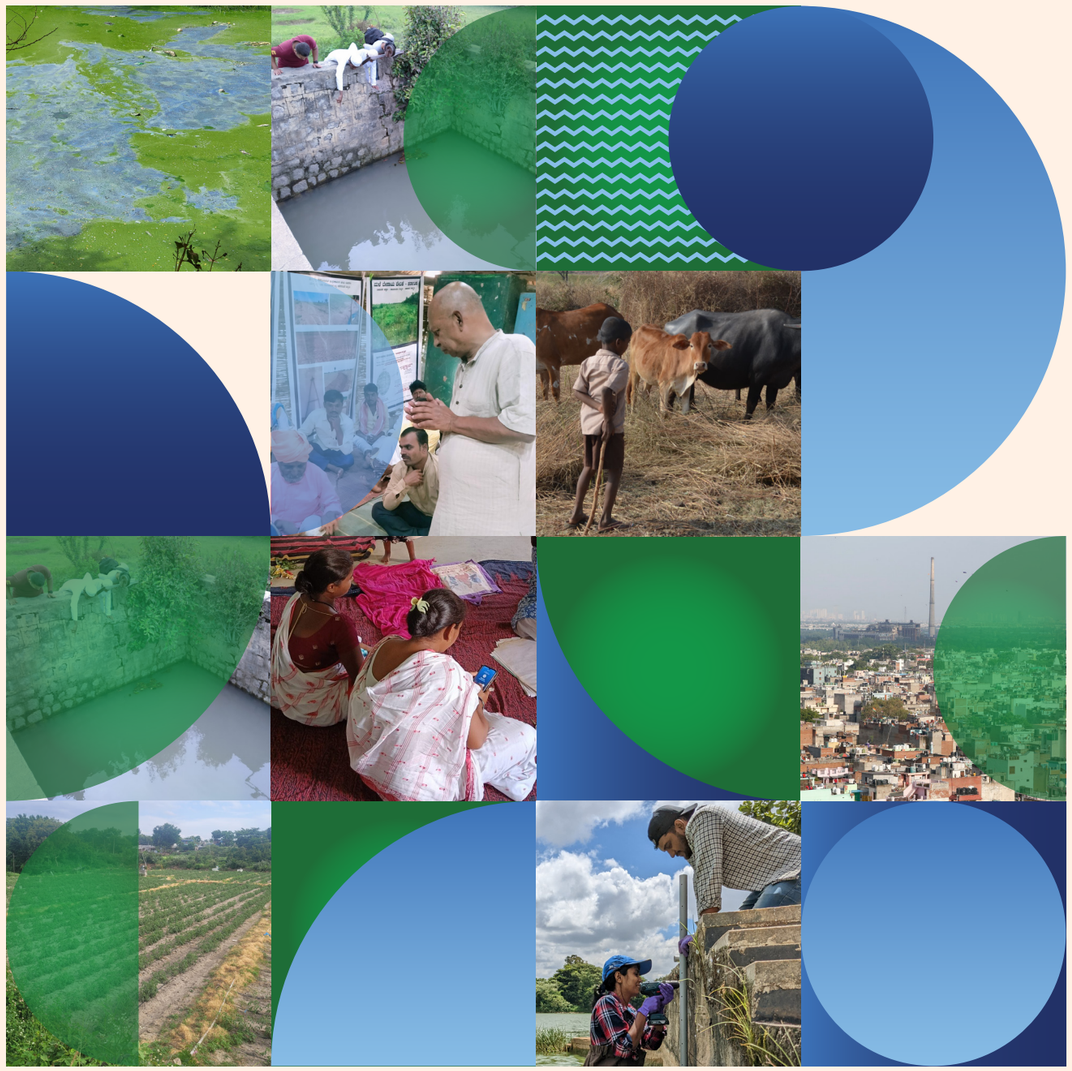
WELL LABS

WATER · ENVIRONMENT · LAND · LIVELIHOODS



Annual Report

April 2023 – March 2024

Foreword

Reflections on WELL Labs' Journey

By Veena Srinivasan,
Executive Director, WELL Labs

A year ago, we started WELL Labs, a pioneering water systems research and innovation lab. We decided to not just study issues at the intersection of water, environment, land, and livelihoods, but actively intervene to transform them at scale.

As we turn a year old, I would like to share some reflections on our journey and where we are headed.

Why We Started WELL Labs

How do we solve grand environmental and social challenges at a large scale? We identified four issues the social impact sector needs to address

1. Most researchers use a 'push' approach.
They disseminate research once it is published. While this is important, change often occurs through 'pull', that is, when research responds to requests from practitioners and policymakers. It is also important to synthesise and communicate the findings to a broad audience.

2. Research is retrospective, while problem-solving is prospective.
While research looks at past events to understand how actors and systems behaved, problem-solving requires understanding the barriers to change, prototyping and testing solutions, and impact evaluation.

3. Real-world problems are complex; reductionist, siloed approaches are insufficient.
Water and land issues are interconnected and multifaceted, with no simple solution. Solving them entails a holistic 'systems' approach. Thus, a single organisation cannot address grand challenges alone — a collaborative approach is crucial.

4. The future is likely to present different challenges and opportunities.
Most research and innovation is framed to address the problems of today. But often, by the time the research is done, circumstances change and the proposed solutions are no longer relevant. We need to understand how the future will unfold and how we can intervene to 'design' the future we desire.

What WELL Labs is Doing Differently

We asked ourselves: what kind of work culture and technical capacities would help drive social impact at scale? We realised we need generalists and specialists, researchers and practitioners, and people who can solve problems in specific contexts while asking what it would take to change systems as a whole.

Thus, we created an organisation that celebrates and rewards diverse skills. Today, we have researchers with PhDs from top universities, data scientists, impact evaluation specialists, tech experts, urban planners, hydrologists, and design thinkers.

We are also committed ecosystem-builders. Through our projects, we foster collaboration between diverse organisations and individuals, and leverage the power of communities for amplified impact.

We like to think of WELL Labs as a 'porous-borders' organisation. We have people from other organisations sitting in our office and vice versa. Most of our grants involve multiple partners, with shared credit.

What We Are Proud of

We are thrilled that we had the opportunity to work with the Government of Karnataka, Bangalore Apartments' Federation, and Swiss Federal Institute of Aquatic Science and Technology (Eawag). This collaboration provided the knowledge base for a recent government directive allowing apartments in Bengaluru to sell 50% of their treated wastewater for non-potable purposes — a significant step to address the city's worsening water crisis.

We are also excited about our work on protective irrigation in collaboration with Prarambha in Raichur, where farmers are signalling their willingness to diversify the crops they grow. This will help improve climate resilience and water productivity.

We are proud that the blogs and reports we put out were widely cited in policy and practice circles. We are also delighted by the inbound interest we have been receiving from government agencies across India, who want to work with us as their knowledge partners.

Our Learnings

1. We need to communicate research simply and in different formats.
The social sector is rich with data and knowledge, but these are often not documented. One of the services we can provide to ecosystem partners is documenting and disseminating insights in accessible formats.

2. We need a seat at the table to capitalise on opportunities and policy windows as they arise.
While research organisations, nonprofits, and think tanks often have different approaches and end goals, we work with all of them to translate scientific evidence to social impact. We also need a seat at the table with policy entrepreneurs to ensure that we can address pressing issues in a timely, evidence-based manner.

3. To remain mission-focused and proactive, a third of our budget must come from unrestricted funding.

We cannot control the timing of policy windows. Research reports need to be ready and the evidence must be synthesised before a crisis hits. This means making investments when donors are not paying attention. While project grants are an important part of our work, we shall continue marshalling and devoting resources towards initiatives that nimbly respond to India's evolving land and water sustainability challenges.

The Way Forward

As we complete our first year, we look forward to scaling our current projects, while exploring new frontiers. We are excited about collaborating with the Environmental Defense Fund to create a Monitoring, Evaluation, and Learning Toolbox for the sector. With the Hindustan Unilever Foundation, we are developing simple, science-based indicators to accurately measure the state of water security and the impact of water management interventions.

We are also thrilled to be part of the Sustainable Transition Explorations in Water and Agriculture for Resilient Dryland Systems (STEWARDS). Under the programme, we are establishing two 'Transformation Labs' in the semi-arid Chikkaballapur and Raichur districts. These are collaborative spaces where communities co-develop and test sustainable, equitable solutions to the water and land challenges they face.

Over the coming year, we look forward to more impactful initiatives and enriching collaborations. We hope you will join us on this journey.

About WELL Labs

Water, Environment, Land and Livelihoods (WELL) Labs is a research and innovation centre driving social impact in the field of water sustainability. Based in Bengaluru, WELL Labs is part of the Institute for Financial Management and Research (IFMR) Society.

We work closely with multiple stakeholders, such as governments, businesses, multilateral institutions, and civil society groups to create science-backed solutions that improve people's lives and livelihoods, and sustain nature.

