

Sustainable Lives and Livelihoods



Food and Energy Producing Landscapes



# Uplifting Extensive Grazing Systems: Livelihoods for resilience in the Horn of Africa

Constance Neely, Polly Ericksen, Katie Downie, Sabrina Chesterman

Rehabilitation



Sustainable Production



Conservation



Soil Health

Effective Water Cycling

Biological Diversity

# This Presentation

- General Overview of the Technical Consortium (TC) for Building Resilience to Drought in the Horn of Africa (CGIAR-FAO-TCI)
- Emergent Natural Resource Priorities
- Linking Decision Making to Resilience
- Example of Pastoral Management
- Potential Contribution of HOA effort to GAA

# Background

- TC conceived after ILRI hosted a consultation in early September 2011 on behalf of AU-IBAR
- CGIAR and ILRI trying to broaden knowledge base on drought resilience
- Heads of State Summit in Nairobi in September 2011 galvanized IGAD member states to commit to ending regional drought emergencies

Investment planning toward long term investments by an alliance of donors



# IGAD Member States



# What is the Technical Consortium?

- A **joint CGIAR/FAO initiative**, with ILRI representing the CGIAR Centres and the FAO Investment Centre in Rome representing FAO
- Funded **initially by USAID** – this was envisaged as a longer term initiative, complementing the implementation of investment plans in the region
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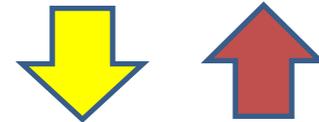
# What is the purpose of the Technical Consortium?

- Provide **technical and analytical support** to IGAD and national governments in the implementation of the Regional Programming Framework
- Provide support to the development of **regional and national investment programmes** for the long term development of the arid and semi-arid lands (ASALs)
- **Harness CGIAR research and other knowledge** around drought resilience

# A Unique Partnership

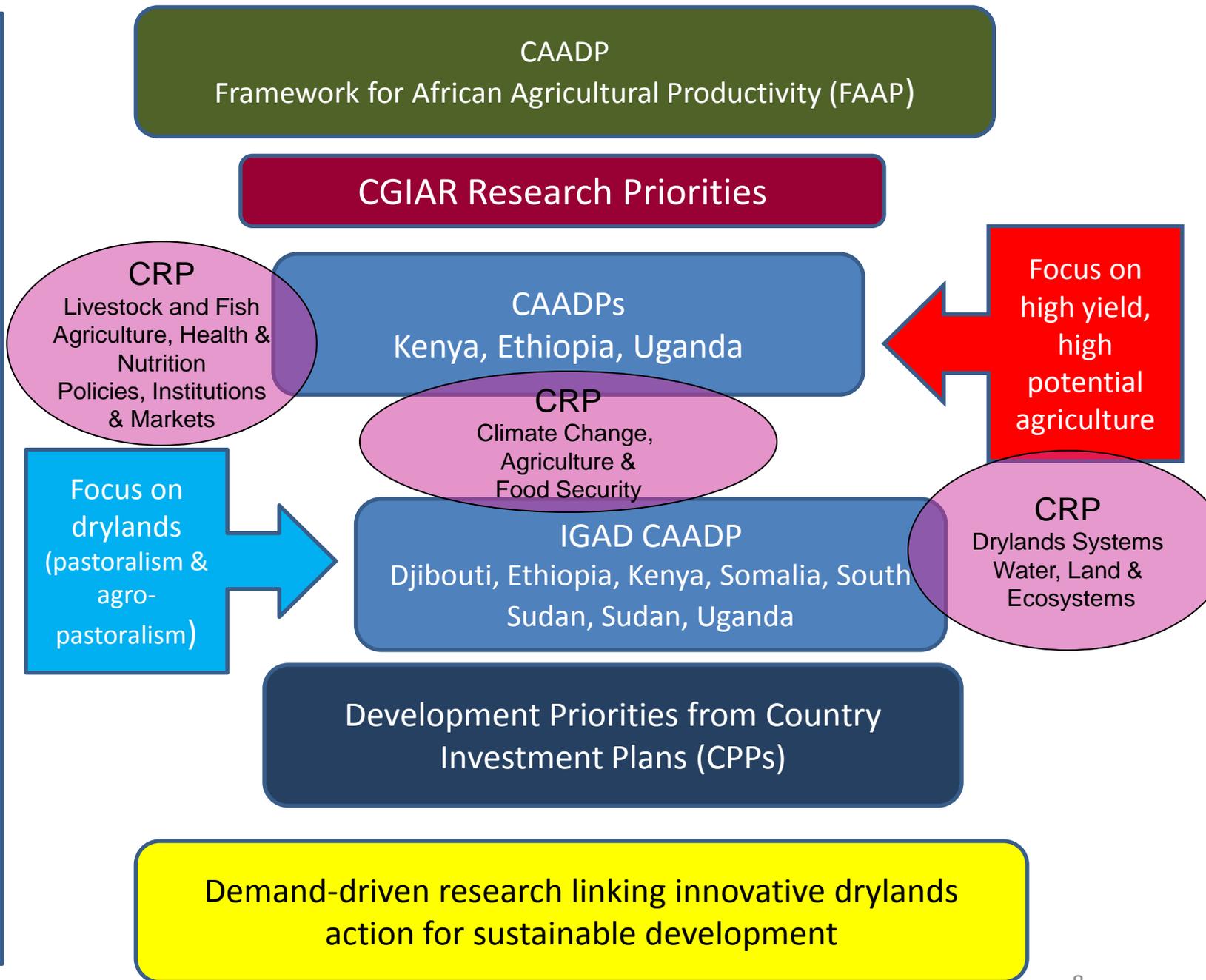
- **Aligning Horn of Africa drylands research** with country-specific planning priorities as a basis for investments
- **Innovative research** will be needed to **enhance impact** on resilience of drought-prone communities

