Impact assessment of Marico's Nihar Shanti Pathshala Funwala program for FY 22-23

April 2024

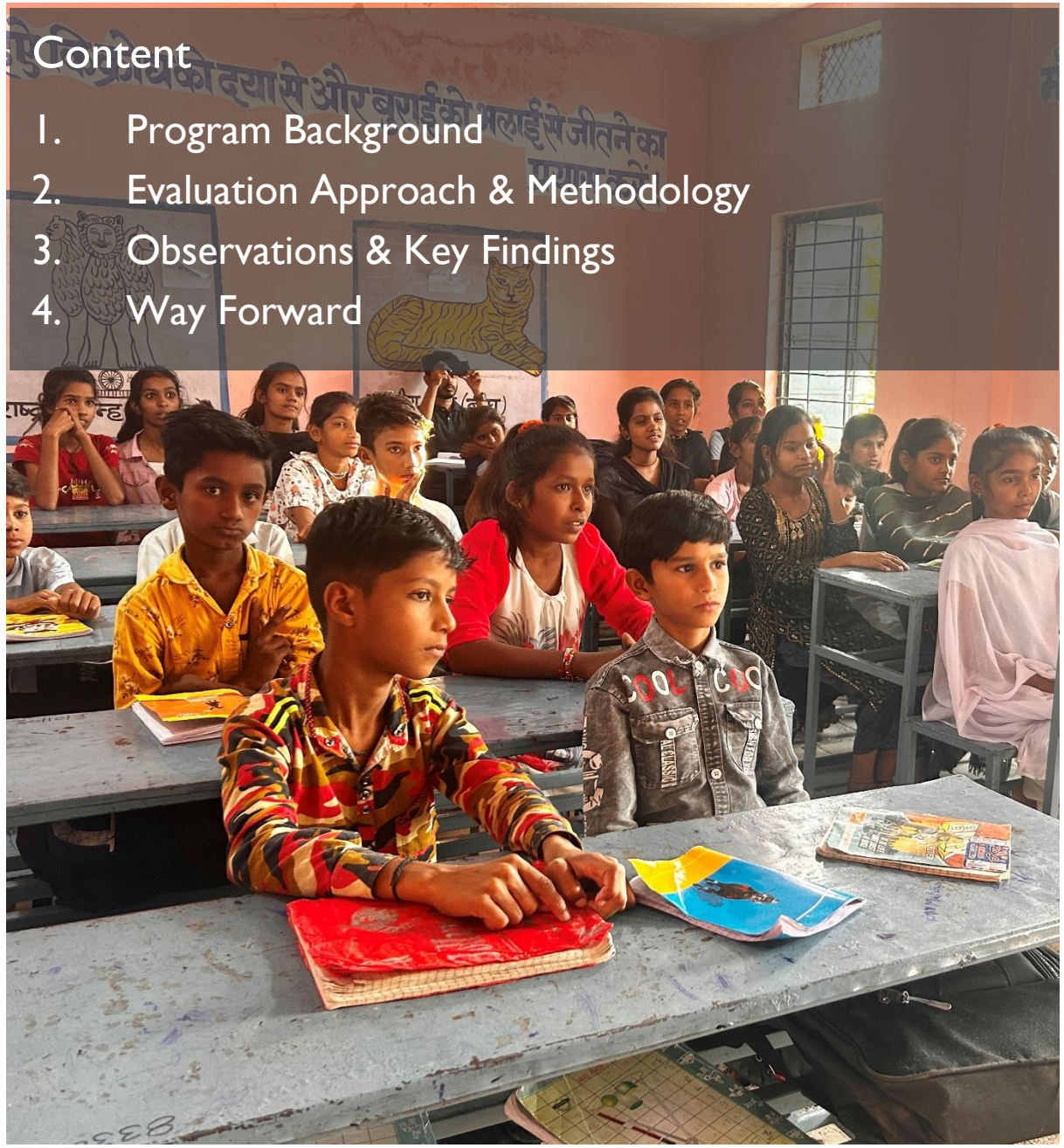
RTI International is an independent, nonprofit research institute dedicated to improving the human condition. Clients rely on us to answer questions that demand an objective and multidisciplinary approach — one that integrates expertise across the social and laboratory sciences, engineering, and international development. We believe in the promise of science, and we are inspired every day to deliver on that promise for the good of people, communities, and businesses around the world.

For more information, visit www.rti.org

RTI Global India Pvt. Ltd.
6th Floor, Commercial Tower of Novotel
Pullman, Aerocity,
New Delhi 110 037
India

Tel: +91 11 4128 7150

Content



Evaluation Team:

- Nutan Zarapkar, *Director*
- Kapil A. Suresan, *Associate Director*
- Sumantra Mukherjee, *Senior Manager*
- Dhwani Mehta, *Senior Consultant*
- Sherin Shiny George, *Senior Analyst*
- Venetia Sharanya, *Consultant*
- Navaneeth Chand, *Consultant*

Image Source: RTI International

Program Background

1

Nihar Shanti Pathshala Funwala (NSPF) is an English Literacy Program, with an objective to improve reading, spelling, vocabulary, comprehension & sentence structuring capabilities in children studying in regional govt. schools

Program Strategy: The NSPF is a teacher-led program, where the govt. school-teachers are capacitated to teach English to their students in their mother tongue, based on a Phonetic-based Translation Algorithm, developed by Leap For Word (the implementing agency). The program team trains the teachers using the online platform. Thereafter the teachers appear for an online certification exam. After being certified, they are expected to roll-out the sessions with their respective classes in a classroom environment, based on the standard curriculum and module (concept book). Thus, the content consumption happens at the school level. The curriculum is divided into 4 levels, they are:

- Elementary Reading : *Enables students to read, write, and understand the meaning of 3 and 4 letter simple words.*
- Advance Reading : *Enables students to read, write, and understand the meaning of all words more than 4 letters (simple and complex).*
- Elementary Comprehension: *Enables students to read, write, and understand the meaning of sentences using various forms of simple tense.*
- Advance Comprehension: *Enables students to read, write, and understand the meaning of sentences using all tense.*

Program Implementation Team: Each of the program states have a state program manager (embedded within the education dept.). There is a centralized call centre having 8-10 state-specific callers, who provided online support to teachers from time-to-time during the content consumption phase. They also engages with the teachers for tracking the progress in the learning ladder and motivates them to participate in campaigns around English literacy. The central team consists of the content team, technology team, and program monitoring team.

142 districts

1268 blocks

1.45 lakhs schools

3.32 lakhs teachers

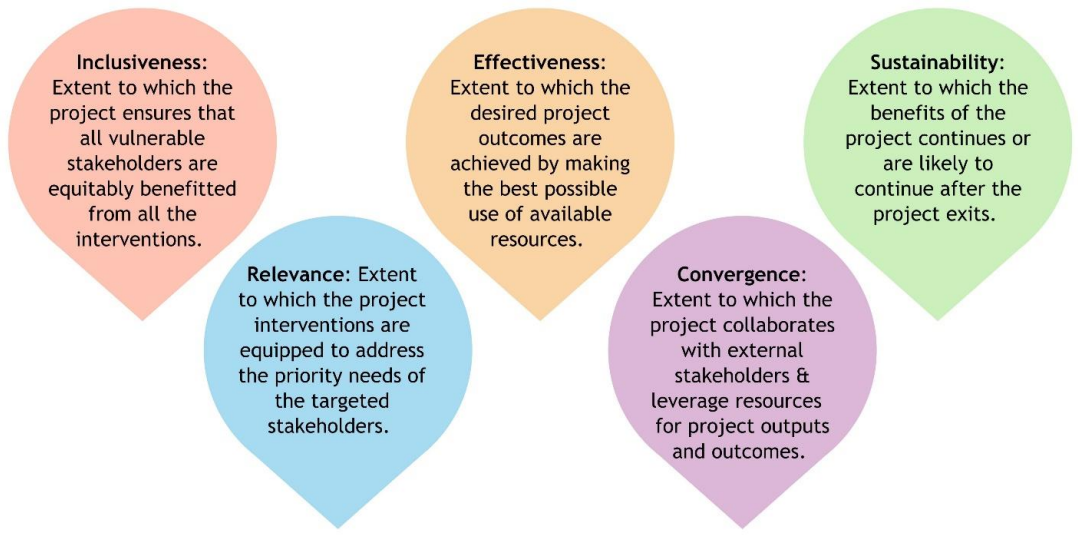
10.50 lakhs students

State selection was done based on ASER, 2018. The report clearly reflected the poor status of English literacy in the Hindi speaking states, ranked amongst the bottom 10 states on this parameter.

Evaluation Approach and Methodology

Using a blended approach of qualitative & quantitative methodologies, the evaluation seeks to capture a 360-degree perspective of the impact from the view-point of teachers, students, parents, government and implementing agency.

Evaluation Parameters – IRECS framework



- Evaluation Objective :
  - To assess reading, writing, and comprehension skills of children from class 2 to 8 in the regional govt. schools in operational area.
  - To provide a set of recommendations to Marico and LFW for further strengthening the program for increased impact on teachers and students.
- Evaluation Approach: A mix of qualitative and quantitative approach was used for drawing inferences on outcome and impact of the program on teachers and students. RTI has done the impact assessment of NSPF program for the pervious year as well, and that too with the same research design. This continuity allows for a comparative analysis, providing insights into the extent and direction of changes observed since the last assessment.
- Evaluation Tools: The following evaluation tools were administered:
  - Key Informant's Interview Questionnaire: *Administered with teachers.*
  - Demo-class Observation Checklist: *Administered during session observation.*
  - Learning Assessment Tool: *Administered with sample children.*

SAMPLE SIZE	04 Districts	12 Schools	19 Teachers	120 Students

The impact assessment was done based on the IRECS framework. The broad parameters are explained in the figure above. The sampling was done using purposive random sampling method.

Observations & Key Findings - INCLUSIVENESS

3.1

The targeted approach towards children from economically & socially backward population in govt. schools and the use of mother-tongue to teach English phonetics, makes the program highly inclusive in its design and approach.

