

# Institutional innovation for building resilience to climate change in African agriculture

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# I. Introduction

- Climate change is a challenge to economic transformation in Africa
- The agricultural sector is considered to be the most prone economic activity to climate change related risks and uncertainties
  - African agriculture has least capacity to adapt
- Managing the complexity of the real world interactions between agriculture and climate change related risks and building resilience will require institutional innovations that are context-appropriate and forward thinking
- Building resilience to climate change provides an opportunity not only to address the challenges raised by shocks, but also to ensure that long-term development programs consider short-term vulnerabilities, and vice versa
- Africa's needs for building resilience stem from the continent's foremost sensitivity and vulnerability to climate change, together with its low levels of adaptive capacity

# II. Conceptualizing resilience

- The concept of resilience began in the field of ecology
  - describe models of change in the structure and function of ecological systems
  - measure of how fast a system returns to an equilibrium state after a disturbance
- Adopted and adapted by various fields, including development, as a way to think about how to cope with shocks
- A shift underway among ecologists and natural resource managers from the mechanistic and reductionist paradigm to a complex adaptive systems worldview
  - acknowledges the dynamism of systems, possibilities for non-linearity
  - consider social and ecological systems as linked and nested,
  - integrate social and ecological values in managing the environment for change and sustainability
- The resilience perspective is increasingly used as an approach for understanding the dynamics of social-ecological systems
- Such social-ecological approaches to environmental management address the nature of a system's resilience in the face of change and uncertainty

- Resilience is the capacity of a system, be it an individual, a forest, or an economy, to deal with shocks and continue to recover
  - It is about the capacity to use shocks and disturbances like climate change to spur renewal and innovative thinking
  - Such thinking embraces learning, diversity and above all the belief that humans and nature are strongly coupled to the point that they should be conceived as one social-ecological system.

- The cycle shocks and responses in the social-ecological systems can be depicted on different tiers:
  - Individual/Community risk perceptions → Community input to planning and prevention → Community responses during shocks → Community adaptation and recovery
  - Government led planning processes → Early warnings system → Government responses during shocks → Government recovery activities
  - Development partners' planning processes → DP early warnings → DP responses during shocks → DP recovery activities
- Different views of the main actors in each tier are inevitable
  - they can become a barrier to effective working if there is not a shared view of what roughly constitutes the shock cycle
  - without shared version, it can become easy for parties to spend time contesting others' views which differ from their own experiences
  - ❖ need for new institutions (principles, rules and procedures) to harmonize such views, perceptions and experiences for people to work together on the problems to be solved

### III. Significance of building resilience to African agriculture

- Africa is one of the most vulnerable continents to the adverse impacts of climate change
- Mean annual temperature rise over Africa, relative to the late 20th Century mean annual temperature, is likely to exceed 2° C in the medium scenarios by the end of this century
- Challenge to development in Africa where persistent problems of poverty and environmental degradation are already impeding development
- Agriculture, which is the main economic activity in terms of GDP and employment share, is 98% rain fed in the sub-Saharan region
- Impacts from recent climate-related extremes, such as droughts, floods, cyclones, and wildfires, reveal significant vulnerability and exposure of some ecosystems and many human systems to current climate variability

# Africa's adaptation gap

- According to the Africa's Adaptation Gap Report (UNEP, 2014):
  - Adaptation costs due to past emissions are estimated to be between USD 7-15 billion annually by 2020.
  - Even where the emissions are reduced and we get onto a pathway to hold warming below 2°C - by 2050 adaptation costs could hover around USD 35 billion per year.
  - Beyond 3.5-4°C adaptation costs for Africa will be USD 45-50 billion per year by 2040s and USD 350 billion per year by 2070s.
  - Has also identified the shortcomings and opportunities for adaptation to Climate Change
    - results demonstrate that financial resources for adaptation and building resilience to climate change is the most urgent for Africa
    - delaying action now will result in exponential costs down the road.

