



The Farm Pond Collaboration:

A critical study of policies and practices of farm-ponds in diverse social-ecological systems

Kick-off Call

July 6, 2024



SCHOOL OF PUBLIC POLICY
Indian Institute of Technology Delhi



Revitalising
Rainfed Agriculture
The RRA Network

Objectives of today's meeting



- Introduction to the collaborative study and its objectives
- Introduction by the participating organizations and discussion on the research questions of interest
- Decisions on the structure of the collaboration and the way forward

Agenda



- Welcome and Introduction by RRAN Team
- Brief Introductions by participating organizations
- Context setting (Ravindra)
- Motivation for the Farm Pond Collaborative Research (Rahul + Pooja)
- Proposed structure for collaboration (Ravindra)
- Discussion on Research Objectives and Research Questions
- Way Forward (5 mins)



Participating Organizations

Interest in Collaboration

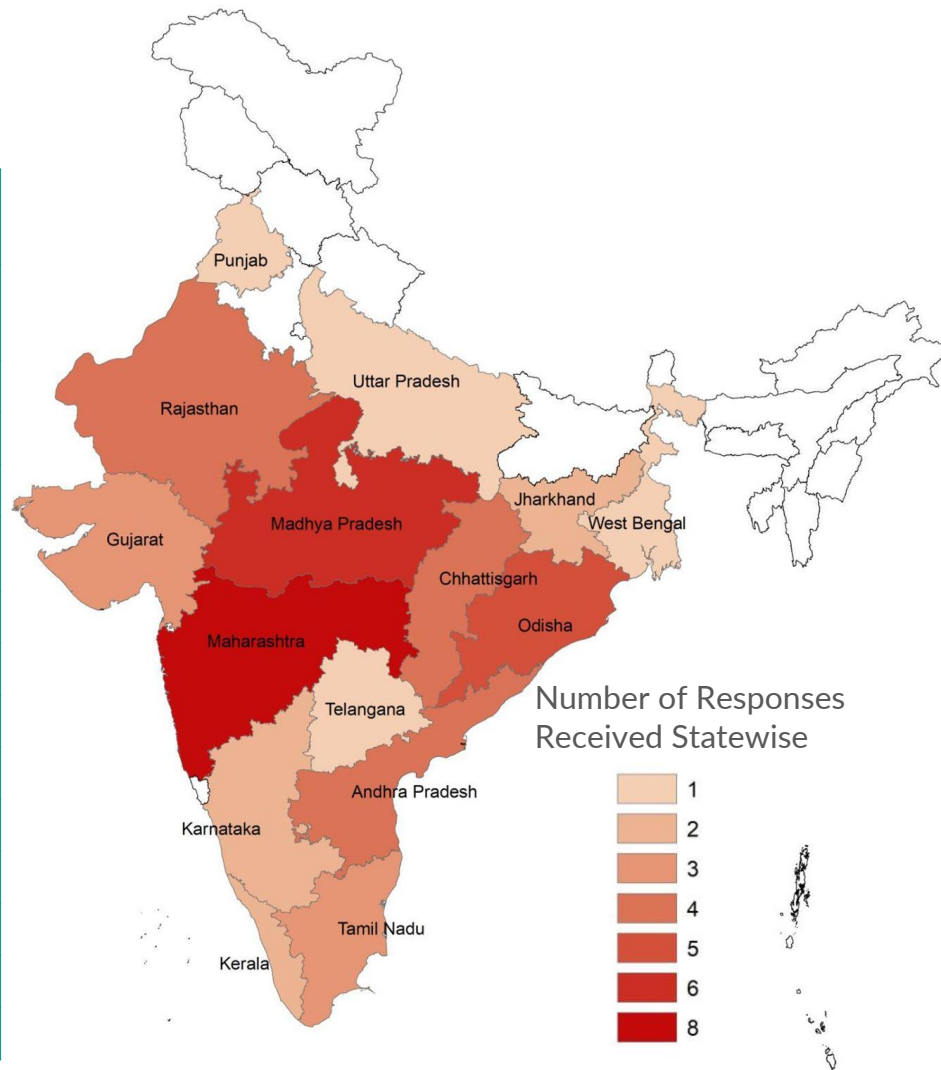