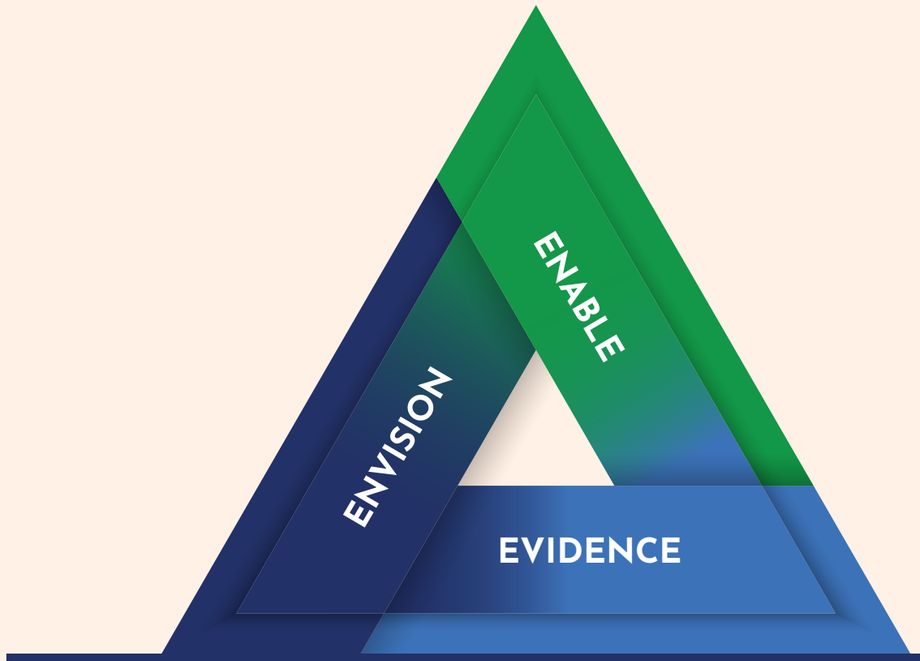
Gaps We Address

A lot of research is framed to address the problems of today.
We devise solutions that account for future changes in climate and water use, along with people's aspirations for themselves and the landscapes they inhabit.

Research attempts to understand the problem, but innovation requires a problem-solving mindset.
We transform research into impact on the ground by bringing together researchers, practitioners, and other enablers to frame precise research questions and prioritise evidence generation.

Working in isolation to remedy big issues in one watershed or village at a time is too slow.
We align key actors to collaboratively gather evidence and design solutions that respond to local challenges. We then replicate these across regions at larger scales.

Our Approach



Envision

- Create data-driven models of possible futures, identifying key levers for change
- Conduct aspiration studies and visioning with communities
- Chart roadmaps on how to achieve desirable futures

ENVISION

Enable

- Curate scalable solutions that accelerate change towards a better future
- Co-create, prototype, and test new solutions with innovators
- Work with policymakers to create enabling policies

ENABLE

Evidence

- Establish shared measurement practices and metrics
- Fill critical research gaps through partnerships
- Feed the evidence back to practitioners

EVIDENCE

Our Ethos

We are value-driven.
We champion certain values and points of view, but we constantly hypothesise and generate evidence to refine our positions.

While we work with the government, communities, and other stakeholders to refine our vision and roadmap, we deliver on it.

We are accountable.
We are mission and metric-driven. Non-profit organisations are often mission-driven, but struggle with progress-tracking in the absence of clear metrics like profits that drive the private sector.

Our roadmap operationalises our institutional goals in line with our theory of change. The roadmap, informed by simulation modelling and visioning / aspiration studies, allows us to identify the levers we want to move. These are our three and six-year objectives, which we map to a set of key results that we must achieve as an institution.

We are transdisciplinary.
There are few transdisciplinary organisations that span the range from research to impact. Researchers are thorough and deliberate, but their timelines can be long. Innovators prototype rapidly, but often work alone. Since practitioner cultures are rooted in community and collaboration, sometimes at the expense of scientific rigour, they can be traditional and slow to change.

As a transdisciplinary organisation, we foster collaboration and alignment while ensuring these different cultures co-exist.

Programmes

The Urban Water programme designs pathways towards water-secure and resilient cities and towns using water circularity and nature-based solutions. We work with governments and citizen interest groups to provide the knowledge base for policy and decision-making. We also build coalitions between diverse stakeholders, such as governments, market players, and civil society groups, to harness the power of collective action for tackling urban water challenges.

Urban Water

Year in Review

Addressed Knowledge Gaps to Inform Wastewater Policies

Partner BANGALORE APARTMENTS' FEDERATION

1. Made a case for the potential of treated wastewater reuse in Bengaluru, following which the government passed legislation permitting the sale of wastewater from decentralised sewage treatment plants in residential buildings.
2. Created a water balance for Bengaluru, enabling better water security planning.

WaterReuseLab Project

Partner eawag aquatic research

1. Organised the conference Building Water-Resilient Cities: Strategies for Wastewater Reuse in Urban India in October 2023 in Bengaluru to facilitate cross-learning, effectively diagnose problems, and transform systems.
2. Conducted 45 in-depth interviews with water consumers, regulators, and businesses to identify the challenges and opportunities in the wastewater reuse sector.
3. Analysed 60 policies and regulations of the Government of India, Government of Karnataka, and city-level bodies, and catalogued stakeholders at all levels to identify barriers and enablers of decentralised wastewater treatment and reuse. We shall publish our findings as a working paper on wastewater reuse governance in Bengaluru in 2024-25.

Chintamani Water Balance

Partners TIDE · BORDA SOUTH ASIA · DCB BANK

1. Published a report on the water balance of Chintamani, Karnataka for a comprehensive overview of all the flows and stores of water. This has helped narrow down key problem areas and potential opportunities with respect to water management in the town.

Mallapalli Lake Restoration Visioning and MEL Framework

Partners Friends of Lakes · DCB BANK

1. Created a visioning and monitoring, evaluation and learning framework for the restoration of Malapalli Lake in Chintamani, Karnataka.

Cost-Benefit Analysis of Nature-Based Solutions (NbS)

Partner FRANK WATER

1. Developed a cost-benefit analysis and financing tool for NbS to facilitate strategic decision-making for water management in India's peri-urban areas.

   Created a compendium of NbS case studies in the Indian context with methods to quantify benefits accrued by measuring hydrological services.

Learnings

1. Bringing together a diverse range of stakeholders in the wastewater sector, some of whom have limited interaction with others, can help uncover gaps and opportunities.

In our conference on Building Water-Resilient Cities, a significant bottleneck to wastewater reuse in the real-estate sector emerged: the absence of standards and protocols. The Karnataka State Pollution Control Board (KSPCB) suggested a potential resolution by engaging the Bureau of Indian Standards (BIS) to formulate guidelines for wastewater reuse in construction. Other stakeholders underscored the importance of incorporating such standards into building codes.

Many participants of the conference were also glad to get a forum to air their differing viewpoints and work towards a consensus. Some, such as Dr Ananth S Kodavasal, Director, Ecotech Engineering and Mr Satish Mallya, Joint Secretary and Governing Council Member, Bangalore Apartments' Federation, emphasised the need for more such gatherings to continue the discussions and collectively raise and resolve issues related to wastewater treatment and reuse. Others voiced the need for more targeted sub-forums, such as to promote collaboration between wastewater vendors and resident welfare associations.

2. The key issue in decentralised wastewater treatment is determining the optimal scale for effective treatment.

While advancements in technology have made quality treatment possible at various scales, the costs tend to be lower at larger scales. This is due to certain fixed costs, such as salaries, which do not fluctuate significantly across different sizes of treatment plants. For instance, a system with a capacity of 50 kilolitres per day requires the same skilled operator as a plant treating 200 kilolitres per day.

However, it remains worthwhile to explore which technologies could be most efficient at smaller scales (<50 kilolitres per day). These are better suited for passive, nature-based solutions, which, in turn, may alleviate some of the electricity and chemical costs associated with other systems.

Moreover, while this question holds theoretical value for most cities, Bengaluru already boasts over 1,800 small-scale treatment plants, predominantly in apartments. Therefore, devising business models that render them economically viable is crucial to ensure their long-term maintenance.

3. There was an interest in wastewater reuse from unexpected domains.

After the conference on Building Water-Resilient Cities, The Institution of Engineering and Technology invited Ms Shreya Nath, Managing Partner, Urban Water programme for a roundtable discussion on New Energies for a New India on November 6, 2023.

The discussion centred around alternative fuels like Green Hydrogen, which are water-intensive, and how wastewater reuse could help reduce their water footprint, among other topics.

The Way Forward

Wastewater Markets

We are furthering our work on establishing a wastewater market in Bengaluru by assisting the **Bangalore Water Supply and Sewerage Board (BWSSB)** and **Bangalore Apartments' Federation (BAF)** in conducting pilots for wastewater reuse in the Mahadevapura zone of Bengaluru.

We shall map decentralised sewage treatment plants and potential end users as well as outline standard operating procedures (SOP) for these transactions. The SOPs will be based on the monitoring protocols being established under the WaterReuseLab project with **Eawag**.

We shall also conduct scenario workshops to explore the business, technology, and perception aspects of wastewater, and collaboratively chart the way forward for the market to thrive in collaboration with Eawag.

Wastewater Treatment Solutions

We are collaborating with the **Bill & Melinda Gates Foundation** to better understand in what context solutions from their Reinvent the Toilet Challenge can be adopted in different cities like Bengaluru, Bhubaneswar, and Chennai. We shall examine different decentralised wastewater treatment solutions and the market size and consumer preferences for these solutions.

Nature-Based Solutions in the Indian Context

We shall collaborate with **Oak Foundation** to

1. Bring together key players in the NbS sector in India to enable collective action and reduce fragmentation and duplication.
2. Publish a report on climate adaptation and mitigation benefits of NbS in urban India.
3. Convene a multi-stakeholder workshop to identify barriers and explore innovative models to promote NbS implementation and operation.

Urban Water Bodies

We shall further our work on lake restoration for water security with **DCB Bank**.

