WATER SECURITY PROGRESS AND SUCCESS STORIES

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Water Security

- Dimensions of water security
  - Household water Security
  - Economic Water security
  - Urban water Security
  - Environmental Water Security
  - Resilience to Water Related Disasters
- Agricultural water security
  - In the face of Climate Change

Local Adaptation Measures: ***Case of Khokana VDC***

- Newar settlement in south-western edge of Kathmandu valley, known for mustard oil production
- Agriculture is the mainstay of livelihood
  - Rain fed agriculture
- Water Supply
  - Piped water supply for drinking and cooking
  - Traditional dug wells; stone spouts and

People's perception

- Increasing uncertainty of monsoon onset and cessation; erratic rainfall
- Increase in temperature
- Declining availability of water for irrigation during monsoon and winter season

Cloddy Fields at Khokana due to Soil Moisture Deficiency

Farmers' Adaptive Strategies

1. Innovations in Cropping System

- Problem: Observed drying of paddy in seed bed and delay in transplantation
- Adaptation: Covering seeds by thick layer of soil and covered with straw for seed bed preparation

Use of Organic Mulch to Cope with Drying of Rice Seedlings in the Nursery Bed

- Problem: Reduced Rainfall
- Adaptation: Transformation from substantial cereal farm to commercial vegetable farm

Use of Low Cost Green House for Vegetable Cultivation
(Tomato and Chilly **)**

2. On-Farm Water Management Practices

- Problem: Reduced Rainfall, uncertainty of rainfall
- Adaptation:
  - Polythene pipes are arranged in tunnel farm to minimize the loss of water

  (shift from traditional flooding method of watering to irrigating only root zone)

  - ISF: Rs. 55 per ropani per year is collected by VDC for O/M of canals

Innovative Irrigation Method for Irrigating Tomato Inside Green House

3. Innovations in Soil Fertility Management

- Resource recovery from waste :
  - Compost manure by biodegradable waste generated from vegetable waste and other bio waste produced on household level
  - Installment of ecological sanitation
    - To generate organic manure from mixer of feaces and ashes

4. Wastewater Irrigation

- Useful during dry season
- Diverted wastewater from sanitary pipes to their traditional earthen duct
  - Collection drains from every households and courtyards to farmland was a traditional practice
- Renovation of traditional ponds

Conclusion

- People’s perception on climatic variability
  - Determines the decision making in agricultural; practices
- Local adaptation methods
  - Technological
  - Institutional
- Revival of traditional knowledge of water management

THANK YOU!