

# Integrated Management of Water and Food Systems: a perspective from CATIE

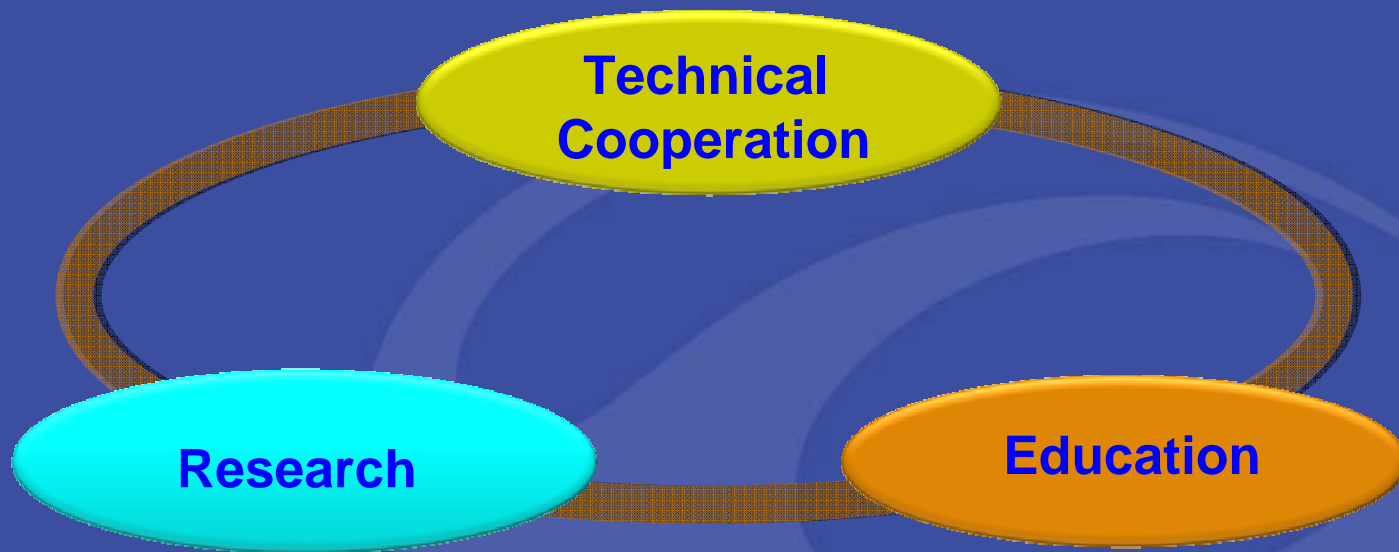
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# Our Strength

Integration of three functions based  
on integrated and collaborative approaches



## What we do

- Generate scientific knowledge related to needs in Latin America and the Caribbean
- Form leaders capable of solving problems in a complex and changing world
- Implement projects that contribute to agricultural development and conservation of natural resources
- Contribute to public policy at municipal, national and international levels through scientific knowledge
- Work in strategic alliances with more than 200 public and private partners
- Serve as a regional platform for the development and implementation of local solutions for global priorities



# Where we work

**Headquarters:**  
**Turrialba, Costa Rica**

**National technical offices:**

**Bolivia**  
**El Salvador**  
**Guatemala**  
**Honduras**  
**Nicaragua**  
**Panama**  
**Dominican Republic**  
**Belize**  
**Acre, Brazil**  
**Mexico**  
**Venezuela (planned)**



# Sustainable rural solutions to address global challenges

- Challenges are complex, dynamic and interconnected: integrated and collaborative solutions
- Rural areas are strategic for the provision of ecosystem services (water & food) and human well-being
- Social and ecological resilience is key for local and global sustainable development
- 70% of poor live in rural areas (depend on agriculture and natural resources)
- Sound development of agriculture and natural resources is key for sustainable rural development
- System approaches aligned with adequate policies and institutions at national/global scales offer good potential to address global challenges