We also seek to embed science-based lake restoration techniques into state and national frameworks. To this end, the Government of Odisha has invited us to contribute to the SOPs they are developing for urban water bodies.

Chennai Water Balance

We are building upon our work of mapping water flows through cities and using the water balance tool to recommend blue-green-grey infrastructure solutions for stormwater capture and groundwater management.

We are collaborating with the **Tamil Nadu State Planning Commission** to draft a water balance for Chennai and provide recommendations, especially regarding nature-based solutions that can be used on their own or in conjunction with grey infrastructure, to prevent flooding and ensure long-term water security.

The Technical Consulting programme is systematising Monitoring, Evaluation and Learning (MEL) for the water sector. It is also developing simple, accurate and easy-to-measure indicators on the state of water security.

Technical Consulting

Year in Review

Monitoring, Evaluation, and Learning

Water stress in India is rising rapidly and climate change is expected to increase the frequency and intensity of droughts and floods. To address these issues, governments, CSRs, and international agencies are making significant investments in water conservation and climate adaptation. To ensure that investments in the sector yield optimal benefits, the Technical Consulting programme is building evidence around the effectiveness and efficiency of water interventions.

The programme initiated an impact evaluation of three community-based groundwater management approaches in Maharashtra, Karnataka, and Andhra Pradesh. These evaluations are technically rigorous and focus on the improvement of intervention design.

1 Monitoring and Evaluation of JalTara Pits in Maharashtra

Partners Environmental Defense Fund; save groundwater

This project aims to evaluate an innovative water conservation technique called 'JalTara', which is being implemented in the drought-prone district of Jalna in Maharashtra. This intervention can reduce waterlogging and increase groundwater recharge in regions carpeted by low-conductivity black cotton soils.

2 CLART and MGNREGA Planning Evaluation in Karnataka

Partners Environmental Defense Fund; Arghyam (Safe, sustainable water for all); FES (Foundation for Ecological Security)

We are evaluating the impact of a programme aimed at improving the planning of water conservation structures built as part of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) in northern Karnataka.

3 Groundwater Collectivisation in Anantapur, Andhra Pradesh

Partners Environmental Defense Fund; WASSAN

The third part of our MEL work this year focuses on evaluating the impact of a project aiming at sustainable management of groundwater through a shared pipeline network managed by water user associations.

The above three projects will culminate in December 2024.

Jaltol

A free and open-source remote sensing tool to assess water security.

WELL Labs is developing Jaltol under the Technical Consulting programme to assess the impact of water management interventions and track progress towards water security.

Development of Datasets & Methodologies

1 Land Use Land Cover (LULC)

Partners ಪ್ರಾರಂಭ Prarambha; TARUN BHARAT SANGH

We conducted a large-scale ground truthing data collection exercise to aid with the validation of IIT Delhi's cropping intensity LULC maps. We collected ~200 ground truth data points per district across 13 districts of Karnataka. This data collection exercise will help produce accuracy statistics for the LULC maps, which our partners can utilise for their use cases.

We shall scale this exercise to validate the maps at a pan-India scale in 2024-25. Following this, IIT Delhi will publish a paper on the topic.

2 High-Resolution Digital Elevation Models (DEMs)

Partner TARUN BHARAT SANGH

Determining water storage potential is important for organisations that conduct watershed interventions. We assessed several openly available DEMs, including SRTM, FABDEM, and CARTOSAT, to determine their utility for the quantification of check dams' storage potential. Our work showed that low-resolution, openly available DEMs don't produce accurate estimates. The error bars were on average +/- 50%.

We have begun exploring the use of drones to develop high-resolution DEMs. Although they won't be free, their cost might be low enough to justify their deployment at scale.

Year in Review

3 Evapotranspiration Datasets

Since December 2023, we have been fundraising to create a temporally and spatially consistent evapotranspiration (ET) dataset for India. ET data is important both at lower resolutions (to close water balance at micro-watershed scales) or higher resolutions (to see changes in water use across different types of land cover).

Current ET datasets perform acceptably only at very large scales (basins and sub-basins). Developing ET datasets for smaller scales could help produce more accurate water balances with remote sensing data.

Jaltol Web App

In March 2024, we launched the current version of the Jaltol app, which serves as a data explorer. Since then, we have developed Figma prototypes to turn Jaltol into a web app for impact assessment. The web app primarily showcases IIT Delhi's LULC maps in intervention and control villages, with change in cropping intensity as the impact metric.

Partner Engagement for Use Cases

In March 2024, we conducted a data hackathon to develop use cases with remote sensing data available on the Jaltol app. We showcased datasets ranging from open land use maps to soil type maps and precipitation. Eight student researchers were paired with six CSOs to flesh out the use cases.

Many of the case studies developed during the hackathon used remote sensing data for impact assessment. CSOs said they found the datasets helpful for their interventions. We used the insights from the hackathon to further develop Jaltol as a tool for impact assessment.

Synthesising the State of the Science on Hydroclimatic Modelling and Setting Research Priorities

Partner REAL WATER

WELL Labs is part of Rural Evidence and Learning for Water (REAL-Water), a consortium of partners led by Aquaya and funded by the United States Agency for International Development. It develops and evaluates strategies for expanding access to safe, equitable, and sustainable rural water services.

Under this larger mission, we are developing a comprehensive state of the science knowledge base to identify points of consensus and contention related to hydroclimatic modelling in India. We conducted 16 in-depth interviews with scientists and government officials to gather expert opinions on the state of hydroclimatic modelling in India and identify priority areas for further research. We documented key insights from these interviews and submitted a report to the Ministry of Jal Shakti.

This project will continue in 2024-2025.

Rural Water and Sanitation Report

Partner THE/NUDGE INSTITUTE

We put together a report providing an overview of the emerging challenges and livelihood opportunities in rural water, sanitation, and hygiene (WASH) in India for The/Nudge Institute. It incorporated insights shared by WASH experts across India, who took part in the two listening circles we organised on the subject.

The report was part of the research to inform the design of the second edition of the Ashirvad Water Challenge.

Learnings

1. Efforts to scientifically assess the impacts of water management programmes have been disparate. The lack of evidence leads to low cross-learning and scaling of efforts.

We currently don't have robust frameworks to accurately evaluate the impact of hydrological interventions and attribute outcomes to them. Many changes occur together in the intervention area and it is difficult to distinguish confounding variables between intervention and control sets.

Some specific learnings in this domain are:

1. Siltation is a major issue in the efficacy of water conservation structures, to the extent that under some circumstances, there can be more than 1 ft of siltation in a year. We are designing better low-cost silt-trapping mechanisms to address these.
2. The impacts of interventions are often limited to more intermediate steps of the theory of change, such as outputs (eg. increase in knowledge through capacity-building). However, there might not be corresponding outcomes or deeper impacts (for example, increase in groundwater levels).
3. While numerous national and international agencies are developing tools for monitoring and impact assessment, their uptake is quite low. Our team is developing a crowdsourced toolbox and engaging deeply with partners to improve its uptake.

2. We need an evidence-based and widely accepted water security scorecard to help us understand the real-world impact of various water interventions in India.

Despite the country's water crisis, water security is not being measured accurately and consistently. Most indicators are intervention-specific and do not measure the state of water security in the overall landscape. Additionally, they are time-consuming and too technical for grassroots organisations to use effectively.

We need simple indicators that are intuitive to understand, yet rooted in research and delivering a high degree of accuracy. A blend of simplicity, robustness, and scientific defensibility is the catalyst needed for sector leaders to design and evaluate water programmes. This would be analogous to what the nonprofit organisation Pratham has done for the education sector with its Annual Status for Education Report (ASER), where the focus shifted from infrastructure development to children's learning outcomes.

3. Basin-scale modelling is the general trend in the hydrological research community, but the practical use of such modelling is limited. Thus modelling efforts must be better 'positioned for use' so that decision-makers can use them for reservoir management and drinking water source sustainability.

The state-of-the-art climate models being used by the Intergovernmental Panel on Climate Change (IPCC) cannot simulate the highly dynamic nature of Indian monsoons. We do not know whether the total rainfall in India is going to increase or decrease. What we do know is that the frequency and intensity of droughts and floods is going to increase and therefore, we need to improve water management systems in India.

The research community should progressively downscale climate and hydrological models to inform water balances at the scale where decisions are made for source sustainability and water management, such as at the village level.

4. Knowledge products that are properly validated, high accuracy, high resolution, and relevant at the field scale, such as land use land cover or water availability datasets, can be useful for the monitoring and evaluation of programmes.

There is an unwillingness to dive into experimental technologies, such as remote sensing, because they are often not useful at smaller scales, such as at the village level, where many water interventions happen. We need to improve the accuracy of raw remote sensing products and use them to develop more granular products applicable at smaller scales to improve their uptake by grassroots organisations. Remote sensing products can help them with the monitoring and evaluation of their interventions by providing data regarding relevant parameters at low cost.

