



## Strengthening local resilience to climate change

The role of grassroots adaptation and participatory innovation development

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## Climate Change Adaptation (CCA) and agriculture

CCA in agriculture refers to:

- **Technologies** and practices
- Sustainable food **systems**
- **Effective adaptation processes**

What is the role of farmers & rural communities in processes of adapting to climate change?



## **PROLINNOVA:** Promoting Local INNOVation

in ecologically oriented agriculture and natural resource management

- Promoting participatory approaches that build on farmers' **own innovative capacities**
- Integrating these into mainstream programmes and organisations of agricultural research & development



## **PROLINNOVA international network & partnership**

19 Country Platforms

### **Africa:**

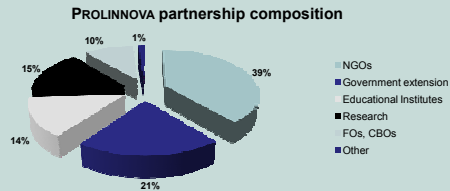
Ethiopia, Cameroon, Ghana, Kenya, Mali, Mozambique, Niger, Nigeria, Senegal, South Africa, Sudán, Tanzania & Uganda

### **Asia:** Cambodia, India & Nepal

**Latin America:** Andes Regional Initiative in Bolivia, Ecuador & Peru



## Multistakeholder partnership



180 organisations (October 2011)

## What PROLINNOVA does

Diverse activities depending on local context & priorities:

- **Creating the evidence:** studies of local innovation efforts, participatory innovation development (PID) on the ground, methodology development; and **documenting** this all
- **Sharing the evidence:** publications, media
- Establishing **multistakeholder platforms** for planning and learning: working groups, steering committees, workshops
- **Capacity building**, training and working with universities and colleges to include PID in teaching and research
- **Policy dialogue and mainstreaming** PID at local, district, national and international level

## PROLINNOVA and CCA

- Extensive **literature review** on grassroots adaptation initiatives in the face of CC
- **Field studies** with communities in Ethiopia, Nepal and Niger
- **Workshops** in these countries: PROLINNOVA partners and other agricultural and climate-change related organisations
- **Policy brief** on strengthening local resilience to climate change

## Examples of farmer adaptation to climate change: Nepal

### Diversity of adaptation / innovation cases:

- Reduced tillage and mulching of garlic to cope with less rain
- Additional millet crop in winter
- Hanging nurseries on platforms to protect seedlings against floods
- Own crossbreeding to develop maize varieties that withstand lodging

### **Examples of pastoralist adaptation to climate change: Ethiopia**

- Developing own **cut-and-carry** feeding system
- Creating private and community **waterpoints**
- Increasing **market interaction** (credit, vehicle use)
- Changing **herd composition**
- **Settling** on islands in dryland lakes
- **Diversifying** livelihood sources by men & women
- Empowering **traditional institutions**

### **Ethiopian pastoralists' cut-and-carry innovation**



Combining technical and socio-organisational innovation

### **Some examples from other countries**

- **Niger:** Donkeys as dowry for young women to cover long distances to waterpoints
- **India:** Flood protection by planting bamboo
- **Jamaica:** Protecting banana plants from high winds
- **Indonesia:** Fencing for flood protection; early-maturing beans; moving houses

### **Indonesia: Fencing for flood protection**



Reduces flow of floodwater and thus damage; accumulates silt; but access to palm-leaf stems?

### **Aspects of local adaptation**

- Vulnerability to climate change is due to **multiple factors**.
- “Traditional” practices emerge from **dynamic local innovation**.
- **Women’s innovation** is often invisible.
- Adaptation to change **never ends**.
- **Not all** local innovations have **positive** impacts.
- Local innovation with **limited options / resources**, **less systematic**, **not widely shared**.



### **Building resilience by strengthening local adaptive capacity (PID)**

- **Recognise** and respect local adaptation and innovation efforts
- Assist smallholders to **improve** and/or validate local innovations / adaptations



### **Building resilience by strengthening local adaptive capacity (PID) – 2**

- **Spread** successful locally developed adaptations
- **Introduce** new ideas / practices / formal science into farmer-led processes of joint innovation
- Create direct local **access to resources** for experimentation and adaptation funds (LISFs)



### **Participatory Innovation Development for Climate Change Adaptation**

- Link community-based organisations, farmer groups and support agencies with **sources of information** on climate change (CC)
- **Build local capacities** in **participatory tools** for CC-related analysis (vulnerability / risk assessment)
- Support CC-related **local analysis**
- **Build local capacities** in **agro-meteorology** and link with indigenous forecasting



## **Local adaptive capacity: PID and more**

Local adaptive capacity depends on:

1. Ability to *live with change and uncertainty*
2. Ability to *access and combine diverse sources of knowledge* for innovation
3. Ability for *self-organisation and networking*

Adapted from work by Folke *et al* (2003) and Swanson *et al* (2007)

## **Local adaptive capacity (1)**

Ability to *live with change and uncertainty*:

- Nurturing diversity: encouraging different ways of doing things
- Participatory vulnerability / risk assessment & management
- Development of trust within the community
- Disaster early-warning systems and rapid feedback for change

## **Local adaptive capacity (2)**

Ability to *access and combine diverse sources of knowledge* for innovation:

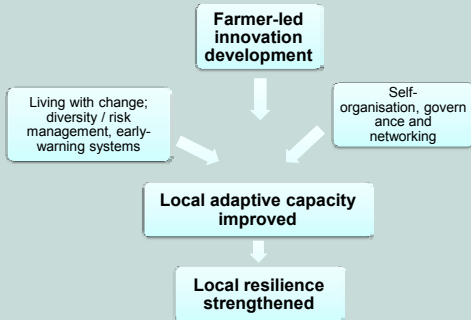
- Local innovation and its recognition
- Links to information sources and services
- Collaborative experimentation / PID
- Capacity for monitoring
- Literacy

## **Local adaptive capacity (3)**

Ability for *self-organisation and networking*

- Local mechanisms for governance of natural resources
- Conflict management
- Equity in resource access and allocation
- Interaction with external agencies

## ***In summary***



## ***THANK YOU***

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