Arghyam

Safe, sustainable water for all

Annual
Report
2017-18

Message from the Chairperson

It has been 13 years since Arghyam was set up with a vision of 'Safe Sustainable water for all'. We came in knowing very little about the water sector but thanks to some good partners who had deep learning from the ground, we were able to quickly develop our understanding.

As most foundations do, our journey has seen us transition from working on stand-alone projects to evolving a programmatic approach. Arghyam has supported four programmatic lines of work on water over the last five years - participatory groundwater management (PGWM), springs initiative(SI), water quality networks(WQN), and water conflicts forum (WCF). In its rural sanitation and urban WatSan portfolio, Arghyam's theory of change has been to identify gaps and underinvested areas and close these through innovation in solutions. Thus we've supported very diverse streams of work from creating scientific communication for changing sanitation related behaviours to designing a implementation framework for safe sustainable Faecal Sludge Management (FSM) in small towns. In all our work in the last 6-7 years the approach was to enable collaboration between various actors – CSOs, experts, government, citizens groups, academicians, researchers – for cross-sharing that cuts down the learning cycle, and developing joint actions for greater impact.

A lot has been achieved through the stellar work of all our partners, both long standing and new. Models and methods have been established, and these have been scaled to more geographies through other donors and NGOs. Policies and programmes have been influenced through consistent advocacy with government. Yet there is so much more that needs to happen to meet the water needs of India. The sector is dynamic, and fraught with complexities and uncertainties. Despite all the effort and response from various stakeholders, the problems consistently outpace the solutions.

Today there is a sense of urgency to go to scale. And I believe that as times change, philanthropy too should respond to this need by innovation in design thinking that allows for working at scale rather than scaling what works. Our experience has taught us that there is great value in adopting unconventional approaches to work. This gives us the confidence to explore the idea of technology as a disruptor in the water sector.

Mobile phone technology has made access to information and services easier for many. On the other hand, technological advances have made it possible to collect information and data in various ways at granular levels and for data to be analysed and visualised. We at Arghyam consider this technology revolution as an opportunity, albeit a challenging one, and have embarked upon building a Societal Platform for the water sector. It will be an open, interoperable, transparent, public platform that allows people to participate in a verifiable way. It will create new channels for collaboration and co-creation where actors from samaaj, bazaar and sarkaar can design, develop and build a wide array of solutions, that are relevant.

I take this opportunity to thank all of Arghyam's partners and well-wishers, without whom this incredible journey of 13 years would not have been possible. Moving forward, building a Societal Platform for water and sustaining it will require a long term strategic vision and a healthy dose of patience and perseverance. As Arghyam moves into a new phase of work, we look forward to your support, goodwill and participation and hope to forge new partnerships in the years ahead.

Rohini Nilekani

Message from the CEO

Over the last thirteen years, Arghyam has built a diverse portfolio on groundwater and sanitation through various partners, and some great work has been demonstrated through this collaborative effort. Arghyam's investments have been focused on empowering communities with scientific knowledge and data regarding their local groundwater resource and build their capacities to cope with vulnerabilities.

In the last seven years, Arghyam through its partners has demonstrated that access to groundwater knowledge and data that can be used by people locally, empowers them to plan and enable sustainable water security. The approach and method was replicated and validated in about 1000 locations across the country. However, we realize that the problems on ground are fast outpacing our ability to build and sustain efforts as a collective. Knowledge and data need to travel much faster, more effectively to more communities to address the issues at scale.

Over the last year, we have been engaging deeply with the challenges that need to be tackled to accelerate solutions at scale and create impact. Today, few people are trying to solve the problems of many. Our experience from the field has taught us that there is a need to lower the thresholds of participation for more people to engage in problem solving. The broader participation should also come with the right levels of accountability so that outcomes can be protected. To scale programmes like Participatory Groundwater Management, Spring-shed management and Water Quality Management, these twin challenges need to be addressed.

One interesting possibility that is looking promising for supporting population scale impact is a platform approach built on digital capabilities. This approach allows for many people to search, discover, and transact so that solutions can roll off faster and a constant flow of data can feed back into making succeeding solutions purposed for sharper outcomes. The design should enable all societal actors to enter and amplify their capabilities so that they can perform faster, better and cheaper. It is with this intent that Arghyam is incubating a Societal Platform for water with specific use cases for groundwater.

The idea behind the societal platform for water is to un-scare resources that become a bottleneck to scale. The platform will make it easier for various stakeholders to engage, collaborate and promote participation to solve issues of water scarcity in India. On the one hand, it should allow for more innovation on the supply side and on the other, afford more choices on the demand side.

We are very excited about the possibilities and we look forward to collaborate with many more NGOs, donors, academia, government and others, committed to ensuring water security. We hope to accelerate the ability of water actors to build solutions that can stay ahead of the problem. This is both an important and imminent challenge for all of us in the sector.

Jayamala Subramaniam

Around 63 million people in rural India do not have access to clean drinking water.

Only 63% of rural households in India have access to toilets.

The consequences

- Shorter life expectancy due to life-threatening water-borne diseases
- Poor economic productivity leading to poverty
- Malnutrition among children and adults
- High dropout rate in schools due to poor health
- Risk of harassment and abuse for women and girls
- Poor quality of life

Water Security and Sustainable Sanitation

Rural water, rural sanitation and urban water & sanitation

A public charitable foundation set up with a personal endowment from Rohini Nilekani, Arghyam works in partnerships with organisations, governments and individuals to achieve safe, sustainable water for all.

Till date, we have funded **Rs 134 crore in 141 projects, reaching more than 5 million people in 22 states across India**. Our work broadly spans three areas, namely rural water, rural sanitation and urban water & sanitation.

Arghyam's focus on ensuring **water security** includes ensuring equitable access, quantity, quality and reliability of water for all. We fund efforts that help communities move towards sustainable groundwater management.