demand-driven  
research



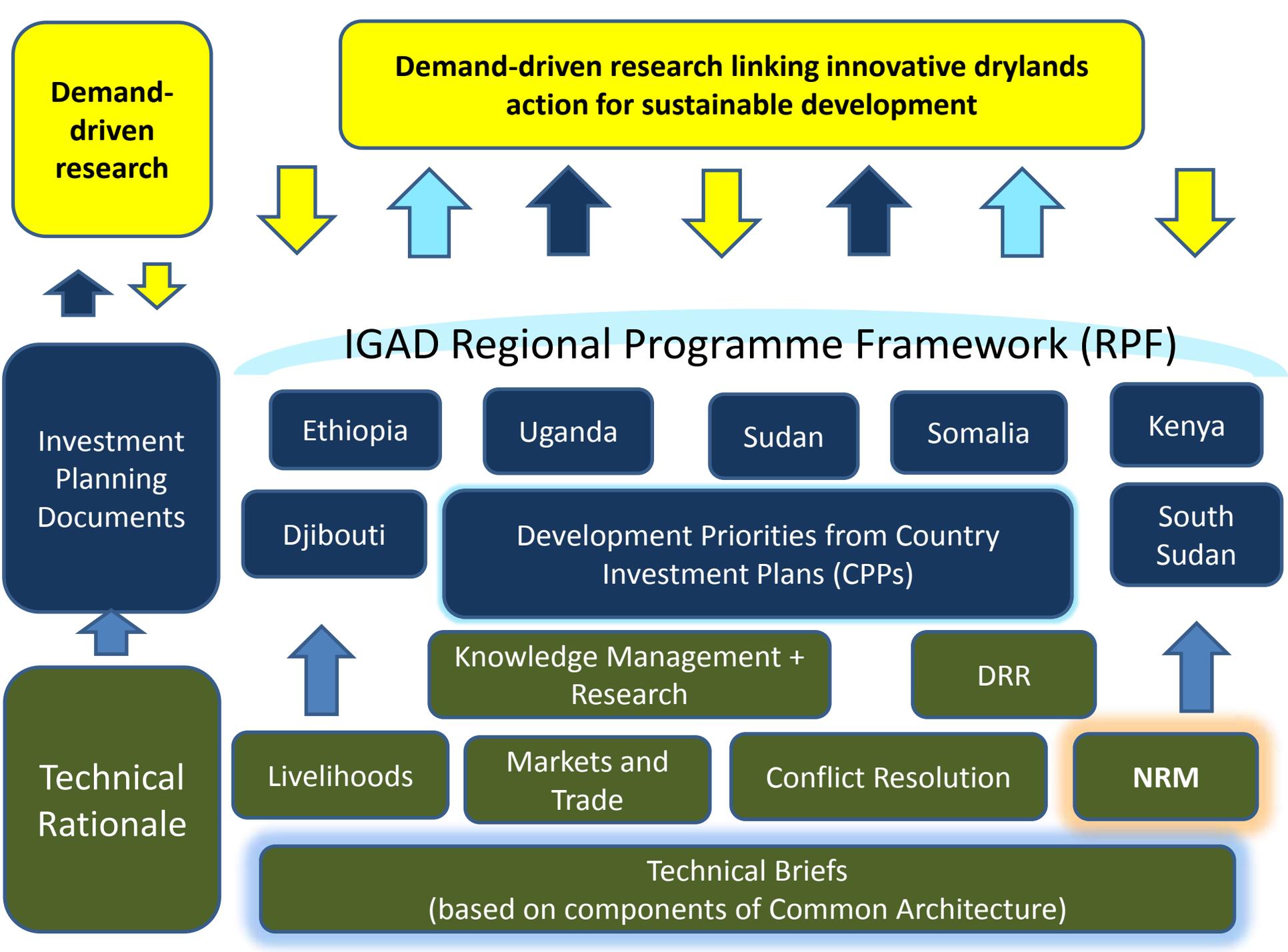
sustainable  
action for  
development

# ALIGNMENT

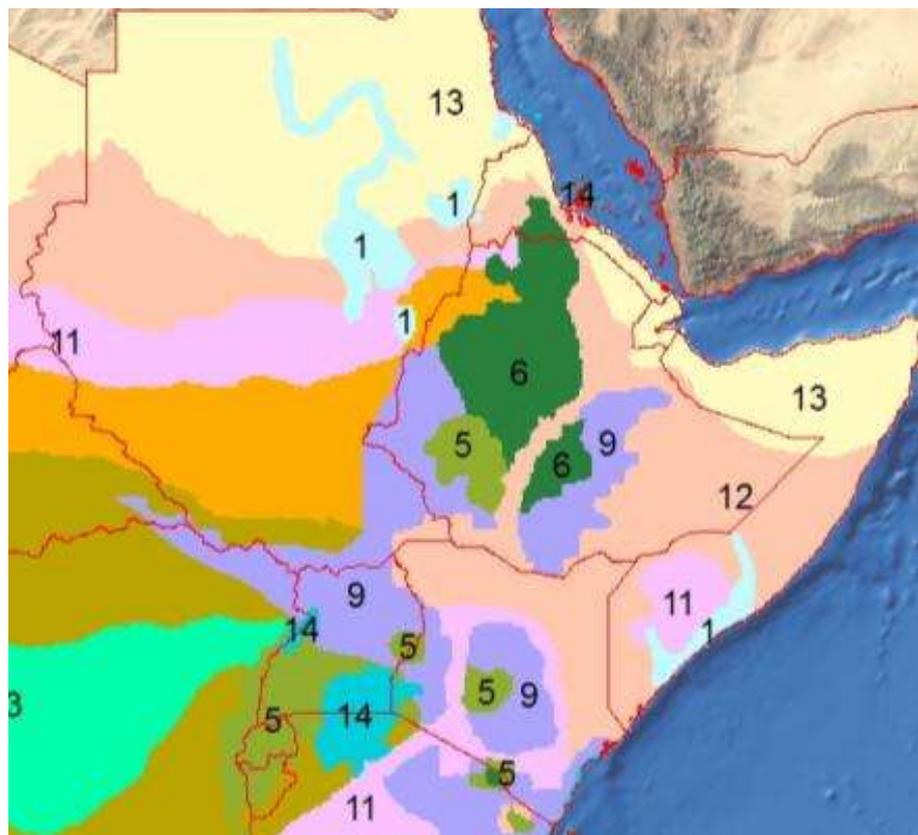


# What has the TC done to date?

- Produced a series of **Technical Briefs**
- Supported IGAD in its **Country Missions** to assess institutional and national coordination mechanisms
- Assisted regional (IGAD) government in the development of **Country Programme Papers** (Investment Plans)
- Supporting IGAD in the development of the **Regional Programming Framework** (Regional Investment Plan)



# A diversity of production systems



## Legend

- 1. Irrigated
- 2. Tree crop
- 3. Forest based
- 5. Highland perennial
- 6. Highland temperate mixed
- 7. Root crop
- 8. Cereal-root crop mixed
- 9. Maize mixed
- 11. Agro-pastoral millet/sorghum
- 12. Pastoral
- 13. Sparse (arid)
- 14. Coastal artisanal fishing
- 16. Perennial mixed



From Harvest Choice, BMGF, FAO and the ICRAF-ACIAR Farming Systems Update Team, 2012)

# Challenges

## **Sustained disruption of interrelated ecosystem processes**

(water and nutrient cycles, biological diversity and energy) and seasonal variability, within an already fragile and water-scarce environment - exacerbated by climate change and intermittent disasters - threaten the capacity of these systems to sustainably support food security and livelihoods, in the future.

## **Institutional challenges undermine continued adaptability:**

access and tenure of land resources, disruption and loss of grazing rights, limited access to productive inputs and basic services and capacity development, social marginalization, increased conflict over resources, disintegration of traditional institutions, dynamic cross-border relationships, lack of infrastructure, low development funding and the nature of planning, administration, decision-making, and policy formulation and implementation

Inter-relationship needs to be addressed in all decision making.

# Opportunities

- Resilience and productivity requires **functioning ecosystem processes**, the provision of ecosystem services and the social and institutional arrangements to support this.
- There are a myriad of **good practices, processes and policies and innovations** in play – how can these be connected and carried out at large **scale**?
- **Changes in decision making** inputs, processes, and policies can transform current states of high vulnerability to more resilient systems.