# CATIE paradigms to address those challenges

- Purpose: to enhance social and ecological resilience via human, social, cultural, political and natural capitals:
  - Integration of multiple scales (and sectors/disciplines)
    - » Genes, stand/production system, watershed, ecoregion
    - » Farm, household, municipal, national, global
  - Reconcile production and conservation in managed and wild ecosystems, maintaining or enhancing their capacity to provide services: sustainable agriculture, silvopastoral/AFS and SFM
- Use of economic instruments and market-based approaches to manage ecosystem services
- Contribute to policies to create an enabling environment for the implementation of sustainable land management practices



# System approaches used by CATIE

Livelihood assets/capitals, vulnerability context and overall institutional environment. Goal: sustainable livelihoods

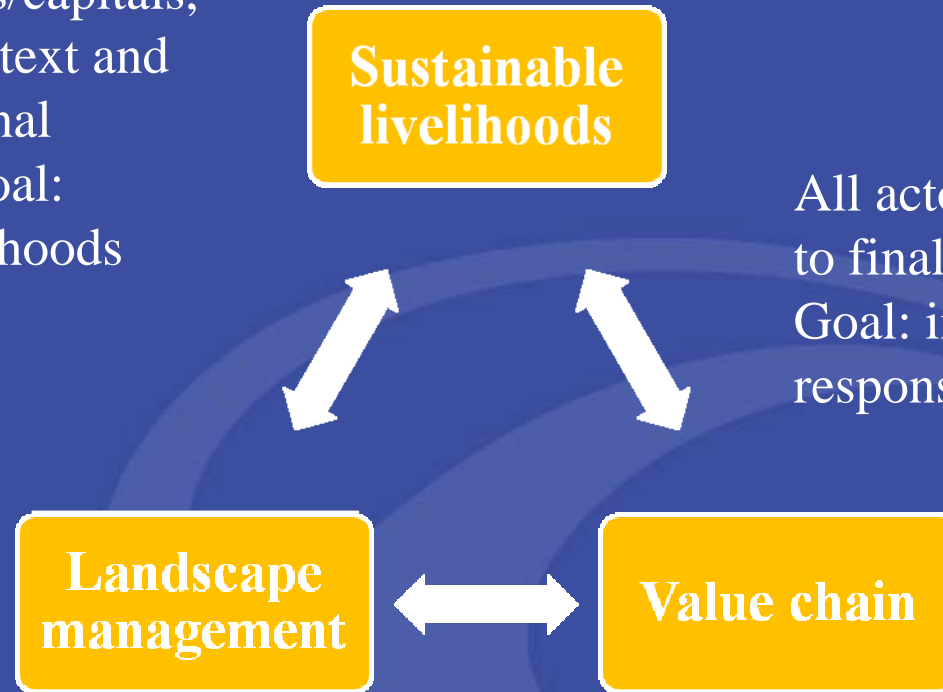