Factors that make households resilient to climate change related shocks and stresses include:

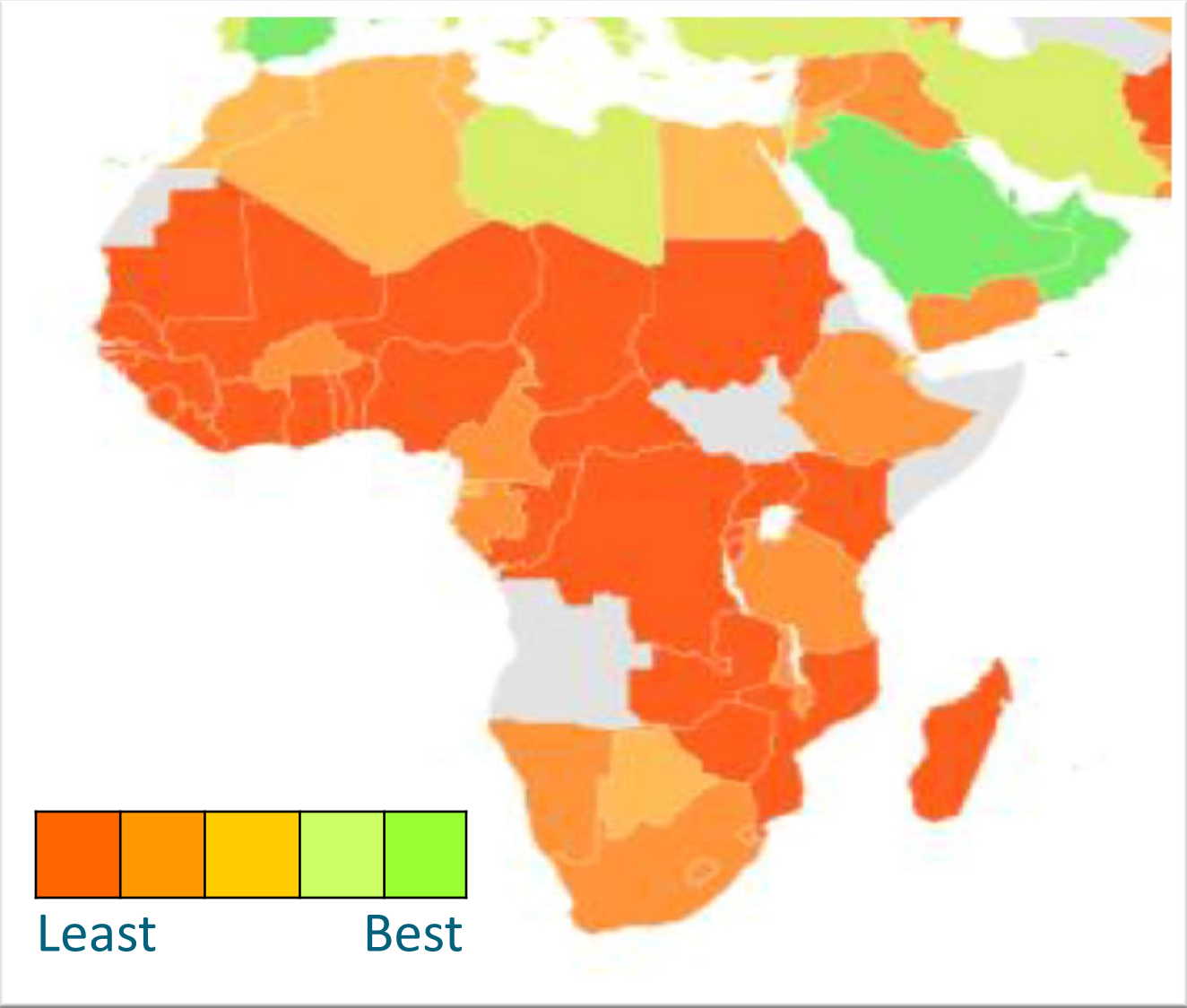
- income and access to food;
- assets such as land and livestock;
- social safety nets such as food assistance and social security;
- access to basic services such as water, health care, electricity, etc.;
- households' adaptive capacity which is linked to education and diversity of income sources; and
- the stability of all these factors over time



