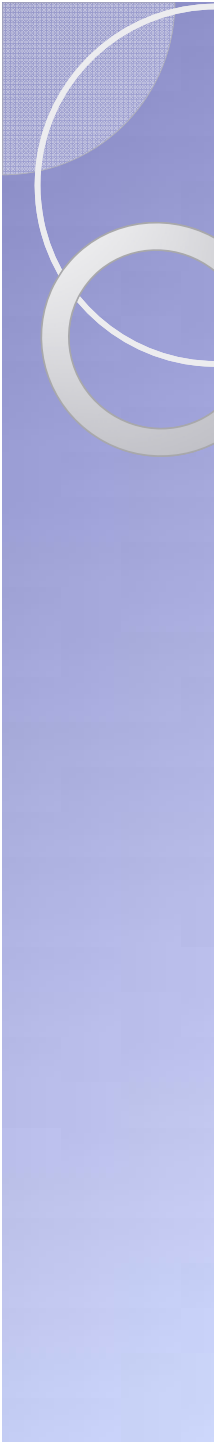




WATER SECURITY PROGRESS AND SUCCESS STORIES

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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



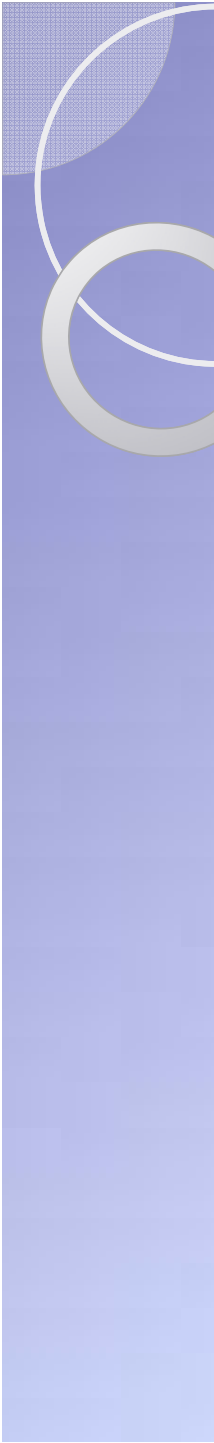
4. Wastewater Irrigation

- 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!