Unlocking accelerated possibilities to achieve groundwater security across the Asia Pacific region

Experiences from Arghyam and the ForWater Collective

Amrtha Kasturi Rangan

Arghyam's Journey

Mandate to work on water: 2005, Endowment from Rohini Nilekani

INR 1.5 bn and 140 Projects in 15 Years

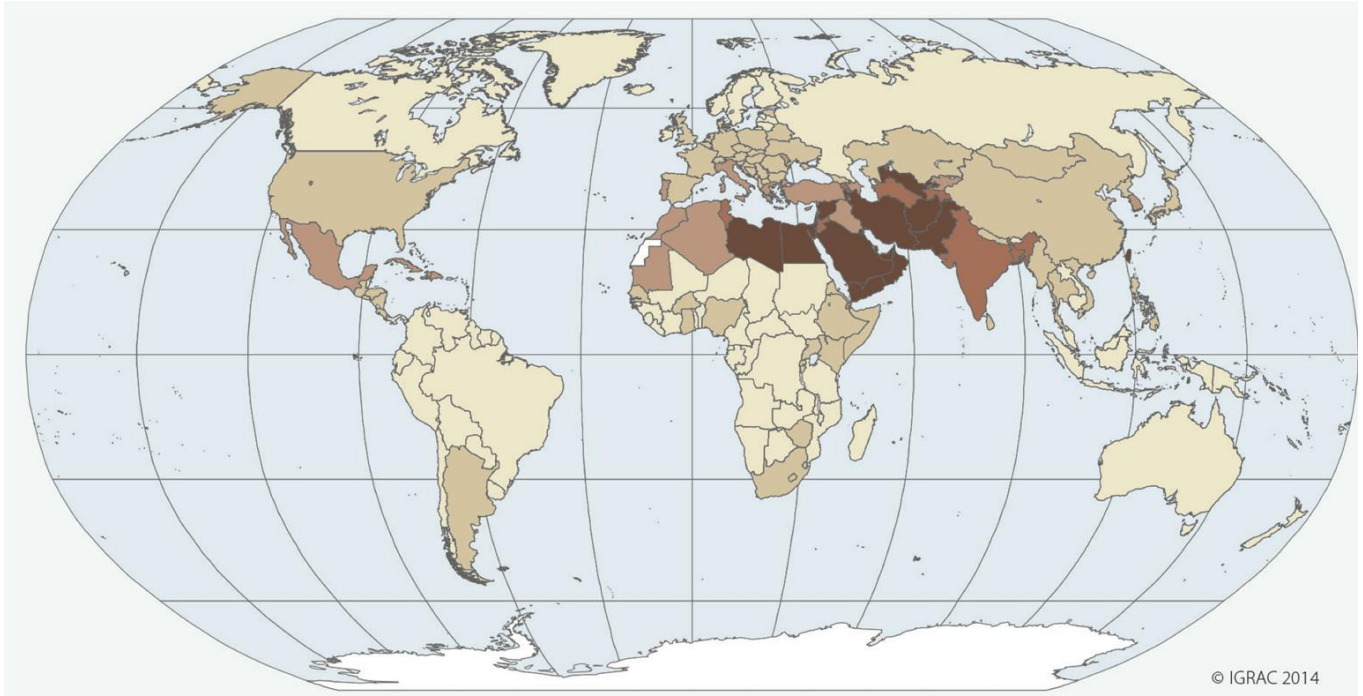
100+ Partners across India

Footprint in 22 states and over 110 districts

More than 10 million people reached

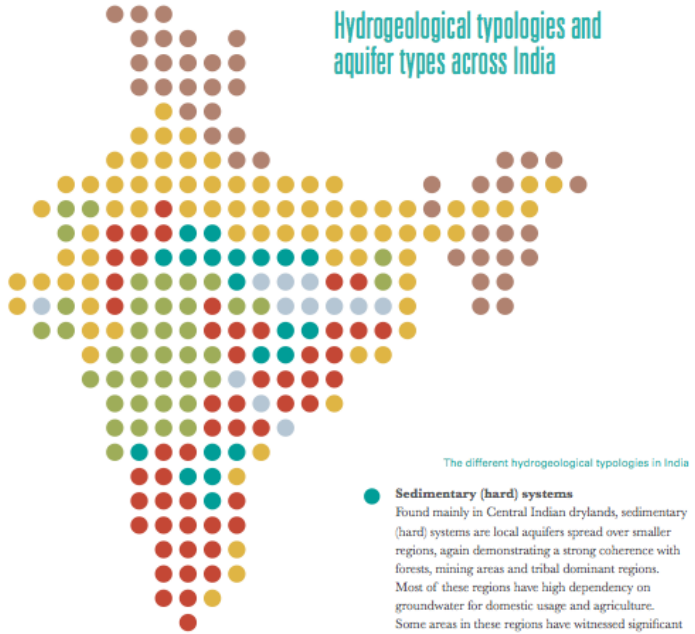
Making the case for Groundwater: Asia Pacific

- 60pc of world's population on 36pc of world's water resources
- 1.7 billion with no access to groundwater
- India, Pakistan, Nepal, Bangladesh energy bill for extraction is $3.78 billion
- Comprises of maximum cyclone, drought & flood prone countries
- Poor water quality



Abstraction as a percentage of annual recharge

Arghyam's work on Particiatory Groundwater Management



The different hydrogeological typologies in India

Mountain systems
Found mainly in the Himalayan region, mountain systems are local aquifers found over a large region that feeds springs and streams. They demonstrate higher dependency for drinking water on springs and spring-fed streams than on wells. Land-use change and climate are factors of immediate concern around this resource's sensitivity.