**Sustainable livelihoods**

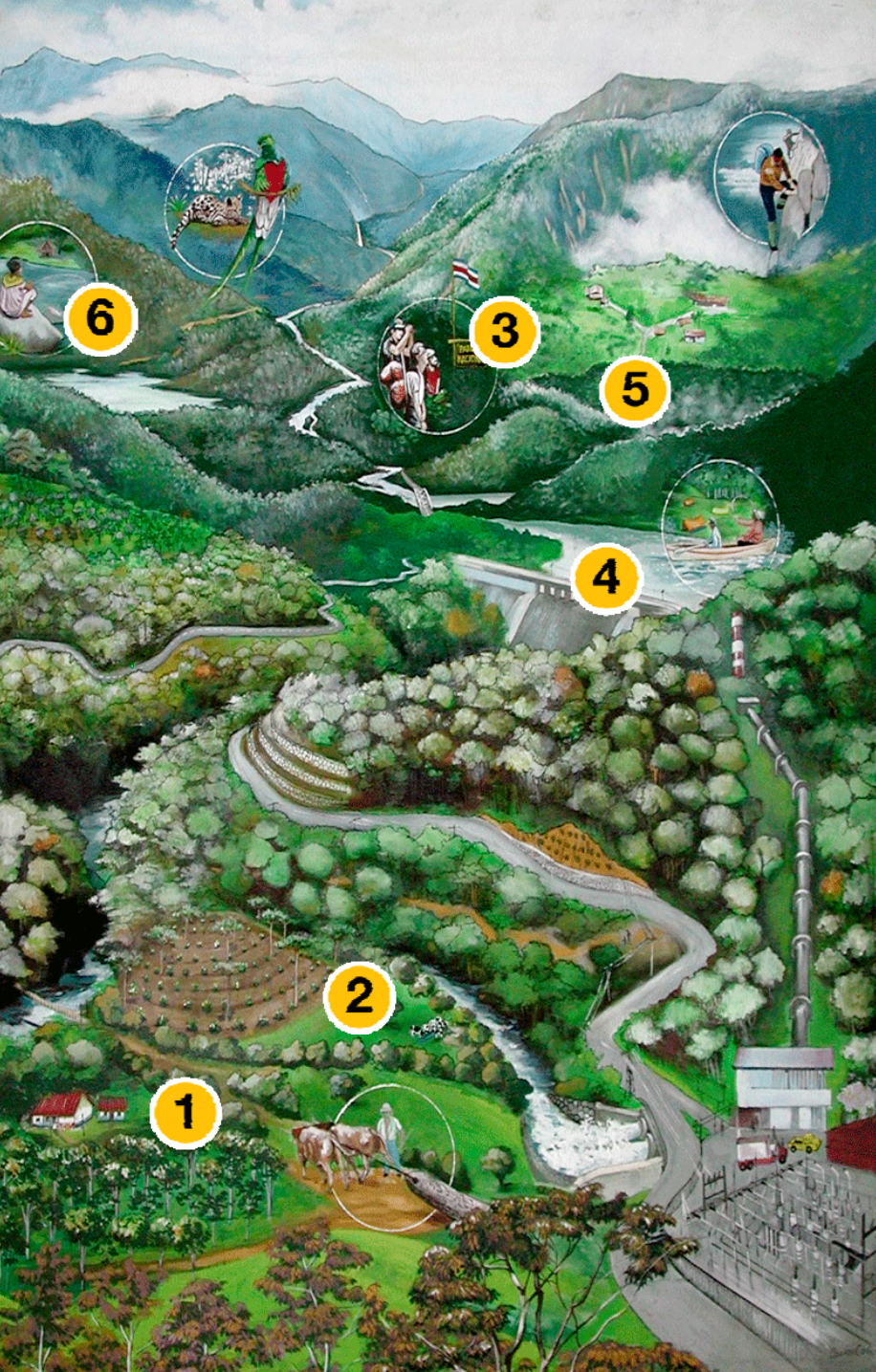
All actors from production to final consumption. Goal: increased social responsibility and equity

Environmental x socio-economic interrelationships in biophysical and political-administrative spaces. Goal: sustainable territories

**Landscape management**

**Value chain**





# Sustainable livelihoods, landscapes and ecosystems through system approaches

1. **Agriculture and forestry systems**
2. **Restoring degraded pasturelands**
3. **Inclusive value chains**
4. **Economic and market-based instruments**
5. **Locally led biological corridors**
6. **Collective action through local governance and comanagement**

### Increased productivity

- Improved germplasm
- Improved soil fertility
- Enhanced pest and disease management

### Enhanced competitiveness and resilience

- Asset building by households and communities
- Agroenterprise and value chain development
- Landscape management