Received 35 responses from various organizational representatives

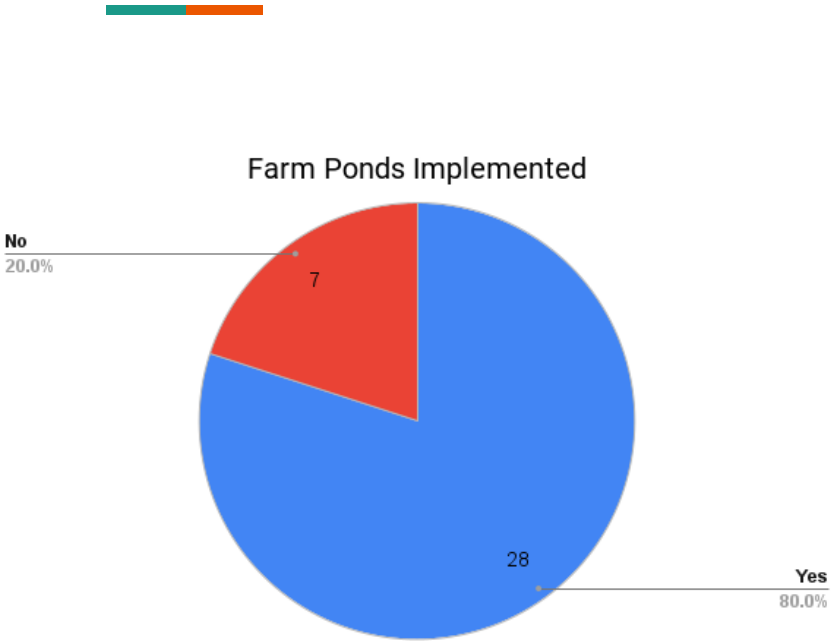
Manjari foundation
Ambuja Foundation
Yuva Rural Association BAIF
Friends of Bharathapuzha
T & M Consultancy Mumbai Wild Trust
Bharat Rural Livelihoods Foundation
University of Hohenheim, Germany PRADAN
Centre for Research and Development
Aga Khan Rural Support Programme India
M S SWAMINATHAN RESEARCH FOUNDATION
Center for Agriculture and Rural Development CARD
WASSAN Centurion University of Technology and Management, Odisha
Water Environment Land and Livelihoods (WELL) Labs
Professional Assistance for Development Action
University of Agricultural Sciences, Bangalore
SRIJAN Watershed Organisation Trust (WOTR)
Centre for Sustainable Agriculture
Foundation for Ecological Security
Pagati Abhiyan Krishi Vigyan Kendra Ujjain
Amhi Amchya Arogyasathi
Smart Farming gGmbH
Vanarai Pune A F Ecology Centre
SEED organization
Gram sudhar samiti