The Way Forward

Apart from the projects continuing from last year, we shall also work on the following:

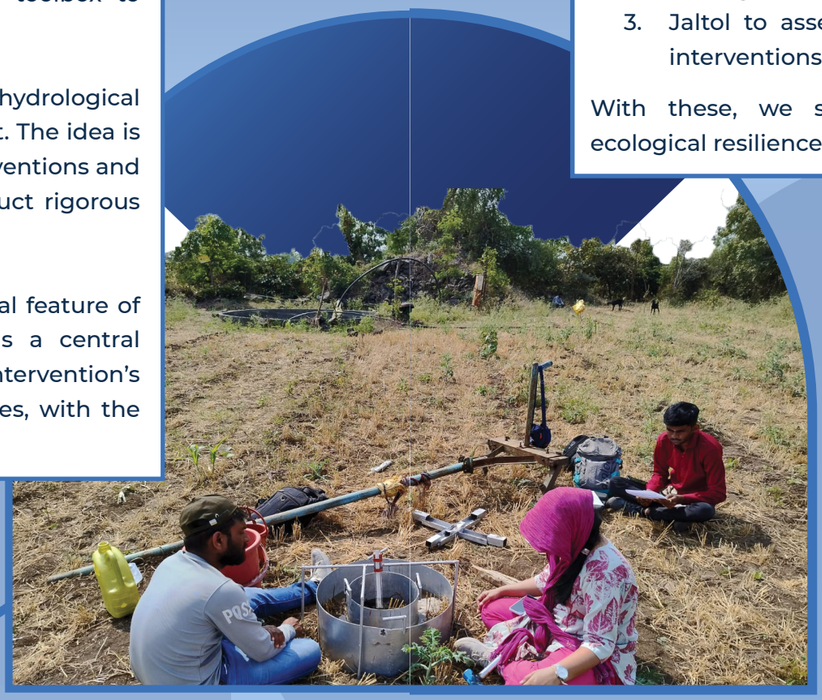
Monitoring, Evaluation, and Learning (MEL) Toolbox

Partner: Environmental Defense Fund

We shall conduct a landscape review of MEL in the water sector in India and work with various partners to identify and disseminate best practices. The insights from the landscape review and our MEL projects in Andhra Pradesh, Maharashtra, and Karnataka will inform the development of a MEL Toolbox to democratise hydrological sciences. Organisations can use the toolbox to monitor and assess the impacts of their interventions themselves.

The MEL Toolbox is being built as a set of heuristics to apply hydrological analysis in practical situations for hydrological impact assessment. The idea is to create tools — reusable elements that can be used across interventions and geographies to reduce the cost and expertise required to conduct rigorous evaluations.

While monitoring and evaluation have traditionally been a central feature of such natural resource management programmes, 'learning' is a central component of this project. It would involve understanding the intervention's components through surveys or other appropriate methodologies, with the aim of improving the intervention design.



Accelerating Sustainable Rural Development through Digital Public Goods

Partners: AVPN, IIT Delhi

WELL Labs is part of a coalition of organisations building Commoning for Resilience and Equity, a digital public good comprising datasets and tools related to water security.

Under the project, we are developing a suite of databases and tools for specific use cases, namely:

1. Know Your Landscape for problem diagnosis.
2. Commons Connect for communities to plan interventions and fund them through water management proposals.
3. Jaltol to assess the impact of water security interventions.

With these, we seek to accelerate rural development, ecological resilience, and social equity.

Exploring the Contribution of Lateral Flows in Water Balances

Partner: IIT Delhi

We are exploring the contribution of lateral flows to errors in water balances. Since the default approach to water balances with remote sensing data assumes only vertical flows (precipitation, evapotranspiration, soil moisture, groundwater and surface water changes), people think that any error in closing the water balance is due to errors in vertical components.

However, in many cases, horizontal subsurface flows may be large enough to warrant investigation. Thus, we are exploring combining remote sensing data with hydrological models to close water balances.

Water Security Indicators

Partner: Hindustan Unilever Foundation

A major challenge in the water sector is the ability to accurately and holistically gauge the impact of interventions. To address this issue, we shall develop simple, evidence-based, and easy-to-measure indicators on the state of water security. These indicators will focus on outcomes rather than inputs to track actual progress towards water security.

Jaltol, with its capability of using remote sensing to measure changes in various indicators, is an integral part of this initiative. We shall partner with different watershed organisations to:

1. Validate the utility of proposed water security indicators.
2. Collect feedback on the Jaltol web app.
3. Conduct field validations of the LULC maps based on which we derived the indicators.

State of the Science Roundtable: Hydroclimatic Modelling in India

Partner: REAL-Water

We shall organise a roundtable on July 19 in New Delhi to promote convergence between researchers and policymakers and discuss how to improve decision-making based on hydroclimatic models. We shall compile the insights from the roundtable as a report, which we shall submit to the Ministry of Jal Shakti.

The ministry has expressed that they would like WELL Labs to contribute to the framing of research priorities and terms of reference for the next set of hydroclimatic modelling studies they commission.

The Rural Futures programme seeks to transform rural lives and livelihoods by doubling farming incomes while restoring degraded land and water resources.

Rural Futures

Year in Review

We unlocked Rs. 9.62 lakhs of public funding for water conservation measures.

Trench-cum-bund pits are a simple, inexpensive way to halt run-off and retain soil moisture in the fields of north Karnataka. Digging these pits is a priority under the Mahatma Gandhi National Rural Employment Guarantee Act, ensuring both livelihood and water security.

1. Facilitated the construction of 783 bunds across 50 acres in Amarapura gram panchayat in Raichur district, Karnataka. The work spanned 20 plots owned by 17 farmers in Mukkanal village and generated 2,600 human days of work until July 2023.
2. Facilitated the restoration of a 10,000-litre tank irrigation system capacity for protective irrigation, which could benefit 50-60 farmers during the kharif season. The work is underway and has provided employment to 318 workers so far.

We initiated a consortium to improve water-sharing in canal command areas.

1. **March 2024:** In partnership with the India Climate Collaborative, we convened a roundtable discussion on equitable water-sharing in Raichur district. Representatives from the government, civil society organisations, philanthropies, Corporate Social Responsibility (CSR) departments, and the research community participated in the discussions and charted out priority interventions for protective irrigation. The Rural Futures team is taking forward this work in 2024-2025.
2. **December 2023:** We presented three papers at the conference *Managing Sustainable Transitions in Agriculture: Newer Directions for Research and Civic Action*, organised by the Institute of Rural Management Anand (IRMA) and the Network of Rural and Agrarian Studies.
3. **January 2024:** We conducted a visioning workshop with farmers in canal command areas in Raichur district to understand their concerns and willingness to shift to less water-intensive farm systems.

We promoted agroecological practices and the use of green manure.

Akkadi Saalu is a traditional intercropping method practised in Karnataka. We worked with rainfed farmers to help them switch to a package of practices that could regenerate soil health and reduce their dependence on chemical fertilisers and pesticides.

1. In Raichur and Koppal, 16 farmers over 44 acres of land adopted Akkadi Saalu in 2023-24. Other farmers had also expressed interest, but held off because of a failed monsoon last year.
2. Facilitated four workshops by P. Srinivas ‘Soil’ Vasu, founder of the SOIL Trust, for more than 50 agricultural households from Mukkanal and Mandalgudda villages in Raichur and Malakasamudra village in Koppal district.
3. Worked with 23 farmers to pilot the production and application of green manure across nearly 30 acres in Raichur and Koppal.

We conducted in-depth interviews to understand community needs.

Given the complex nature of problems on the ground, we carried out multiple rounds of fieldwork and used various analytical frameworks to ensure our interventions are evidence-based and centre the needs of the rural communities in the region.

1. Interviewed over 90 farmers across four villages in Raichur and Koppal districts to capture granular quantitative and qualitative details on the socio-economic status of farmers in the region.
2. Funded by the Sustainable and Healthy Food Systems (SHEFS) research consortium, we developed a farm-scale empirical tool that can evaluate short-term trade-offs in agroecological transitions.
3. Funded by IHE-Delft in the Netherlands, we began development of a Land Use Land Cover (LULC) tool that could model alternative water-use scenarios for a distributary of the Narayanpur Right Bank Canal, a major irrigation project supplying water to parts of north Karnataka.

Learnings

1. Empowering water user groups and community involvement are pivotal to implement transparent water management systems in regions riven with unequal water access and control.

The roundtable we convened with the India Climate Collaborative sought to pinpoint institutional, technological, and financial obstacles hindering the shift towards sustainable land use and water-efficient practices in Raichur. A key learning that emerged from these discussions was the need to empower Water User Cooperative Societies (WUCS). There are more than 3,000 WUCS in the state of Karnataka, many of which exist only on paper and need facilitation to become functional.

Civil society organisations can play a critical role to support government institutions with social mobilisation and community engagement. Multiple rounds of talks and negotiations need to take place to enable options such as participatory pooling and collectivising for shared borewells and ponds, which can help ensure more equitable distribution and prevent overextraction. When successfully negotiated, there are cases where farmers have invested money to help create this shared resource.

We have detailed these learnings and the consensus we have started to achieve on common design principles for WUCS formation and operation in this report.

2. Farmers are willing to shift to diversified cropping, given certain barriers are addressed.

Our grassroots partner, Prarambha, has been conducting meetings and group discussions with farmers in the region to understand their concerns and found that a majority of them are willing to shift from paddy monoculture to diversified cropping systems, provided there is better control and management of canal water. There is a need for a comprehensive set of solutions.

For one, a well-established market ecosystem locks in farmers to the same crops and practices. Factors like market access, finance, value chain infrastructure, and public procurement practices sustain this resistance. The influence of input vendors, traders, and moneylenders further limits farmers' crop choices, especially in areas with limited urban market access, such as Raichur.

Labour too is a key factor. While mechanisation is well-developed in monocropping systems like paddy, the tools are often rudimentary for a diversified cropping system. These systems are inherently labour-intensive, with the burden usually falling on women. Ensuring labour productivity and dignified wages should be fundamental conditions in this transition.

3. Change is slow and iterative, but farmers have already begun to see the benefits of using green manure and switching to intercropping methods like Akkadi Saalu.