### Enhanced institutions

- Improved policies
- Better governance

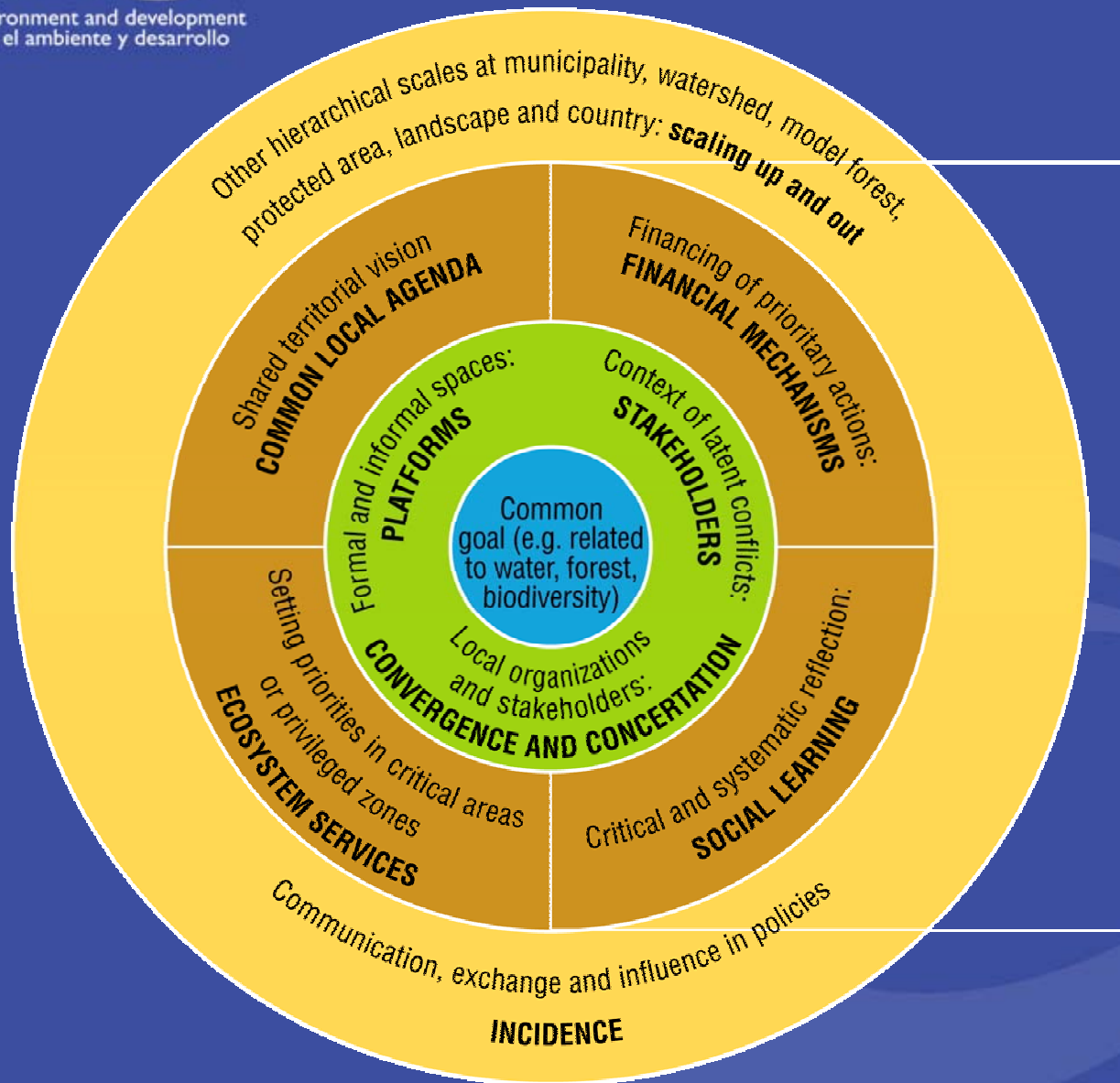
## Solutions for global food crisis

### Outcomes:

- More and better food products
- Sustainable and competitive livelihoods, landscapes and ecosystems
- Mitigation and adaptation to climate change
- Social inclusion and equity (incl. market access and benefit sharing)
- Conservation of agrobiodiversity and ecosystem services
- Improved policies and governance for reduced tradeoffs