# Measurement is still a challenge

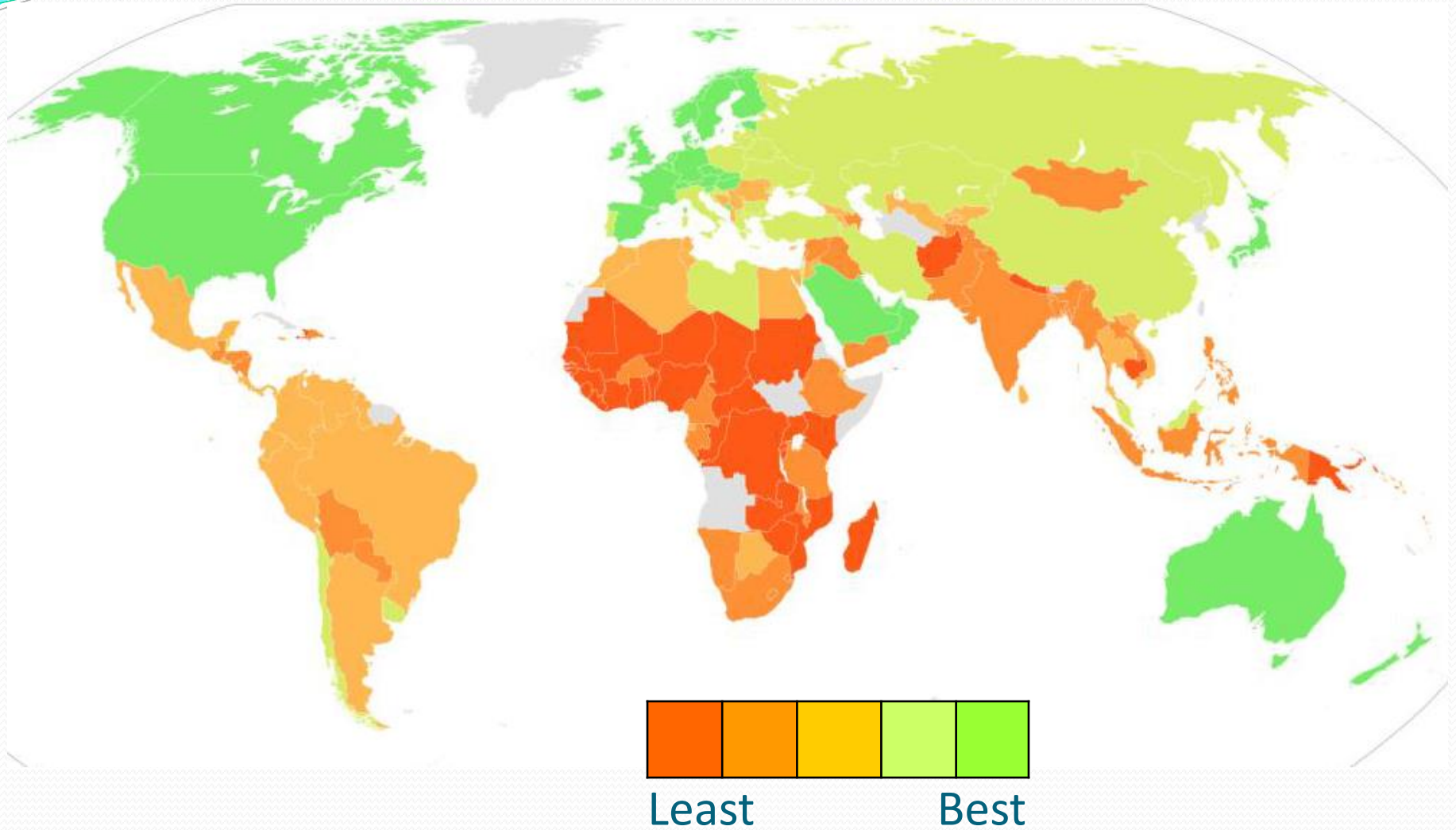


Figure 1. Africa - Household Risk Preparedness Index



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# Figure 1: World preparedness to risk



