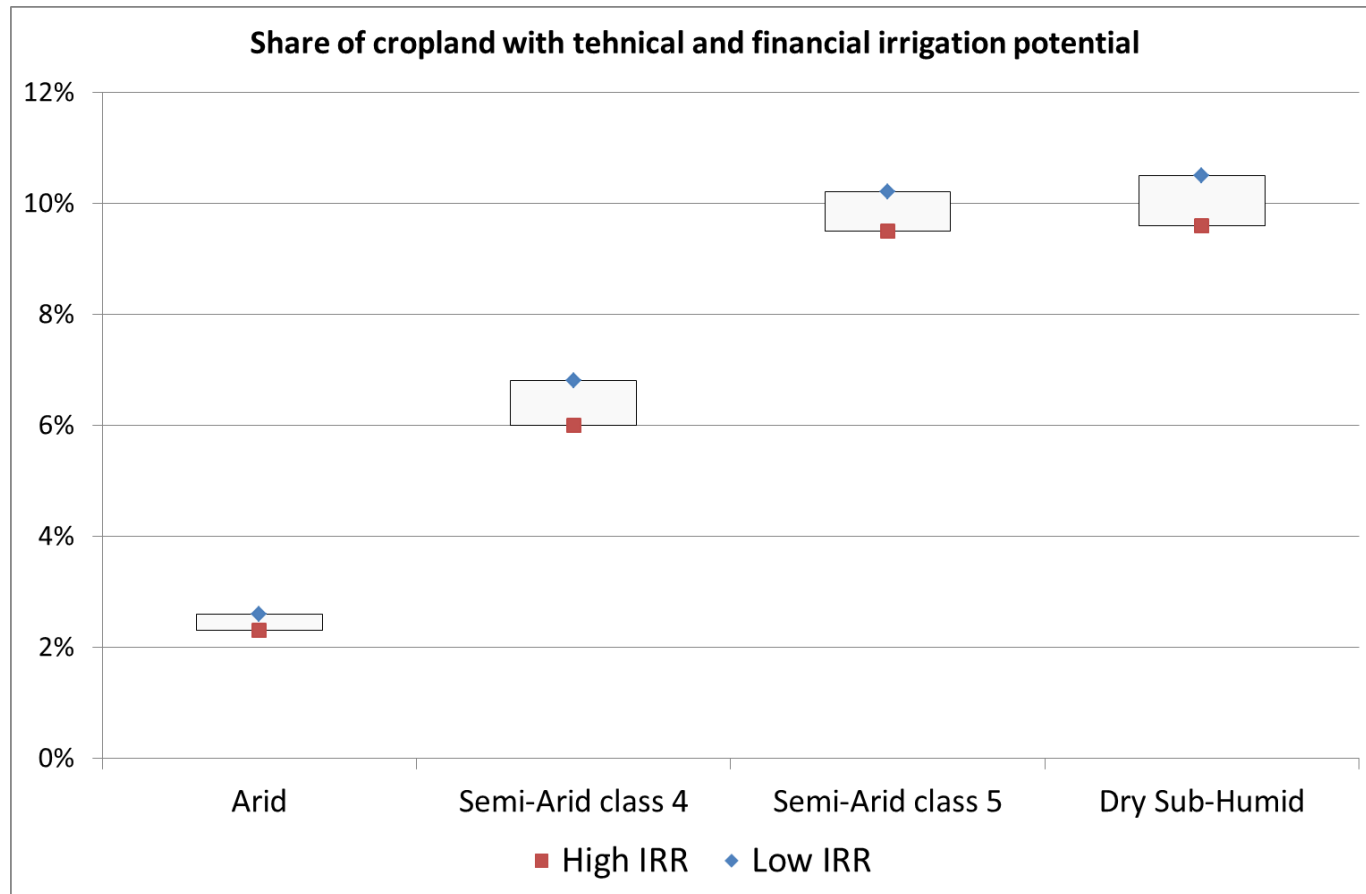


Impact of different interventions on the resilience status of livestock-keeping households, 2030

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) 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