States Represented

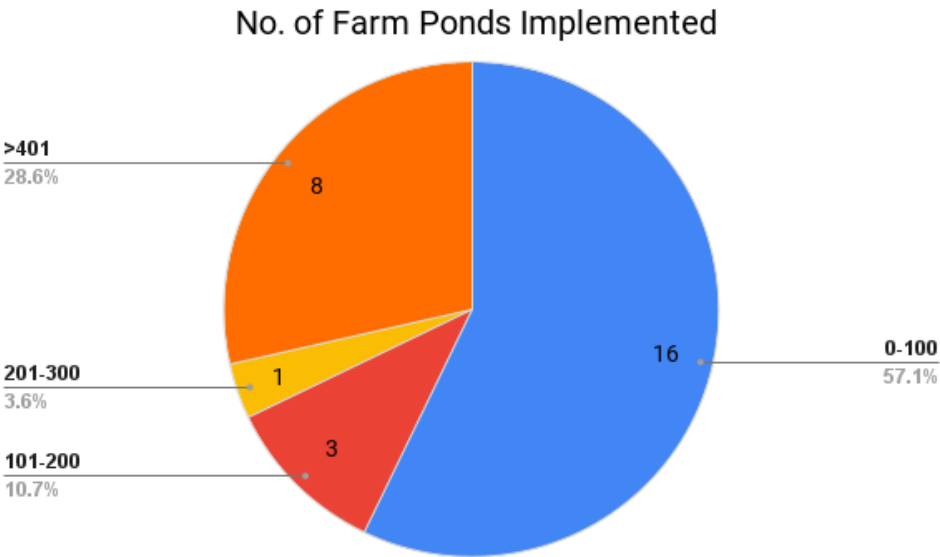
Maharashtra	YRA, CARD, BAIF, AF, Amhi Amchya Arogyasathi, Pragati Abhiyan, Vanarai Pune
Madhya Pradesh	SRIJAN, PRADAN, GSS, KVK, AKRSP, BAIF
Odisha	WASSAN, FES, PRADAN, BRLF
Chhattisgarh	PRADAN, BRLF, SRIJAN, T&M C
Rajasthan	PRADAN, AF, WELL Labs
Andhra Pradesh	WASSAN, AFEC, BAIF
Tamil Nadu	PRADAN, MSSRF
Gujarat	AKRSP, BAIF
Jharkhand	PRADAN, BRLF, SRIJAN, T&M C
Karnataka	SEED, UAS, BAIF
Kerala	CRD, FOB
Punjab	Ambuja Foundation (AF)
Uttar Pradesh	Manjari Foundation
West Bengal	BRLF
Telangana	BAIF