Our recent visits to the pilot site showed some promising signs. We spoke to farmers and found that those who switched to Akkadi Saalu succeeded in saving a whopping ₹3,000-₹5,000 per acre by averting pest attacks on their cotton crops.

Two farmers reported that switching to green manure improved soil health as observed by the presence of soil organisms such as earthworms and a change in soil texture. Green manuring is a key low-cost land restoration activity with the potential to improve land productivity, if critical irrigation is ensured. However, access to seeds is an issue — not all farms yield crops that are rich in seed, so they often have to be bought at market cost.

While there are clear benefits to crop diversification, some farmers did share concerns of lower yield. This prompted a need to consider alternative sources of income. A farmer in Mukkanal has diversified his livelihood by taking up poultry farming and livestock rearing, demonstrating alternative means to improve farmer incomes.

4. Transition finance is required to move the needle towards a just and sustainable transition and facilitate farmers to explore off-farm pathways, particularly in terms of value addition and income diversification.

Our hypothesis was that off-farm value addition activities, such as processing agricultural produce, combined with on-farm livelihood diversification options such as rearing livestock and poultry, would improve the benefit-cost ratio and profitability of transition pathways from crop monocultures to crop diversification. Our modelling study proved this hypothesis correct.

The perceived increase in net farmer income by integrating additional layers of income sources could nudge farmers to make the transition to crop diversification. But to actualise that, sufficient financial and institutional support is required. Even though the expenses incurred in the initial years of cultivation are considered in the short-term costs we calculated, the burden of additional costs can be addressed in the form of institutional support for farmers through extension services, capacity-building activities, and the facilitation of market linkages.

It is also necessary to calculate a broader estimation of transition finance staggered across the transition period and map existing resources and opportunities required to move the needle towards a just and sustainable transition.

The Way Forward

We shall continue our work in Raichur and Chikkaballapur districts of Karnataka with our partners: University College London; Foreign, Commonwealth and Development Office; DCB Bank; Nvidia; IHE Delft; Prarambha; Advanced Centre for Integrated Water Resources Management; and SOIL Trust. Our focus areas are:

Improving Water Access in Canal Command and Dryland Areas

Canal irrigation systems are often poorly designed or maintained. To ensure water access and equity, we are developing design principles for the sharing of canal water in association with farmer water groups. Our focus is on the parts of Raichur district that receive water from the Narayanpur Right Bank Canal.

In dryland areas where there is no access to canal water, it is difficult to ensure yields. We are exploring options to promote protective irrigation in the rainfed parts of Raichur and Chikkaballapur using tank water, groundwater, and soil moisture management.

Piloting Labour-Saving Technologies

The tools required for diversified cropping tend to be rudimentary, the fields often require manual de-weeding, and different crops have to be harvested at different times. Thus, diversified cropping is labour-intensive. To ease farmers' burden, we are piloting labour-saving technologies (such as manual/electric weeders; EV tractors; harvesters and threshers for pulses, millets, and oilseeds; transplanters; seed drills; etc.), training landless farmers to use these, and helping them become entrepreneurs.

Facilitating Market Access

Farmers grow paddy because there is a ready market and a Minimum Support Price offered by the government. Its cultivation ecosystem is well-developed. Less water-intensive crops like millets, pulses, and oilseeds do not have an organised market, making it difficult for farmers to get fair prices for their harvest. Growing large amounts of a non-staple cash crop like chilli or cotton can also lead to a glut in the market and a sudden drop in prices. We are mapping existing links to markets, barriers to increasing incomes, and current approaches to aggregation, value addition, and procurement contracts to develop and test strategies to improve farmers' access to markets.

Understanding Community Aspirations

We are documenting marginalised communities' needs and aspirations regarding water management. We shall use insights from this exercise to build their capacities through initiatives such as a community hydrologist programme and the promotion of water user groups. This ensures our work remains people-centric, as we go on to establish design principles to store, distribute, and share water better, and enable crop diversification from paddy to other crops.

Researching Land Fragmentation

With increasing agrarian distress and aspirational migration to cities, a lot of rural land is left fallow. In some cases, the land has many owners or is locked in legal disputes and thus, does not contribute to productivity and investment in soils.

We are researching the barriers to the productive use of this land — such as concerns that the land could be usurped or the lack of enforceable contracts — and how these can be overcome to boost long-term investment to overcome land degradation.

Platforms and Partnerships

The Platforms and Partnerships programme focuses on scaling solutions beyond the locations where they are piloted. We do this by developing platforms where solution seekers can access repositories of reliable resources and trainers and service providers can take their work beyond the landscapes they work in.

Year in Review

The **Green Rural Economy (GRE) platform**, a consortium-led initiative that connects changemakers with solution providers to accelerate the discovery and implementation of sustainable solutions, is the centrepiece of this programme.

User Research

We conducted user research to inform the design and development of the GRE platform. To this end, we:

1. Partnered with PRADAN to understand the capacity-building requirements of their staff — Community Resource Persons (CRP), master trainers, and field teams — who support communities with best practices on land and water management. They often need vetted information to resolve the queries community members pose to them.

2. Conducted experiments with AI-powered chatbots to assess the nature of questions PRADAN's personnel frequently ask and their ability to navigate chatbots to seek answers.

Community of Solution Seekers and Providers

We built a community of over 50 partners, including civil society organisations (CSOs), issue-based networks, and for-profit organisations, to test the platform, co-create playbooks, facilitate collaborations, and test the solutions gathered in the form of playbooks.

Some of our key partners are PRADAN, National Coalition for Natural Farming, Udhyam Foundation, Saahas, Solid Waste Management Roundtable, Buzz Women, Himalayan Unnati Mission, Gram Vikas, Lipok Social Foundation, SOUL, Shekru Foundation, and Shivaganga.

GRE Clinics

These are sessions designed to aggregate requests, questions, problems, and bottlenecks faced by individuals and organisations in the social impact sector and match knowledge seekers with knowledge providers who have already navigated solutions to the challenges.

Envisaged as a space for learning and cooperation, the clinics led to accelerated problem-solving, formal collaborations, and in-person training sessions.

Platform Prototype Launch

We launched a platform prototype designed by Platform Commons on 23 January 2024. Various organisations indicated interest in co-creating the platform across domains, such as farm inputs, natural resource management, packaged and raw foods, energy, construction, etc. During the launch, we also sought feedback regarding the platform's features and insights into user needs.

Services Interface to Scale Solutions

We started building a services interface for the social sector to scale solutions. Through the GRE platform, CSOs can hire the services of organisations with the expertise and experience they could benefit from and provide services in geographies where other organisations have an established presence.

For instance, if a CSO has successfully developed best practices for solid waste management systems in hilly areas, they can provide their expertise to organisations in similar regions with waste problems.

Learnings

1. In the social impact sector, there is a disconnect between organisations that need a service or support and those with the expertise.

While individuals and organisations in the development sector are familiar with one another, they often lack an in-depth understanding of each other's work or the challenges others encounter. Finding the time to pause and explore the broader landscape becomes a rare luxury for organisations juggling project planning, fundraising, and implementation.

Moreover, while CSOs develop expertise in specific domains, they may not be able to tackle the multi-dimensional problems communities face. Without access to the right partners, they might solve for what they know versus what the community needs or they might inadvertently reinvent the wheel.

2. Knowledge is a necessary, but insufficient condition for change.

Focus on service provision is paramount to ensure that knowledge has a pathway to create change on the ground. Thus, merely sharing knowledge products might not be enough — there needs to be handholding in the implementation of solutions through training, workshops, etc.

The service provision enables:

a, Discoverability: CSOs can easily discover proven solutions instead of stumbling upon them serendipitously or spending time and resources on vetting them.

b. Efficiency: It allows for the replication of models rather than implementing a solution from scratch, thereby reducing costs.

c. Scalability: It allows solutions to scale quickly without degradation in performance or quality because organisations with expertise are scaling their services.