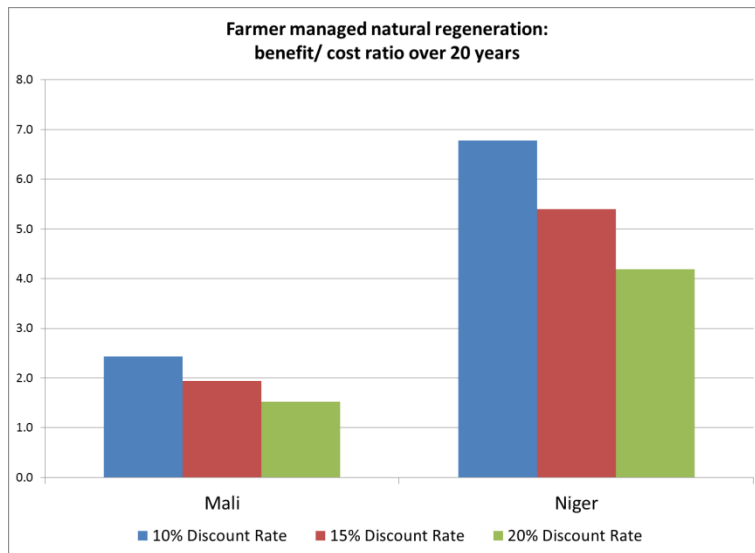
- Modern varieties
- Improved land and water management
- Crop-livestock systems
- Tree-based systems



Investing in tree-based systems

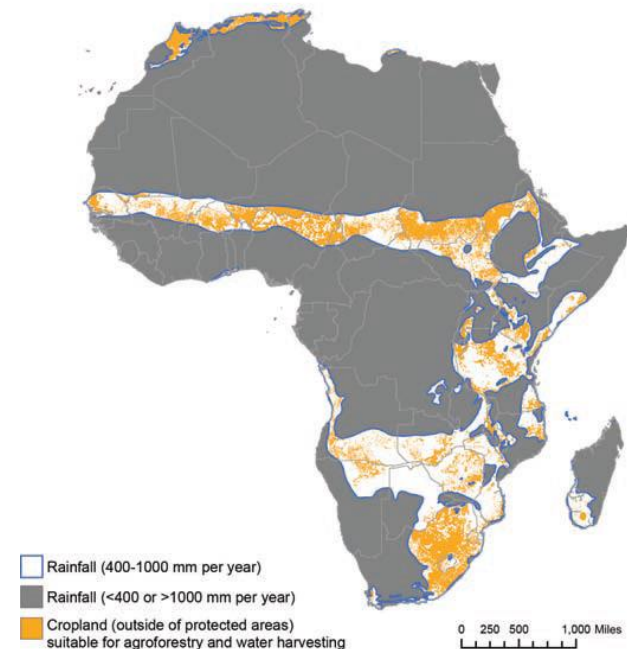
Trees can contribute to enhanced resilience

Farmer-managed
natural regeneration



Returns to farmer managed natural
regeneration under three discount rates

Planting of trees
for wood and non-wood products



Investing in landscape approaches

Use of landscape approaches could lead to triple wins:

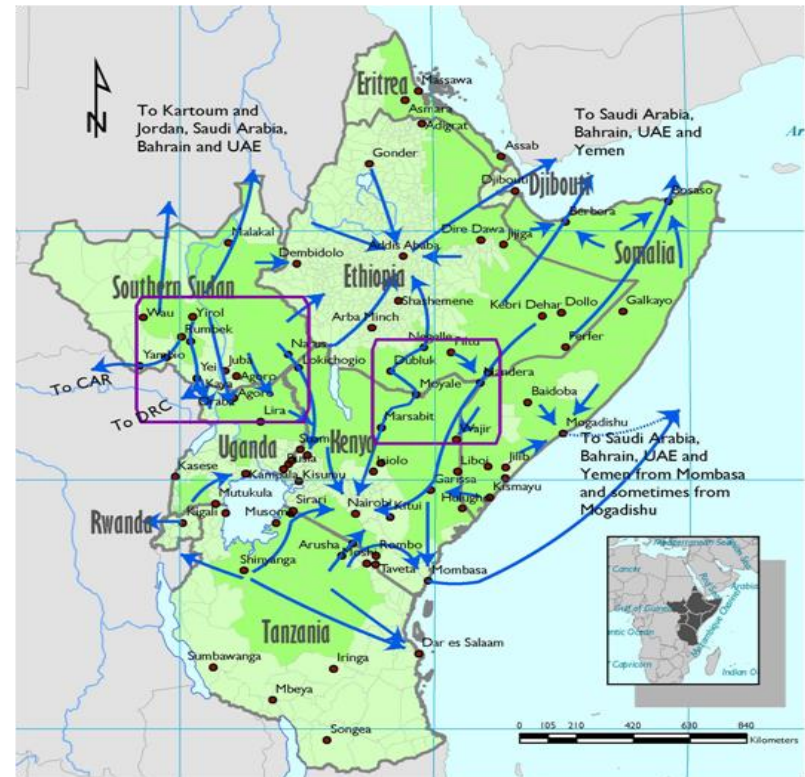
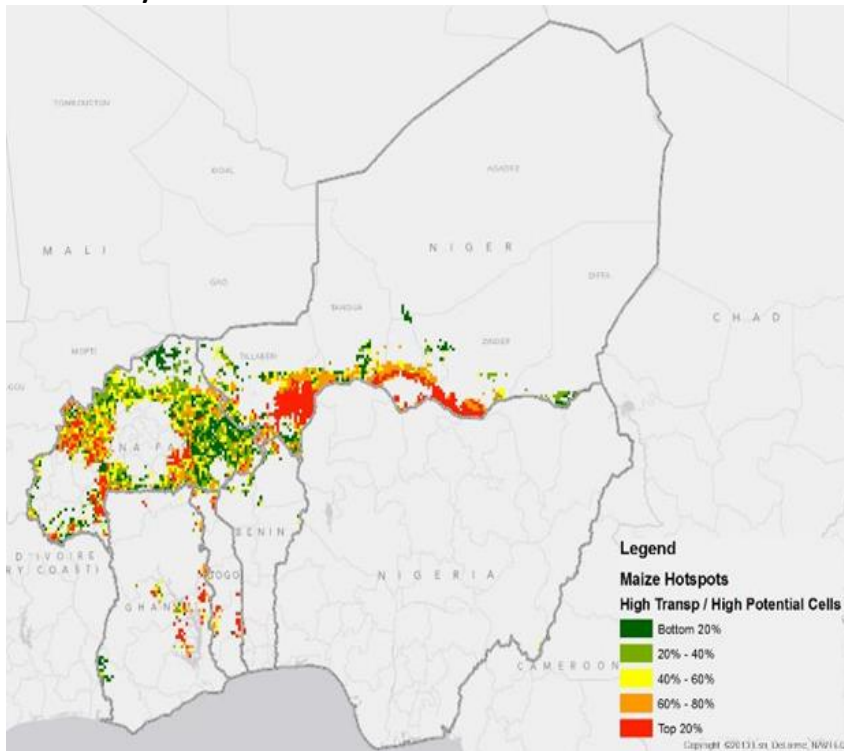
1. Improved productivity
2. Higher climate resilience
3. Carbon sequestration