Farm - pond experience of participating organizations

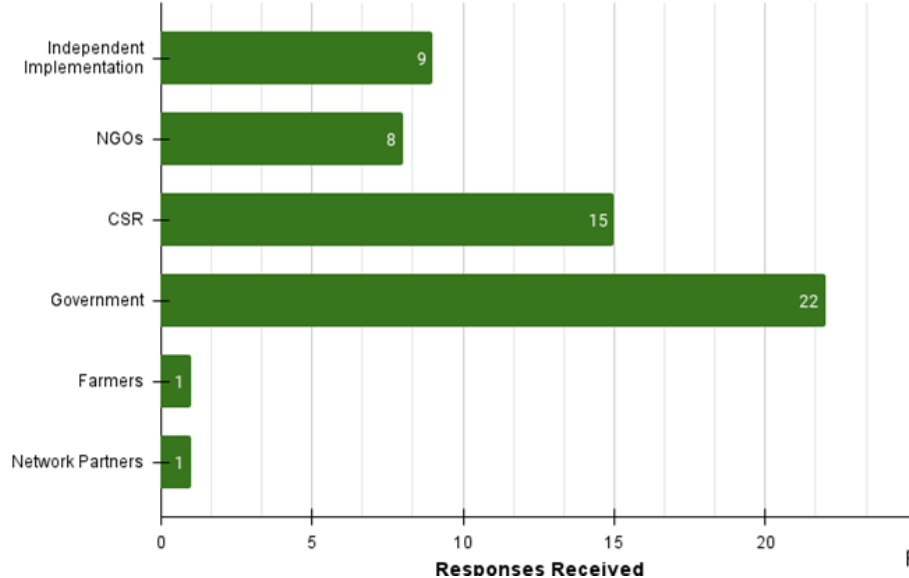


Total Organizations responded = 35



Total Organizations responded = 28

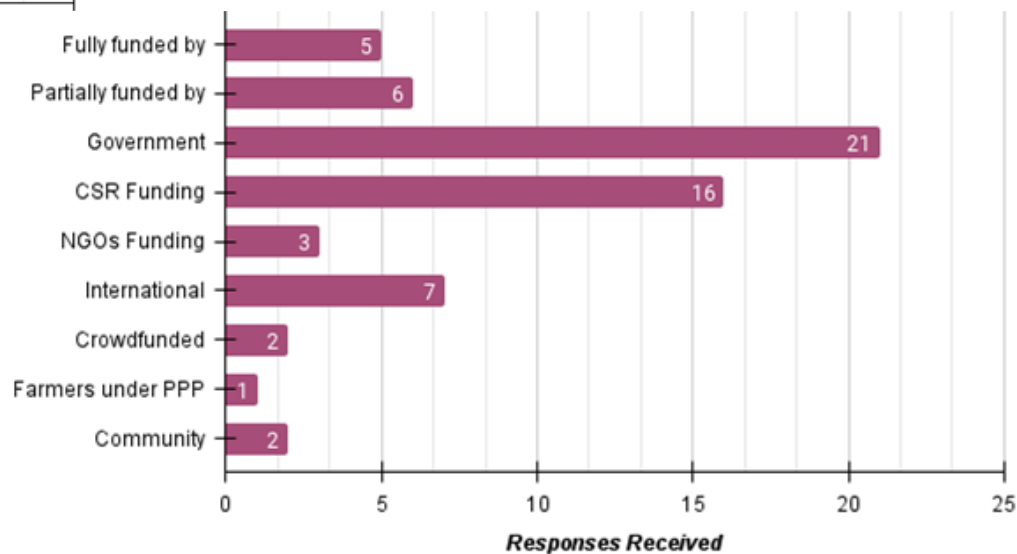
Implementation Mode



Total Organizations responded = 28

Funding sources for the implementation of farm pond project

Funding Mode





Motivation for the study

Context: Variety of farm-ponds in different agro-ecologies



Naigaon, Sinnar



Ghusar, Akola



Korhate, Waghad



Jamdaya, Hingoli



Lohardaga, Jharkhand



Nandur Shingote, Sinnar

Context: Variety of farm-ponds in different agro-ecologies



Large variety in the types of farmponds: structure, purpose, water source , hydrological impact, livelihood practices, etc.



Jamdaya, Hingoli



Lohardaga, Jharkhand



Nandur Shingote, Sinnar

Example 1: Inlet/Outlet type farm ponds in streams



Akola, Maharashtra



Dhaturiya, Madhya Pradesh

Cascading dug-out ponds - filled with stream run-off

Water availability enhanced by a few months: depends upon soil type

Purpose - Protective irrigation during late monsoon dry spell
1-2 post monsoon irrigation, groundwater recharge

Example 2: Off-stream farm ponds capturing farm runoff



Dhaturiya, Madhya Pradesh

Farm Ponds - filled by runoff generated in the catchment area, captured through channels created by farmers

Water availability enhanced by a few months (depends upon soil, and upstream storage)

Purpose - Prevention of water logging in fields, Protective irrigation during late monsoon dry spell, 1-2 post monsoon irrigation, Groundwater Recharge (if unlined)