- Economic Inclusion: NSPF program is targeting regional govt. schools which are generally attended by children from economically backward communities. The over dependence on digital platforms and smart phones for effective and continuous learning poses a risk of exclusion of children belonging to poor households.
- Geographic Inclusion: As the NSPF program intends to cover all the govt. schools in the state, therefore by design, it doesn't intend to leave behind any remote pockets. However, for an implementation team of around 50 people, it is not practically possible to cover all the schools on the same magnitude. Program is currently focusing on intensive engagement with the selected schools where there is one or more active teachers who are steering the program in the desired manner.
- Resource-centered Inclusion: As discussed in the previous section, NSPF is a teacher-led program. Thus, the success of the program in terms of learning achievement improvement in students is heavily dependent on the availability and quality of teachers as the key resource for the program. In most of the government schools in the operational states, there are glaring gaps in both adequacy in the number of teachers and quality of teachers in govt. schools. Therefore, the students might face exclusion from the optimum benefits of this program if the school doesn't have good teacher, with dedicated time available for rolling-out the curriculum within the classroom setting.
- Linguistic Inclusion: The NSPF program has adopted a mother-tongue based translation algorithm based on concepts of phonetics. Therefore, the program seek to improve the English learning outcomes of children through the mother-tongue. For example, in states like Bihar, Jharkhand, MP, Rajasthan, & Chhattisgarh, children are taught the concepts of English phonetics using Hindi language. Thus, language is no more a barrier to learn English.

Observations & Key Findings - INCLUSIVENESS

3.1

The aspects of inclusiveness has some degree of risk due to the over dependence of the NSPF program on technology (SMART phones and Internet access) and lack of community engagement (especially parents).

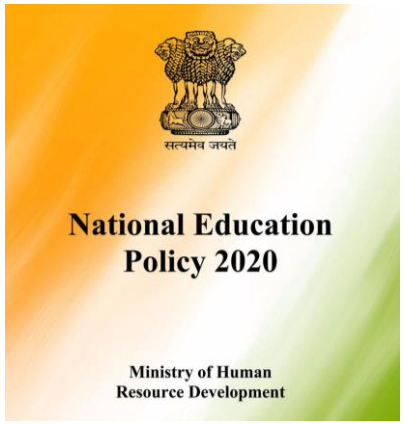
- Educational Inclusion: The program is aptly designed to suit the needs of poor learners. The concepts are so easy to understand that even teachers who have studied from regional medium schools can easily grasp and teach them. Thus, it addresses all risks for educational exclusion, in the process of implementation of the program.
- Socio-Cultural Inclusion: As per ASER 2022, there is a 5% gap between the percentage of boys and percentage of girls enrolled in the govt. schools. The national level data shows that girls are more likely to attend the govt. school compared to boys because of the gender biases in the Indian society. By targeting the learning outcomes in the govt. schools, the program is ensuring that girls are benefitted.
- Physical Inclusion: The program has not taken any specific measures for ensuring that children with special needs (particularly children having vision or hearing disabilities), are equally benefitted from the NSPF program.
- Technological Inclusion: Over dependency on technology (internet connectivity and access to smart phones both for teachers and students is a major constraint of the program, posing threat to universal access to the content of all teachers and students.
- Parental Inclusion: The program has not prioritized mobilization of parental participation. However, it was found that during the last 6 to 8 months, Leap For Word has introduced the concept of 'Teacher Entrepreneurs' in selected locations. This initiative of creating a community level cadre who is trained to execute the NSPF curriculum through community classes, in the same way as it is done in the schools. This creates a sense of continuity in English learning from the school to the community. This also encourages increased sensitization of the parents about the program and its importance to their child. There is still a lot to be done in this context.

Observations & Key Findings - RELEVANCE

The NSPF program is relevant to the current global priorities and national policies on one hand, and with the needs of the primary stakeholders (i.e., students & teachers) on the other hand.

Relevant to the SDGs: The project is contributing to SDG 4.4 (Increase in people with relevant skills for financial success), SDG 4.5 (Eliminate all discrimination in education), SDG 4.6 (Universal literacy & numeracy), and SDG 4-C (Increase in supply of qualified teachers in developing countries). Thus, by improving the English literacy amongst students, the program is opening a spectrum of opportunities for them.

Relevant to the Teachers: In regional language government schools, usually a single teacher is responsible for teaching all subjects in the primary section. Most of these teachers have backgrounds in regional language mediums, which often result to a lack of proficiency and confidence in teaching English. This underscores the urgent need for a dedicated program aimed at enhancing the pedagogical skills of these teachers, particularly in English language.



Relevant to the Policy Environment: NEP 2020 emphasizes the importance of mother tongue/local language/regional language as the medium of instruction at least till Grade 5, but preferably till Grade 8. As per the priorities of NEP, the NSPF program will be immensely effective in improving the foundational learning in English. NEP's emphasis to move away from rote learning and use of technology for effective learning is also aligned to the NSPF program.

Relevant to the Students: The NSPF program in regional govt. schools is crucial in addressing the lack of an English-learning ecosystem at home and school. This leads to the development of a fear factor for the subject, putting them at a disadvantaged position compared to their peers from English-medium schools, especially in higher education and job markets. The program equips these students with vital English skills, broadening their future growth prospects in a globalized and competitive world.

Observations & Key Findings - EFFECTIVENESS

3.3

The NSPF program team has been actively engaging the education department for ensuring their buy-in of the program. However, LFW is not the formal technical support agency for the state govt. in Foundational Literacy & Numeracy (FLN) component of Nipun Bharat.

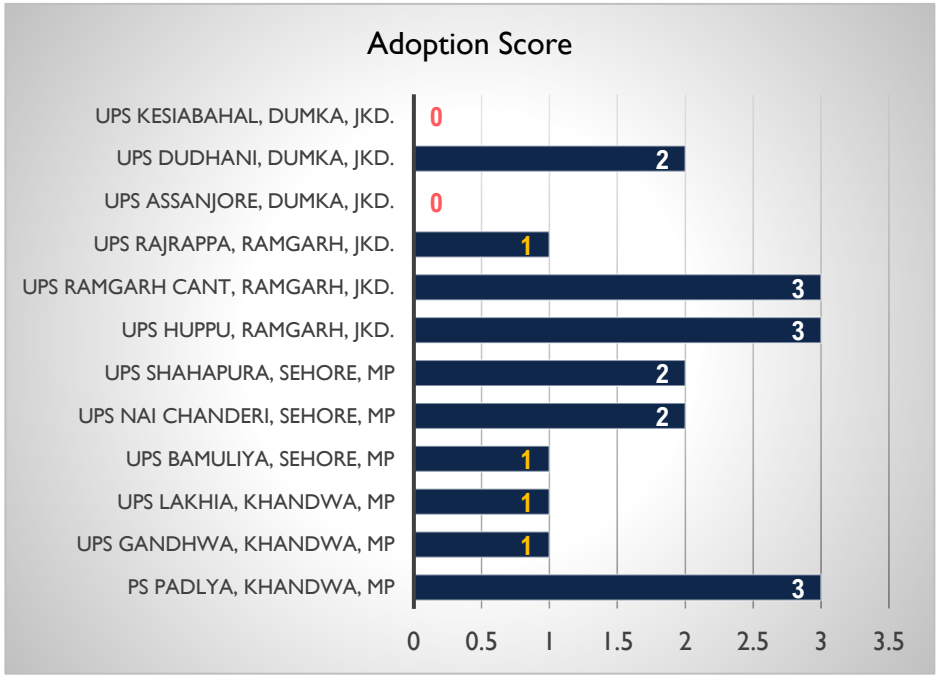
School Education Minister, MP motivating state finalists of the Word Power Championship, 2022-23

Effectiveness of the System Engagement Processes: Discussions with govt. officials at various levels have clearly shown that the district and the state **authorities are completely aware** of the English Literacy Program. The **MoUs with or the approval letters** from the respective state education dept. has further strengthened the ownership of the state govt. for this program. The **state advocacy officer of the program is embedded into the PMU of Sarva Siksha Abhiyaan** and is constantly engaging with the system to ensure effective implementation of the NSPF program. Besides that, LFW representative is also providing technical support to the dept. on Foundational Literacy and Numeracy (FLN) program of the govt. from time-to-time (though informally). **Teacher's trainings are being done based on letters issues by the education dept.** which clearly reflects their buy-in of the process. **Active participation of the administration in campaigns** like the Word Power Championship is also an evidence of strong govt. engagement. Both in Madhya Pradesh and Jharkhand the state is having **fortnightly review meetings** with the districts to take stock o the progress of the program in terms of parameters like teachers trained and certified, content consumption initiated in the class, regularity of content consumption, etc. In Jharkhand, the NSPF program **content has been uploaded into the DIKSHA portal** (*An open-source digital platform developed by NCERT having an inventory learning materials for teachers and learners that fits the needs of prescribed school curriculum*).

Observations & Key Findings - EFFECTIVENESS

3.3

The NSPF program has been effective in improving the competencies, skill sets, and confidence of the teachers from the regional govt. schools for teaching English language. However, there is a concern among some educators that this initiative might escalate their existing workload, which is already substantial due to various academic and non-academic responsibilities assigned by the government.



Effectiveness of the Teachers Engagement Processes: Teacher's engagement process starts with the registration process where every teacher in the primary section is expected to register themselves into the program through the online process. Once they are registered, they go through an online training, base don the modules developed by LFW. Subsequently they must appear for an online certification test. Once they qualify this and are certified, they start rolling-out the modules with the children in the class. All teachers in the primary section teach English language in their respective classes. However, **all teachers are not yet trained**. This leads to non-uniformity of program effectiveness within a school. Till the last year, the teachers training was divided into 4 parts – ER, AR, EC, & AC. However, it was found that in the current year, the training module has been divided into **2 parts** – Reading (i.e., ER + AR), and Comprehension (i.e., EC + AC). These trainings are now of around **4 hours**. Some innovations were also experimented in terms of the training methodology. Earlier the **concept flow** was from simple to complex words. Now it has been modified. Now a complex word having with multiple concepts in it, was taken and then it is broken down to simpler concepts. It was found that this new methodology works well for refresher trainings for matured teachers, however the new teachers who got exposed to this concept for the first time, it was difficult to understand. At least 70% of the new teachers interviewed during the evaluation said that they could only understand 40-50 per cent of the training. Most of them also said that the **online training should not be more than one-and-half hours** and the training should be broken down to small parts for ensuring **incremental learning**.

50% of the sample teachers were using the WhatsApp platform regularly. Most of them resolved their queries by directly calling the LFW representatives on their mobile. Helpline number not being used.