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

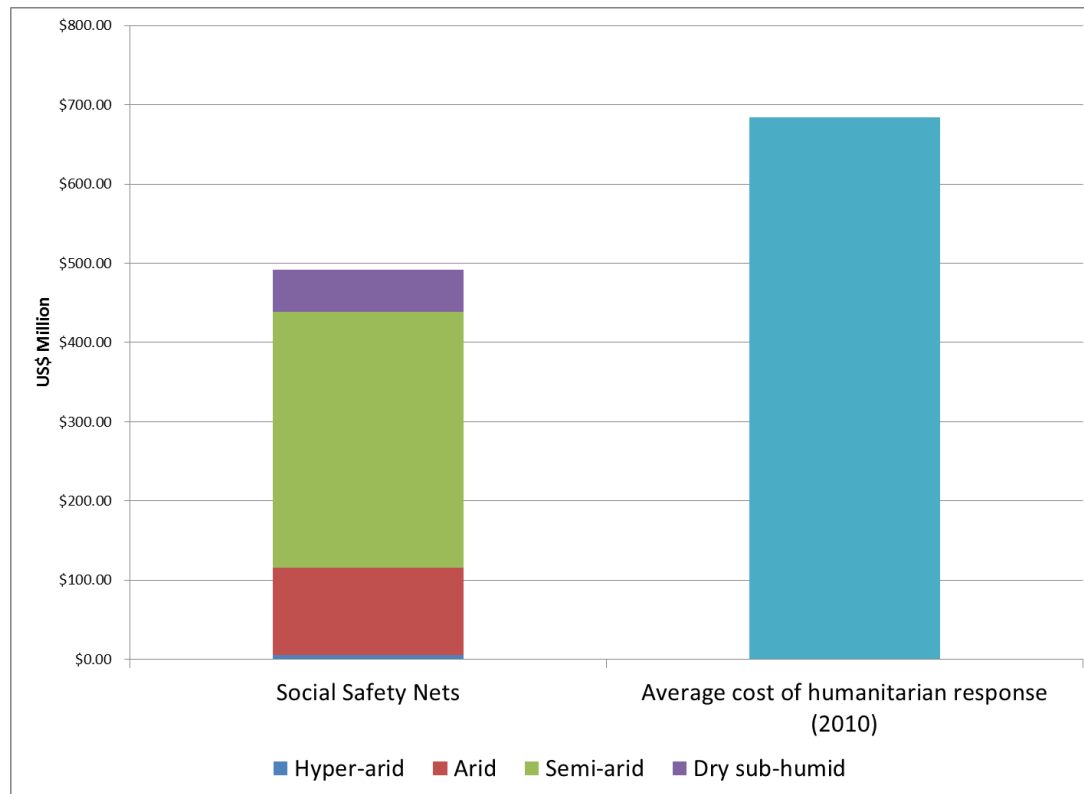


Improving infrastructure can enlarge marketsheds and lower food prices

Investing in safety nets

Expanding safety net coverage is cost effective...

The annual
cost of
safety net
coverage...

