



# People and Resource Dynamics Project (PARDYP)

Participatory options for sustainable sloping  
land management promoted  
in 5 watersheds in the Himalayas

ICIMOD

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# Outline

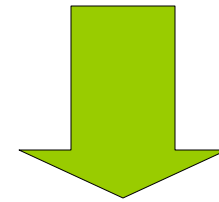
- >> Introduction**
- >> PARDYP - project**
- >> Promoted options**
  - >> Soil fertility**
  - >> Water scarcity**
  - >> Increasing income**
- >> Participatory approach**
- >> Conclusions**



# Introduction



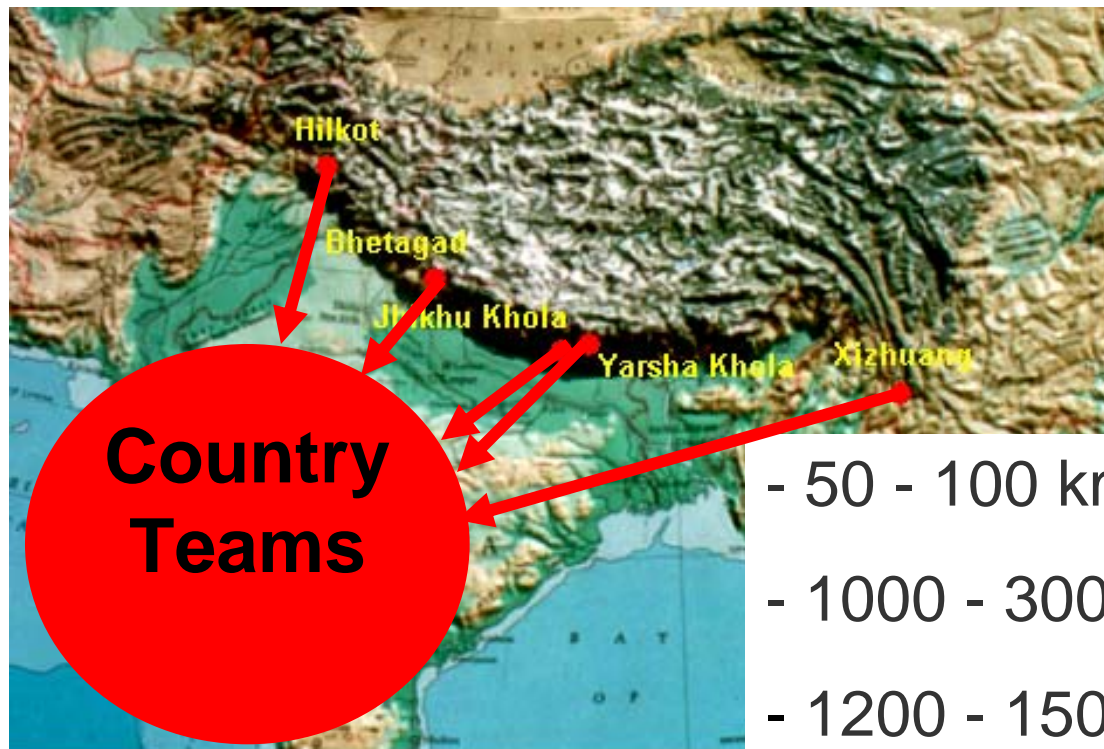
- Increasing population pressure
- Agricultural intensification



- Water scarcity
- Rapid degradation
- Unsustainable land management

# PARDYP – People and Resource Dynamics project

- Focus on Natural resource degradation in the “Middle Mountains”
- Research for development project
- 5 watersheds (Pakistan, India, Nepal (2), China)