The Way Forward

GRE Platform Launch

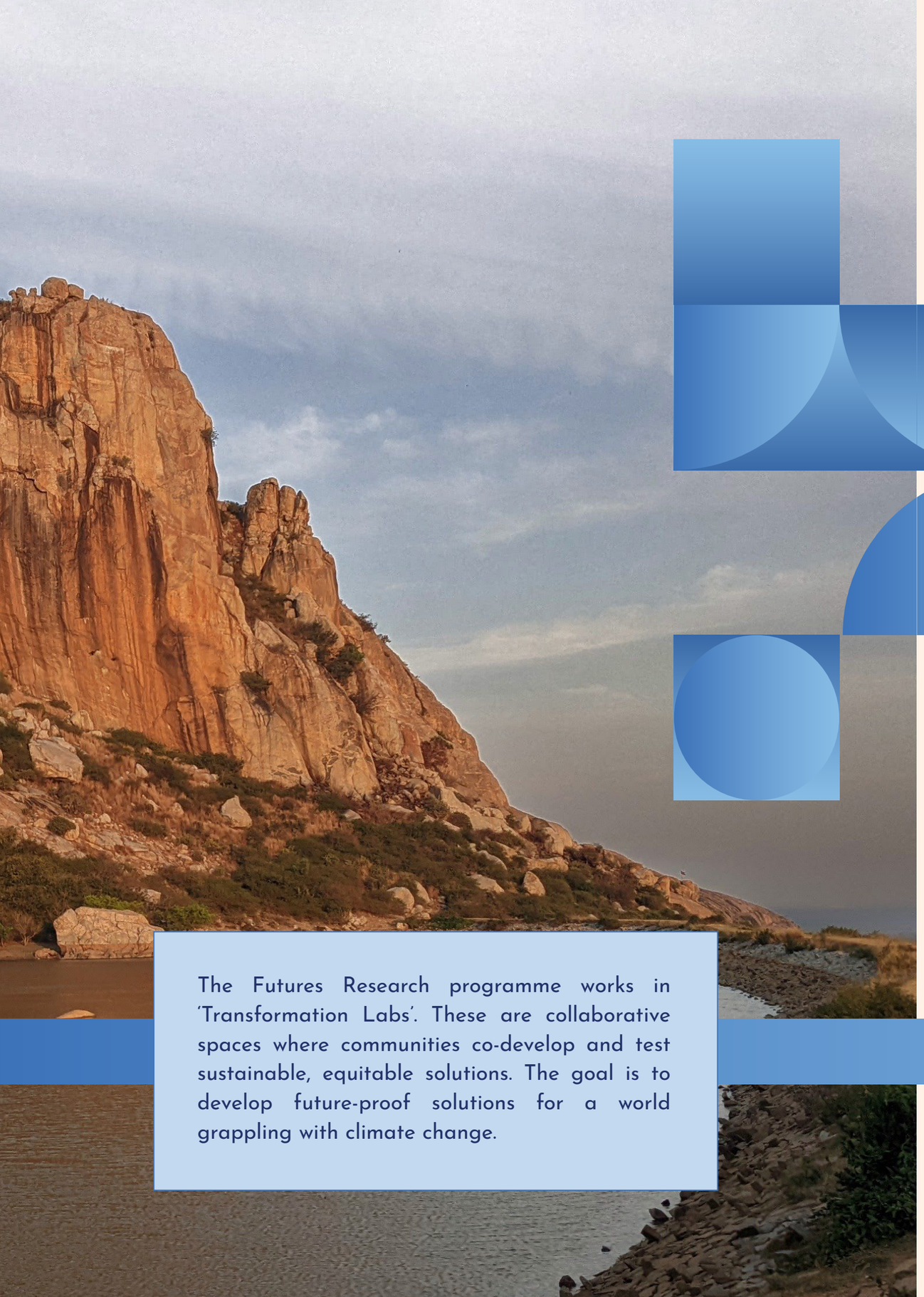
We are incorporating the feedback garnered on the platform prototype and shall launch it publicly in the second half of 2024. To drive platform usage, GRE will acquire 100 users from 20+ organisations, encompassing both service providers and service users.

By fostering a culture of collaboration and shifting the development sector's mindset towards leveraging existing expertise, GRE will create a sustainable and impactful services interface.

Setting up GRE as an Independent Entity

Our work over the last year has shown that the scope of this initiative is mammoth — it will be more effective as an institution unto itself rather than as part of an organisation. Thus, we shall establish GRE as an independent organisation by March 2025. A new legal entity, prepared as a Section 8 company, will provide a solid foundation for the platform's activities.

Financial sustainability is another cornerstone of this transition. GRE plans to raise funding to underpin the platform’s operations and scaling efforts, enabling it to meet its ambitious goals.



The Futures Research programme works in ‘Transformation Labs’. These are collaborative spaces where communities co-develop and test sustainable, equitable solutions. The goal is to develop future-proof solutions for a world grappling with climate change.

Futures Research

The programme currently hosts the **Sustainable Transition Explorations in Water and Agriculture for Resilient Dryland Systems (STEWARDS)** project, part of a global consortium to build climate resilience in the tropical drylands of Africa and India. This project is funded by the Foreign, Commonwealth and Development Office of the Government of the United Kingdom and University College London.

Under STEWARDS, we are establishing two Transformation Labs in semi-arid regions of Karnataka state: Chikkaballapur and Raichur districts. Both regions are at the urban-rural interface and are characterised by shallow and deeper aquifers that have been rapidly depleting for almost two decades.

Part of the work for this project involves a qualitative analysis of how different stakeholders perceive and understand evolving human-water systems and their hopes and aspirations. Through visual diaries, journey maps, and key informant interviews, we shall also highlight the lived experiences, concerns, and aspirations of marginalised groups.

The Way Forward

The project began in February 2024 and will continue until January 2025. Over the next year, we shall conduct a situation analysis study detailing the baseline and explore the following research questions:

How do different stakeholders perceive and understand evolving human-water systems? What specific metrics are relevant to them?

What hopes and aspirations do they have for the future? What are their imaginations of pathways to realise these aspirations?

What actors and levers are necessary to scale wider climate, water, and development policy and planning processes? What information, tools, and capacities do they need to enable this transformation?

What is the nature of coupled human-water systems emerging from individual and collective water behaviours and biophysical and hydrogeological system constraints, such as the intensification of rainfall in a warming world?

The Community and Outreach programme is building an active and engaged network of researchers, practitioners, government representatives, and communities to enable WELL Labs to achieve impact. We amplify research insights and evidence-based best practices for social impact and innovation, build consensus among key stakeholders, and promote science communication.

Community and Outreach

When WELL Labs launched in April 2023, our approach to community building and outreach was three-pronged. One, we socialised our research and burnished our credibility as a serious science-backed organisation that worked collaboratively. Second, we identified core messages across initiatives and research projects to tailor digital assets such as the website, social media, and the newsletter. Third, we brought together diverse stakeholders and built communities of practice around key themes.

50k visitors to our **website** in a year.

>34% increase in subscribers to our **monthly newsletter**. Our newsletter is curated to reflect key insights and updates.

>50 **news articles** were published showcasing WELL Labs' research and thought leadership. We began to be seen as experts, open to collaboration.

8 **events** were held to bring together key stakeholders. We curated launch events, panel discussions, roundtables, and listening circles.

6 **reports** across themes were published and socialised. This included the Bengaluru water balance report, which informed public discourse about the city's water crisis.

Year in Review

Collaboration for Social Impact

WELL Labs is an ecosystem enabler — we bring together diverse stakeholders and collaborate with them to drive social impact. Thus, community building is at the heart of all our initiatives. We built communities of practice around wastewater treatment and reuse, knowledge sharing, and protective irrigation.

1. With the Urban Water initiative, we curated a multi-stakeholder conference that explored opportunities to scale up wastewater treatment in the city. This event spurred further engagement with the Government of Karnataka and the Bangalore Apartments' Federation and led to a crucial policy change.
2. In the first quarter, we held a successful launch event in New Delhi. It saw the release of our report that used agent-based modelling to understand the potential impacts of solar irrigation. We programmed the event to highlight our work as a research and innovation institution and as an ecosystem enabler.

Created and Leveraged Digital Assets

We worked in collaboration with different teams at WELL Labs to identify key challenges and pathways to collective action. Over our first year, our main priority was to strategise and create a range of digital assets to promote stakeholder engagement and collaboration.

1. The **WELL Labs website** went live in April 2023. We structured the site to clearly tell our story, articulate our vision, and serve as a knowledge repository. In 2023–2024, it received over 50,000 visitors and 100,000 page views.
2. **Social media** not only helps us improve our reach, but also allows us to amplify the work of our partners. Our online presence has grown significantly over the last year. We aim to expand our presence by joining Instagram.
3. Our **monthly newsletter** is an important medium to engage with our stakeholders and communicate new insights and project updates. The format enables more thoughtful responses and sustained interactions.
4. Videos are a useful medium to share insights from sector experts, illustrate technical concepts, and disseminate our work in more accessible formats. In 2023–2024, we published around **40 videos**. Viewers appreciated our animated explainer of Bengaluru's water balance. It received 38,000 views and 800 likes and stimulated discussions on water management in the city.

Socialised Research to Amplify its Reach

A core tenet of our work is to build an evidence base and communicate the learnings we gather with clarity and context, and position it for action.

1. We meaningfully engage with the subject to articulate insights and formulate narratives. We began to be seen as people who can craft compelling stories from the data we gather — an essential step to bridge the research-impact gap.
2. Digital and print media publications are important channels to create awareness about environmental challenges and solutions, disseminate our research and innovation initiatives, and engage with our stakeholders. Over 2023–2024, WELL Labs' work featured in over **50 articles in the Indian and global media.**
3. Blogs are an important part of our communications arsenal, allowing us to delve in detail into land and water sustainability issues and present the insights and takeaways from our projects. We **published over 30 blogs** in 2023–2024.
4. We also prioritised visual outputs, such as **infographics and brochures**, that distil insights from our reports and initiatives for wider dissemination. These were on a range of topics, such as Bengaluru's water balance, soil health, and equitable water use.

Experiments with Data Stories and Communications Projects

We sought to push the boundaries of what good communications can achieve and explore ways to plug gaps in how research is disseminated.

1. We worked with the Platforms and Partnerships initiative on the Water Data Dashboard, a one-stop platform for water information, from rainfall to groundwater status and quality. It has navigable maps on which users can overlay different datasets. We found that journalists see value in such platforms because they spend considerable time either looking for the right data or sifting through large datasets.
2. In the latter half of 2023–2024, we **connected journalists in mainstream media houses with grassroots organisations** by crafting pitches and sharing them with journalists. The organisation gains visibility and media outlets benefit by finding grassroots stories, which they often do not have the bandwidth to explore. We successfully showcased the initiatives of several organisations, such as Prarambha's work on pot irrigation in *Gaon Connection* and the Punarchith Collective's programme with the Soliga community in *The Hindu*.

Learnings

1. Events and other community-building efforts that address the needs of various stakeholders can help drive convergence.