Alluvial (unconsolidated) systems
Alluvial systems are unconsolidated river and aeolian sediments that deposit in vast plains, largely within the Indus and Ganga river basins typified by multiple regional aquifer systems. Groundwater quality in these regions is a major concern.

Sedimentary (soft) systems
Sedimentary (soft) systems are regional aquifers found over smaller regions in Central Indian drylands. They have a strong coherence with forests, mining areas and tribal dominant regions - regions that have higher dependency on groundwater for domestic usage.

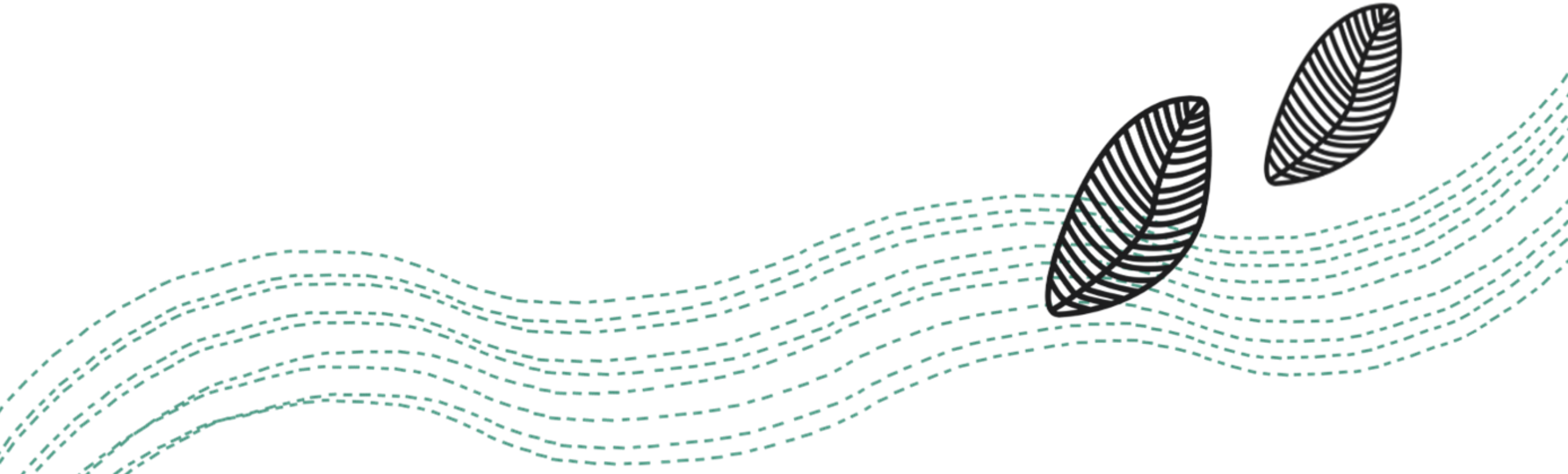
Sedimentary (hard) systems
Found mainly in Central Indian drylands, sedimentary (hard) systems are local aquifers spread over smaller regions, again demonstrating a strong coherence with forests, mining areas and tribal dominant regions. Most of these regions have high dependency on groundwater for domestic usage and agriculture. Some areas in these regions have witnessed significant extraction of groundwater.