- 50 - 100 km<sup>2</sup>

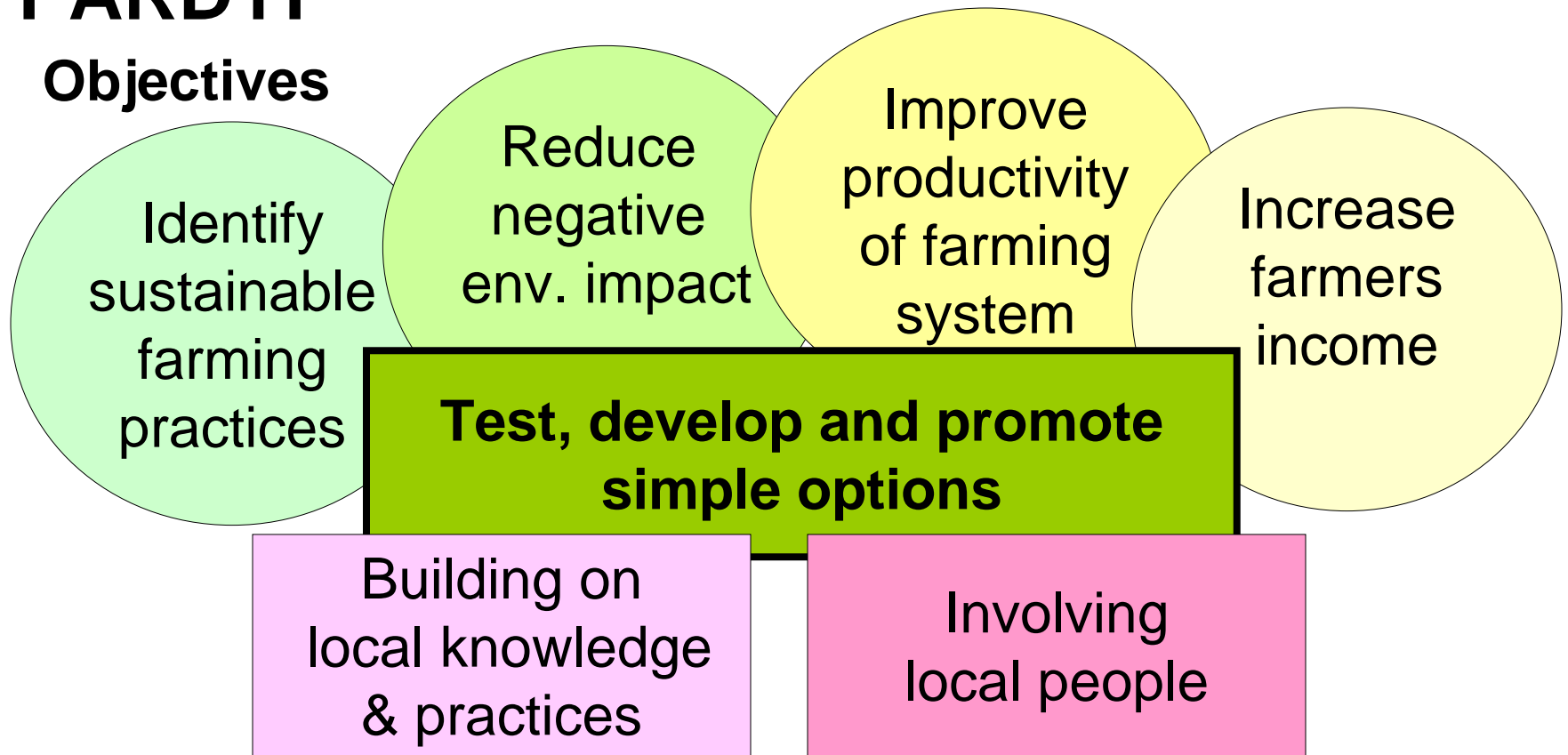
- 1000 - 3000 m asl

- 1200 - 1500 mm rainfall / y



# PARDYP

## Objectives



1996

2006

Phase 1

Phase 2

Phase 3

Biophysical research  
dimension

Socio-economic and  
community-based  
dimension

# Options addressing soil fertility



## Black Plastic Composting

- Mixture of cattle dung, urine and plant material
- Black polythene sheet

- Less nutrient leaching
- Favorable environment for microbes
- Reduced evaporation

+ Decomposition within 45-60 days

+ Better compost quality

- Plastic expensive for farmers
- Local market not available





# Options addressing water scarcity

## INCREASING AVAILABILITY

Increasing infiltration



Eye brow pits

Water harvesting



Fish pond

Drinking Water supply



Spring box



Contour hedgerows



Conservation pond



Roof water harvesting



Terracing



Plastic line pond



Water collection in spring

## IMPROVING WATER USE EFFICIENCY

Irrigation methods



Drip irrigation



Sprinkler irrigation



Pitcher irrigation



SRI (System of Rice Intensification)



