ECOSYSTEM DEGRADATION CYCLE IN THE HIMALAYAN FOOTHILLS OF JAMMU, INDIA

Dr. Vikas Sharma
Associate Professor

Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu
Introduction

- Foothill Himalayas is a fragile ecosystem
- Large scale degradation mainly because of water erosion
- A million ha. In Jammu division alone is degraded
- Water scarcity is a major factor responsible for poor crop productivity, and hence poverty.
- Both poverty and ecosystem degradation are interlinked.
- Poor returns which translates into inability of the communities to invest in water harvesting and ecosystem conservation.
Constraints

- Erratic rainfall (750-1100 mm annually)
- Deep water table,
- Undulating terrain,
- Frequent droughts,
- Low soil organic matter
- Coarse textured soils
- Poor water retention capacity
- Soil erosion due to high runoff, results in sizeable loss of soil and nutrients.
- Dying natural/traditional water storage structures.
Ecosystem degradation cycle

**NATURAL FACTORS**
- Soil erosion (Loose/coarse)
- Poor vegetation
- Rainfall (Hi Intensity)
- Soil type (Coarse/loose)
- Low water retention/harvesting
- Relief (Slopy land)

**ANTHROPOGENIC FACTORS**
- Deforestation
- Small holdings
- Low productivity
- Poverty
- Lack of technical Knowledge
- Difficulty in adoption

**Ecosystem degradation cycle**

- Soil erosion (Loose/coarse) → Poor vegetation → Ecosystem degradation → Low productivity → Poverty
- Rainfall (Hi Intensity) → Difficulty in adoption
- Soil type (Coarse/loose) → Difficulty in adoption
- Low water retention/harvesting → Difficulty in adoption
- Relief (Slopy land) → Difficulty in adoption
- No Soil & Water conservation measures → Difficulty in adoption
Challenges and Opportunities

- The challenge lies in
  - protecting the limited land resource and storing the water,
  - improving productivity of land and
  - eroding poverty in the region.

- Maximize the value of the land for the stake holders.
  - Inexpensive, easy to adopt and use technologies.
  - Land holdings being small possibility of subsidiary occupations needs to be explored.
  - Agro-forestry and horticulture
  - Strategic interventions requiring capital at Administrative level.
  - Water storage structures: small and large
THANK YOU