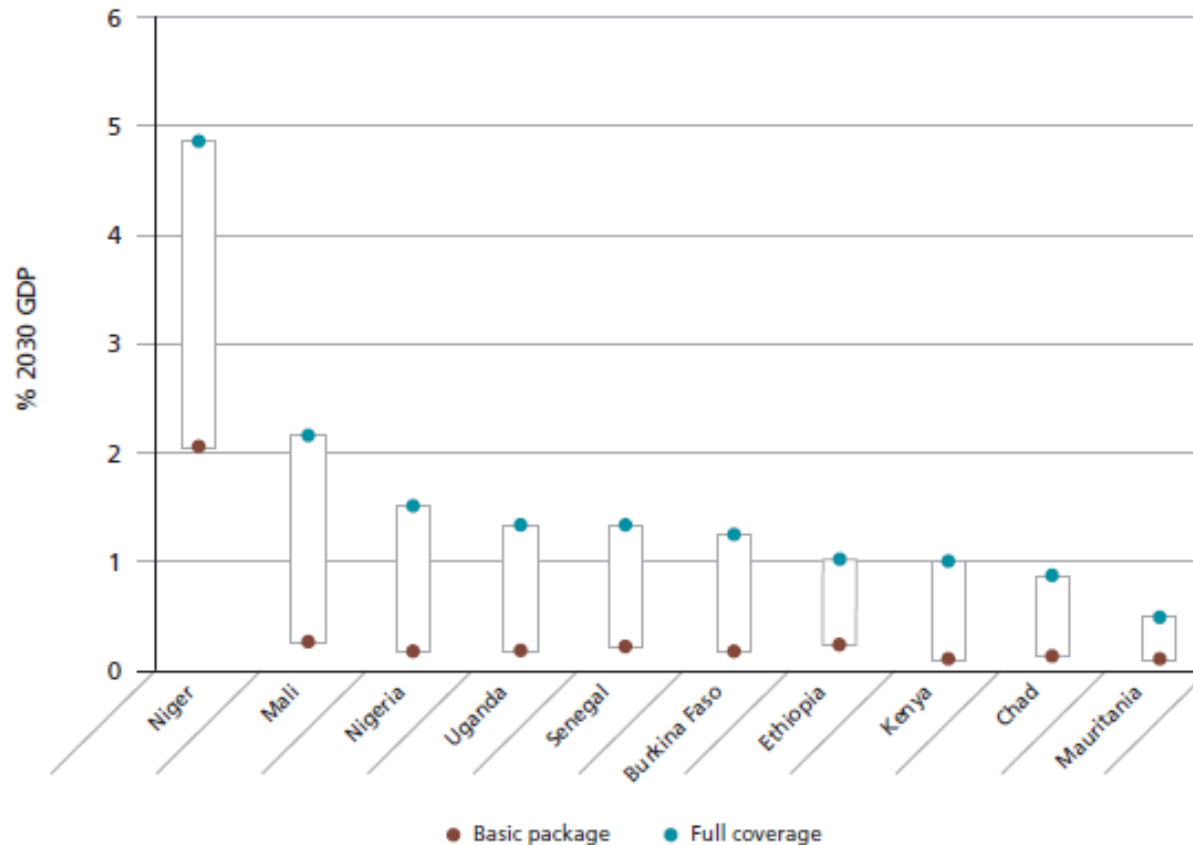


..is lower than
annualized
cost of
humanitarian
response in
times of crisis

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

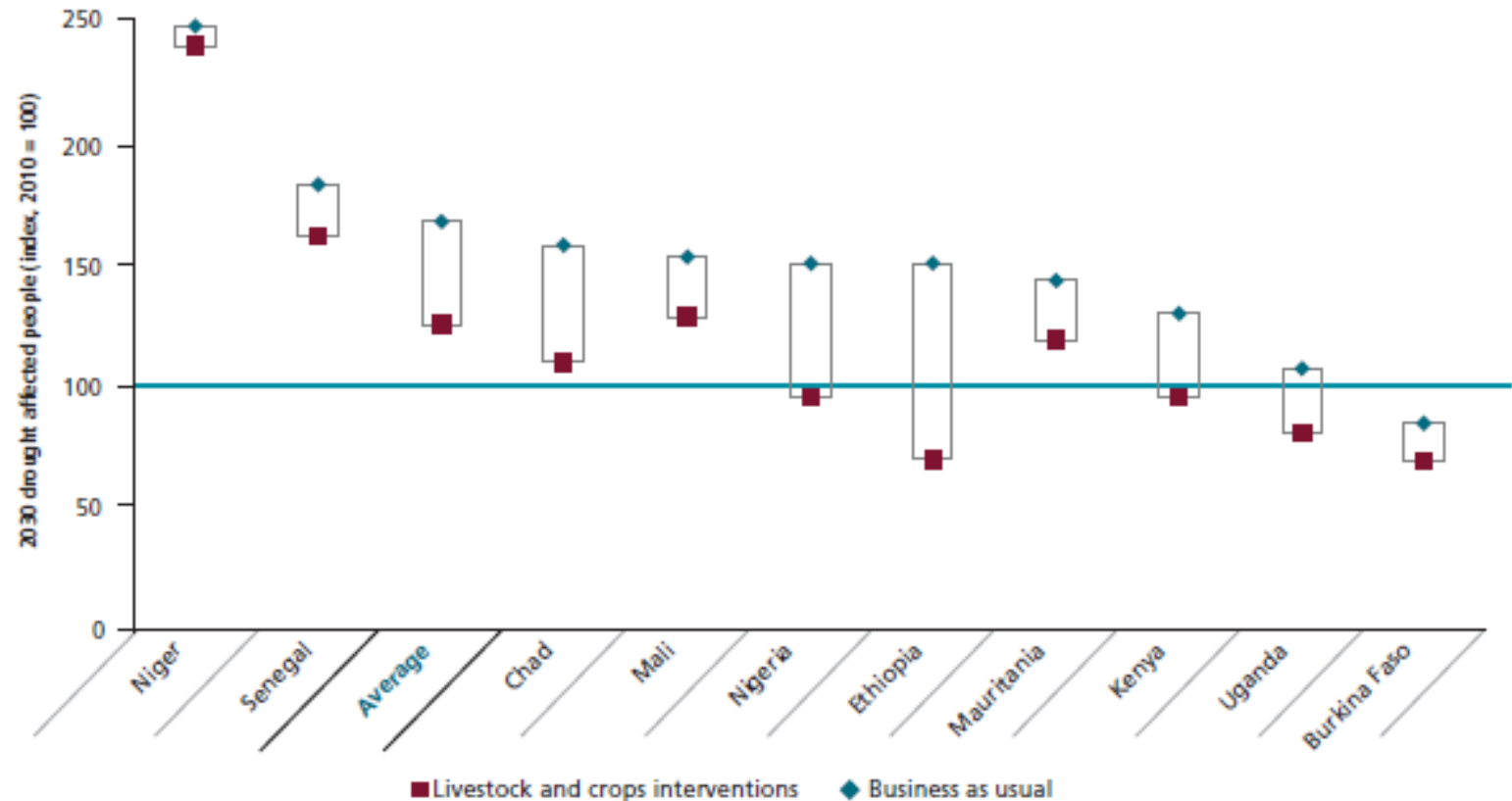