# Build knowledge as a basis for informed management and decision making

- **Limited consolidated information** about **extent and state of natural resources – pastoral and farming areas**, tenure and management systems and the **potential** for increased resilience and productivity. 
- **Major input for strategic and participatory decisions** on land use planning, management and development, and **how pastoralism and small holder farming can best be supported and integrated.** 

**Examples:** The Ministry of Agriculture, Animal Industries and Fisheries in **Uganda**; The Ministry of Water Resources and Development in **Ethiopia**

# Enhance knowledge systems based on agri-environmental approaches

- **Research and knowledge-sharing** is needed on those approaches/technologies that increase or maintain productivity and enhance the natural resource base, and on ecological services provided.
- **Pastoral, Agro-pastoral, and Agricultural Areas** –  adaptive grazing management, ecological Intensification/integrated crop-livestock-tree systems

Example: increased use of spatial data that improve the understanding of relationships between environment and agriculture taking into account social dimensions.

# Implement a methodology for estimating economic value of environmental goods and services

- An **objective assessment of the environmental contribution** of rangeland and farming areas to national economies can help determine the level of financial resources that HOA governments allocate to these regions. 
- **Incentives and rewards for ecosystems services** that are bundled (carbon, water, energy, etc.) and provided to land users themselves may lend themselves to adaptability. 

# Support specific research for informed policy formulation and best practice implementation for greater impact

- Research needs to be conducted on the economic and environmental consequences of the alternative uses that may be or are being made of lowland river basins in pastoral areas.
- Research needs to be carried out to identify opportunities and constraints on preserving or enhancing the upstream areas.
- The extent and severity of rangeland degradation caused by the perception of overgrazing and/or exclusion of livestock remains – despite decades of research – a much debated issue. And, extensive grazing systems in the context of climate change (benefits vs. issues) needs to be clarified vis-à-vis intensive operations. 
- Sparse data on the impact of different land management practices on water infiltration and availability and how much of the rainfall can be potentially captured. 