# INCREASING AVAILABILITY

Increasing  
infiltration



Eye brow terraces

Water  
harvesting



Fish pond

Drinking  
Water supply



Spring box



Contour hedgerows



Conservation pond



Roof water harvesting



Terracing



Plastic line pond



Water collection



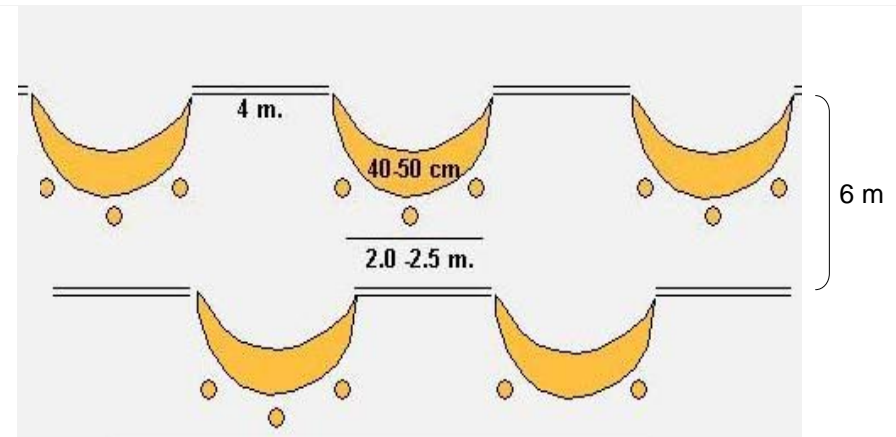
# ... increasing infiltration



## Eye brow terraces



- pits
  - > Rainwater harvesting
  - + Improves infiltration
  - + Soil moisture
  - + Plant growth
  - + Ideal for degraded land
  - Labor intensive



## ... water harvesting



Earthen pond

### Conservation ponds

Seepage



Plastic line pond

- Stores excess runoff water, reducing erosion
- Improves soil moisture down slope

Pond used for:

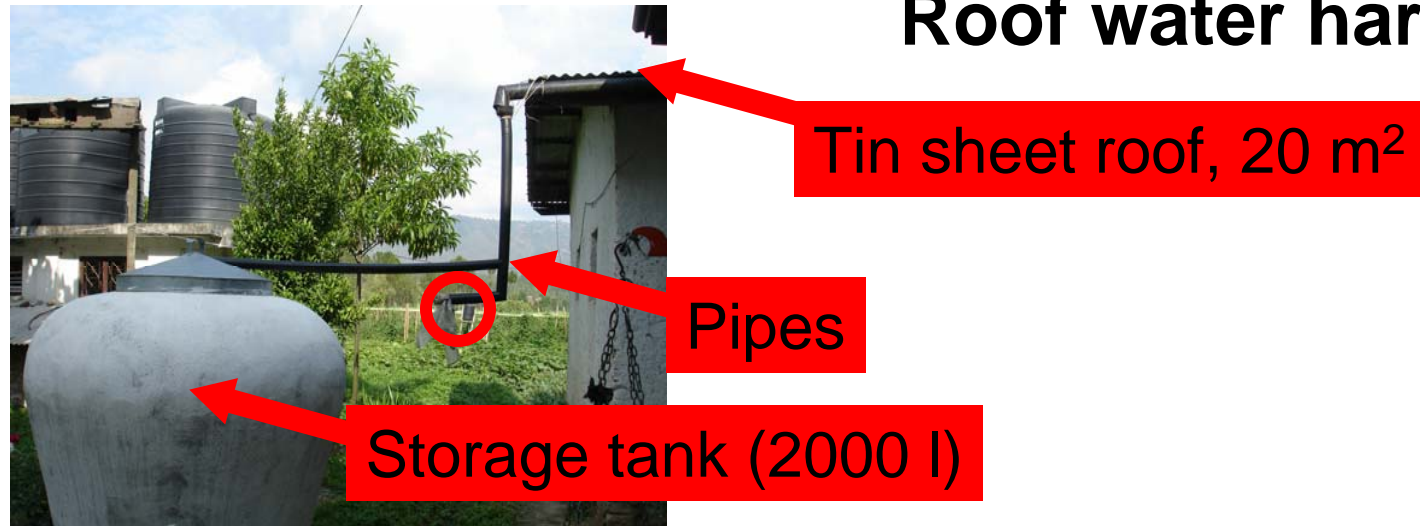
- Cattle pond
- Irrigation
- Fisheries

- + Simple, low cost and durable
- Labor intensive



## ... drinking water supply

### Roof water harvesting



- Roof has to be cleaned before rain
- During rain periods water harvesting
- Use during scarce periods
- Saves water fetching time