Investing in safety nets

...but the fiscal cost of complete coverage is large



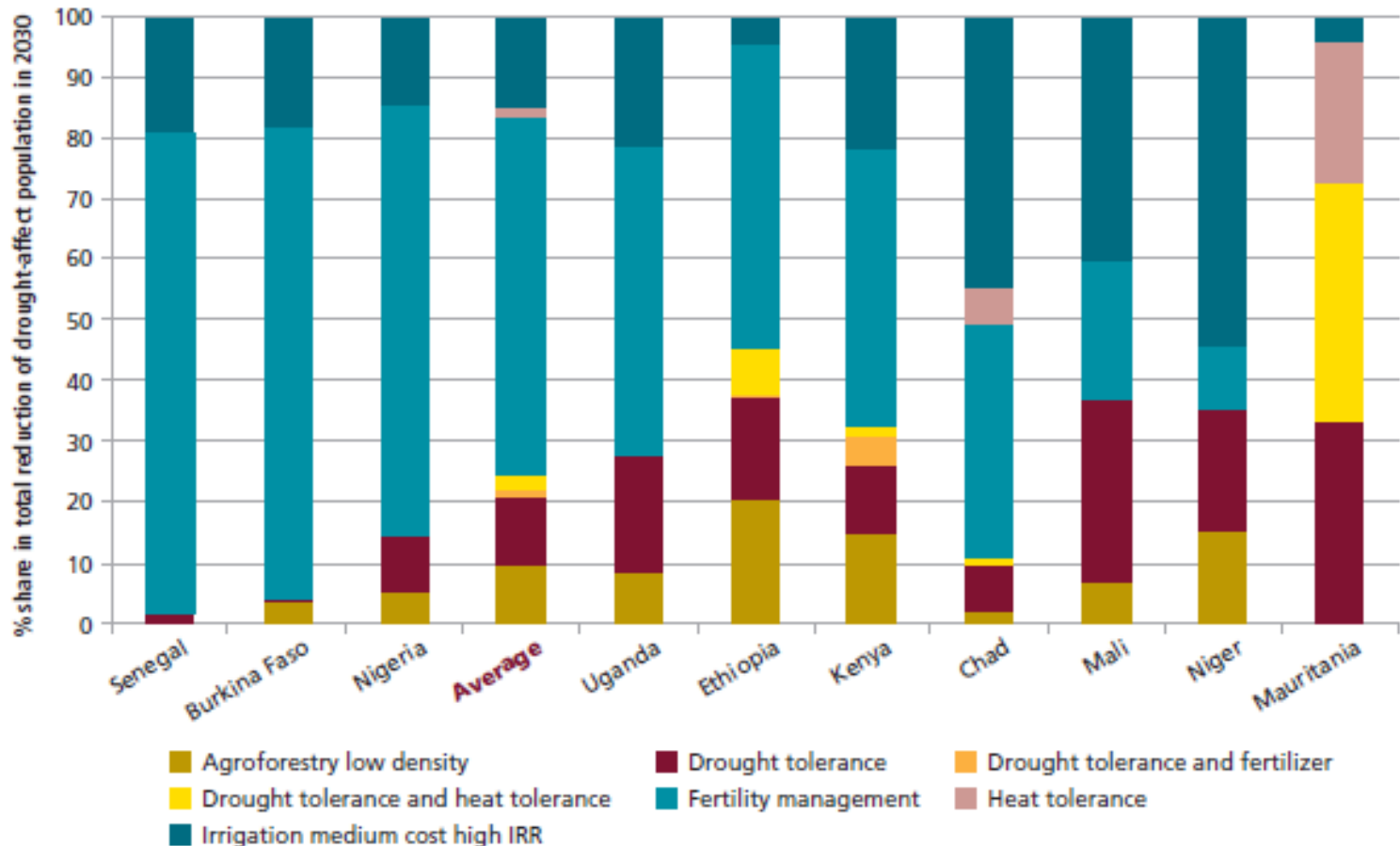
Cost of insuring resilience through safety net support, selected countries, 2030