# Decision Making

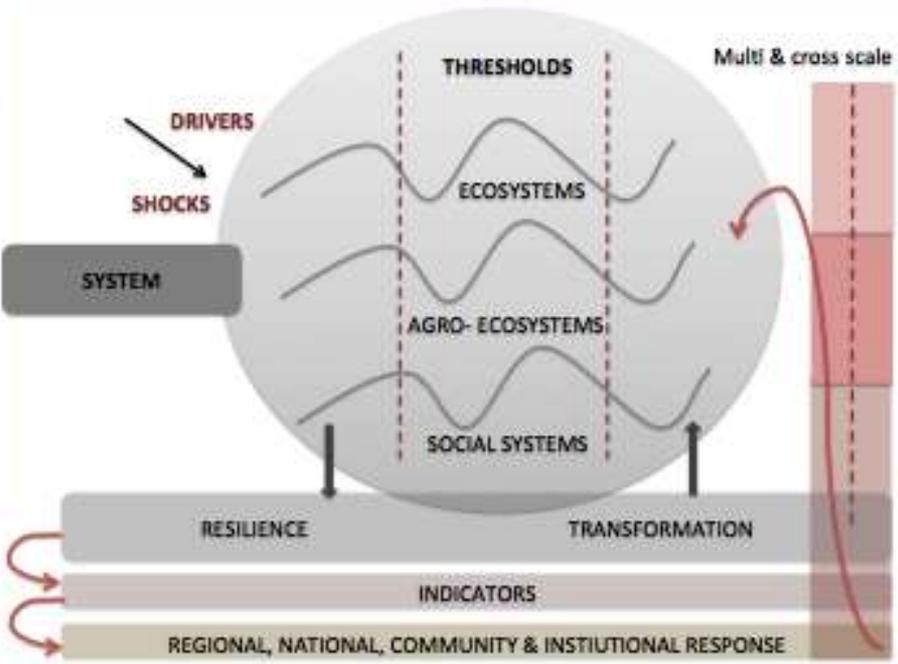
**Multi-stakeholder decision-making inputs and frameworks** are key (status and desired state, implications of different management practices, provision potential and value of ecosystem services, institutional constraints, evidence based scenarios, stakeholder values, monitoring, etc )

# Enhancing Resilience in the Horn of Africa



# Prioritizing interventions and investments

- Clarity on desired outcome
- Understanding of what has to be in place to achieve and the indicator that matches
- Ex-ante analysis of decisions
- Interactions between investments
- Timely feedback mechanism in place



**SYSTEM**

**RESILIENCE FRAMEWORKS**

**TODAY** **DESIRED OUTCOMES**

**TECHNICAL CONSORTIUM**

Testing & innovation  
 Regional expertise  
 Multiple stakeholders

**RESEARCH FOR DEVELOPMENT PARTNERSHIPS**

USE EXISTING DATA, GOOD PRACTICE & POLICY ANALYSIS

**TESTING & INNOVATION**

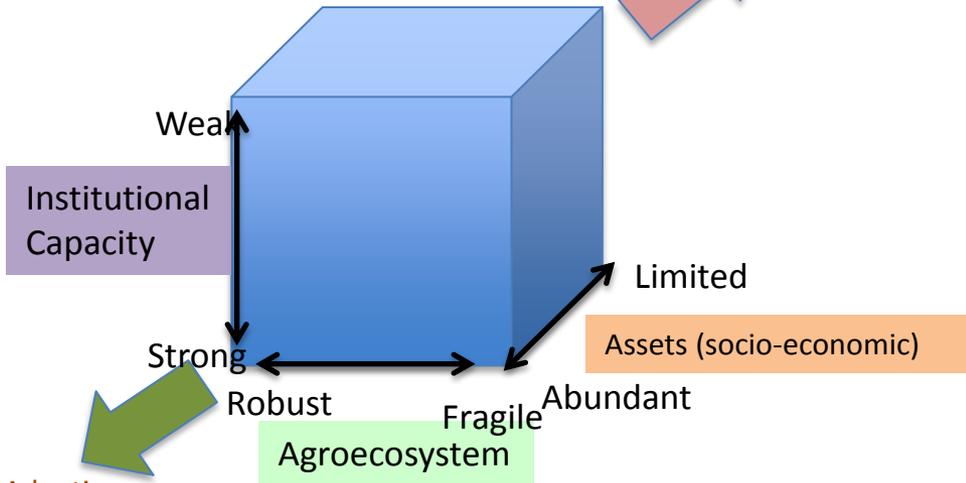


PRIORITISED DECISION MAKING FOR INVESTMENTS AND INNOVATION IN RESEARCH, PRACTICE & POLICY



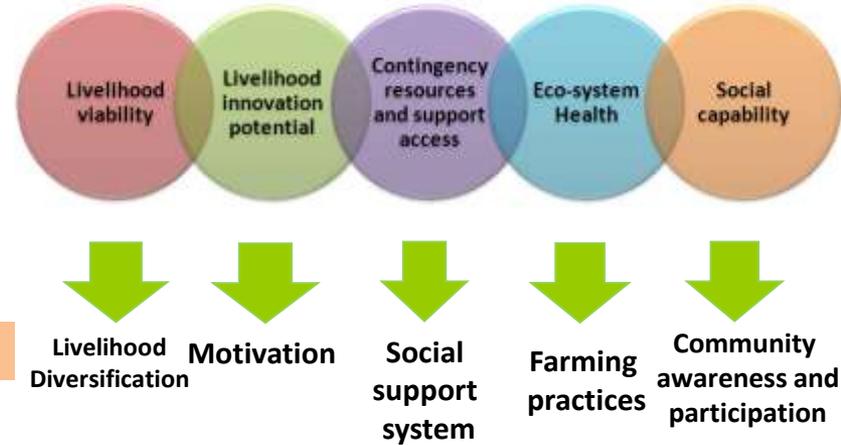
# Resilience Framework after Fraser et al 2011