# Salient features of national/regional initiatives to build resilience for climate change

- *Resilience seems to offer promise as a way not only to address the challenges raised by shocks, but also to ensure that long-term development programs consider short-term vulnerabilities (IFPRI 2014)*
- The 2011 food crisis in the Sahel and Horn of Africa was a wake-up call to building resilience
- Agencies/ governments/RECs are weighing how a resilience agenda would fit into their work.
- European Commission (2012) articulated “The EU Approach to Resilience: Learning from Food Security Crises”
  - Building resilience is a long-term effort that needs to be firmly embedded in national policies and planning
  - It is a part of the development process, and genuinely sustainable development will need to tackle the root causes of recurrent crises rather than just their consequences
  - Resilience strategies should contribute to different policies, in particular Food Security, Climate Change Adaptation and Disaster Risk Reduction (DRR)

## Salient features of national/regional initiatives...

- USAID put forth “Building Resilience to Recurrent Crisis: USAID Policy and Program Guidance”
  - to better coordinate its development and humanitarian approaches to effectively build resilience in targeted areas of recurrent crisis that undermine development gains
  - to ensure that humanitarian relief and development experts work together to better plan and program to build resilience and help vulnerable communities move from cycles of crisis to a pathway toward development.
  - seeks to achieve specific results to build resilience for vulnerable populations:
    - increased adaptive capacity;
    - improved ability to address and reduce risk;
    - mitigate and recover from shocks and stresses; and
    - improved social, economic and ecological conditions.



# Salient features of national/regional initiatives...

- International Federation of Red Cross and Red Crescent Societies (IFRC, 2012) released “The Road to Resilience: Bridging Relief and Development for a More Sustainable Future”
  - combine the humanitarian concern for imminent threats with the sustainable and longer-term approaches and institutional strengthening traditionally associated with development;
  - bring about the serious changes needed for sustainable development in the years ahead by effectively contributing to building resilience
- Asian Development Bank (2013) released “Investing in Resilience: Ensuring a Disaster-Resistant Future”
  - establishes a vision of a resilient future and equips investors with a framework and ideas to identify practical actions that will result in the realization of that vision.
  - The vision shows how resilience can be accomplished through the coordinated action of governments and their development partners in the private sector, civil society, and the international community.
  - It stresses the interconnectedness and complementarity of possible actions to achieve resilience across a wide range of development policies, plans, legislation, sectors, and themes.

## Salient features of national/regional initiatives...

- World Development Report (2014) “Risk and Opportunity: Managing Risk for Development”
  - Recognizes the opportunity for growth and welfare improvement may never materialize without confronting and even taking risks
  - examines how improving risk management can lead to larger gains in development and poverty reduction
  - It argues that improving risk management is crucial to reduce the negative impacts of shocks and hazards, but also to enable people to pursue new opportunities for growth and prosperity
  - Risk management is also a shared responsibility that requires the active participation of different economic and social systems, as well as the State

## Salient features of national/regional initiatives...

- In most regions of Africa, RECs are initiating governance systems for resilience and responding to climate change, but evolving institutional frameworks cannot yet effectively co-ordinate the range of initiatives being implemented
- ECOWAS : AGIR
  - Global Alliance for Resilience –Sahel and west Africa (AGIR)
  - Political and technical leadership of ECOWAS, UEMOA, and CILSS
  - Pays particular attention to the countries of the Sahelian Belt, which are structurally exposed to recurrent food crises and chronic malnutrition.
  - Overall objective of the Alliance is to “Structurally reduce food and nutritional vulnerability in a sustainable manner by supporting the implementation of Sahelian and West African policies” and to eradicate hunger and malnutrition within the next 20 years
  - Greater attention on the most vulnerable populations with the goal of building their resilience and capacity to withstand crises and shocks
  - long-term political partnership to enhance the effectiveness of Sahelian and West African initiatives
  - It serves as the basis for formulating national resilience priorities, including operational frameworks for funding, implementation, monitoring and assessment