Our work on **sustainable sanitation** focuses on making rural and urban settlements free of open defecation. We introduce and support sustainable sanitation practices with an end-to-end approach – from creating demand to usage to safe fecal management.
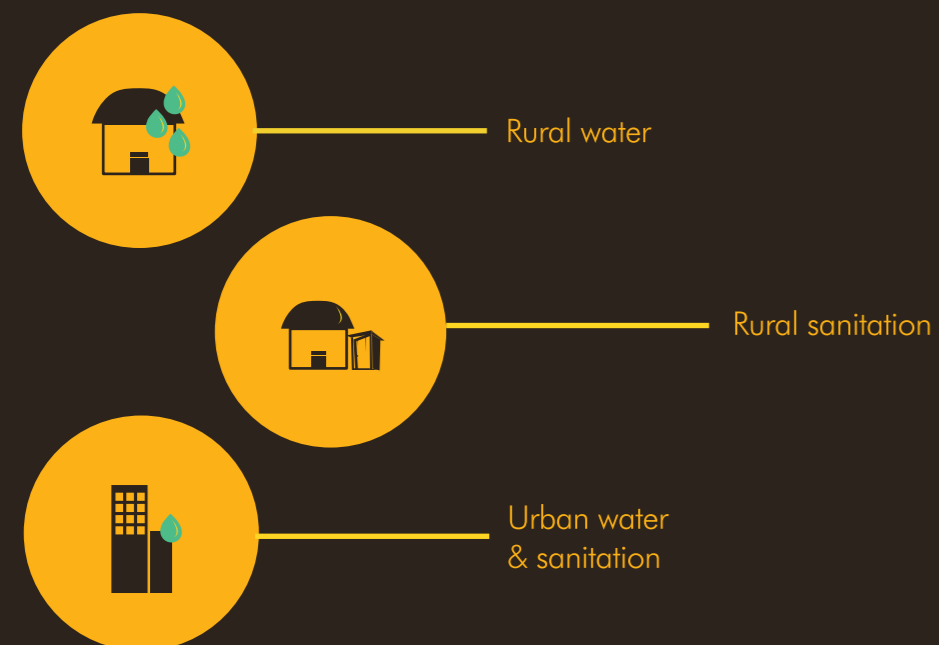
Rural water

Rural sanitation

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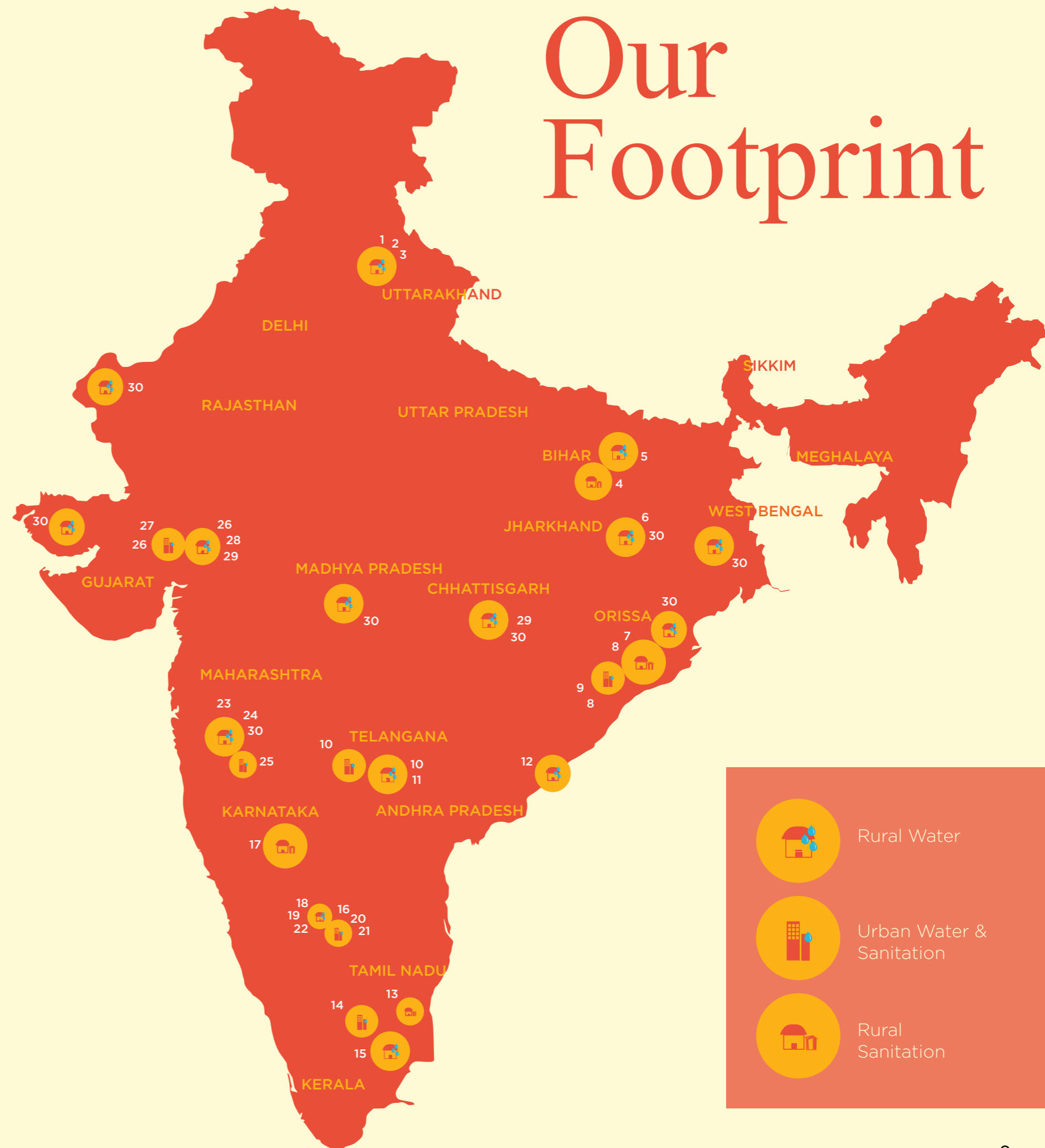
The Participatory Groundwater Management Journey

Groundwater is invisible, making it a fugitive resource that is complex and difficult to manage. Discussions around groundwater in India are only recently shifting from development/extraction to management/protection. Arghyam's partner network has played a crucial role not only in shaping this conversation but also finding sustainable solutions that look at supply and demand side measures with a focus on the resource.

The Participatory Groundwater Management (PGWM) programme was conceptualized based on a need for a paradigm shift in India's groundwater management. Through a consultative process involving multiple stakeholders in 2010, the programme was designed based on the principles for managing commons. The premise for the approach is that communities as users of the resource can understand and manage it better, if empowered with scientific knowledge and data along with their traditional knowledge.