Challenges: Water availability depends on upstream storage



Akola, Maharashtra

Example 3: Farm Ponds in and around canal command area



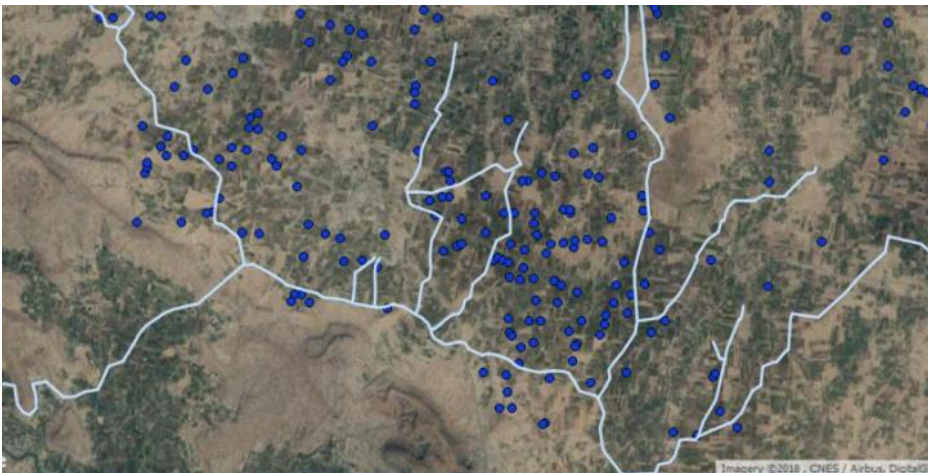
Waghad Canal, Maharashtra

Lined ponds filled through canal water either directly or through wells

Water availability - can be all around the year depending upon number of canal rotations

Purpose - Supports Annual crop/Horticulture
Supports use of drip/sprinkler system instead of flood irrigation

Challenges: Water availability in canal tail region affected;
Privatization of public water



Sinnar, Maharashtra

Example 4: Groundwater filled farm ponds



Nandur Shingote, Sinnar



Sinnar, Maharashtra

Elevated, lined ponds filled by pumping of groundwater

Regions where well are present but GW availability uncertain

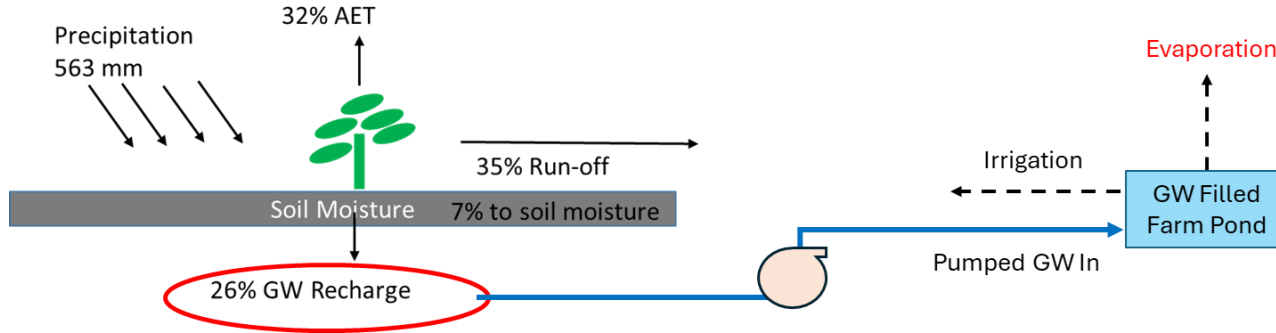
Water availability - can be all year round

Purpose - Supports Annual crop/Horticulture
Support the drip/sprinkler system

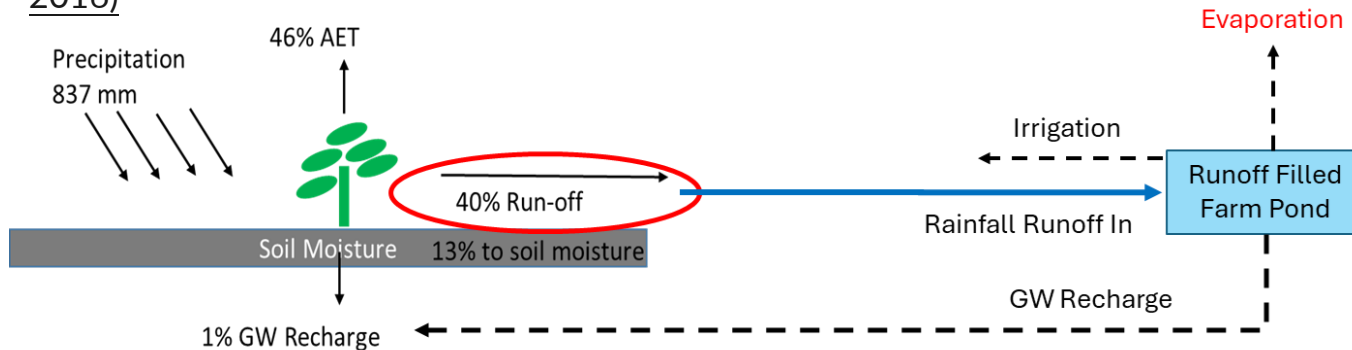
Challenges: large part of GW lost to evaporation;
privatization of public common pool resource

