PARTICIPATORY ECOSYSTEM MANAGEMENT AS DECENTRALISED IWRM
Lessons from India

Nandita Singh & Om Prakash Singh
Millennium Water Story (MWS), Stockholm
www.millenniumwaterstory.org
INTRODUCTION

- **AIM:** Discuss how participatory ecosystem management enables water security and balanced water use between people, food production and environment, through case studies from India.
- **METHOD:** Empirical research in semi-arid/arid rural India - Rajasthan, Bihar, Maharashtra.
- **APPROACH:** IWRM framework, with ‘integration’ focused on green and blue waters, different water use sectors, stakeholder participation.
FINDINGS (1)

**Problem**: Ecosystem degradation a result of overexploitation of natural resources - water, forest and pastures leading to poverty and under-development

**Action**: Ecosystem restoration process through community participation engaging men and women at micro-watershed level

- Water conservation through construction of watershed structures like checkdams/anicuts, water absorption trenches (WAT) and gabions to slow the flow of runoff; percolation tanks & dams to store water and increase groundwater recharge
- Afforestation for restoring forests and pastures
- Community rules – for protection of restored greenery
FINDINGS (2)

Outcomes:
- Recharged groundwater and enhanced green water (moisture) in soil
- Rejuvenation of lost rivers and ponds
- Restoring lost flora & fauna

Implications for sustainable development:
- Provision of adequate and safe drinking water – reduced women’s drudgery, enabled girls’ education, improved health, etc.
- Revival of agriculture - enhanced incomes through increased crop and animal productivity
- Poverty alleviation, increased gender equality, enjoyment of human rights, also improved climate resilience
RAJASTHAN (1)

A crescent-shaped johad in village Sada ka Guwara

An afforested patch raised by villagers in Gopalpura

Anicut on Arvari river near village Kaler

Rejuvenated pastureland in Bhaonta-Koylala village
RAJASTHAN (2)

Handpump yielding safe drinking water round the year in Bhaonta-Koylala village

A well filled with water in village Sanwatsar

Pearl millet grown as summer crop in village Gopalpura

Wheat grown as winter crop in village Gopalpura
MAHARASHTRA (1)

Percolation tank in village Ralegan Siddhi

A ‘gabion’ as a ‘nala’ (drain) bund in village Ralegan Siddhi

Afforestation in village Ralegan Siddhi

Nursery being raised for supporting afforestation in village Ralegan Siddhi
MAHARASHTRA (2)

A handpump recharged through watershed structures in village Ralegan Siddhi

A recharged agricultural well in village Ralegan Siddhi

Onion grown as a cash crop in village Ralegan Siddhi

A field of black gram in village Ralegan Siddhi
Rejuvenated forest in Kareli watershed

Checkdam constructed along a hillslope to hold runoff in Koilu watershed

A ‘water absorption trench’ at the base of a hill in Koilu watershed

Rejuvenated Karim Ahar in Kareli watershed
BIHAR (2)

- High water table in an agricultural well in Koilu watershed
- Recharged handpump yielding drinking water round the year in Kareli watershed
- Paddy crop in Koilu watershed
- A field of ripe wheat crop in Kareli watershed
CONCLUSIONS

- Complementarities exist between participatory ecosystem management and ‘decentralized’ IWRM at micro-watershed scale
- Helped achieve ‘integration’ of: blue and green waters, different water use sectors, and active stakeholder participation
- Replication of the approach in neighboring degraded micro-watersheds can lead to achieving IWRM at progressively higher scales within and between river basins
Thank you for your attention!

www.millenniumwaterstory.org