Volcanic systems
Volcanic systems are found over large regions and are the most heterogeneous of all aquifer systems. With limited amounts of storage, these aquifers often lead to some degree of self-regulating storage. Long term declines of these systems lead to constrained agricultural growth. Relatively better water quality levels can be found here.

Crystalline (basalt) systems
Crystalline systems are local to sub-regional aquifers found over large regions. These regions have a high dependency on groundwater for drinking water and agriculture. Groundwater markets arise primarily around rural to urban groundwater transfers. Fluoride tends to be a major contaminant in these systems.

Source : (2015) Kulkarni et al, Shaping the contours of groundwater governance in India, Journal of Hydrology : Regional Studies

Unlocking possibilities: Achieving scale



forwater

Arghyam
Safe, sustainable water for all

Our Mission

Strengthening ability of the ecosystem to enable water security for 100 million by 2023

NRM in all the villages of Meghalaya

400 villages in 4 years |
Expanding to 6000 villages in 2 years

Community Led Landscape Management

We need to ensure that communities appreciate and get better at creating better life & livelihood opportunities through better natural resource management

Village facilitators and trainers are important to achieve sustainable outcomes

We need to create growth pathways for village facilitators to build expertise and access better opportunities

Trained Practitioners, Content etc. are important assets that can be leveraged by others

Programs in the future should re-use trained practitioners, content, NRM plans and other artefacts to achieve better results-faster.

Operating Model

Service Partners supporting

Arghyam
Safe, sustainable water for all

Overall Design@Scale Strategy support for services

SATTVA
Delivering High Impact.

socion

Planning, implementation and codification support for deployment

socion

Digital Green

ECHO India
Project ECHO

FES
FOUNDATION FOR ECOLOGICAL SECURITY

Digital tools and technology support

Key Funders

Government of Meghalaya
सत्यमेव जयते
Shillong

IBDLP
MEGHALAYA

THE WORLD BANK

Meghalaya Community-Led Landscape Management Project (MCLLMP)