#### Water quality:

- + Good if roof regularly cleaned
- Possibility of water contamination



... more options

## IMPROVING WATER USE EFFICIENCY



**Drip irrigation**



**Sprinkler  
irrigation**



**Pitcher irrigation**



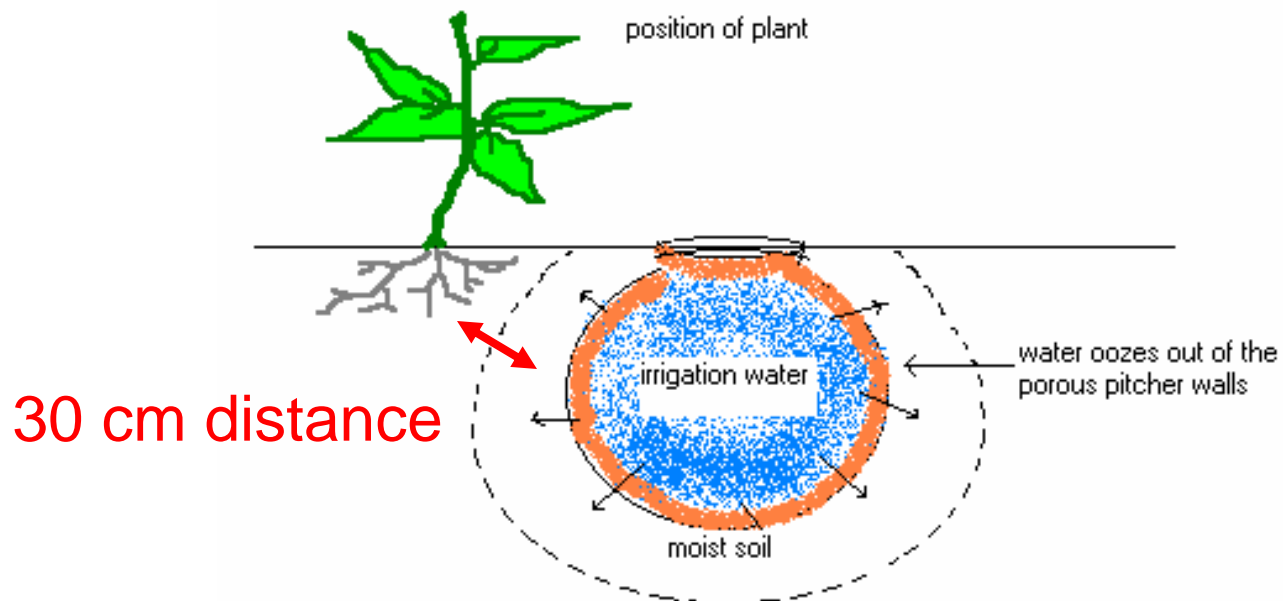
**SRI (System of Rice Intensification)**