Most Vulnerable  
Least Adaptable  
Food Insecure  
Least Income

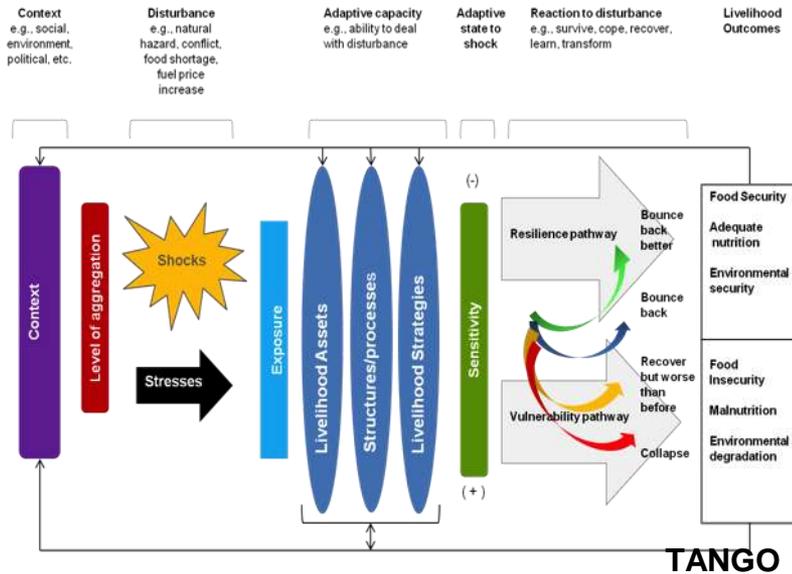


Most **Adaptive**  
Most **Resilient**  
Most **Food Secure**  
Best **Income**

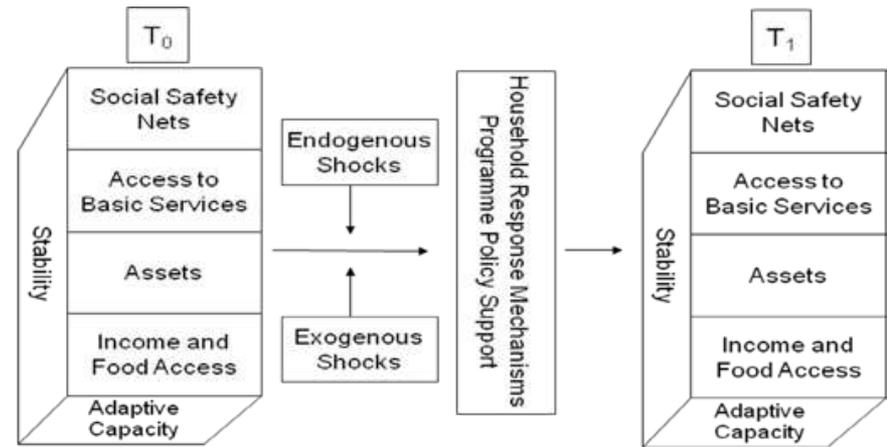
Adapted Fraser 2011



Karl Hughes Oxfam GB



TANGO



FAO

## DEVELOPMENT PARTNERS

- \* FAO Ethiopia
- \* UNICEF – ESARO
- \* FAO TCI
- \* European Union (Kenya)
- \* WFP
- \* FAO Uganda
- \* UNDP

- \* Makerere University (Uganda)
- \* Masinde Muliro University of Science & Technology (Kenya)
- \* Feinstein International Centre – Tufts
- \* Centre for studies & scientific research – University of Djibouti
- \* Pwani University College (Kenya)
- \* Johns Hopkins School of Public Health

## ACADEMIA

- \* Ministry of Agriculture - Republic of Sudan
- \* ASAL Secretariat – Government of Kenya
- \* Drought Management Initiative – Kenya
- \* Ministry of Agriculture (Uganda)
- \* IGAD

## GOVERNMENT & IGOS

- \* KARI
- \* Adami Tulu Agricultural research Centre (Ethiopia)
- \* Serere Agricultural Research Institute (Uganda)
- \* NARO - Uganda

## NON-STATE ACTORS

- \* Save the Children UK
- \* ACTED
- \* Care International
- \* Mercy Corps
- \* COOPI
- \* Food for the Hungry
- \* Oxfam GB
- \* RECONCILE
- \* Pastoralist Policy Research, Advocacy and Resource Tenure
- \* REGLAP
- \* VSF (Belgium)
- \* World Vision
- \* ACC
- \* CNFA (Kenya)
- \* ADRA Somalia

## RESEARCH

- \* Bioversity
- \* ICRAF
- \* USAID
- \* ILRI
- \* EcoServe Solutions
- \* Future Agricultures Consortium
- \* IUCN
- \* ASARECA
- \* ICRISAT
- \* TANGO

## National

## International

# LIFESCAPES



## **Income and Livelihoods**

- Diverse sources of income
- Right to **livelihood choice** and support for that choice
- Livelihoods adapted to environmental / material resources
- Access to credit
- Well functioning markets