Technical Partners on-boarded by CLLMP as training agencies

PEOPLE'S SCIENCE INSTITUTE
PSI

ACWADAM

PRASARI

Central Himalayan Rural Action Group
CHIRAG
www.chirag.org

SADHANA FOREST

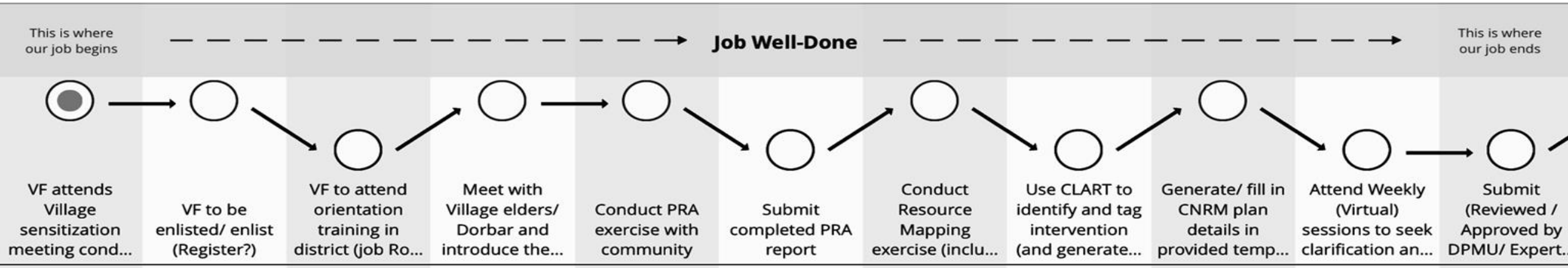
RMSI

EMPOWERING RURAL PEOPLE
SIRD
MEGHALAYA
STATE INSTITUTE OF RURAL DEVELOPMENT

ATMA
Agricultural Technology Management Agency

Knowledge partners and experts

Inspiring Lahunshisha & other frontline workers like her to work on NRM