Arghyam supported the PGWM programme in two phases, over seven years. The core partners, ACWADAM, ACT, PSI and WASSAN, engaged in action research, capacity building and expanding efforts to newer geographies. Each partner demonstrated different forms of community engagement, for instance WASSAN engaged with farmer groups for borewell pooling in Telangana, while ACT trained and worked with para hydrogeologists (colloquially known as 'parab') in Kutch district of Gujarat; PSI has used the PGWM principles to address water security issues in the Himalayan region. Several partners, worked with governments (Samerth, FxB, Sathee, OUTREACH), donors (Ford Foundation, HuF), CSRs (CGPL, IL&FS) and parliamentarians (Swaniti initiative). As the PGWM work gained momentum, partnerships with other funders such as BRLF and Tata Trust, also helped cover

more ground and people. A collaboration with BRLF and ten of its partners helped expand the PGWM practice to central India, building various intersecting interventions of livelihood and water. As a result of the partnership with the Tata Water Mission, states like Uttarakhand, Karnataka and Nagaland are also adopting PGWM, through partnerships with Himmotthan Pariyojna, Kalike Trust and NEIDA, respectively.

With an investment of Rs.30 crores, approximately 556 villages have been reached covering more than 1.5 lakh households and about 31,000 people have been trained by PGWM partners. The current reach of PGWM spreads over 12 states and over Rs.142 crores have been leveraged from government schemes and philanthropic capital.

During this period, Arghyam and its partners contributed to several policy processes at the national and state levels. These include the draft Model Groundwater Bill, draft National Water Framework Law, National Aquifer Mapping Programme, Jal Kranti Abhiyan, institutional reforms that enshrined some of the principles and learning of PGWM. The PGWM approach has been adopted in the curriculums of institutions like Chitrakoot University, Central University of Gujarat, training curriculum of Central Groundwater Board.

With PGWM proving successful across diverse hydrogeological typologies, a new challenge has emerged. This is one of scale – Arghyam and its partners are trying to understand how to stem the growing groundwater problem by spreading knowledge and expertise gained from the PGWM programme in a manner that is replicable by communities, donors, governments and other civil society agencies. This is however, not uncommon and is emerging as a sectoral problem in most areas that Arghyam has funded.

### Connecting livelihoods to water security through PGWM approach in Gujarat

Rapar is located in the most arid region of Kutch district in Gujarat, and the region is experiencing a drastic decline in groundwater levels and persistent droughts, making it extremely water stressed. Samerth Trust has been engaging with communities in Rapar area for livelihood interventions, for several years now. On witnessing the gravity of water crisis in the region, Samerth partnered with Arghyam to demonstrate the PGWM approach to ensure water security. Samerth adopted a multi-pronged approach, by integrating water interventions within their livelihood initiatives.

Arghyam, through its network of partners, facilitated capacity building of Samerth's staff on science-based groundwater management. Samerth in turn has created an army of local para-workers called *Jaldoots*, who engage in awareness creation and programme implementation. These *Jaldoots* further train local communities on basics of hydrogeology, water hygiene practices, demand management and local water governance via *Gram Sabha* participation. These partnerships and collaborative efforts have resulted in;

- The creation of 97 Water Security Plans (WSPs) for all the villages in Rapar block. These WSPs now form the basis of securing funds under myriad government schemes.
- Samerth has managed to leverage approximately Rs.6 crores over the last 3 years through various government schemes to implement interventions.
- Several villages have been able to revive their traditional ponds and dugwells giving them closer access to water even in lean summer months.

Although there is still large scope for water interventions in the area, which needs to be supported through sustained ground effort & financial support, Samerth is now institutionalizing their Jaldoot model by creating a *Jaldoot* federation, to continue its community engagements sustainably.
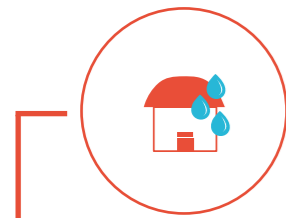
Water Quality Networks: Prioritizing Safe Water

Water security is as much an issue of adequacy and access as it is of safety. Availability of safe water is linked to health and livelihood issues and in the last few decades, the number of areas reporting contamination (chemical and bacteriological) in their waters has been on a constant rise.

While the impact of bacteriological contamination can be seen on an immediate basis, chemical contaminants have a latent impact on health. With an at-risk population pegged at around **500 million** for arsenic and an estimated **66 million** suffering from fluorosis, arsenic and fluoride have debilitating health impacts, leading to severe morbidity and mortality. The social environment in which these issues exist is highly diverse and uncertain and adds to the complexities of the problem

Despite improved understanding of the issues based on decades of work by experts from diverse fields, the impact and scale of the problem has been on the rise. For issues with such complexity, our experience suggested that linear and deterministic design of solutions is inadequate. Hence, Arghyam seeded two water quality networks (WQN) on Fluoride and Arsenic in 2013, with the vision to provide a space for multiple agencies to collaborate, innovate, and make significant progress on resolving the problems. With a broader emphasis on fluoride and arsenic, the two networks engage holistically on safe water.

Over the last five years, the WQNs have promoted knowledge exchange, collaborative solution design, peer-enabled action on the ground and a widespread improvement in capacities of civil society and governments to address WQ issues in India. Since inception, the Networks geographic presence has expanded to 12 states across the country, namely Andhra Pradesh, Assam, Bihar, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Odisha, Rajasthan, Telangana, Uttar Pradesh, and West Bengal.

With the objective of building skilled cadre, the Networks have experimented with innovative learning methods such as the Safe Water Learning Cards, that present complex issues and concepts related to fluoride packaged neatly into modular flashcards. To make their efforts sustainable, the Networks have been successful in creating institutional mechanisms within government systems. Nalgonda (Telangana) saw the first District Fluoride Mitigation Centre (DFMC), a one of its kind institution, which brought together critical line departments under a common umbrella for fluorosis mitigation. The model has now been replicated in Balasore, Odisha and Dungarpur, Rajasthan. In addition, 4 districts in Assam (Nagaon, Hojai, Kamrup and Karbi Anglong) and one in Karnataka (Chikkaballapur) have shown potential to follow in these footsteps.