Often, there is a lack of cooperation between diverse stakeholders working on an issue. For instance, we have seen that hydroclimatic modelling experts are not aware of water, sanitation, and hygiene (WASH) challenges and vice versa. This prevents the implementation of holistic solutions that can address long-term variables, such as intensifying extreme weather events.

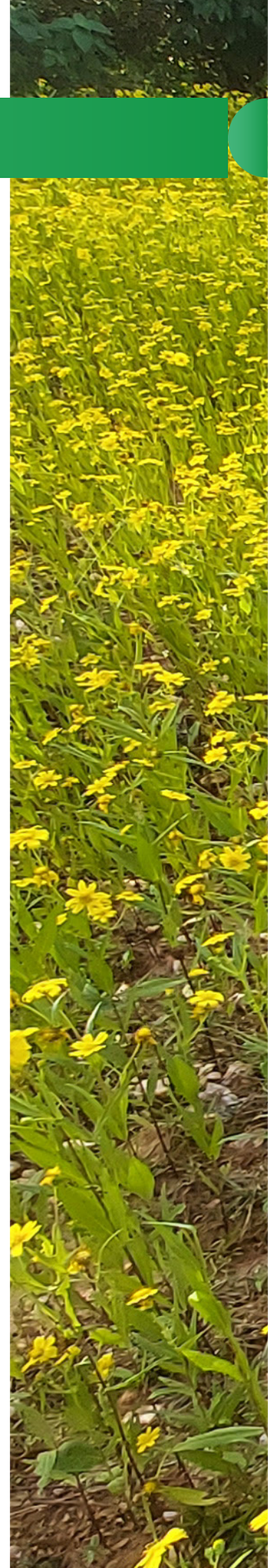
As a transdisciplinary organisation and ecosystem enabler, we bring together diverse stakeholders through roundtables, conferences, and workshops in a way that enables them to highlight the challenges they face and find solutions. This helps drive coherence between diverse facets of an issue, uncover gaps in various approaches, and foster opportunities for collaboration.

2. Investing time and effort into setting up a solid foundation of guides, workflows, and templates has been hugely beneficial in terms of streamlining and increasing the production of high-quality outputs.

We had ambitious goals over our first year; we aimed to grow fast and scale across geographies and themes. To do this, we needed to maintain a steady stream of outputs across forms and channels, and also be prepared to ramp up outreach around key events and policy developments.

We were able to do this because we were prepared and we eliminated possible bottlenecks by templatising event planning, report layouts, and simple infographics. This allowed us to quickly customise for specific requirements and audiences. We also created guides on how to write for social media, craft compelling data stories, make videos on Canva, document field notes through photos, and make impactful presentations.

We will continue to assess needs and add to this repository to ease the process of producing communications outputs and upskill researchers.



3. There is huge scope to offer communications support to our partners and grassroots organisations. They often lack capacity to document their successes and draw the attention of journalists and potential collaborators.

Small grassroots organisations do important work on the ground, but they lack communications support to amplify their work. Journalists, on the other hand, are on the lookout for such field stories. There's a clear supply and demand equation here, which we wanted to investigate and broker. We worked with grassroots organisations to capture their programmes and impact, frame stories for a mainstream audience, and craft pitches pegged to the news cycle so that media publications would feature their work. Our very first attempt resulted in a publication that led to a wider audience discovering the organisation's work, reaching out to them to learn more, and providing them funding for future projects.

A major hurdle is the time constraint on two fronts — we cannot anticipate how newsrooms delegate and schedule stories, and nonprofits' staff are already swamped, making it difficult to get their time to detail their work. Nevertheless, this was a valuable learning experience with respect to our role as an effective ecosystem enabler.

The Way Forward

The Community and Outreach programme's thrust for 2024–2025 is shaping narratives around water security indicators and Green Rural Economy.

Research Communication

We shall take forward our work of communicating insights from our research and positioning it for uptake by planners, practitioners, and policymakers. We shall continue using a wide variety of formats, such as videos, podcasts, blogs, media publications, and illustrations to make research accessible to diverse audiences.

Narrative Building: Green Rural Economy

While community-based organisations are rooted in a specific landscape and understand local problems, they don't necessarily know what solutions exist. They stumble their way through implementation, repeating mistakes that others have made and worked through.

To overcome this challenge, the Community and Outreach team will promote knowledge and services exchange through the Green Rural Economy platform to ensure that grassroots organisations can scale successful solutions for developmental challenges across regions.

Audio and Video Podcasts

WELL Labs will launch the second season of the Water Data Podcast in audio and video formats in collaboration with Dalberg. This season will focus on how data and evidence can drive behaviour change among citizens, companies, and other stakeholders.

Narrative Building: Water Security Indicators

To address water security issues in India, WELL Labs is working towards accurately defining and measuring water security with the support of the **Hindustan Unilever Foundation.**

The Technical Consulting team will explore what water security actually looks like, how we know we have improved it, and what metrics we can find that are universal, easy to measure, and accurate.

The Community and Outreach team will work with them on community engagement to drive the widespread adoption of improved water security indicators.

Our Work

Events

1. Launch of WELL Labs, July 2023, New Delhi
2. World Water Week, August 2023, Stockholm
3. Building Water-Resilient Cities: Strategies for Wastewater Reuse, October 2023, Bengaluru
4. Listening Circle on Rural WASH Livelihoods, November 2023, Online
5. Launch of Green Rural Economy, January 2024, Bengaluru
6. Visioning Workshop: Transition to Less Water-Intensive Farming Systems, Raichur, January 2024
7. The Future of Water: Equitable Water-Sharing for Sustainable Transitions in Agriculture, March 2024, Bengaluru
8. Data for Water Security Hackathon, March 2024, Bengaluru (Hybrid)

Research Publications

1. Mapping Water in a Small Town: Insights from Chintamani, Karnataka
2. Raichur Roundtable: Equitable Water-Sharing for Sustainable Transitions in Agriculture
3. How Water Flows Through Bengaluru: Urban Water Balance Report
4. Challenges and Opportunities for Catalysing Corporate Water Stewardship in India's River Basins
5. Farmer Responses to Solar Irrigation in India: Agent-Based Modelling to Understand Sustainable Transitions
6. Emerging Challenges in Rural WASH

Blogs

- Part 1: Journey Mapping to Plan the Future of Mukkanal's Farmers
- Part 2: Livelihood Lessons and Insights from Journey Mapping in Mukkanal
- Why We Started WELL Labs and What We Hope to Achieve
- Soak Up the Rain: How a 'Sponge City' Makes Urban Areas Climate Resilient
- People and Culture: Our Ways of Working and What We Are Looking for in WELL Labs Candidates
- A Visionary Architect and a New Growth Model: What's Behind the Rise of Sponge Cities in China?
- Explainer: How Green Manure Can Help Degraded Farmlands Sustain Themselves
- How Are Farmers Likely to Respond to Solar Irrigation? Insights from Our Modelling Exercise Covering 6 Districts
- Green Rural Livelihoods | Introduction and Updates from WELL Labs
- Coconut Chips to Wild Honey: When Consumers Demand, Food Producers Supply
- We Need More Agricultural R&D: Dr Ashok Gulati at WELL Labs Launch
- Data to Insights: WELL Labs Tool Sifts Through Crop Statistics and Finds Cropping Patterns Within
- Can Playbooks Promote Green Rural Livelihoods? Insights from Conversations With CSOs
- Restoring Landscapes and Improving Farmer Income, the People-Centric Way
- Beyond the Jargon: 10 Key Takeaways from World Water Week 2023
- Rural Water Security: How Our Vision for Jaltol Has Progressed
- How Often are India's Farming Patterns Changing? With IIT Delhi, We Turn to New Land Use Maps for Answers
- A Package of Practices for Climate-Smart Agriculture
- Wastewater Conference: Turning Bengaluru into the 'Silicon Valley for Water Innovation
- Field Notes from Lohardaga: How a Grassroots Organisation in Jharkhand Shares Knowledge
- Field Notes from Lohardaga: Easing How Jharkhand's Grassroots Workers Access Knowledge
- Remote Sensing in Rajasthan: Can Jaltol Buttress Traditional Johads
- WELL Labs Partners with IHE Delft, ACIWRM to Develop Community-Driven Data Solutions
- How We Can Make Bengaluru's Water Systems More Sustainable and Affordable
- GRE Clinics: Matchmaking in the Development Sector
- What We Learnt from the Water Reuse Project in 2023
- Lake Rejuvenation Can Resolve Urban Water Issues, But Only if Done Scientifically
- The Launch of a Consortium-Led Platform to Build Green Rural Economies
- Jaltol and Johads: Tracking the Impact of Watershed Management in Rajasthan
- From Trainers to Playbooks: Insights on Improving the Green Rural Economy Platform
- Why Jalna's Wells Run Dry: Understanding Water and Soil in Drought-Prone Maharashtra