200 k +

Calls to around 83,000 teachers by the teacher support agents

100 k +

Teacher trained through online platform during FY 22-23

46 k +

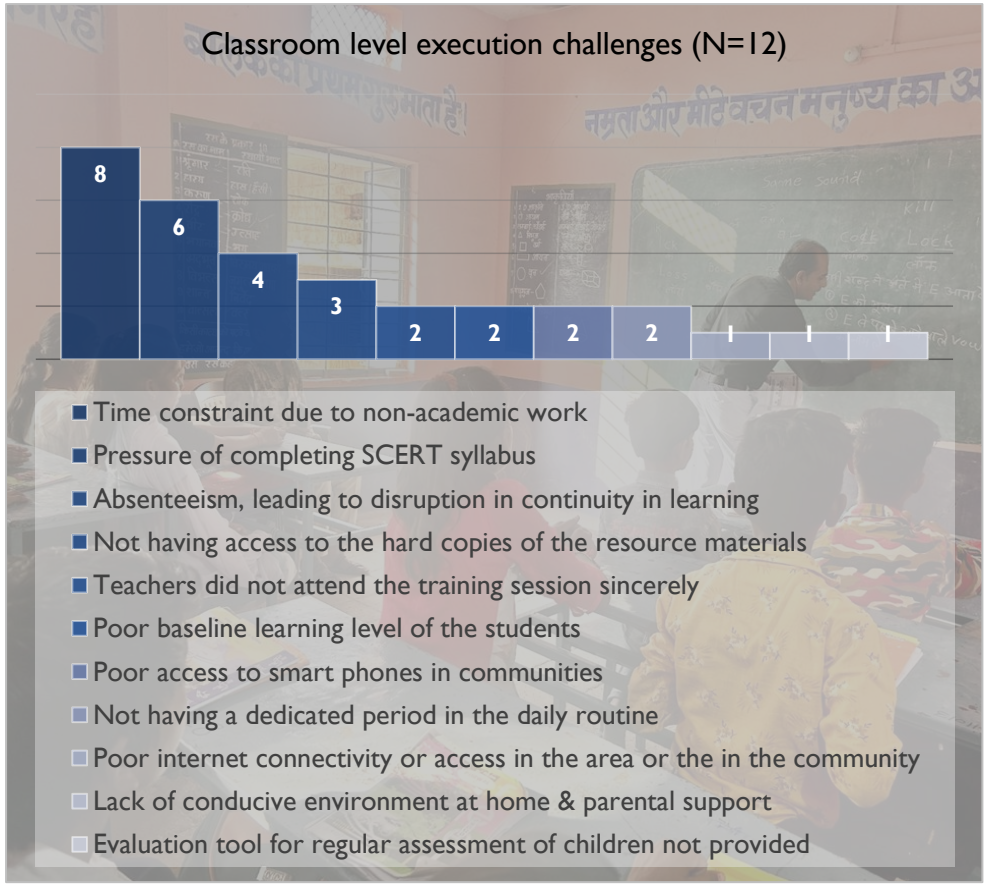
Teacher are active and regularly rolling out classroom sessions

ER – Elementary Reading; AR – Advance Reading; EC – Elementary Comprehension; AC Advance Comprehension. Adoption score: 3=HIGH; 2=MODERATE; 1=LOW; 0=NO ADOPTION

Observations & Key Findings - EFFECTIVENESS

3.3

The teachers have been using a diverse range of methodologies to roll-out the modules at the classroom level. However, the regularity have been negatively impacted due to existing workload of govt. teachers, along with the fact that the execution of this curriculum is not obligatory for govt. teachers like other govt. pushed initiatives like FLN or Remedial Sessions.



Effectiveness of the Child Engagement Processes: There are **two key modalities for engagement with children** (or students): (i) Through regular **classroom** teaching; and (ii) Through various **campaigns** and events like quiz, word power championship, etc. There are various ways in which the teachers are trying to execute the curriculum, despite all the constraints and challenges in which they operate within the govt. system. **Some of the practices** in the sample schools are:

- In PS Padlya, Khandwa, MP : Dedicated sessions for the NSPF curriculum.
- In UPS Nai Chanderi, Sehore, MP: Integration of the NSPF concepts while teaching the SCERT text-books.
- In UPS Ramgarh Cant, Jkd.: Google meet session with children having access to SMART phones & internet.
- In UPS Dudhani, Dumka, Jharkhand: Use the module when there is any extra class given to the trained teacher or as an entertainment session when students are not interested in studying regular text-books.
- Some of the lesser adopted schools said that they dedicated 10-15 minutes for few of the concepts of the NSPF curriculum during their regular classes.

Elementary Reading level was executed in FY 2022-23 with

230 k Children

Advanced Reading level was executed in FY 2022-23 with

190 k Children

Elementary Comprehension level was executed in FY 2022-23 with

29 k Children

Observations & Key Findings - EFFECTIVENESS

3.3

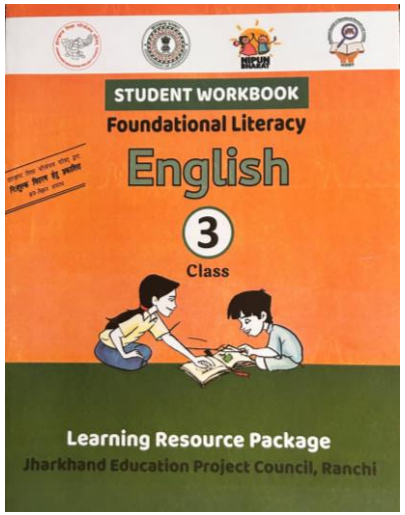
The NSPF program team has yet to fully prioritize community engagement. While there have been efforts to initiate engagement in certain areas through the concept of teacher entrepreneurs, significant work remains to be done in the future to enhance community involvement comprehensively.

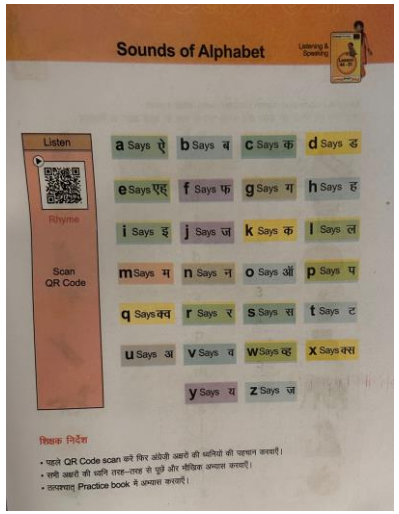
Effectiveness of the Community Engagement Processes: One of the primary obstacles to children's educational achievements is the lack of a supportive learning environment at home, coupled with insufficient parental involvement. The NSPF program, while effective in many areas, has not significantly focused on engaging and educating parents about the program's objectives and their children's progress. To address this gap, in the past 6-8 months, Leap For Word (LFW) has introduced the 'Teacher Entrepreneurs' (TE) concept. This innovative approach involves identifying and training educated local youth in the NSPF curriculum, who then conduct English language coaching sessions within their villages. This strategy not only extends learning opportunities beyond the classroom but also fosters increased parental engagement and participation in their children's educational journey. These TEs have been systematically capacitated by LFW to extend their roles beyond teaching. They now equipped to dedicated 3-4 hours per day to engage with other teachers, offering them essential support and guidance by calling them, like the other teacher support agents. However, LFW realizes that there is still a lot to be done in this dimension of the program and are working towards it.

Observations & Key Findings - CONVERGENCE

3.4

The NSPF program exhibits full alignment and integration with the strategic focus areas and overarching vision of Leap For Word, the implementing partner. However, there is potential to further enhance its coherence with the GoI's Foundational Literacy & Numeracy (FLN) aspect of the Nipun Bharat program.





Internal Convergence: Leap For Word has consistently collaborated with various Corporate Social Responsibility (CSR) initiatives across multiple projects, focusing on enhancing English language proficiency through a uniform strategy and approach. This consistency ensures a **high degree of internal coherence** within the organization regarding its programmatic approach. Such uniformity not only facilitates the gradual refinement of program design and interventions but also enables the seamless integration of insights and learnings from one project into another, thereby continually enhancing the effectiveness and impact of the initiative

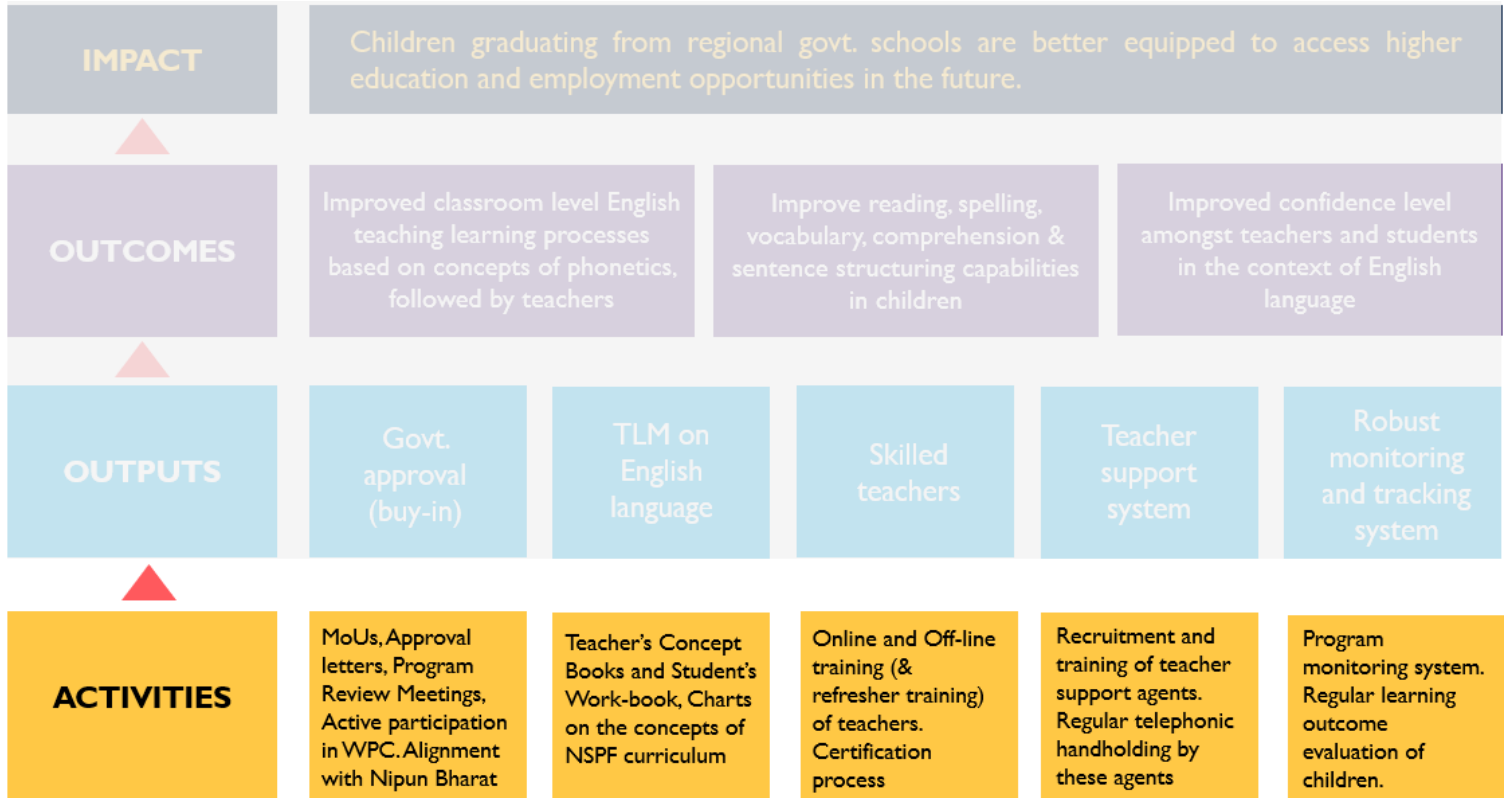
External Convergence: Within the ambit of the Foundational Literacy and Numeracy (FLN) component of the Nipun Bharat Program, which aligns with the New Education Policy 2020, a primary objective is to enhance English proficiency among children from Class I to Class 3. The **FLN workbooks incorporate sections on phonetics**, aimed at improving reading, writing, and comprehension skills. These sections bear a strong resemblance to the initial concepts outlined in the NSPFprogram curriculum, indicating significant synergy between the two curricula. However, to further strengthen the convergence between the NSPF program and the FLN initiative, it is **imperative to training of nodal teachers responsible for implementing the FLN program** on the NSPF modules. Presently, there is a noticeable discrepancy, as the teachers trained under the NSPF program are often not the ones conducting FLN classes. Additionally, another potential area for convergence lies in the **strategic utilization of financial resources from the Sarva Shiksha Abhiyan**. These funds could be effectively employed for the production of NSPF concept books and workbooks, benefiting both teachers and students.