Over the last year, institutions like UNICEF and the European Union (EU) have come forward to support the Networks' work in up to 8 districts across the country. With EU's support, interventions are being undertaken in two arsenic affected districts each in Bihar (Buxar and Bhagalpur) and Assam (Nalbari and Jorhat). The Networks are working to improve the capacities of governments and civil society in these districts to improve the lives of the communities impacted by arsenic contamination.

The networks seem to be reaching a tipping point at which the power of collaboration begins to produce significant outcomes that go beyond planned objectives. This tipping point will be a fitting finale (or a stepping stone for more to come) to the network story: consistent in its chaos, democratic in its contradictions, yet efficient and decisive in harnessing the chaos for growth.

Building bottom-up evidence for advocacy and action

In 2015, the Member of Parliament (MP) from Balasore, Odisha received reports of a number of bone deformities and cases of crippling in areas surrounding Patripal village of Remuna block, a part of his constituency. Obviously something was wrong. Initial observations suggested that these were potential cases of skeletal fluorosis caused by fluoride in water. But government data at that time did not show any case of fluoride contamination in Balasore district.

More than 200 districts report higher than permissible fluoride in drinking water sources, as per the Integrated Management Information System (IMIS) of the Government of India. If a district is not enlisted here, government led action does not get sanctioned and no programmes can be planned. While the issue of data discrepancy in Remuna didn't surprise many, the challenge to get ground information recognized remained.

The WQN initiated field assessments in Remuna in partnership with government departments. A survey was carried out in 30 out of 36 Gram Panchayats in the block, narrowed down to top eight, and then to top three highly affected GPs in which detailed assessments were carried out. Sarva Shiksha Abhiyan officers and school teachers were trained to help these assessments. Teachers were taught the basics of the problem, how to collect water samples and identify dental fluorosis cases as well as the condition of skeletal fluorosis so that they could correctly refer these cases when required.

In June 2016, the DFMC was formed in Balasore. The voice of the MP became amplified through the efforts of the WQN and DFMC, and eventually in 2016–17, the villages of Patripal started appearing on IMIS as fluoride affected. The acknowledgement of the problem, through evidence being reported on the IMIS became a strong tool for advocacy and action. Data became a rallying point for mitigation efforts to be initiated under the Ministry of Health's National Programme for Prevention and Control of Fluorosis (NPPCF).

The Springs Initiative: Making Springs a National Priority

Springs, Wetlands and Groundwater connect in the Nilgiris: The Happy Valley Story

The Nilgiris district is fully contained in the Nilgiris Bioshpere Reserve (NBR), India's first biosphere reserve. Part of the Western Ghats, it is recognized as a global biodiversity hotspot and is also home to six Particularly Vulnerable Tribal Groups (PVTG)

Although Nilgiris is classified as a safe zone, issues of falling water levels and wells running dry have become common and in parts of Coonoor bacterial contamination too is being experienced. The reasons for this are many such as failing monsoons, change in land use due to urbanization, increased runoff and soil erosion due to tea plantation, poor management of solid waste, poorly designed toilets and leach pits, high tourist inflow etc.

Springs being the mainstay for drinking water in the Nilgiris it is important to identify and conserve them, to ensure drinking water security. When Keystone Foundation envisaged the Springs project, the focus was on the upper areas in the Nilgiris where the dependence on springs was considerable. This was both from a point of view of meeting community needs as well as conservation of springs and springsheds. Over time, the intervention was expanded to include the tribal pockets in the NBR where Keystone has been working exclusively with Indigenous communities over the last two decades.

For a part of Kotagiri town, the Happy Valley spring and the adjoining wetland was an important source of water. A patch of 1 acre land that belonged to the Panchayat just above the spring and wetland area was being used by the local communities for open defecation and dumping solid waste leading to fecal contamination of groundwater. Keystone identified this as a critical space for intervention. After sustained discussions with the panchayat and communities, Keystone decided to restore the patch of Panchayat's land with native 'shola' forests, which characteristically have high water retention capacity and absorb water during the monsoons. This water is then slowly released during the course of the year. Keystone raised a nursery and planted saplings in 2006 with the participation of community, Panchayat and a local school which have grown into a small patch of forests by 2016. The community was encouraged to build toilets, for which Keystone helped in buying materials and the community volunteered manpower. The spring which used to go dry in summers, has now become perennial. Despite an increase in the number of wells in the past few years, the small patch of shola forest has ensured sustained water levels in the wells.

Participation of the community, and sustained discussions and action with communities was key to the success of people managing their water resources at Happy Valley. Keystone's efforts are now focused on conserving springs, wetlands, streams and rivers as part of a complex system rather than individual resources.

Springs are the main source of water for about 200 million people in India. A majority of these people (80%) live in the Himalayan states and the others in the Eastern and Western Ghats. Springs feed streams and rivers and are critical to mountainous ecosystems.

Over the last decade, demand for spring water management has increased as traditional spring sources have started drying up or getting contaminated. Arghyam started funding work on springs in 2007-08 in the Himalayan states, the Eastern and Western Ghats. In almost all the sites, the emphasis of work shifted from reticulation of safe water to tackling declining spring discharge over time. A combination of science and traditional knowledge were used to tackle resource protection that lead to a springshed management approach. The Springs Initiative was born out of a meeting of these partners in 2014 to help share and improve each other's work.

Spread of the Springs Initiative

The Springs Initiative is an informal initiative of implementing, knowledge and funding partners with the objective of amplifying local voices for better knowledge sharing and to push a common agenda forward for the protection and revival of springs. Working in parallel, these partners combine experience to share learning and leverage resources. From policy analysis, and social surveys to collection of flow data and research, the Springs Initiative is building a unique knowledge base and experience set on these vital resources.