## **Physical Capital**

Good infrastructure connectivity, phones, electricity  
Sustainable and equitable access to resources  
Access to water- potable and for livestock  
Secure land and livestock assets

## **Proactive Development**

- Community input to development priorities and management of resources
- Integrated forward thinking social systems that are productively flexible, have opportunities, skills and resources and incorporate social protection

## **Health and Nutrition**

- Healthy children
- Food secure – well nourished children & adults & a healthy balanced diet
- Higher life expectancy
- Health care

## **Education and Capacity**

- Access to education for girls and boys
- Schools in communities and classes full
- Presence of individual and community capacity

## **Not Vulnerable**

- No need for humanitarian assistance
- Ability to cope – buoyancy and elasticity
- Ability to maintain assets in the face of shocks
- Social systems adapted to drought

# LANDSCAPES



## Healthy Rangelands



- Favourable for rangeland development
- Livestock rearing with sustainable grazing practices
- Pastoral mobility

## Functioning Ecosystem Services

- Functioning watershed
- Landscapes which are not stressed due to diversity, redundancy & functionality
- Capable of regeneration
- Ecosystem services intact and able to produce sustainable goods and services
- Multi-dimensional interconnected landscape

## Good Governance

- Sustainable and equitable access to resources
- Defined boundaries
- Local governance of resources and natural resource management
- Equity and sharing of resources
- Access to resources and cross-border coordination and consideration
- Facilitated mobility – policy, infrastructure and security
- and conflict resolution plans in place

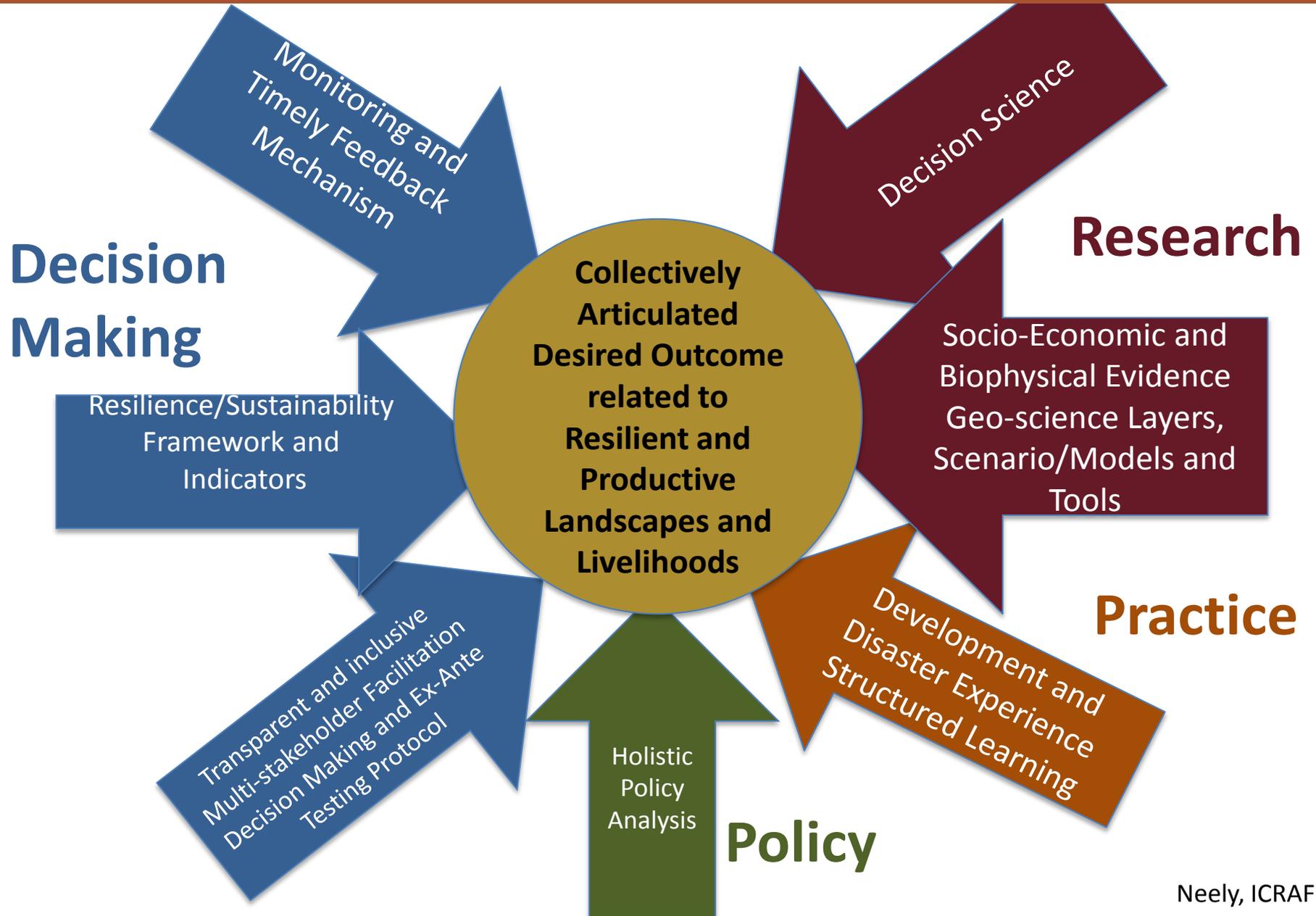
## Productivity

- Beautiful, prosperous landscapes
- Growth, sustainability, good production and a decent environment
- Increased land productivity
- Ecological food production with polycultures