Scan-in/ out of PDA mandatory to ensure participants are recorded/ visible

How to scan-in people who don't have phones

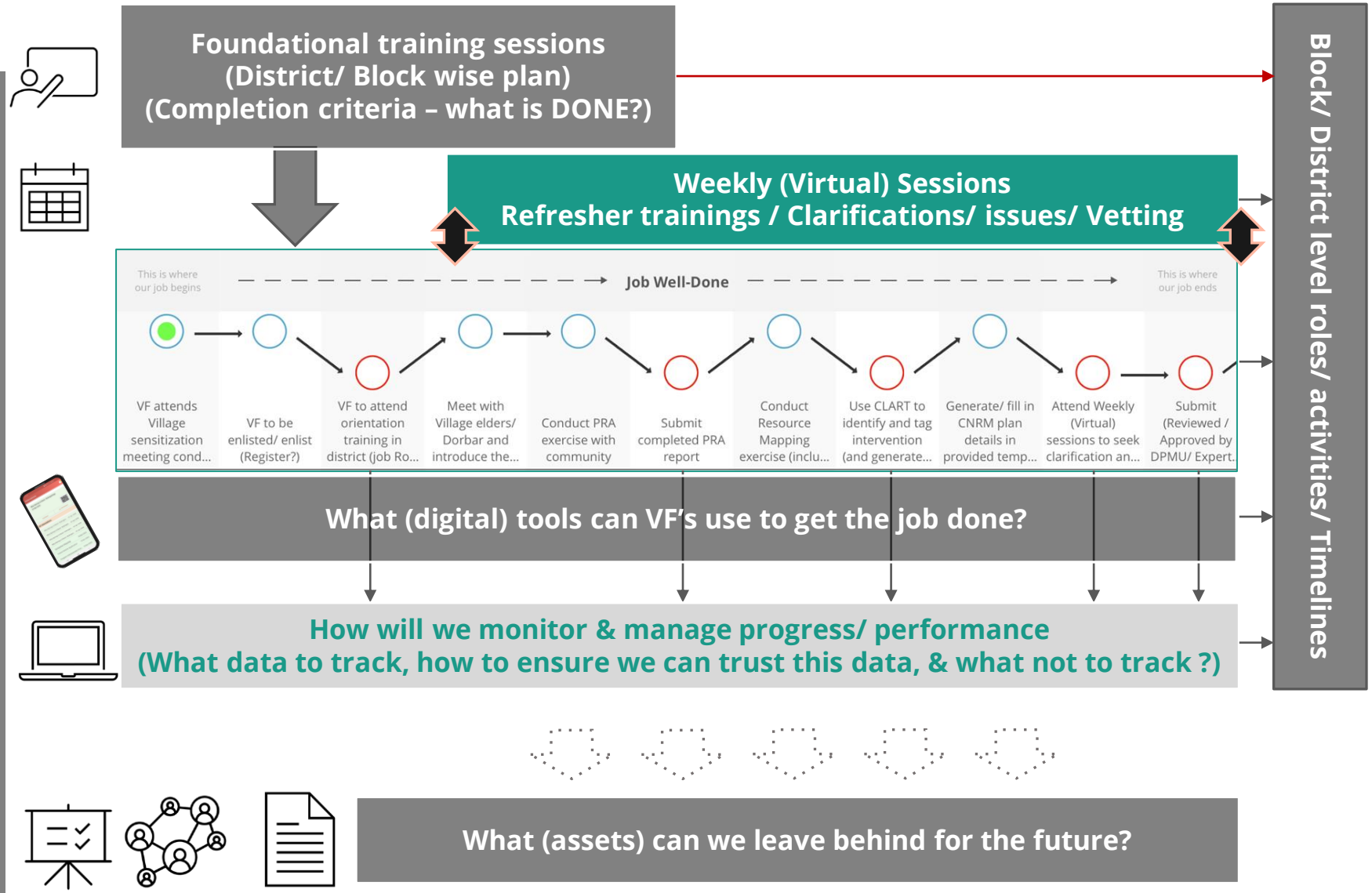
COMPETITIVE ANXIETY

What challenges do we foresee & how can we strengthen our plan to get the best results?

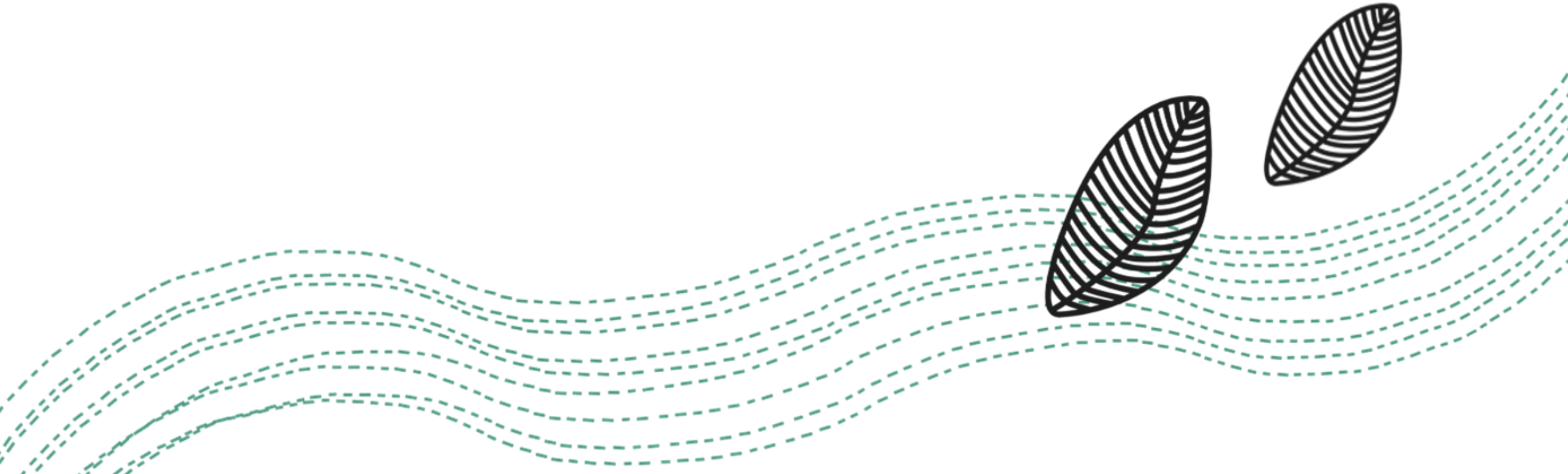
If training is done less than 10 days prior - most effective

How will we handle CLLMP villages where they have done resource mappi...