Observations & Key Findings - SUSTAINABILITY

3.5

The government's engagement with the NSPF program enhances its potential for sustainability, yet the non-obligatory participation of teachers poses challenges for uniformity and long-term continuity. While online training suits the program's scale, transferring support and monitoring to the government is essential for enduring success..

Theory of Change – NSPF Program



Process Sustainability

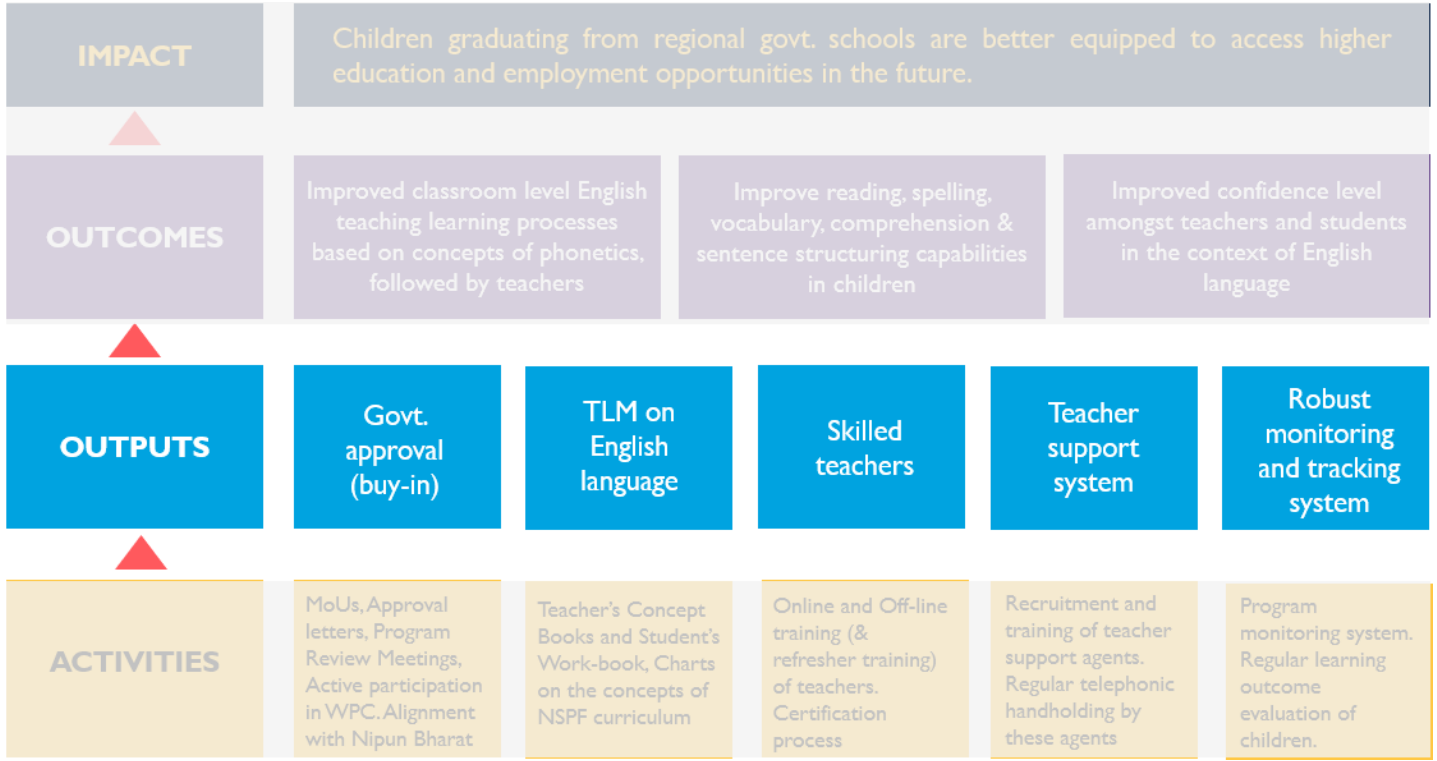
- **Govt. buy-in of the program** is reflected in the way they are actively participating the events like word power championship, issuing letters to teachers for participating in the trainings, and reviewing the program at the district and state level from time-to-time.
- The **implementation of the module is still not a mandatory** obligation for the govt. teachers. Teachers who are really interested in the concept are truly executing them at the classroom level. Without a mandate from the govt., the **consistent and uniform execution** of this module across all classrooms will remain uncertain.
- As it is a state-wide initiative, therefore **online trainings remains the most economically feasible model** for the program. However, the **timing and duration** of the trainings may be adjusted to further augment its sustainable impact on the teaching-learning processes at the classroom level.
- The teacher's support system and the program monitoring is still being done by the program team of LFW. **A gradual process of handing over of these two critical functions to the govt.** education system will be an important step towards the sustainability of the program.

Observations & Key Findings - SUSTAINABILITY

3.5

The quality of program execution is affected by the underutilization of digital version of the teaching and learning materials by teachers and students, limited smartphone and internet access, and reliance on a monitoring system which is based on teacher's inputs to the call-center agents (teacher support agents).

Theory of Change – NSPF Program



Output Sustainability

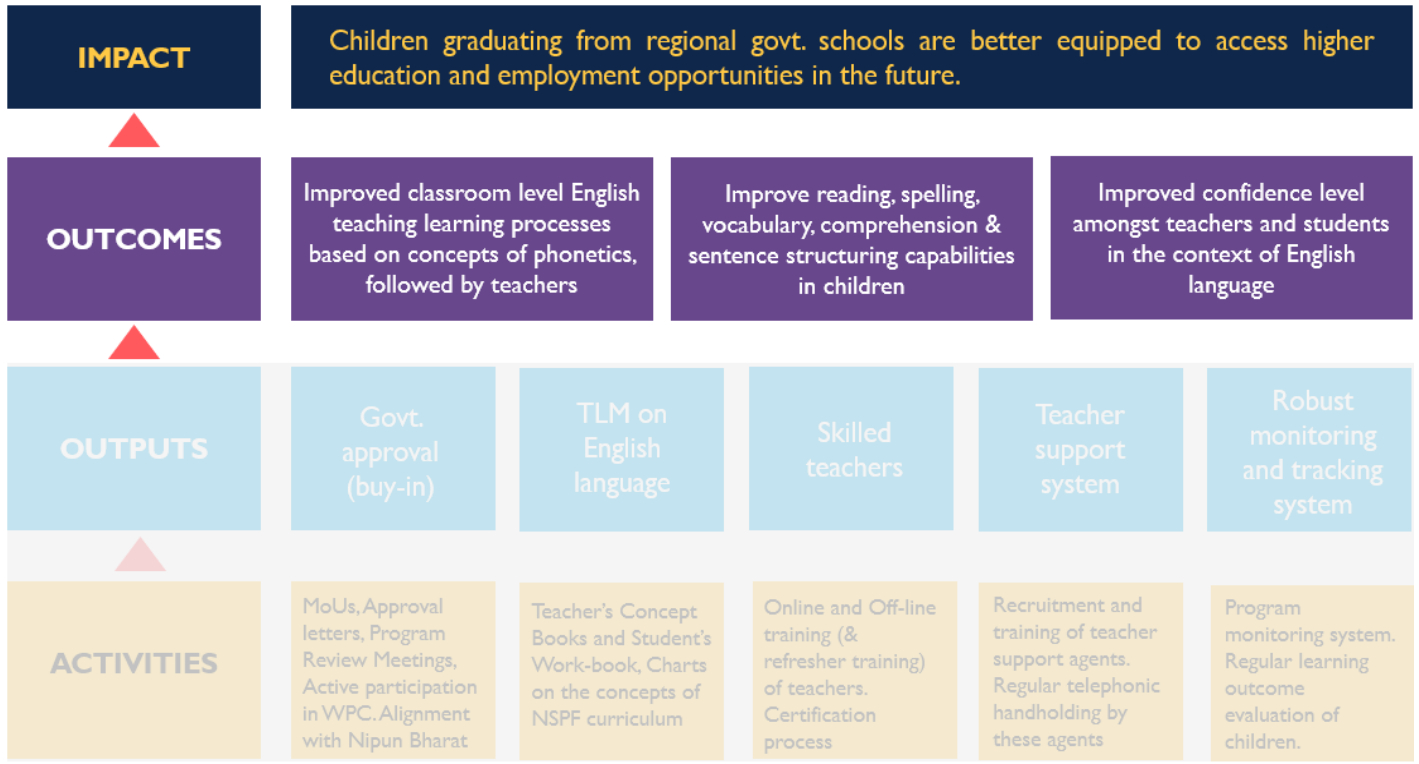
- **Lack of sustained use of TLM** (Concept books by teachers and Work-books/ Work sheets by students) has been an important factors affecting the quality of program execution at the classroom level. Teachers could not keep a track of the digital version of materials shared with them through the WhatsApp platform. Lack of penetration to smart phones and internet connection has hampered the children's access to work-sheets. It becomes time consuming a complicated for teachers to write everything on the black board while teaching the students.
- It was also found that one-time training is not sufficient for the teachers. A **sustained capacity building approach** through refresher trainings and one-to-one handholding support is a must to improve the efficacy and effectiveness of the program. The teacher support agents are trying their best to engage with the 'active' teachers through one-to-one support calls. During the FY 2022-23, around **89K+** teachers have been provided refresher trainings by the LFW team.
- **Program monitoring is still based on the inputs received by the teacher support agents** during their on-call interactions with teachers. Besides that, the teachers are expected to feed the quiz results of each student through the WhatsApp platform.