## Adaptable

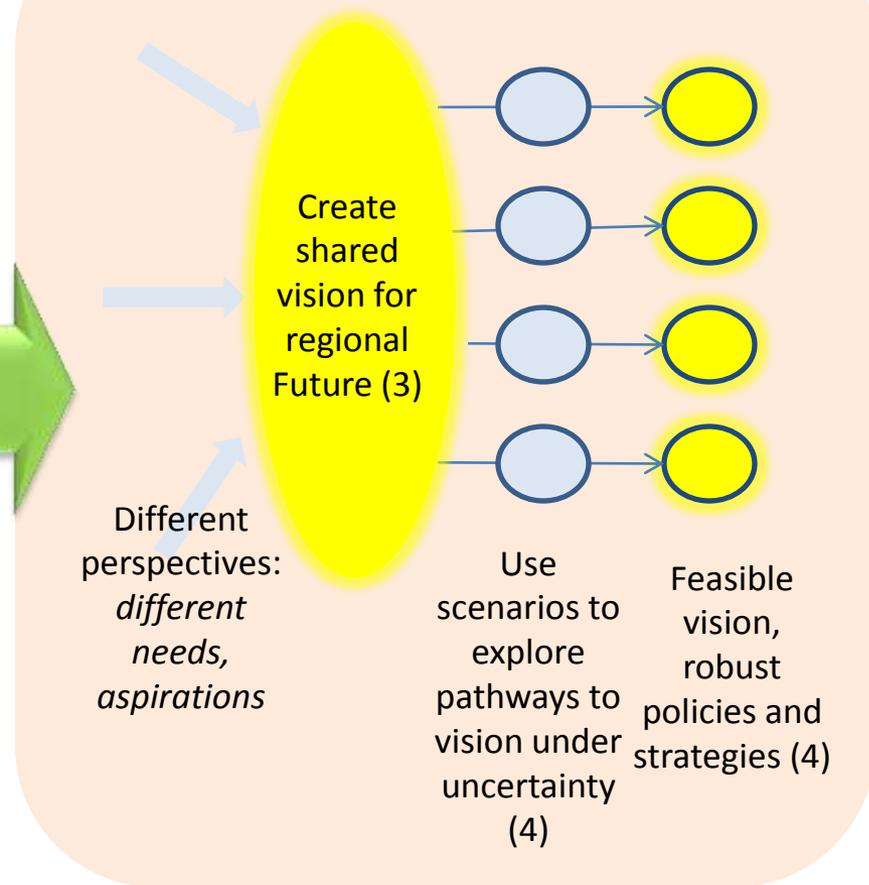
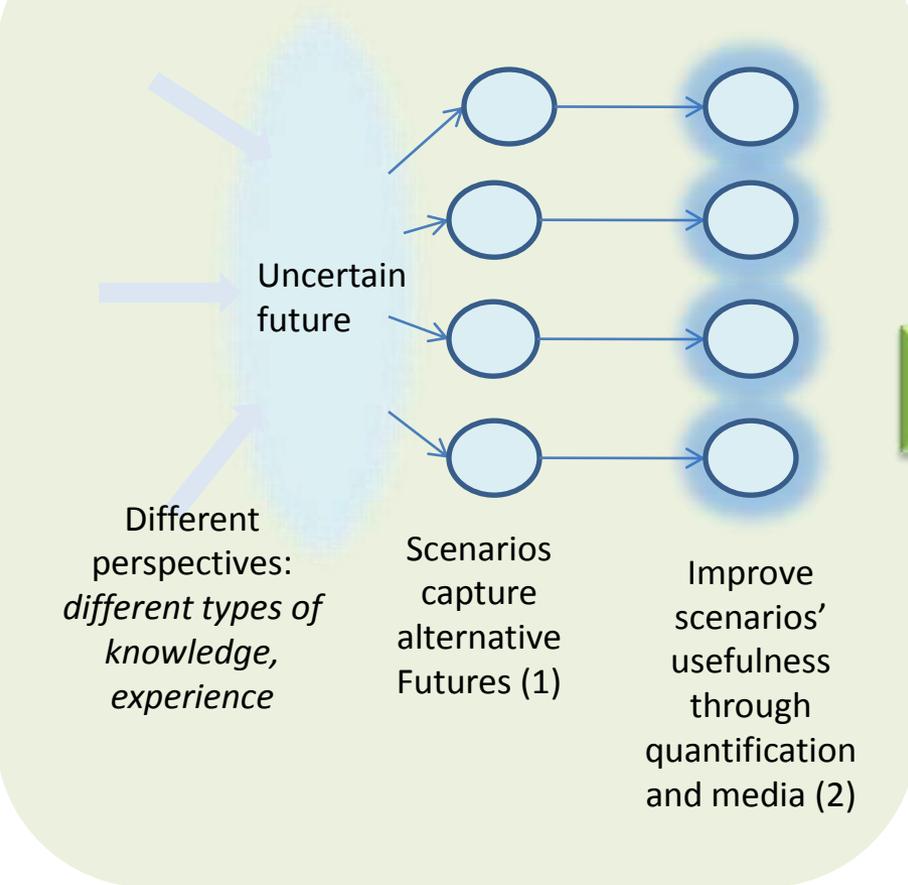
- Adaptability to react to a changing climate and be economically viable

# Integrating Research, Practice, and Policy: Decisions for Impact



# Scenarios: what *could* happen

# Visioning: what *should* happen



Improve scenarios based on use (5)