The Springs Initiative has grown rapidly over the last few years. Partners have provided water security to communities residing in about 900 villages. Training manuals in six different languages have be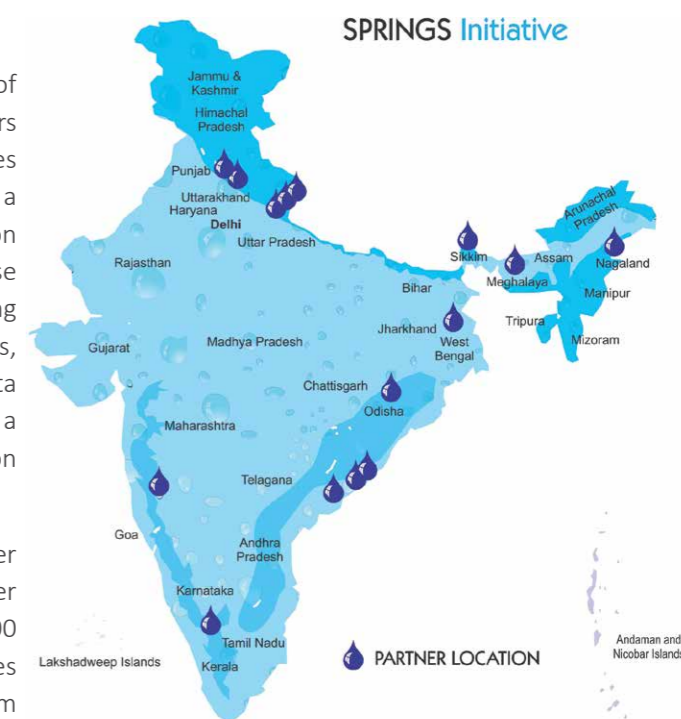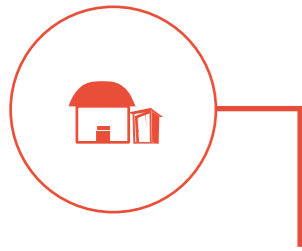en developed and over 9000 people from communities, NGO's and Government Departments have been trained. The Springs Initiative has found significant traction with several state governments like West Bengal, Meghalaya, Nagaland adopting large scale springshed management programmes. The Springs Initiative also had a significant influence on the NITI Aayog working group that was convened to understand how to rejuvenate Himalayan springs.

With the partners spreading their footprint across the nation, the challenge now is to help donors, governments and other civil society agencies access knowledge and data in a manner that is easily actionable. Transfer of expertise and creation of experts in new regions is a special challenge in the springs programme given the remoteness of locations and the number of experts available vs. the demand. The challenge of the future therefore is not in demonstrating methods that work but taking proven methods and scaling them at a speed that attempts to keep pace with the problem if not out-run it.

SPRINGS Initiative

PARTNER LOCATION

Addressing Gaps in the Sanitation Value Chain

Public sanitation campaigns to improve the public health scenario in India country have evolved over the last three decades. The Central Rural Sanitation Programme (CRSP), was launched in 1986, to improve the quality of life in rural India and to also provide privacy and dignity to women. This was subsequently followed by the Total Sanitation Campaign in 1999 and Nirmal Bharat Abhiyan in 2012, which aimed to accelerate sanitation coverage by creating awareness and achieving sustainable behavioural change. In 2014, the Swachh Bharat Mission (SBM), was launched with the ambitious goal of making India Open Defecation Free (ODF) by 2019.

While the thrust of the government programme has been on toilet construction and achieving targets, critical barriers to achieving these targets continue to hinder progress. Arghyam partnered with various civil society organisations, academia, donors and government at different levels, to identifying and address these critical gaps with innovative solutions and processes and thus demonstrate various models for safe and sustainable sanitation.

To promote toilet construction and its use, diverse approaches were supported by Arghyam such as roping in professional communication experts to design customised, research-based behaviour change communication (BCC) campaigns for generating demand for toilets; nudging behaviours to move from open defecation to toilet use; de-mystifying SBM processes and creating credibility for the sanitation programme. Arghyam also supported an entitlements-based approach to create and strengthen peoples' collectives known as *'Jan Sanghathans'*, to become an independent movement that can directly negotiate with the government for their rights.

For renovating defunct toilets and ensuring access to toilets, Arghyam supported two separate pilots. One,

adopting a case by case approach to identify and resolve specific bottlenecks to reach the last-mile households, and the other to develop a model for restoring defunct toilets through community participation. Arghyam has also established successful models for upfront financing through revolving fund and micro-finance.

While the CSOs have the capacities for outreach with the communities, government holds the mandate and budgetary allocations for programmatic implementation. Acknowledging the power of collaborative efforts, Arghyam has fostered collaborations between the government and CSO, to help improve the public service delivery system.

With a firm ear to ground realities through its partners, Arghyam has regularly engaged with the government on policy, programme design, and monitoring through data visualisation. Through our advocacy efforts, we have also showcased best practices in sanitation to CSRs and other donors and building further collaborations.

Over the last five years, Arghyam through its partners has been able to promote the construction of about 2 lakh toilets. While the government has set itself a mammoth target for October 2019, Arghyam's experience indicates that the following critical gaps, if plugged, can go a long way in making India Open Defecation Free -

- Government and civil society collaboration for effective program implementation
- Redesign financial practices to provide upfront capital for toilet construction
- Professional expertise to design effective behaviour change communication
- Individual problem redressal to ensure last mile access to toilets.

Joining Hands with the Government: Gandhigram's Approach to Realise the ODF Dream

Arghyam supported Gandhigram Trust for enabling effective implementation of Swachch Bharat Mission in five blocks of Dindigul district in Tamil Nadu. The focus of the intervention was on capacity building of the grassroots SBM functionaries including *Swachhta Doots* (Community Persons) and PRI functionaries for playing their roles effectively.

Arghyam also provided a revolving fund of Rs.15 lakhs to assist the poor households with interest-free short term credit as upfront capital for building household toilets. To identify deserving HHs for the credit, Gandhigram developed a transparent system involving the SHG representatives, GP Presidents, SBM Block Coordinators and BDOs. Preferences were given to households headed by women, widows, separated, physically challenged, Schedule Caste, BPL and MGNREGS workers and non- defaulters of bank loans.