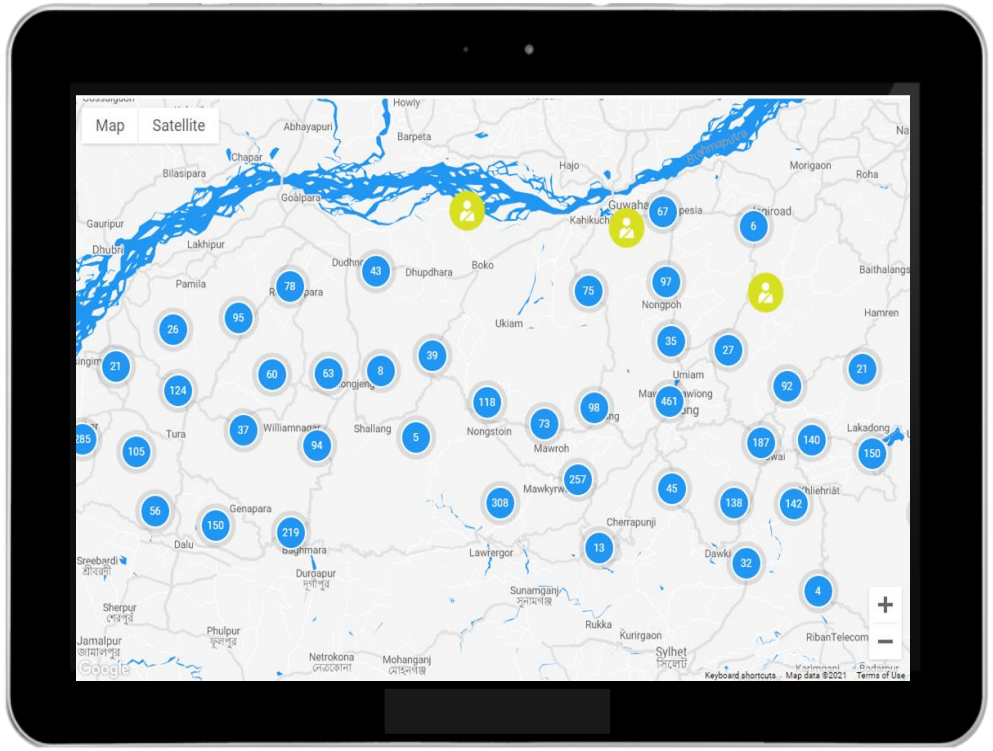
Operationalizing the thinking – New ways of working