## Collective action through effective local governance and comanagement processes

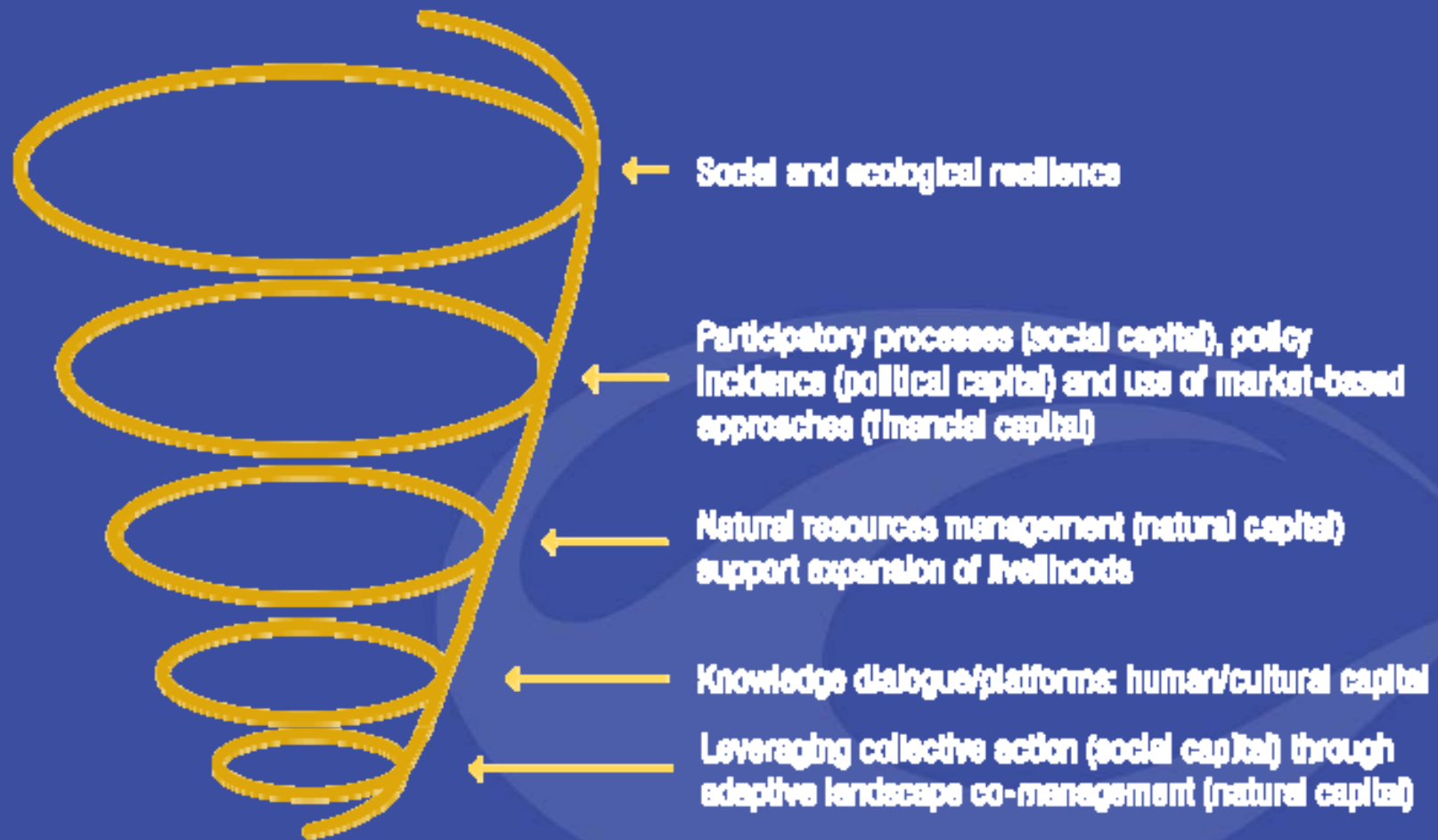
- Collective action require effective governance and institutional arrangements involving local groups in decision-making and implementation
- Based on participatory action research in watershed management, model forests and biological corridors experiences, an adaptive comanagement model is been constructed
- Common feature is that it focuses on achieving shared goals building organizational processes/structures at different spatial scales



Norms, rules of game, arrangements and praxis derived from consensus by local authorities and actors in a watershed, model forest, protected area, municipality or equivalent territorial unit

# A virtuous circle for sustainable development

More sustainable livelihoods, landscapes and ecosystems



(Based on Emery and Flora 2006)



Thank you  
Merci