Different type of farm ponds have different local hydrological impact

Groundwater filled farm ponds in shallow aquifer region (E.g, Sinnar 2016)



Run-off filled farm ponds in deep clayey soil with high run-off (E.g. Gondala 2016)



PROBLEM STATEMENT



- Farm-ponds have emerged as one of the most popular interventions for water management
- Large number of programs (govt and non-govt) invest in farm-ponds throughout the country
- Large diversity in farm-ponds and their use, often with exactly opposite hydrological effect
- Farm level benefits of farm-ponds do not always translate to system level benefits
 - Water as a limited common pool resource
 - More than certain number of ponds within a region may lead to counter-intuitive effects
- Need to characterize farm-ponds in different agro-ecologies, and different programs
- Need for a systems level understanding of impact of large-scale farm-pond programs

RESEARCH OBJECTIVES



1. To examine different governmental and non-governmental schemes, policies and programs on farm ponds across different agro-ecological regions in India
2. To characterize farm ponds being implemented in different programs/agro-ecologies in technical, socio-economic and hydrological terms
3. To analyze systems level impact of large-scale farm pond programs to capture any counter-intuitive effects

RESEARCH QUESTIONS



1. What are the different programs (state, non-state) focused on farm-ponds in India and how do they differ in implementation?
2. What are the characteristics of farm-ponds that are implemented in different agro-ecologies in technical, socio-economic and hydrological terms?
3. How effective are the farm-ponds in meeting the overall program objective both at farm scale and at system (resource) scale?

EXPECTED OUTCOMES



- A directory of programs (govt and non govt) involved in farm-pond implementation throughout the country, and the characteristics of each program
- A knowledge repository on typologies of farm ponds being implemented in different agro-ecologies
- Case study reports that capture technical, socio-economic and hydrological characteristics of different typologies of farm ponds
- Guidelines for implementing agencies and government policies that capture systems level insights
- A shared understanding of the opportunities and risks posed by farm pond programs through consultations, roundtable discussions, and other collaborative efforts.



Structure of Collaboration

COLLABORATIVE APPROACH



Collaboration with different organizations engaged in implementing farm ponds and/or interested in studying farm ponds in their focus regions in different capacities:

- Participate in development of research methodology
- Development of Case Studies: field work and data collection, data analysis and visualization.
- Systems level analysis
- Communication and dissemination of research findings
- Funding and resources

TENTATIVE PROJECT TIMELINE

JULY - AUGUST

Research Design & Planning

- Kick-off
- Finalize research questions
- Compile a list of relevant governmental and non-governmental programs, scheme and policies

Preliminary Research & Data Collection Setup

- Finalize research methodology
- Finalize case study sites
- Design data collection instruments(surveys, questionnaires, others)
- Pilot Testing

SEPTEMBER - NOVEMBER

Data Collection & Field Survey

- Conduct data collection in Case Study sites
- Finalization of field sites for the system level study.
- Field work for the system level
- Compilation of data from field sites

Data Analysis & Interpretation

- Conduct detailed social-ecological analysis.
- Interpret findings and develop insights
- Compare results across different zones and identify patterns.
- Finalization of case studies report

DECEMBER - JANUARY

Report Writing & Recommendations

- Initial draft report prepared and reviewed
- For feedback and recommendation - meeting between the partners
- Final Report Submission

Research Dissemination

- Conduct conferences, seminars, roundtables for research dissemination
- Prepare policy brief, working paper
- Disseminate findings through social media engagements.

WAY FORWARD



- Confirmation of Interest to participate? How? We will circulate a spreadsheet to all participants and they are requested to confirm interest, indicate key contact and possible case study sites.
- Next call : methodology discussion (everyone + core group of domain experts)



THANK YOU