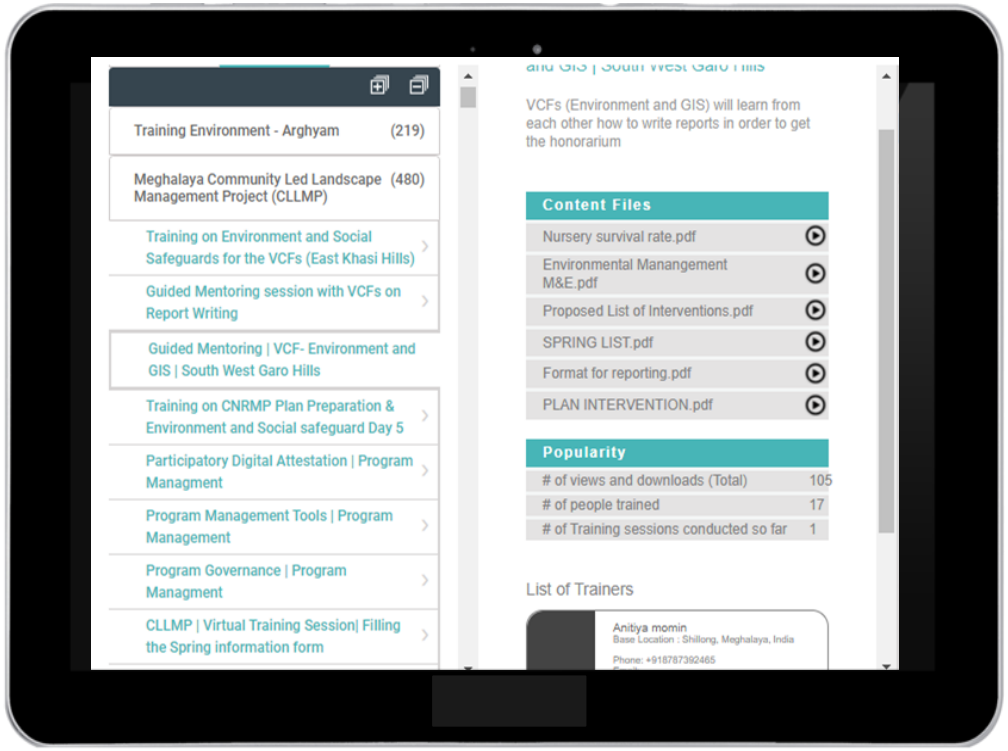


Leaving behind assets



The program has access to: Content, People and any plans prepared in its dashboard





Making the invisible visible: Groundwater and the people who manage it

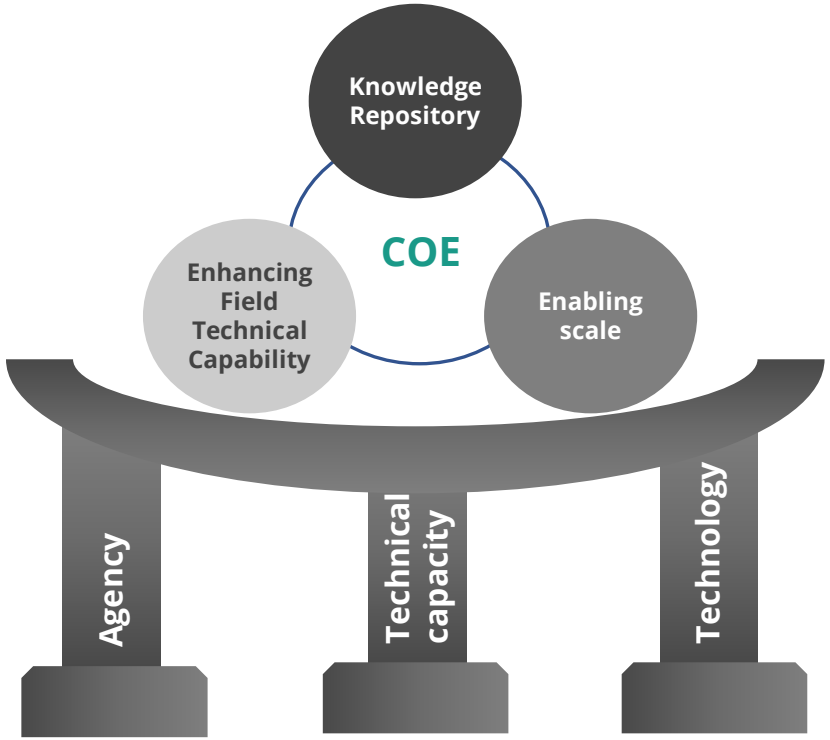
Shifts

- **High frequency - Low dose Training**
  - Weekly virtual sessions with peers and experts
- **Content as asset**
  - Short-form videos in local language
- **Scan-in / Scan-out of interactions**
  - Digital Attestations of trainees creates data on resource pool
- **Leverage existing resources**
  - Identify institutions & departments with program connect. Leverage them & build their capacities

Outcomes

- *10X increase in interactions;*
  More participation of women
- *All content available in the hands of the participant at all times. Share freely via whatsapp, etc.*
- *Dashboards on sessions and content for the program;*
  Future Programs can leverage trained resources
  Improve program efficacy and scale to saturate the state

Unlocking Capacity, Capital and collaboration: water security @ scale: The ForWater collective



Five unique partnerships across 8 states - at 33 million people now.

Transitioning from doing to enabling → by seeding the ForWater collective- to unlock capacity, capital and collaboration

Embedding this methodology in critical, @scale groundwater programmes like Atal Jal

Thank you