Gandhigram Trust's role can be summed up as:
- Building the knowledge and capacities of grassroots workers, guiding and motivating them
- Organising a wide range of awareness programmes to reach out to all stakeholder groups- households, PRI functionaries, school children, SHGs, MGNREGA workers, *Thooimai Kavalars* (GP's waste managers)
- Ensuring benefits to the unreached households, developing systems for deploying the revolving fund
- Working in a coordinated manner with the SBM team leading to common annual action plans
- Forming a Block-level Review Committee headed by the BDO and ensuring its regular meetings for stock taking and problem solving
- Incentivizing the best performing SDs and Women Cluster Facilitators (WCFs) with prizes
- Lobbying for the release of incentives to SDs by highlighting their contribution in review meetings
- Promoting toilet usage by organising post-construction orientations

As a result of all these efforts, the toilet coverage increased from 42% to 73% by promoting 41,588 toilets. The revolving fund was provided to 1163 eligible households for building toilets. Some of the GPs initiated the construction of group toilets with individual user rights for the families lacking space. Solid waste management is also picking up in all the 101 GPs through *Thooimai Kavalars* appointed by the GPs for collecting, segregating and disposing the solid waste.

Strong cooperation between Gandhigram and district government allowed for a healthy working relationship, even in the absence of a formal agreement. The Trust is valued by the district administration as additional expert resource to the SBM team, leading to positive outcomes.

Improving Basic Services in Urban Areas

The urban population in India has risen from 11.4% in 1901 to 31% in 2011 according to the census. Estimates suggest that half of the country's population would be living in urban areas by 2030. Recognizing the complex nature of urban development in India, Arghyam's urban programme focussed on pilot initiatives and research studies in select themes that affect access to water and sanitation. Similarly, peri-urban areas that experience rapid transitions due to their proximity to urban areas also suffer from haphazard development. This is due to poor implementation of policies and programmes, and weak institutions. Arghyam's approach in these contexts has been to collaborate with multiple stakeholders in order to meet the demands of urban interventions including scale of work, funding requirements and technical capacities.
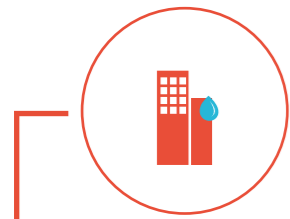
♦ **Integrated Urban Water Management (IUWM)** Water governance is fragmented with multiple institutions having responsibility for managing different aspects of water. Since 2007, Arghyam has supported IUWM projects based on participatory principles and integrated source-to-sink planning, that are inclusive and sustainable in nature using scientific tools and methodologies.

♦ **Participatory Groundwater Management (PGWM)** PGWM, Arghyam's flagship rural water programme, was extended to an urban setting in the city of Bhuj located in the arid district of Kutch in Gujarat. The aim was to augment local groundwater resources to reduce the dependence on bulk water to make the city water resilient.

♦ **Behaviour Change Communication (BCC)** In urban settings toilets are fraught with ownership and management issues. Arghyam supported the BCC component of a larger multi-partner pilot in Varanasi to create a sustainable and scalable model for urban sanitation across public, community and institutional toilets. The project targeted three behaviours - moving from open defecation to community toilets, willingness to pay for sanitation services and ensuring ownership of toilets for their long-term management and sustainability.

♦ **Water and Sanitation Solutions for Urban Poor (WASSUP)** Informal settlements in small towns in comparison with metros, present a better opportunity to make early investments, before informalities grow to an unmanageable scale. Hence a project was initiated in Maharashtra. The aim was to test various models for access to safe water, sanitation and improved drainage systems by establishing partnerships between the city government and communities.

♦ **Faecal Sludge Management (FSM)** Uncontrolled disposal of septage into the water bodies or open land is increasing as the Swachh Bharat Mission nears its completion. Recognising the need for an implementing framework for safe sustainable FSM, Arghyam initiated a project. The key components of the project are- situational mapping of sanitation infrastructure in small towns, sensitising communities to participate in planning, leveraging government support for funding, space for FSM plants, annual operation and maintenance, and having a scientific study to understand the faecal characteristics for its reuse.

The pilots across various themes have been carried out in ten different towns and the interventions have impacted about 5,70,000 people. Arghyam's strategy to work with a multitude of stakeholders and focussing on peri-urban areas has been instrumental in establishing models for different aspects of the sanitation value chain, such as FSM, groundwater management, BCC and engagement of citizens in planning of activities and ensuring sustainability.

Improving urban WatSan through citizens' groups

The alliance between SPARC, Mahila Milan, and National Slum Dwellers Federation (NSDF) represents a partnership between an NGO and two social movements. Through the Federation, the alliance has been active in Maharashtra for more than a decade. The cities of Nashik and Ahmednagar were selected for this project because the federations there are mature.

As a first step to improving WatSan services, slum profiling was conducted to generate baseline data on different settlements. From the slum profiling, two settlements each in the cities of Nashik and Ahmednagar with inadequate WatSan services were prioritised for implementation. This was followed by a detailed household survey to identify specific challenges in accessing water and sanitation.

With an aim to engage local professional institutions to look at slum WatSan upgrades as a possible area of professional services, two architectural colleges – one from Nashik, and one from Pune - were involved in the project. Groups of students, guided by faculty have documented and developed design options for basic WatSan service upgrade.

Based on the identified requirements, customised work such as approval and implementation of new drainage lines, construction of new shared and community toilets, augmentation of water supply, and formation and registration of CBOs is in progress.

SPARC has initiated conversations with the local civic bodies and the Mahila Milan, and community representatives have been part of this engagement from the inception of the project. Involving the community and the Mahila Milan in the planning and implementation has been critical for building their capacities. The community and the Mahila Milan today are able to make informed choices in their representation and negotiate for their demands with the civic authorities and ward councillors.

Research Programme

Arghyam has had a small and varied research portfolio focused on groundwater-sanitation nexus and water security in peri-urban areas. These projects were conceptualised to address the lacunae in our understanding of various aspects of groundwater, sanitation and their connect to markets. Arghyam also worked towards making water related data usable for planning and design of interventions. It was also envisaged that the knowledge generated from research would inform implementation practices.

The research conducted by SaciWaters to understand groundwater in peri-urban areas indicates that the absence of public provision of free and safe drinking water has given rise to complex institutions in these areas. There are strong connects between both the formal and the informal sector and public and private sector. The commercialization of drinking water has had multiple forms of insecurities on the peri-urban populace, in particular, the poor, Muslims and women. The distress becomes acute during summers and drought years. With the inception of mission Bhagiratha (project for safe drinking water for every village and city household in Telangana State), advocating for these findings has been crucial. In the context of a large scale government programme, Arghyam supported a research programme to generate knowledge on groundwater contamination due to poor sanitation and advocate for policy changes based on the findings.