Potential to reduce vulnerability through technical interventions varies between countries



Contributions of technical interventions to resilience, 2030

Optimal mix of interventions varies between countries



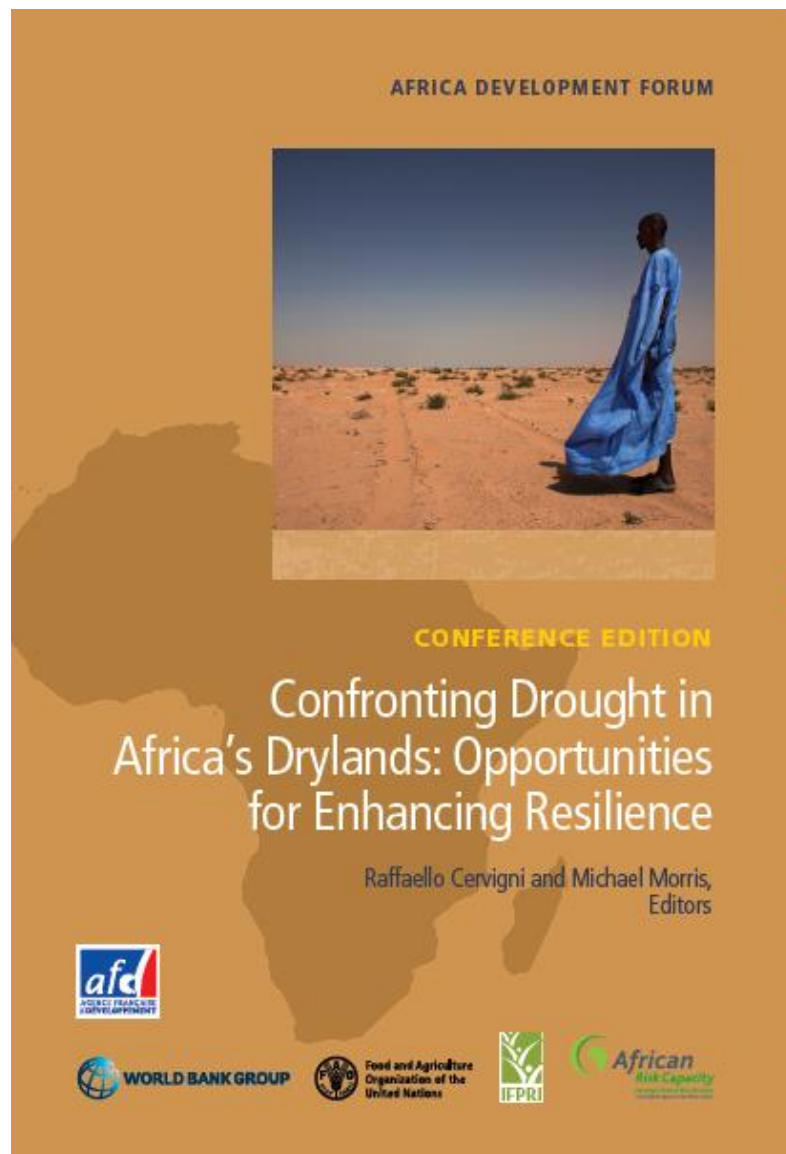
Relative contributions of technical interventions
to reduced vulnerability, 2030

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)