Observations & Key Findings - SUSTAINABILITY

3.5

The NSPF program's design lacks effective monitoring of module implementation in classrooms and a comprehensive evaluation tool for student progression, resulting in inadequate data on improvement in student's competencies.

Theory of Change – NSPF Program



Outcome & Impact Sustainability

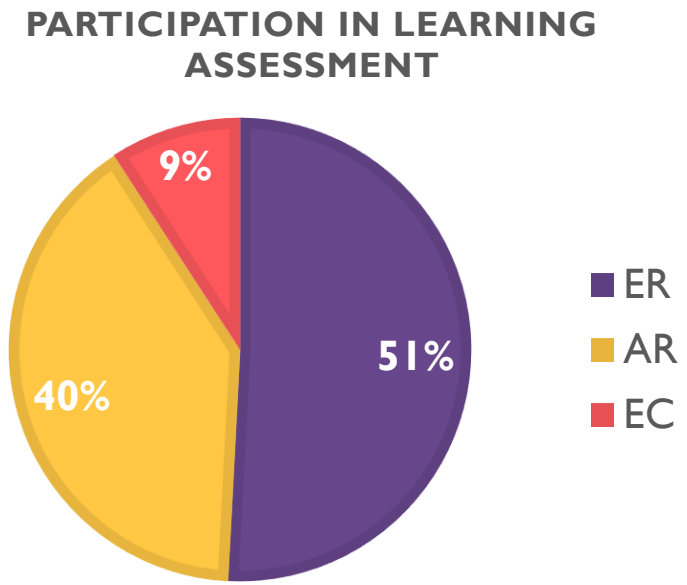
- The current program design **lacks a robust system for effectively monitoring the implementation of modules by teachers at the classroom level**. This could only be achieved through **physical monitoring of sample sessions** by Block Resource Coordinators (BRCs) and Cluster Resource Coordinators (CRCs) within the education system, on a monthly basis, and reporting it back into the education MIS (which is ultimately going to be the upcoming **Vidya Samiksha Kendra – VSK, by GoI**)
- Additionally, teachers are currently without a **comprehensive evaluation tool to determine the appropriate progression of students through curriculum levels.** Evaluations are primarily based on quiz questions provided by the LFW team via WhatsApp. While some teachers actively engage with these quizzes and report back, many do not adhere to this process diligently. Consequently, the organization's monitoring and evaluation system is currently insufficient in providing accurate **data on the number of students who have shown improvement** in reading, writing, vocabulary, and comprehension skills, as well as the degree of this improvement.

VSK is an institutional setup that will enable integrated and shared 'seeing' for amplifying data-based decision making and actioning by key stakeholders for academic and non-academic activities and thereby improving learning outcomes.

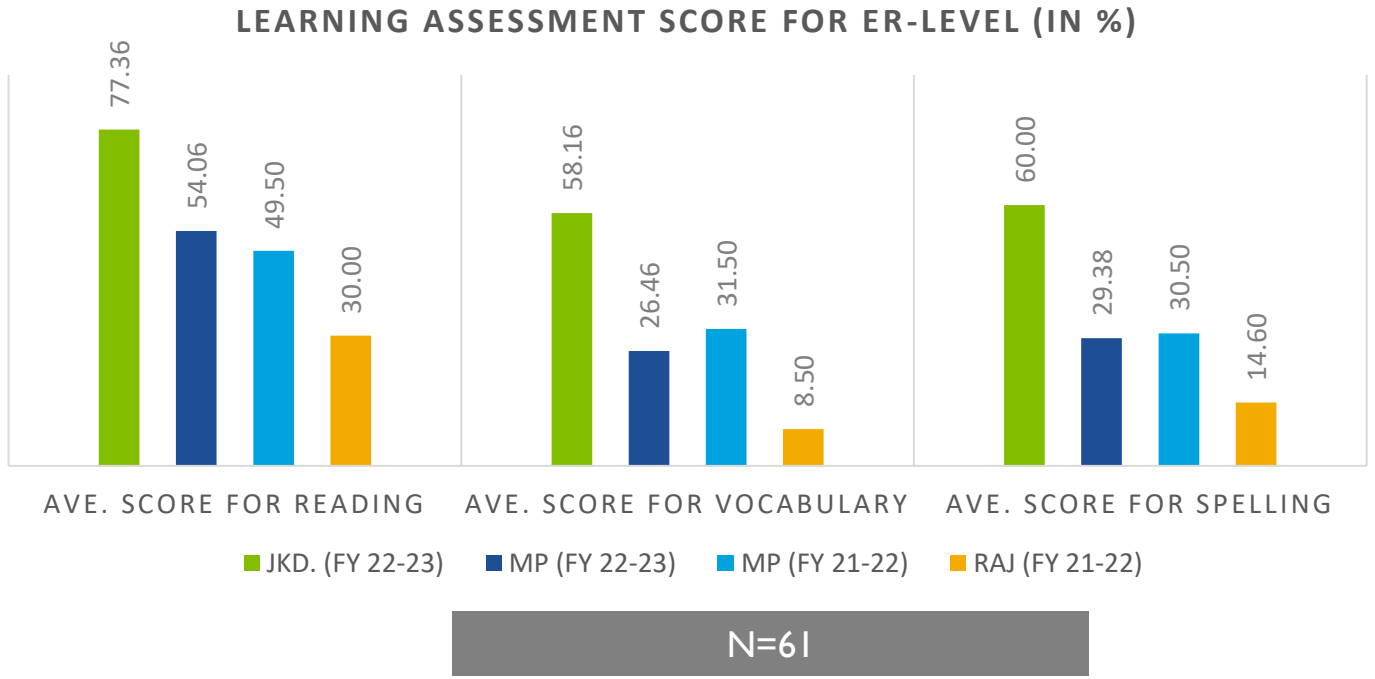
Observations & Key Findings – IMPACT ON LEARNING OUTCOMES

3.6

The learning outcome of Jharkhand is significantly higher than MP during the FY 2022-23 learning assessment. However, it cannot be completely attributed to the NSPF program as the adoption of the program is must less in Jharkhand than in MP or Rajasthan.