Arghyam and our partners have also attempted to generate data through various projects, the data continues to remain sporadic, albeit reliable. There have been attempts to structure and standardize this data and host it on a common data platform to improve our learning. However, understanding impact of grants requires technology partners that have the imagination to utilise and visualise data.

In this context, it is critical to understand the existing data landscape and design ways to amplify the utility of primary and secondary datasets. The open water data project was envisioned to study varied secondary data sets (shapefiles of rivers, water bodies, watershed boundaries, elevation data, rainfall and soil moisture, and demand data) that are available on water in India which are either in the public domain or are from the government.

Data sources that can be used in project work, i.e, can be used to plug in water balance equations and water availability calculations etc. were researched. The project qualified data sets based on time period, spatial and temporal resolutions, formats and availability, licenses and usability. The project also produced a prototype that takes remote sensing-based precipitation data and makes it available in an easy to use web interface for the user's area and time period of interest.

Informing policies and practices on the ground requires continued investment in research and reliable data systems. As policies for protecting groundwater resources emerge, it is imperative that we understand the various facets of groundwater and its linkages to sanitation, ecosystem, markets, etc. Informed decision-making by various stakeholders- from government to communities- necessitates reliable and usable data on groundwater. Given the status of the resource and India's dependence on it, innovative approaches and solutions have to be identified, which cannot be done without extensive research and comprehensive data systems.

Building bottom-up evidence for advocacy and action

In 2015, the Member of Parliament (MP) from Balasore, Odisha received reports of a number of bone deformities and cases of crippling in areas surrounding Patripal village of Remuna block, a part of his constituency. Obviously something was wrong. Initial observations suggested that these were potential cases of skeletal fluorosis caused by fluoride in water. But government data at that time did not show any case of fluoride contamination in Balasore district.

More than 200 districts report higher than permissible fluoride in drinking water sources, as per the Integrated Management Information System (IMIS) of the Government of India. If a district is not enlisted here, government led action does not get sanctioned and no programmes can be planned. While the issue of data discrepancy in Remuna didn't surprise many, the challenge to get ground information recognized remained.

The WQN initiated field assessments in Remuna in partnership with government departments. A survey was carried out in 30 out of 36 Gram Panchayats in the block, narrowed down to top eight, and then to top three highly affected GPs in which detailed assessments were carried out. Sarva Shiksha Abhiyan officers and school teachers were trained to help these assessments. Teachers were taught the basics of the problem, how to collect water samples and identify dental fluorosis cases as well as the condition of skeletal fluorosis so that they could correctly refer these cases when required.

In June 2016, the DFMC was formed in Balasore. The voice of the MP became amplified through the efforts of the WQN and DFMC, and eventually in 2016–17, the villages of Patripal started appearing on IMIS as fluoride affected. The acknowledgement of the problem, through evidence being reported on the IMIS became a strong tool for advocacy and action. Data became a rallying point for mitigation efforts to be initiated under the Ministry of Health's National Programme for Prevention and Control of Fluorosis (NPPCF).

India Water Portal: a decade of building a repository of knowledge on water in India

The Khedamata stepwell in Modi, Neemuch district, Madhya Pradesh. Image courtesy Makarand Purohit for India Water Portal

India Water Portal was encouraged by the National Knowledge Commission, which proposed the need for knowledge portals in various areas back in 2005. Since then, it has evolved in the spirit of openness and sharing, to become one of the foremost sources of information on water and related themes in India.

The vision for India Water Portal (IWP) was to build a repository of knowledge on water, accessible to all, to influence action on the ground. It was also envisioned that IWP would create spaces for the water sector to share best practices, case studies and challenges from various parts of the country. The goal was to connect, facilitate and broker knowledge on water, in a landscape where this did not exist at the time.

Over a decade+, the Portal has experimented with awareness campaigns, such as the Fluoride Testing Programme with 1500 schools across the country through partnerships. Team members have conducted workshops for journalists on water; a dedicated effort to build a data repository to enhance projects, advocacy and impact around major water sector indicators was also undertaken. Curating research papers and news,

and reporting on local water stories through a distributed network of contributors has also increased the Portal's reach exponentially.

The possibilities to leverage and build on Arghyam's investment in India Water Portal, are immense. With a captive audience of returning visitors, the Portal has built credibility through the years. It is now a question of how India Water Portal can help to achieve the ultimate goal of water security, as the problem multiplies and grows across the length and breadth of this country.

Financials
2017-18

Independent Auditors' Report

To,

The Board of Trustees of Arghyam Bangalore

1. **Report on the Financial Statements**

    We have audited the accompanying financial statements of **Arghyam ('the Trust'), 599, 12th Main, HAL IInd Stage, Indiranagar, Bangalore-560008 (Permanent Account Number : AABTA0028M),** which comprise the Balance Sheet as at March 31, 2018, the Income & Expenditure Account and the Receipts & Payments Account for the year then ended, and a summary of significant accounting policies and other explanatory information.

2. **Management Responsibility**

    Management is responsible for the preparation of these financial statements that give a true and fair view of the financial position and financial performance of the Trust in accordance with generally accepted accounting principles. This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatements, whether due to fraud or error.

3. **Auditors' Responsibility**

    Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in India. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements. An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of the accounting estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

4. **Opinion**

    i. In our opinion and to the best of our information and according to the explanations given to us, the financial statements give true and fair view in conformity with the accounting principles generally accepted in India:

    a. In the case of Balance Sheet, of the state of affairs of the above mentioned Trust as at March 31, 2018;

    b. In the case of the Income and Expenditure Account, the excess of expenditure over income for the year ended March 31, 2018; and

    c. In the case of the Receipts and Payments account, of the receipts and payments for the year ended March 31, 2018.