Dissemination of scenarios, visions, strategies to key users (6)

(Building on Side Meeting in GAA Brazilia meeting)

## Regional integration

### Ants in the East

- + Many benefits for food security, environments and livelihoods
- Difficult international relations, an active and costly battle with corruption, challenges of being competitive with crops and products also aimed at domestic markets (cassava, maize)

### Herd of Zebra

- + Strong ambition to reach out to the international market in purely economic terms
- This activity comes at the cost of food security and the environment and is ultimately not sustainable economically, and a dependency on service and industrial markets, weak adaptive capacity to climate change. Regional bodies become new vehicles for corruption and sap effectiveness

Proactive

Environment

Reactive

- + Strong, visionary action by individual organisations, diversity of initiatives facilitated by individual governments
- Winners and losers world, lack of coordination affects trade and shared resources, lack of trust, instability, selfishness, fallings out happen (e.g. over migration), corruption prevents coordination, competing visions

### Lone Leopards

- + Massive public mobilizations, side benefits from international investments, benefits from informal trade, personal and small community psychological resilience
- No win-win, all about latent capacity and wasted opportunities, revolutions that lead nowhere. Corruption is expressed through leaders making money through crises.

### Sleeping Lions

Status quo



RESEARCH PROGRAM ON  
Climate Change,  
Agriculture and  
Food Security



# What is your Question?

**How much more rainfall will we capture if we had ground cover on current bare land in the Horn of Africa?**

**How different would that be if it were grass, shrub or trees?**

**What is the optimum mix in the landscape that best increases other ecosystem services?**

**Can sustainable pastoral practices build resilience?**

**How do tenure arrangements fit with that?**



- Livestock are solution for rehabilitating degraded land
- People have to manage the livestock
- And ultimately, we can increase land cover, store carbon, capture water and increase food and nutrition security

## PRECIOUS GRASS



## ANIMAL IMPACT



## BUNCHED HERDING



**Healthy cattle,  
better calving.**

# Voices and Visions



**GRASS  
AFTER EXTENSIVE  
BUNCH GRAZING  
On Borana ranch  
February 2012**

Overgrazed, minimal ground cover



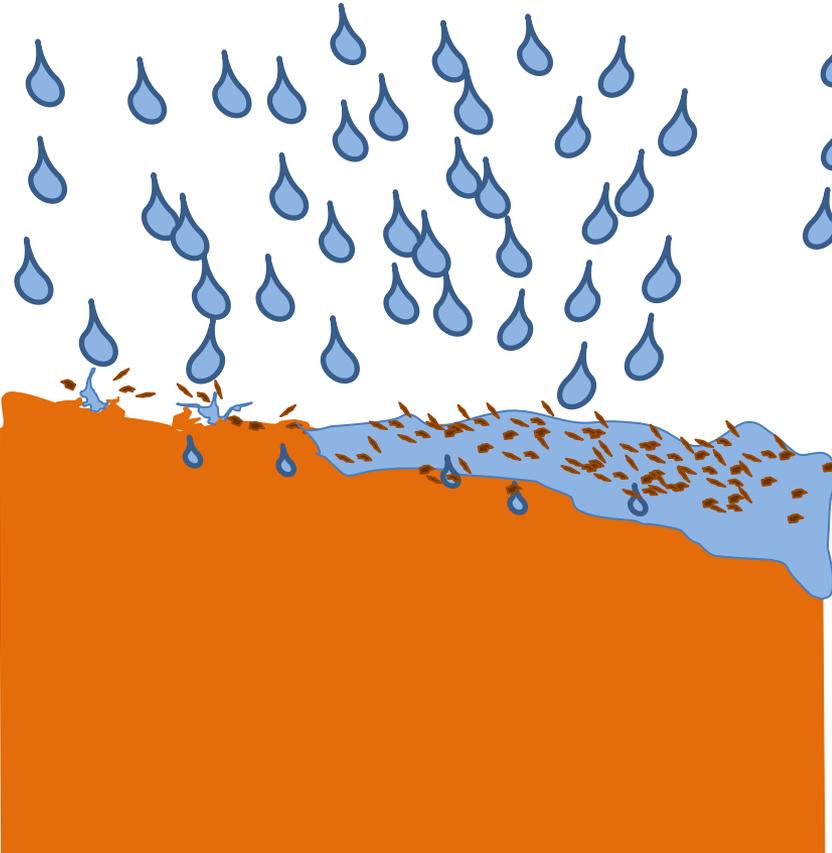
Using bunched herding,  
more biomass produced



# WATER CYCLE

**Ineffective:** destructive and soon gone

**EFFECTIVE:** stays circulating locally



# Next Steps for Technical Consortium

Develop a 5-year plan to include:

- Further develop the M&E agenda:
  - Analytical framework to measure impact of interventions on resilience and indicators to measure impact
  - Methodology to underpin technical rationale for prioritization for investment intervention
  - Means of assessing return on investment for “best bet” interventions
  
- Further the development of the Country Programme Papers and Regional Programming Framework to be investment-ready documents

# Global Agenda for Action for Sustainable Livestock Production

- **Focus Area 2: Restoring Value to Grasslands**  
Enhance focus on the dryland/ pastoral livestock production systems
- **Opportunity for learning by doing in the Horn of Africa**
- **ILRI and the CGIAR have much to contribute to a) land tenure constraints to restoration and b) integrated PES/RES frameworks for multiple non-market benefits among others**