Communities, Traditional Farming and Climate Change: Challenges and Opportunities

Archana Godbole

Applied Environmental Research Foundation, Pune India

www.aerfindia.org
www.myforest.co.in
Agricultural Landscapes in India

• **North East India**: Eastern Himalayan Region) : Indigenous groups with high diversity of cultures.. Jhoom + Home gardens

• Western Himalayas : Local +indigenous communities, Mountain Agriculture + Agroforestry, horticulture

• **Western Ghats**: Rural Communities Lowland paddy + Shifting agriculture
Traditional Agriculture of North East..

- Cultural landscape of Apatani
- Honeyem of Wancho
- Fallow management of Angami
- Home gardens of Konyak
- Cultural landscape of Sikkim with Demojong & Shangrila..rich agro forestry
Traditional Agriculture
North East ..
Traditional Agriculture of Sikkim
Traditional agriculture of Sikkim
Traditional Agriculture Western Himalayas...

- Terraced Rice
- *Bara aanaj* System
- Medicinal plants
- Horticulture
- Agroforestry
Traditional Agriculture of Western Ghats ...

- Shifting Agriculture
- Paddy
- Summer rice cultivation
Western Ghats ..
Shifting Agriculture From Western Ghats

- Characterized by high biodiversity especially coarse millets
- Optimum land use
- Intensive manpower requirement
- Community decisions
- Landscape understanding
- Decreasing every year
- Land use changed to rubber, mango & Cashew cultivation
Types Of Shifting Cultivation In North Western Ghats

- Long fallow cycles up to 10 years
- Medium fallow cycles up to 7 years
- Very short fallow cycles up to 3-4 years
- Cultivation interval directly related to amount of rainfall.
- From south to north rainfall decreases, so the fallow period.
Loss Of Agro Biodiversity

- Total var. recorded 17  *Elusine coracana*  ...  *seeds 4*
- *Total var. of Fing. Millet* 3  .. *Seeds 1*
- *Var. of Vari* 4  .. *Seeds 2*
Dwindling Practices

Decrease in Summer rice cultivation

- Decreasing water availability in summer
- Loss of forests in the catchments
- Crop raiding by elephants
Degradation Of Culture And Traditional Practices

- Practices lost due to modern agriculture, subsidies, policies
- Urbanization, pressure of development
- Lack of manpower due to migration
- Low remunerative nature of agri based livelihoods
Climate Change...
Modern vs. Traditional agriculture...

Traditional Agriculture
- Transfer of knowledge
- Recognition of traditional knowledge
- Biological control
- Capacity to absorb the shocks
- Decisions often community driven

Modern Agriculture
- High input modern agriculture
- Water & chemical intensive
- Market forces the decisions
- Low or no capacity to absorb shocks
Genetic resources are crucial to cope with climate change; plants and animals with no economic value so far may become important.

As the future needs for human survival are unknown, a maximum of genetic resources has to be conserved at the lowest possible public cost.

An appropriate strategy has to rely primarily on *insitu* conservation with *exsitu* gene banks being complementary. *Insitu* may not be less costly, but the costs are mainly borne by farmers, whereas the benefits are private as well as public.

( AGRECOL 2006 )
Opportunities

- Revival of traditional systems
- Promoting landscape approach
- Ecoagriculture /conservation farming
- Enhancing ecosystem services
- Carbon sequestration
- Partnerships /benefit sharing
Challenges...

- Awareness generation
- Manpower
- Long term work..
- Policy & practice
- Who will practice the traditional agriculture?
- Innovative market approaches
Action plan ..

- Awareness about the close relationship between climate change, food security and the role of agro biodiversity has to be raised.
- Agro biodiversity conservation must become a basic component of adaptation strategies to climate change.
- A new understanding of appropriate conservation strategies for agro biodiversity is necessary, by which insitu concepts play a leading role.
- Revival of low input traditional agriculture
- Empowerment & participation of communities
- Strong linkages with markets
- Partnerships, sharing and collaboration among stakeholders