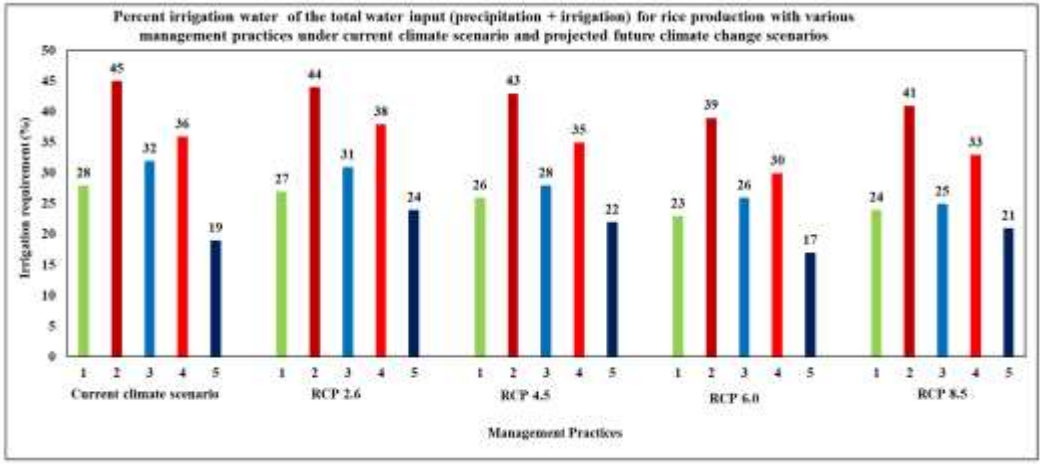
## *About Me & My Work*

- Dr. Ranjeet Kumar Jha, Indian Institute of Technology (IIT) Mandi, Himachal Pradesh, India
- Assistant Professor, School of Civil and Environmental Engineering.
- **Research Area:** Sustainable Agricultural Management Development, Food-Water-Climate Nexus Modeling, Integration of cutting-edge technologies for sustainable agricultural cultivation, Indigenous Agricultural Practices.
- My research philosophy in agricultural sustainability emphasizes **reducing chemical-based farming**, **minimizing resource use**, and **maximizing crop health and productivity**.

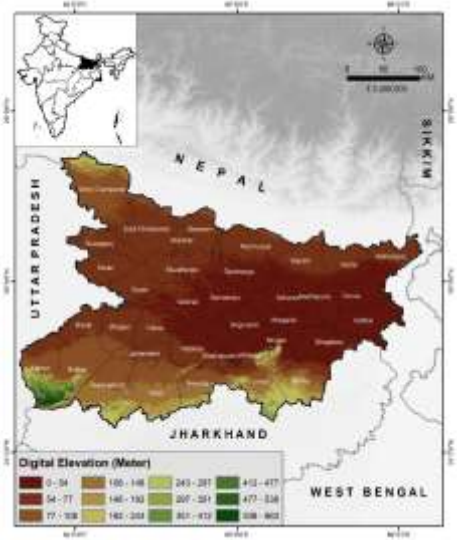
## *What I Built or Solved*

- Without investment – more production; Loss of production with various cultivation approaches and irrigation requirement, and optimum solution for the farmer.
- More Yield and minimum investment in the cultivation process and minimum irrigation water.

**What makes it different from other approaches?**




**Where has it been applied?**




# *The Impact So Far*

- People of Bihar were inspired to cultivate with this approach for minimizing losses and maximizing production.
- Northern and Central part of Bihar
- Production improved, at which stage irrigation water is important they started applying, and changed the cultivation approach.
- Worked with the Borlaug Institute for South Asia to disseminate the practices to the farmers.
- Four International Publications, best research recognition by the University, and international media coverage, such as Science Daily, The Statesman, New Herald News, Times of Republic, IANS Live, etc.

## *Why It Matters to the BlueCities Network*

**1. How Can This Be Useful to Other Cities or Rivers?**

🏞 **Agro-land Buffering**: Natural farming near rivers reduces nutrient runoff, improves water quality, and restores riparian biodiversity.
💧 **Nexus Modeling**: Predictive models for city planners to understand food–water–energy linkages and minimize gases emissions.
🌿 **Indigenous Practices**: Promotes natural farming through scientific investigations by developing biofertilizers, and the mechanization process to restore soil health, and biodiversity, supporting the circular economy pillar of BlueCities.

**2. Can This Be Replicated or Adapted Elsewhere?**

- Yes.
- Anywhere, Affordable for everyone.
- Healthy and nutritious food supply.
- Climate smart agriculture

**3. What Type of Collaboration Am I Open To?**

- Project collaboration
- Scientific development partnerships.
- Capacity Building and Community Training.

**4. What Do I Want From the Network?**

- Funding
- Help in scaling up, and visibility.
- Global Learning Exchange