Total N=120



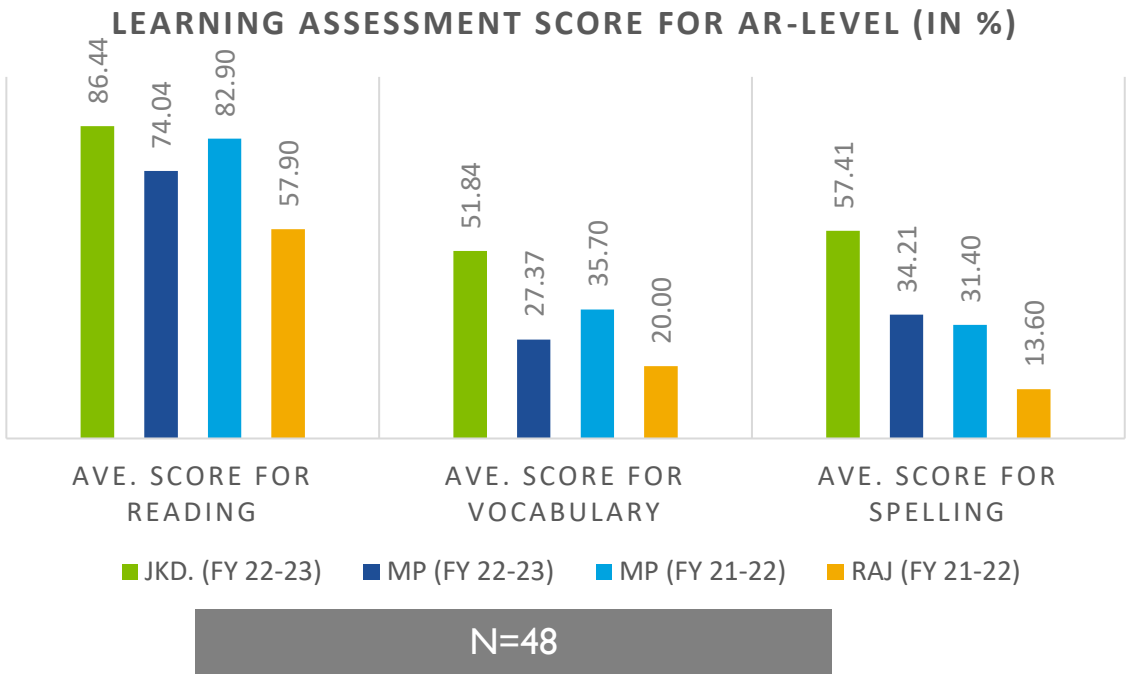
N=61

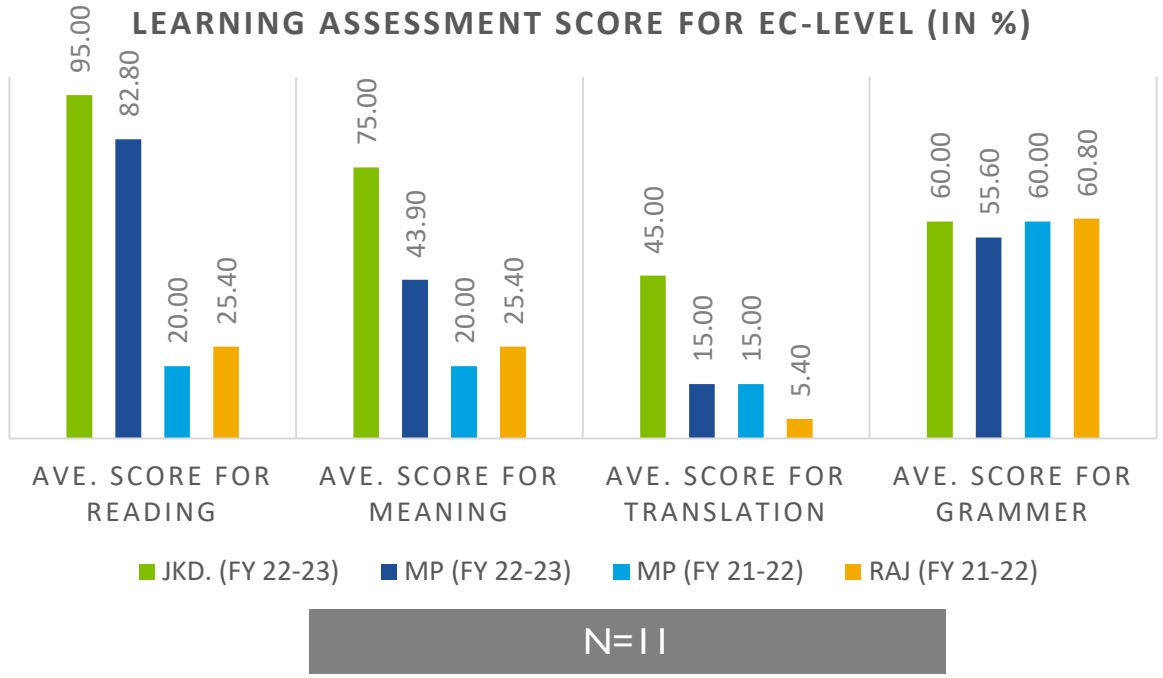
It is very interesting to see that the learning outcomes of children in Jharkhand across al the 3 learning levels is higher than the other states (evaluated in the last 2 years), despite a relatively poor adoption and execution of the program by teachers.

Observations & Key Findings – IMPACT ON LEARNING OUTCOMES

3.6

The reading skills of children in MP in FY 22-23 evaluation was found to be improved compared to their reading skills in FY 21-22 evaluation. However, this improvement is primarily visible in students at the ER level and not at the AR level.





At the AR level, it was found that the learning outcomes has reduced in MP compared to the previous year in both reading and vocabulary. At the EC level the reading and comprehension skill have shown improvement in MP compared to the last year. However, the sample is too small to attribute this to the program with high degree of confidence.

Way forward: Improving program's efficiency & long-term success

4

- The program must work towards reducing the dependence of students on smart phones and internet access for improving learning outcomes. This can only be done through provisioning of hard copies of work-books to each child covered under the program. Resource must be leveraged from govt. programs for making this happen.
- LFW must take up advocacy with the state govt. to ensure that the execution of the module by the teachers is made mandatory (at least from class 4 to 8) because class 1 to 3 is covered under the FLN program under Nipun Bharat. LFW must also strive to be part of the existing consortiums or platforms who are providing technical support to FLN under Nipun Bharat.
- All teachers (especially in the primary section) must be trained on the NSPF modules for ensuring universal execution across schools and classes.
- LFW must capacitate the BRCs and CRCs of the education department as the part of the Teacher Support System and Monitoring System. Physical observations of sample sessions conducted by teachers within the classroom setting is the only way to improve the last-mile delivery of the program.
- The NSPF program must come out with a real-time monitoring dashboard to keep a track of the program progress. This dashboard should also be made accessible to the govt.
- The program must come out with a learning assessment tracking framework, without which the learning outcomes cannot be significantly improved year-after-year. This should be developed with a vision to integrate it with the Vidya Samiksha Kendra (VSK) platform that will ultimately be the digital platform for tracking learning assessment across the country.

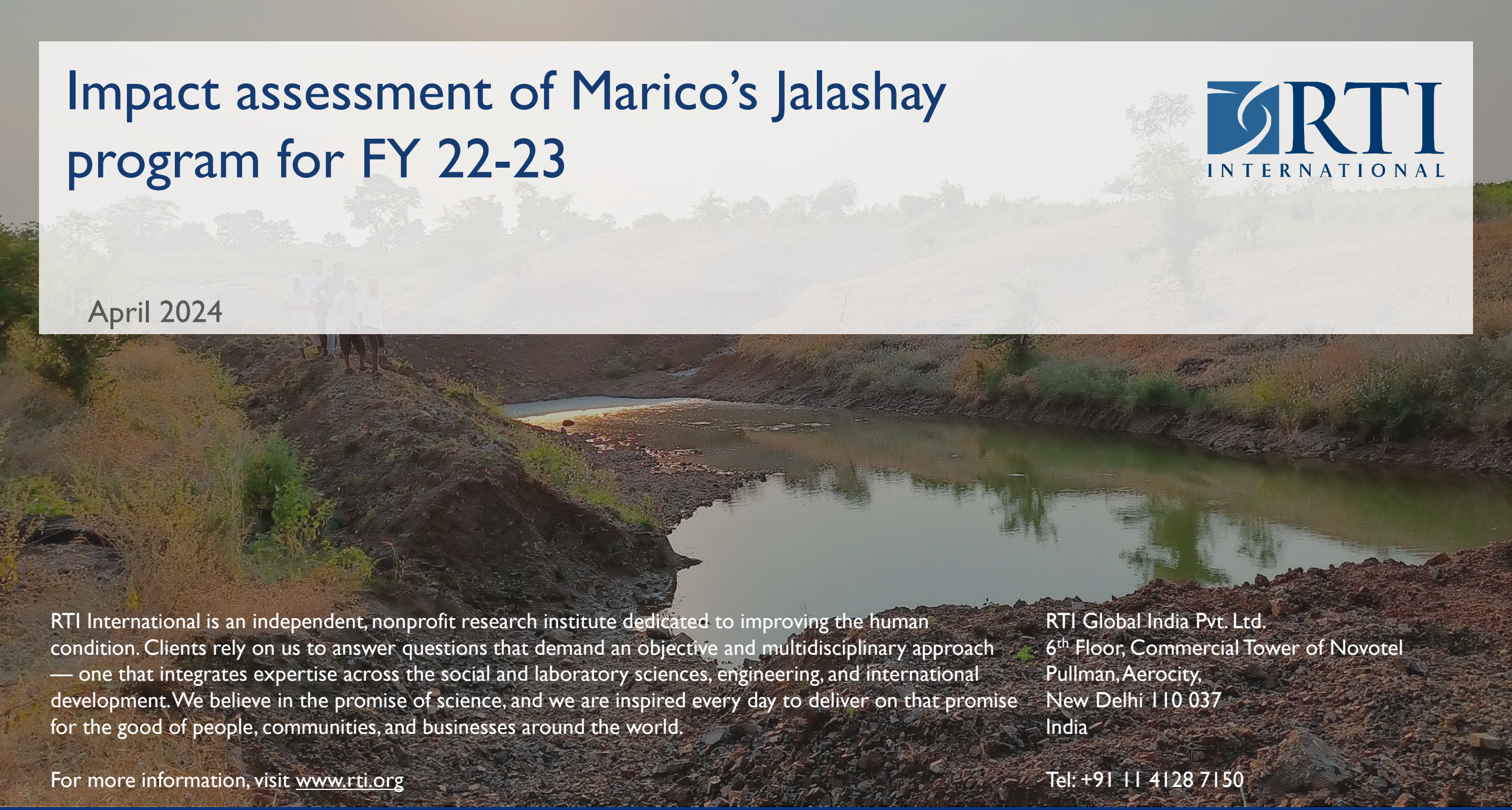
Contact us

RTI Global India Pvt. Ltd.
6th Floor, Commercial Tower of Novotel Pullman,
Asset No. 2, Aerocity Hospitality District, IGI Airport,
New Delhi 110 037,
India

Tel: +91 11 4128 7150

Impact assessment of Marico's Jalashay program for FY 22-23

April 2024



RTI International is an independent, nonprofit research institute dedicated to improving the human condition. Clients rely on us to answer questions that demand an objective and multidisciplinary approach — one that integrates expertise across the social and laboratory sciences, engineering, and international development. We believe in the promise of science, and we are inspired every day to deliver on that promise for the good of people, communities, and businesses around the world.

For more information, visit www.rti.org

RTI Global India Pvt. Ltd.
6th Floor, Commercial Tower of Novotel
Pullman, Aerocity,
New Delhi 110 037
India

Tel: +91 11 4128 7150

Content

- Background
- Framework for the Analysis

A. Watershed Development Project in Jalgaon

1. Evaluation approach & methodology
2. Observations & key findings
3. Way Forward

B. Farm Pond Project in Tamil Nadu

1. Evaluation approach & methodology
2. Observations & key findings
3. Way Forward

Evaluation Team:

- Nutan Zarapkar, *Director*
- Kapil A. Suresan, *Associate Director*
- Sumantra Mukherjee, *Senior Manager*
- Sherin Shiny George, *Senior Analyst*
- Venetia Sharanya, *Consultant*
- Navaneeth Chand, *Consultant*

Image Source: RTI International

About Marico's Jalashay Program

The Jalashay program forms a major component of Marico's water stewardship efforts. One of the main objectives of the Jalashay program is to increase ground water recharge

The Jalashay program began in the year 2018 with the farm pond project in Tamil Nadu. In FY 22-23, the program expanded to include a watershed development project in Jalgaon district, in areas surrounding Marico's oil refinery. The Jalashay program is divided into 2 projects:

Watershed Development Project in Jalgaon

The Watershed development project is executed by Nature Institute for Welfare of Society (NIWAS), an NGO based in Pune. A range of activities were undertaken under the project which include construction and renovation of different water harvesting structures, training programs on organic farming, distribution of vermicompost boxes, etc.