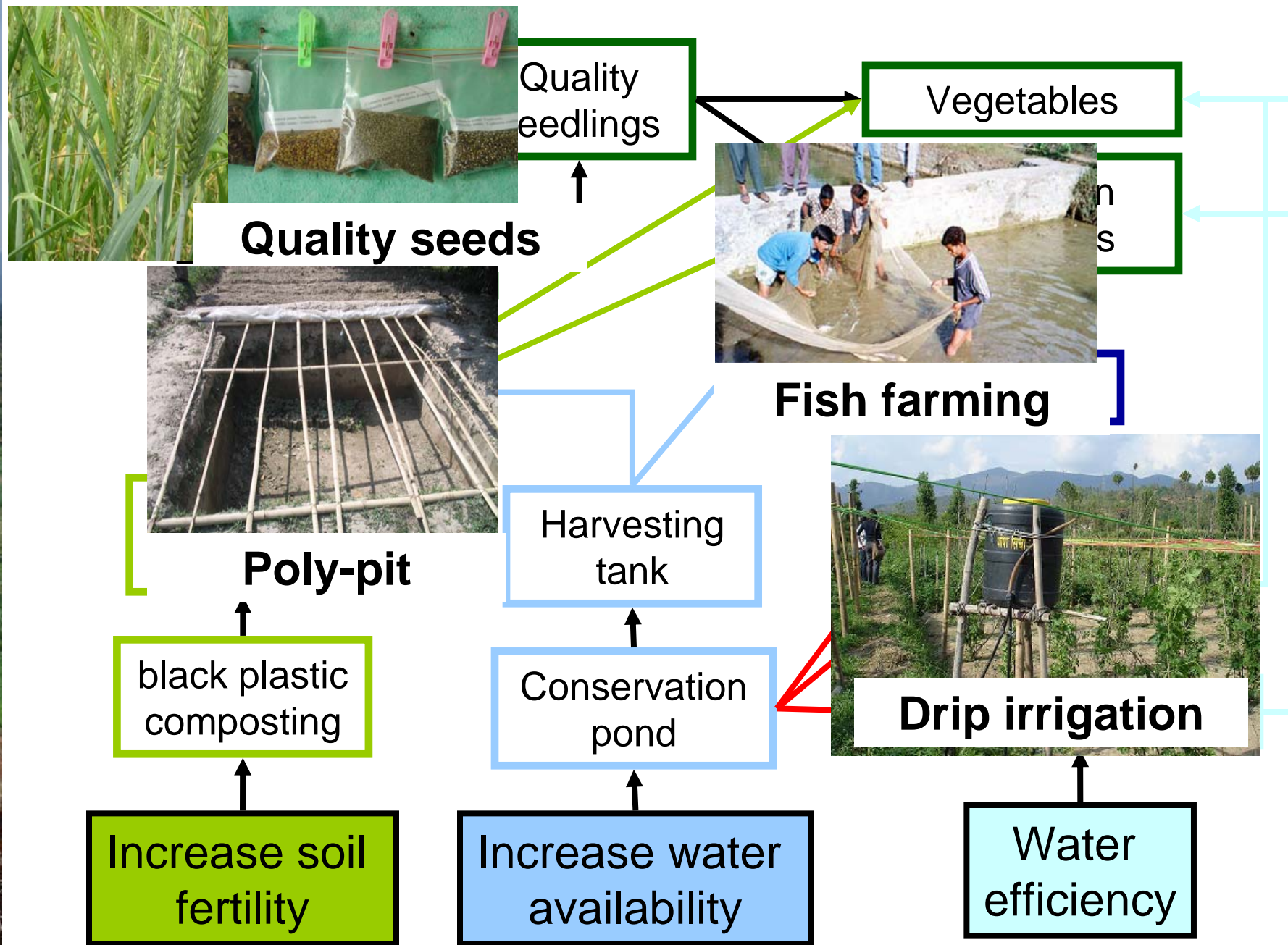
## ... pitcher irrigation



- watering plants in dry areas
- clay pots are buried
- pots filled with water
- covered with lid



# ...summary





# Approach...

## Participatory and community based approaches



- PAR (Participatory Action Research)
- PTD (Participatory Technology Development)
- PR&D (Participatory Research and Development)



# Identify problems in the watershed



- Involving farmers as research partners
- Gaining credibility (trust-building through entry point)
- Addressing needs of community
- Community participation



- Promotion of community user groups
- Building on indigenous knowledge
- Traditional practices





# **PARDYP team test, develop and promote simple options**

## **Key approach**

### **Social and community empowerment**

- Awareness raising
- Involve local institutions
- Involve all users
- Encourage women involvement
- User committee formulation
- Linking groups

# Capacity building, knowledge sharing



- Dissemination of findings
- On-site training & education
- Farmer to farmer exchange visits



- Farmer field schools (FFS)
- Farmer day



# Networking

- Newsletters
- CDs, films
- Websites, extranets
- Papers

## Networks



(World Overview of Conservation Approaches and Technologies)

[www.wocat.net](http://www.wocat.net)

- database

**HIMCAT** (Himalayan Conservation Approaches and Technologies)

<http://extranet.icimod.org.np/himcat/>

- an extranet platform for the Himalayan region

# Conclusion I



- Centrality of people
- Opinions of land users govern
- Strong focus on capacity building





## Conclusion II

- Experimental learning approach
- Sharing knowledge
- Training course in ICIMOD

### **Training course on Low Cost Soil and Water Conservation Techniques and Watershed Management Activities**

Kathmandu, Nepal

2-24 April 2007

- Field-level technicians and extension workers

# Thank you