# IGAD

- The ever decreasing interval between drought and famine events have served to demonstrate the gravity of the inability of IGAD Member states to allocate the required resources to put in place adequate measures to enhance resilience of the affected communities,
- The need for coordinated and sustained long term regional approach to addressing the situation through priority national and related regional disaster risk reduction and dryland development initiatives.
- IGAD Regional Disaster Resilience and Sustainability Platform
- Reflects a deep commitment to greater regional cooperation and coordination in response to drought
- The specific objectives of the IGAD Regional Platform are to:
  - coordinate the identification, prioritization and elaboration of national and regional interventions aimed at building drought resilience especially in the IGAD arid and semi-arid lands (ASALs);
  - mobilize resources (human, physical and financial) to address the identified priority interventions and
  - to collect, analyse and disseminate/publish information on the implementation of the interventions at national and regional levels

# COMESA

- Most of the countries in the region have either climate change policy or National Climate Change Strategy and Action Plan and NAPA/NAP, NAMA etc.
- All countries have identified agriculture as important for both adaptation and mitigation.
- Yet, in most countries these climate change instruments have no relationship with the existing NAIPs.
- Need to build synergy between the NAIPs and the National Climate Change instruments in those aspects dealing with agriculture
- Anticipated 2015 Climate Change Agreement which provides opportunity for agriculture to be part of the solution
- Drastic and innovative measures are needed to help farmers cope with and build resilience to the changes in regional weather patterns with impact on the social-ecological systems

# Country experience: The Ethiopian Household Asset Building Programme

- Government of Ethiopia notes persistent food insecurity and ecological degradation remain a major problem in many parts of the country
- It recognizes the need to shift away from ad hoc responses to a planned, systematic approach
- Embodied in the Government of Ethiopia's Food Security Programme
- Rehabilitating degraded land as part of a strategy to build the resource base and reduce competition for natural resources
- Enhanced set of activities to strengthen the capacity of households to generate income and increase asset holdings
- Support households to prepare for, mitigate, and reduce negative impacts of recurrent stresses
- Includes emergency response, climate adaptation and investment to support livelihood transformation

# Household asset building through social protection



- Ensure that households in vulnerable areas are able to diversify their income sources and increase productive assets
- Build resilient social-ecological systems





- Productive safety nets help to create public goods by conserving the environment
- Important source of income for the poor during slack seasons





- Degraded land turned into grassy pasture land
- Favorable grass species have sprouted all over the area
- Massive soil movement owing to torrential rain was prevented
- Infiltration enhanced water table of springs
- The environment is being reclaimed.





- HABP
  - Assisted in the preparation and implementation of business plans using rotating loan fund from the Food Security programme budget
  - Ensure that the business plans are the outcome of household decisions, not the supply-driven
  - Some engage in new nonfarm own business activities.

# Conclusions

- Resilient social-ecological systems require a contextual analysis to look at time and scale factor at household and agro-ecology level
- An integrated approach to increase the capacity of society to manage climate change related risks with a view to build resilience of households and maintain or increase the opportunities for sustainable development
- A successful land restoration can be attributed to ecosystem processes that together determine ecosystem health and productivity: water cycle, mineral cycle, energy flow and plant and living communities
- When designing a strategy for building social-ecological resilience, one must consider to encompass a wide range of activities that will need to be evaluated and prioritized
- The challenge is to figure out how to create a policy and institutional environment that is conducive to improving livelihoods with measures that have potential positive ecological impact
- The Ethiopian HABP is an example that demonstrate this is indeed achievable





Thank you !!!!