Objectives:

- To provide a sustainable solution for water scarcity in the region.
- To construct a water harvesting structure that would store rainwater.
- To provide a reliable source of water for the local community.
- To create afforestation and tree plantation at open space of village.
- Enrichment of soil fertility through control of soil and water erosion
- Afforestation/horticulture development for restoration of ecological balance
- Agro horticulture for creation of alternate livelihood opportunities to the poor families
- Promotion of sustainable farming practices like organic farming, etc.
- Rainwater harvesting
- Community organization and community development

Farm Pond Project in Tamil Nadu

The farm pond project is executed by the Parachute Kalpavriksha Foundation (PKF), a Non-Profit Organization established by Marico for the welfare of farmers. As part of this program, Marico supports farmers in constructing farm ponds wherein the cost per m^3 of excavation is borne by both Marico and the farmer. Marico pays Rs 48/m^3 of excavation and the farmer pays Rs 8/m^3. Around 119 farm ponds were constructed in FY 22-23.

Objectives:

- Promote effective conservation and management of water across the country
- Replenish more water back to the community than that used by Marico for its operations by capacity creation

Framework of the Analysis

The program evaluation was guided by underlying research questions and Key Performance Indicators developed after gaining understanding of the program, using the IRECS framework

Criteria	Research questions explored	Key Performance Indicators
Inclusiveness	• How did the Jalashay program ensure that farmers from all socio-economic groups were included? • How did the Jalashay program ensure that women were prioritized in the program?	• Participation of women in the program • Participation of farmers from different economic groups
Relevance	• Why is the Jalashay program needed? • Is the Jalashay program designed to address the local challenges?	• Program was aligned with needs and expectations of beneficiaries, local communities and local government agencies
Effectiveness & Efficiency	• Are there any challenges currently faced during program implementation? • What are the benefits received through the program?	• For the Farm Pond Project, examples of outcome indicators reported on include increase in productivity, increase in irrigated area, increase in income, improvement in groundwater recharge, etc. • For the Watershed Development Project, please note that outcomes could not be reported on because most interventions were only completed towards the ending of the reporting period of the evaluation, i.e., March 2023. However, expectations and early observations of beneficiaries have been captured.
Convergence	• Is the program working in alignment with local government agencies? • Is the program aligned with Sustainable Development Goals (SDGs)? • Is the program aligned with national government priorities?	• The program is linked with global frameworks • The program has local government agencies involved • There is collaboration with other organizations • The program has the support of local community Farmer Producer Organizations
Sustainability	• What is being done to ensure that the benefits of the program continue after program ends? • What is being done to ensure financial sustainability?	• Farmers have enough knowledge and can implement activities without external support • Program has leveraged financial support from multiple sources

Purpose of the evaluation:

- Assess the extent to which the project objectives have been achieved.
- Identify lessons learnt and best practices for informing future interventions.

A. Watershed development project in Jalgaon

Evaluation Approach & Methodology

AI

Marico Ltd. engaged RTI International to carry out an independent impact assessment of the Jalashay program. RTI has adopted a qualitative approach to carry out the evaluation for the period FY 22 – 23.

RTI reviewed program documents available with NIWAS which included Detailed Project Report, training program content, lists of beneficiaries, etc. RTI undertook an interview with NIWAS to understand the interventions of the program. Sample size of 10 farmers was determined in consultation with Marico Ltd. RTI also engaged with several other stakeholders such as a government official and Krishi Vigyan Kendra (KVK) scientists. RTI undertook field observations for a few water harvesting structures (captured in table alongside). RTI collected consent forms from beneficiaries for their approval to use information collected.

Activity/ infrastructure in Dhanwad	Nos	Evaluated by RTI
Construction of Gabion with core wall	4	RTI visited 1 structure
Distribution of vermicompost boxes	30	RTI spoke to 1 farmer who received vermicompost box
Repair of Check Nala Bunds	3	RTI was not able to visit the structure but collected design documents.
Afforestation of 5-acre plot	1	RTI visited the 5-acre plot
Rainwater Harvesting	2	RTI did not visit the structure
Recharging of wells	45	RTI visited 1 well and spoke to farmer
Training sessions	3	RTI spoke to KVK scientists and 2 farmers who received training
Desilting of nalas	73	RTI visited 1 nala
Desilting of ponds	29	RTI visited 1 pond
Construction of Water Absorption Trenches	-	RTI visited 1 Water Absorption Trench

RTI undertook Key Informant Interviews, In Depth Interviews and Focused Group Discussion with the following stakeholders:

15 Farmers

1 Government official

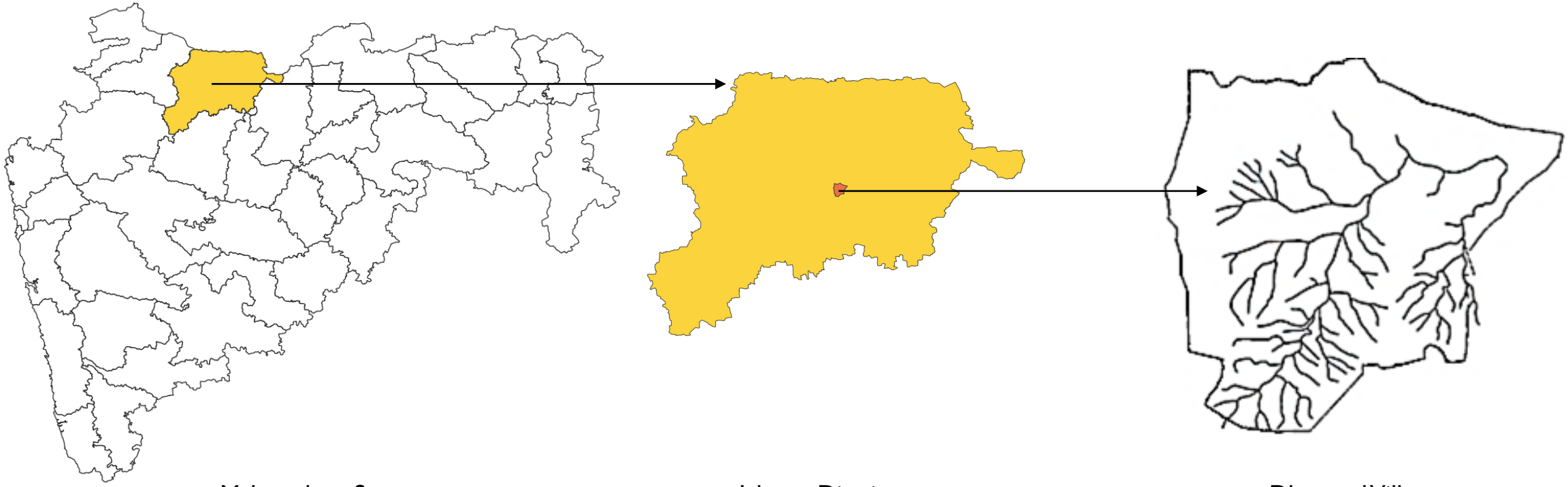
1 Program Implementing Agency

2 KVK scientists

Assessment Location

Assessment of the Watershed Development Project was conducted in Dhanwad village

Although interventions were undertaken in both Dhanwad village and Wakod village, Dhanwad was selected because most of the interventions were undertaken in Dhanwad. Dhanwad village is located in Jalgaon district, northern Maharashtra between 75.3°E, 75.37°E and 20.52°N, 20.55°N. The population is around 4602 (Census 2011) and geographical area is 28 Sq. Km



Maharashtra State | Jalgaon District | Dhanwad Village

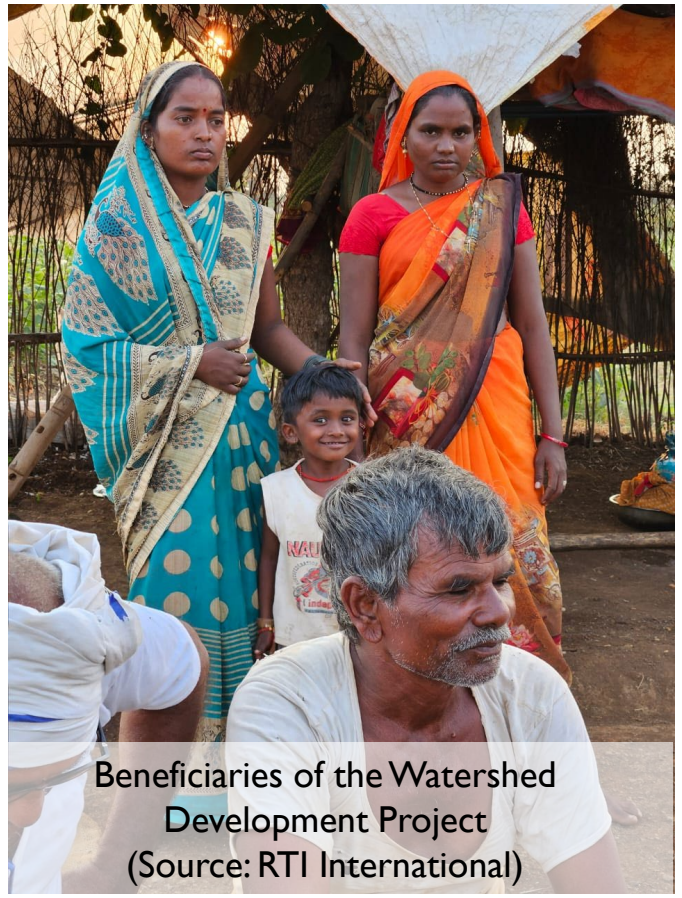
Please note that maps are for representation purposes and are not to scale

Key observations & findings – 'Inclusion'

A2

Different activities under the project empower marginal and small farmers, as well as landless occupants of the village

Stage of program	Aspects of inclusion
Program design	• The program identified different kinds of stakeholders in the project region and attempted to design different interventions to cater to them.
Program implementation	• Poor farmers with small lands were given free vermicompost boxes. • A Water User Committee instituted in the village under the project has 3 women representatives. • Around 10 women are employed under the project to look after the afforested site. The women selected were landless and from SC/ST backgrounds. They did not have other sources of income.