5. **Report on other legal/regulatory requirements**

    As required by Section 12A (b) of the Income Tax Act, 1961, we give in the Annexure an audit report in Form 10B along with the details required to be certified in terms of the said report.

for Singhvi, Dev & Unni
Chartered Accountants
Firm Reg. No. 003867S

Sd/-
S. Ranganath
Partner
M. No. 201191

Bangalore
Date: 25/07/2018

Balance Sheet

Arghyam			
599, 12th Main Road, HAL II Stage, Indiranagar, Bangalore - 560008			
Balance Sheet As At March 31, 2018			
Particulars	**Sch No.**	**As at March 31, 2018 Amount (Rs.)**	**As at March 31, 2017 Amount (Rs.)**
I. SOURCES OF FUNDS			
1. Corpus Fund	1	1,505,823,472	1,515,274,426
2. Current Liabilities and Provisions			
a. Current Liabilities	2	4,395,339	2,684,611
b. Provisions	3	14,208	15,112
TOTAL		**1,510,233,019**	**1,517,974,149**
II. APPLICATION OF FUNDS			
1. Fixed Assets	4	1,303,805	1,293,646
2. Investments	5	1,438,105,224	1,454,496,420
3. Current Assets, Loans and Advances			
a. Cash and Bank Balances	6	57,662,854	40,669,429
b. Other Current Assets	7	8,952,724	15,508,314
c. Loans and Advances	8	4,208,412	6,006,340
TOTAL		**1,510,233,019**	**1,517,974,149**
Significant Accounting Policies and Notes on Accounts	22		

The schedules referred to above form an integral part of the Balance Sheet
Please visit - www.arghyam.org for financial statement with detailed schedules.

As per our report of even date

for Arghyam

for Singhvi, Dev & Unni
Chartered Accountants
Firm Reg No: 003867S

Sd/-
Rohini Nilekani
Trustee

Sd/-
Sunita Nadhamuni
Trustee

Sd/-
Janhavi Nilekani
Trustee

Sd/-
S Ranganath
Partner
Membership No.201191

Place: Bangalore
Date : 25 July 2018

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Income & Expenditure

Arghyam			
599, 12th Main Road, HAL II Stage, Indiranagar, Bangalore - 560008			
Income and Expenditure Account For The Year Ended March 31, 2018			
Particulars	**Sch No.**	**Year ended March 31, 2018 Amount (Rs.)**	**Year ended March 31, 2017 Amount (Rs.)**
Income			
Interest Earned	9	123,073,843	127,513,012
Other Income	10	1,847,926	821,901
TOTAL (A)		**124,921,769**	**128,334,913**
Expenditure			
Administrative Expenses	11	6,695,676	5,986,679
Depreciation	4	342,219	404,272
Ground Water Programme	12	69,536,911	78,728,921
Sanitation Programme	13	12,386,050	18,459,084
Advocacy, Research & Communication	14	18,196,579	24,161,917
India Water Portal	15	15,667,924	15,241,290
WATSAN Urban Programme	16	11,547,364	28,537,820
TOTAL (B)		**134,372,723**	**171,519,983**
DEFICIT (A-B)		**-9,450,954**	**-43,185,070**
Significant Accounting Policies and Notes on Accounts	22		

The schedules referred to above form an integral part of the Income and Expenditure Account
Please visit - www.arghyam.org for financial statement with detailed schedules.

As per our report of even date

for Arghyam

for Singhvi, Dev & Unni
Chartered Accountants
Firm Reg No: 003867S

Sd/-
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Trustee

Sd/-
Sunita Nadhamuni
Trustee

Sd/-
Janhavi Nilekani
Trustee

Sd/-
S Ranganath
Partner
Membership No.201191

Place: Bangalore
Date : 25 July 2018

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Receipts and Payments

Arghyam 599, 12th Main Road, HAL II Stage, Indiranagar, Bangalore - 560008 Receipts and Payments Account For The Year Ended 31, 2018			
Receipts	**Sch No.**	**Year ended March 31, 2018 Amount (Rs.)**	**Year ended March 31, 2017 Amount (Rs.)**
Balance brought forward:			
Cash & Bank Balances			
Cash on Hand		5,345	9,817
Citibank -5913535806 (Savings A\c)		382,149	34,751
Citibank -0877466809(Current A\c)		579,306	582,298
ICICI -004701046493 (Savings A\c)		2,231,973	2,348,598
Kotak Mahindra -04222040000503 (Savings A\c)		665	15,791
State Bank of India- 64064306314 (Savings A\c)		1,144,522	2,603,151
YES Bank Ltd - Arghyam - 002290300000087 (SB)		35,169,569	18,643,129
Linked deposits with Bank		1,155,900	1,090,132
Receipt from Investments	20	250,423,787	452,493,920
Interest Earned	17	133,054,747	122,697,542
Other Income	18	1,847,926	821,901
TOTAL		**425,995,889**	**601,341,030**

Payments	**Sch No.**	**Year ended March 31, 2018 Amount (Rs.)**	**Year ended March 31, 2017 Amount (Rs.)**
Ground Water Programme		69,536,911	78,728,921
Sanitation Programme		12,386,050	18,459,084
Advocacy Research & Communication		18,196,579	24,161,917
India Water Portal		15,667,924	15,241,290
WATSAN Urban Programme		11,547,364	28,537,820
Administrative Expenses	19	6,613,240	5,375,712
Fixed Assets		352,376	131,451
Payments for Investments	20	234,032,591	390,035,406
Balance carried forward:			
Cash on Hand		3,899	5,345
Citibank -5913535806 (Savings A\c)		412,192	382,149
Citibank -0877466809(Current A\c)		579,596	579,306
ICICI -004701046493 (Savings A\c)		1,810,446	2,231,973
Kotak Mahindra -04222040000503 (Savings A\c)		170,671	665
State Bank of India- 64064306314 (Savings A\c)		1,742,527	1,144,522
YES Bank Ltd - Arghyam - 002290300000087 (SB)		51,710,248	35,169,569
Linked Deposit with Banks	21	1,233,275	1,155,900
TOTAL		**425,995,889**	**601,341,030**
Significant Accounting Policies and Notes on Accounts	22		

The schedules referred to above form an integral part of the Receipt and Payments Account
Please visit - www.arghyam.org for financial statement with detailed schedules.

As per our report of even date

for Arghyam

for Singhvi, Dev & Unni
Chartered Accountants
Firm Reg No: 003867S

Sd/-
Rohini Nilekani
Trustee

Sd/-
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Janhavi Nilekani
Trustee

Sd/-
S Ranganath
Partner
Membership No.201191

Place: Bangalore
Date : 25 July 2018

Place: Bangalore
Date : 25 July 2018

Our Board

Safe, sustainable water for all

Annual Report
2017-18

For the digital version of the annual report, please visit **www.arghyam.org**

Arghyam
Safe, sustainable water for all