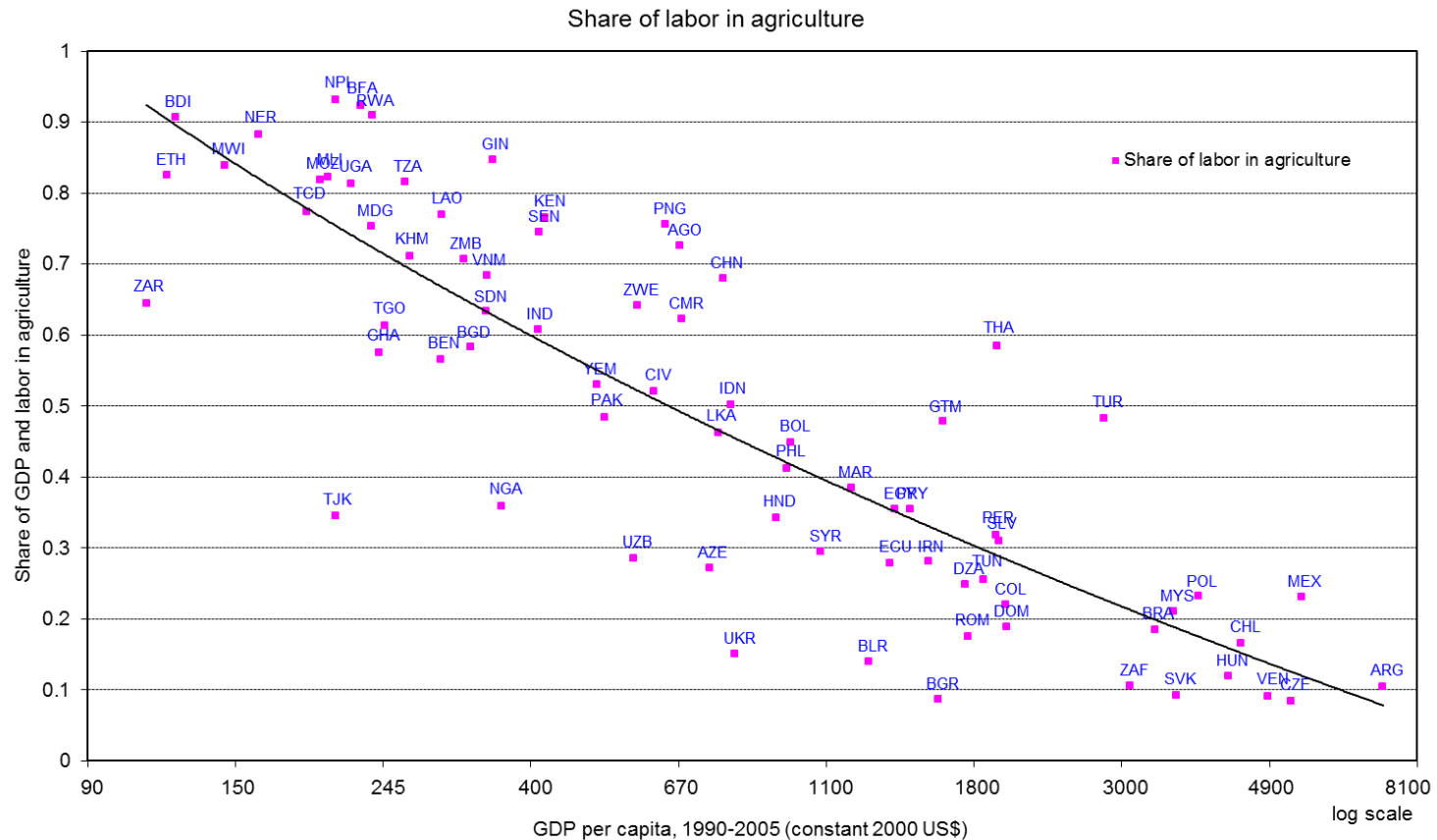
5. Investing in scalable safety nets can be a cost-effective way to protect vulnerable people and potentially provide a pathway out of poverty
6. Fiscal realities will reduce the scope for safety net coverage in some countries
7. For the vulnerable who cannot be reached by technical interventions or 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