Media Publications

- Making every drop count | Deccan Herald
- Lake Health Index reveals pollution concerns in Bengaluru's water bodies | Citizen Matters
- Bengaluru City's water crisis is a fallout of warped priorities | Business Line Editorial
- Bengaluru's water math is badly failing as 'zero water days' loom large | Question of Cities
- DryLuru: India's Silicon Valley either looking up at the skies or awaiting tankers for water | Economic Times
- Valuing Non-Profits and Holding Them Accountable in the Age of SSE | Business Line
- Rainwater harvesting park's 14-year legacy: New techniques to show the way forward | Deccan Herald
- Where is Bangalore's water: Interview with Shreya Nath | Suno India Podcast
- Bengaluru's Water Crisis: Key Challenges In Water Management | IndiaSpend
- India's Bengaluru is fast running out of water, and a long, scorching summer still looms | Associated Press. Republished in Washington Post, The Independent, Bloomberg, CNBC
- Thirsty Bengaluru: Water scarcity amid rapid urbanisation and climate change | India Today
- What happened to the Bengaluru dream? | Livemint full page
- Bengaluru's water crisis might reflect an even larger one | Livemint Column
- Primetime Left, Right & Centre with Vishnu Som | NDTV Live
- How can Bengaluru achieve water resilience? | In Focus podcast | In Focus Podcast
- Missing the Field for the Trees: Why Wages Alone Cannot Improve Livelihoods | Revolve magazine
- What led to Bengaluru water crisis? Unchecked concretisation coupled with lack of political will | The Print
- Bengaluru's water crisis decoded | Deccan Herald

Our Work

- BWSSB to soon launch web portal to sell treated water | Deccan Herald
- A Possible Solution for Bengaluru's Water Crisis | The Hindu
- Bengaluru Water Crisis Deepens | Panel discussion in Free Press Journal
- Borewell At Karnataka Deputy Chief Minister's Home Goes Dry | The Southern View | Video story in NDTV
- कर्नाटक के डिप्टी सीएम डीके शिवकुमार ने रियायती दर पर पानी उपलब्ध कराने का आश्वासन दिया | Video story in NDTV India
- Why is Bengaluru staring at a severe water shortage? | Video story in The Hindu
- Inputs for a Hindu article on water scarcity in Bengaluru | The Hindu
- First floods, now dry days: Decoding tech hub Bengaluru's water woes | Moneycontrol
- Depleting groundwater: Why India needs to rethink many agri practices | India Today
- Pilots Are Not Enough: Why Simulations are Key to Inform Programme Impact | IDR
- Cover Story - Waterways | Bangalore Mirror
- Water security: Can Bengaluru learn from Singapore? | Times of India
- Research 'Matchmaking': To get the right answers, ask the right question | LSE Impact
- The Cost of Food: Why We Need to Shift to Diversified Agriculture | The Hindu
- Collective Action Among Businesses: Working to Make Our River Basins More Resilient | Eco Business
- Finding the Missing Piece: Integrating Surface Water Imports into Atal Bhujal Yojana | Mongabay
- Why better wastewater management could help solve Bengaluru's water crisis | The Hindu
- Bengaluru is staring at possible water crisis: Report | Deccan Herald
- 'B'luru has highest number of decentralised STPs in the world' | Deccan Herald
- Why researchers are developing a balance sheet for Bengaluru's water | Citizen Matters
- Deluge or drought: Water researchers explain how Bengaluru can build resilience | Citizen Matters
- Bengaluru will not be able to meet freshwater demand with existing resources, says report | The Hindu
- Treating wastewater may help ensure Bengaluru's water security | Deccan Herald
- The P Problem: Phosphorous, a critical input into modern agriculture, is a scarce, non-renewable resource | The Hindu
- Pot Irrigation: A traditional, water-efficient solution for tree planting in arid Raichur | Gaon Connection
- Explained | What did India's first national water-body census find? | The Hindu
- Can Carbon Financing Finance Sustainable and Just Transitions in Agriculture | IDR
- Explained | What was the U.N. water conference and what happened there? | The Hindu
- Rainwater harvesting in Bangalore and water management. Shreya and Shashank interviewed for a story | Deccan Herald
- Why Less Water Flows Through Sikkim's Unbridled Piped Waterscape | Third Pole
- Tamil Nadu's Long Fight Against Prosopis juliflora | Hindustan Times

Our Partners

Rainmatter Foundation

ROHINI NILEKANI philanthropies

UCL

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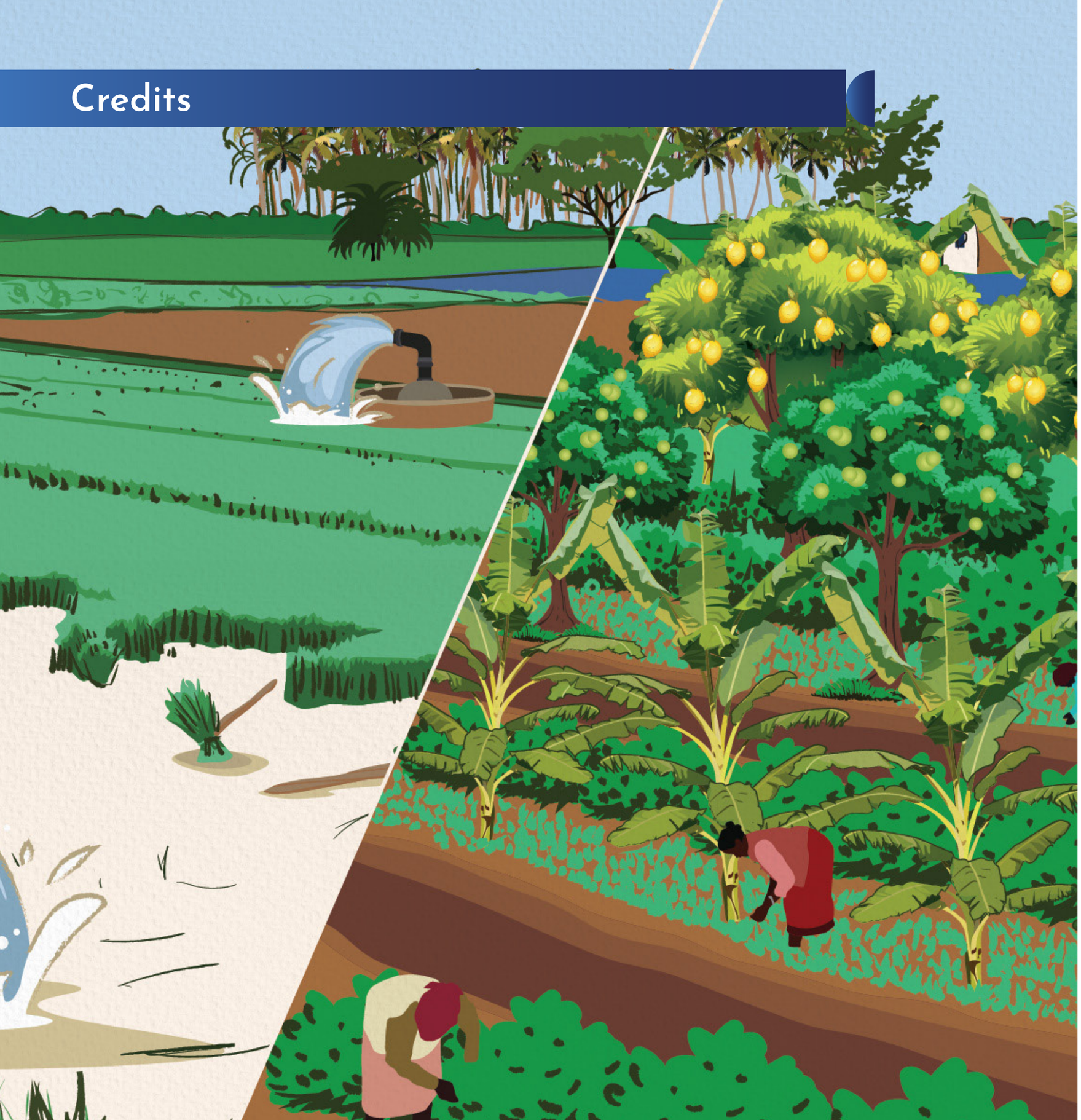

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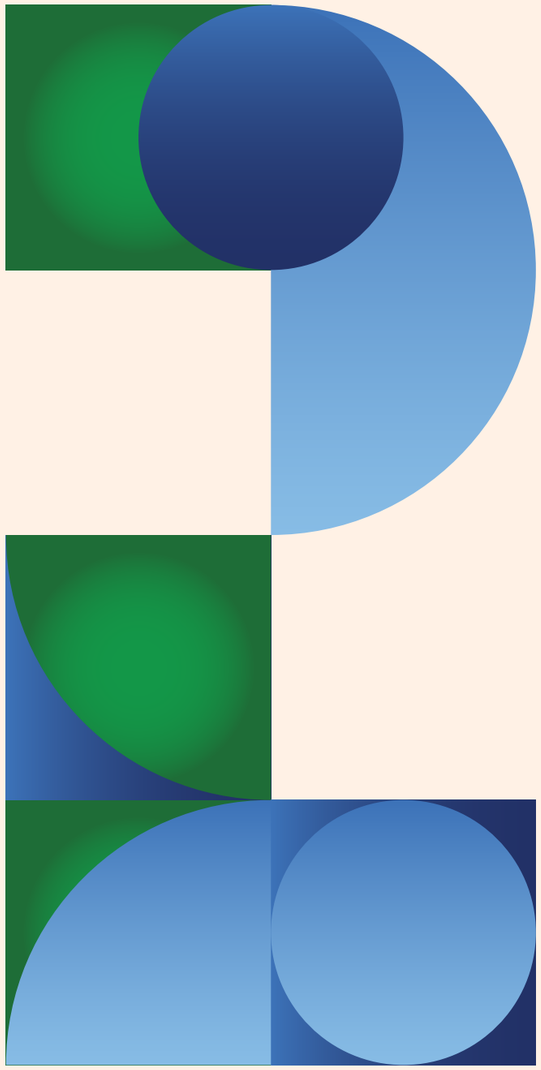

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