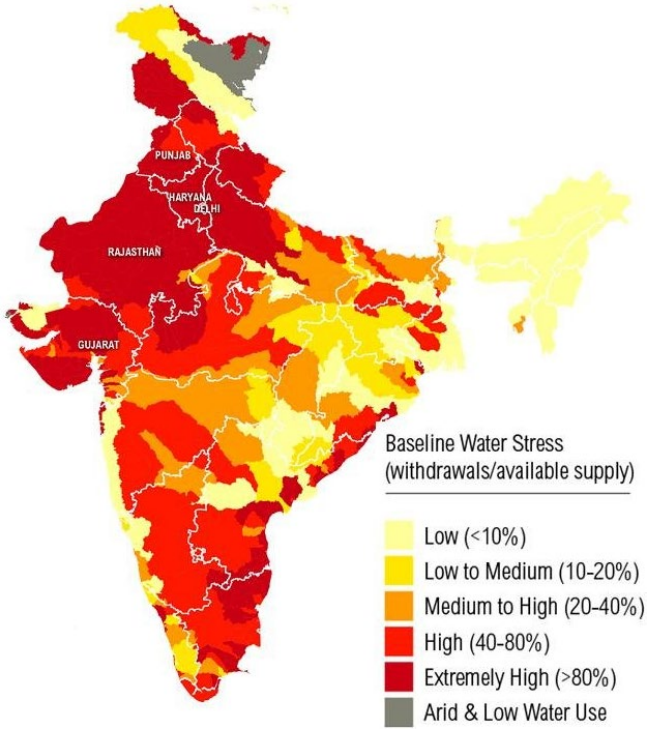
Beneficiaries of the Watershed Development Project (Source: RTI International)

Key observations & findings – 'Relevance'

A2

The watershed development project was developed after understanding the needs of the farmers

- The project is ongoing in Dhanwad village, located in Jalgaon, in the Khandesh region of Maharashtra. Jalgaon as a district has moderate water stress (India Water Tool 2.0). According to the Central Ground Water Board, water level trend from 2012-2021 reveals a fall in water level covering large parts of the district. Significant decline of more than 0.20 m/year has been observed in major part of Jalgaon block[1].
- Agriculture is the major source of income in Dhanwad village. The village is predominantly dependent on rainfall, making it vulnerable to climatic aberrations. Cotton is the main crop grown in this area. However, the yield of cotton is low because of poor soil quality and water scarcity issues. According to KVK scientists that RTI interacted with, the area is more suitable for growing vegetable and horticulture crops rather than cotton, however awareness on suitable cropping practices is low. Furthermore, the village lies in a forest buffer zone and faces animal attacks. Low productivity impacts the income received by the farmers in this region. Interactions with farmers revealed that water availability for irrigation and domestic use was low, especially during summer. According to NIWAS, the village has noticeable soil erosion, land degradation, and water scarcity problems. Hence, there was a need to develop a program that would improve water availability to the farmers for agriculture and domestic uses.
- Awareness of sustainable agricultural practices and demand side water management was low in the region. Hence, there was a need to undertake trainings on various aspects, to educate farmers.
- The area is presently not covered under any specific government program and there is no other NGO that provides the level of support given under the project



Baseline water stress for India

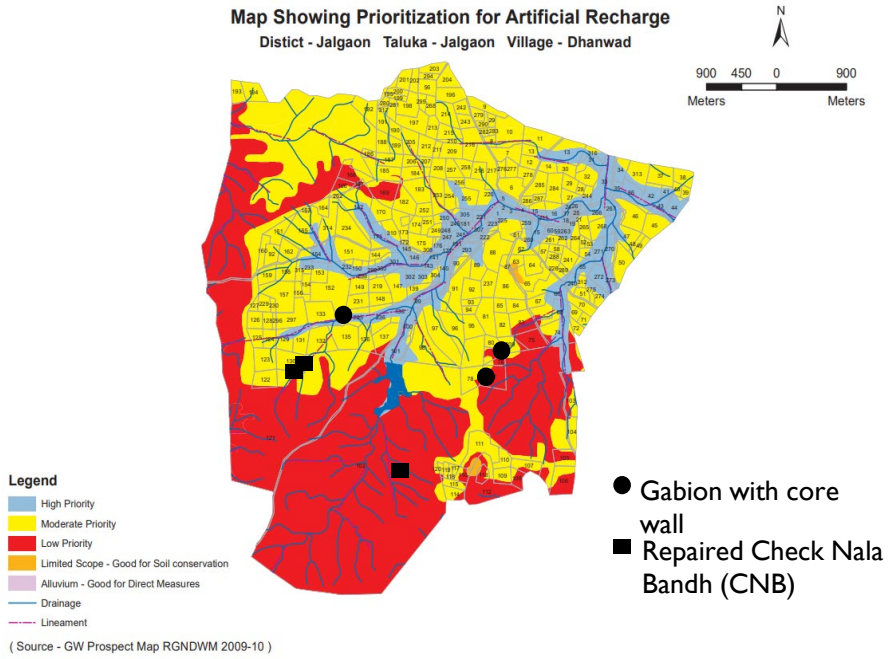
[1] Central Ground Water Board, Aquifer Mapping and Management of Ground Water Resources, Jalgaon District, Maharashtra

Key observations & findings – 'Effectiveness'

A2

The watershed project is designed based on consideration of local hydrogeology

- The program was executed by NIWAS, an NGO based in Pune, which has experience in watershed management projects.
- A consultancy was hired to undertake a hydrogeological study of the Dhanwad village. Based on analyses of several hydrogeological parameters such as soil type, aquifer type, slope, drainage pattern, morphometric parameters such as stream order, stream length, areal aspects, drainage density, landuse, etc., the locations and types of suitable interventions were identified for the project geography.
- The structures were constructed on the upper area of the catchment so that benefits would also be experienced downstream.
- An estimated 608 ha are expected to be benefitted by the structures in Dhanwad. Water credit from the structures is expected to be 76,548 m^3 according to NIWAS.
- Informal discussions were undertaken with farmers to understand their needs and requirements.
- Farmers were also informed about the various kinds of program activities that can be undertaken for the location. The interventions were discussed at the village meetings. Based on the available funding and feasibility, a few interventions were prioritized.
- Most of the structures are situated in high priority and moderate priority regions for artificial recharge as identified by the government (refer to map given alongside)
- There are 5 project monitoring wells from where NIWAS gathers data on groundwater levels on a monthly basis, which can be used to monitor impact.



Effectiveness

Farmers that RTI interacted with reported increase in groundwater levels due to structures

Type of intervention	Description	Operation and maintenance	Current usage and expected benefits
Water Absorption Trench (WAT)	Constructed in sloping land areas with more than 10% slope.	• Since WATs have been constructed in private farm lands, respective landowners have taken responsibility of the structure(s). Some of the farmers have grown small crops and trees on the bund structure to ensure stability. • Desilting is expected to be undertaken by the respective farmer once in 3-4 years as required	The WATs are expected to enhance groundwater recharge and improve soil moisture.
Check Nala Bandh (CNB)	NIWAS selected 3 existing CNB structures out of 10 for renovation. The 3 were prioritized because they required intensive repair. The main wall and water cushion of the structures were broken, the foundations of the structures were not solid, and the lower side of the structures were found to be eroding.	Informal water user groups of farmers surrounding the structures have been made for the CNBs. Desilting would be required after 3-4 years.	The increased groundwater recharge and availability of stored water is expected to support farmers for Rabi cultivation. Water is expected to be stored upto December, after the monsoon. The stored water is to be used for irrigation, domestic and livestock needs.

Water recharge structure (Source: RTI International)

Effectiveness

The major objective of all the water harvesting structures is to increase groundwater recharge

Type of intervention	Description	Operation and maintenance	Current usage and expected benefits
Gabion	• The Gabion structure was constructed based on survey of drainage line. • The mesh structure was firm, and the boulders used were angular, larger than the mesh. • Structure is not present across curving portions of the stream. • The Gabion structures are present upstream from the Check Nala Bandh so as to reduce siltation downstream.	Informal farmer groups are created for the different structures to undertake maintenance, i.e., desilting once in 3-4 years.	The gabion structure is being used for groundwater recharge as well as storage.
Roof top rainwater harvesting	Roof top rainwater harvesting was undertaken in a Shopping complex and a school. Community buildings were chosen so as to spread awareness about rainwater harvesting. NIWAS undertook 2-3 sessions on water harvesting for the children at school.	Operation and maintenance would be undertaken by the school and shopping complex.	The structure has not been created for storage, but for percolation.

Farmer showing WAT constructed in his farm
(Source: RTI International)

Gabion structure that was constructed
(Source: RTI International)

Effectiveness

Increased access to water is expected to improve agricultural productivity

Type of intervention	Description	Operation and maintenance	Current usage and expected benefits
Well recharge through recharge pits	Recharge pits are constructed (5ft * 5ft) with sand and brick to capture runoff and recharge nearby wells. The pits are filled with bricks, pebbles and impervious material so that the rainfall gets filtered before percolating into the well. Farmers bear approximately 10% of the CAPEX.	Maintenance is expected to be undertaken by the individual farmer each year.	30 farmers received recharge pits for their wells. A farmer that RTI interacted with mentioned that there has been an increase in water availability after the recharge pit was dug.
Desilting	Rivulets and ponds have been identified by NIWAS on government land. The depth of the identified streams was increased from 1-2 ft to 10-12 ft after desilting. A government irrigation tank was desilted. Around 30,000 m^3 of silt was removed from the pond. Farmers rented trolleys and arranged to collect the silt and apply it in their farms. The cost of collection was borne by them.	Desilting is expected to be undertaken by the respective farmer once in 3-4 years as required	Deepening of nalas would increase groundwater percolation. Those nalas were selected which had farmland on both sides, so the increase in groundwater would benefit the farmers. Water is expected to be present in the structure until December, after the monsoon. Benefits of the structure include: • Reduction of flooding on banks • Reduction of soil erosion • Use of stored water for irrigation • Increased groundwater recharge

Desilting of rivulets (Source: NIWAS)

Effectiveness

The watershed development project worked towards activities that support overall watershed development

Trainings

Three trainings were undertaken for farmers in joint association with the KVK at Jalgaon. The trainings were on organic farming, water budgeting, and about the watershed level interventions. During the FGD conducted by RTI, farmers were able to recollect a few topics of what they learnt from the trainings, including water storage and organic farming. The trainings were discussed in the monthly village meetings and announced for farmers who are growing vegetable crops. Around 35 farmers participated.

Distribution of vermi compost boxes

The price of fertilizers has increased and awareness on vermicomposting is low. NIWAS provided 70 farmers with vermicompost boxes for free, the cost of which was Rs 1500 each. The farmers identified were small holder farmers with less than 2 acres of land. Farmers received trainings and demonstration for vermicompost production. Around 30 farmers have begun using vermicompost in their fields. Farmers who are using vermicompost claim that the quality of their produce has improved.

Afforestation of a 5 acre plot

Barren government land of 5 acres was identified near the Dhanwad village and leased by NIWAS. It is currently being developed into an afforested plot. According to NIWAS, NOCs were given by Zilla Parishad and gram panchayat for use of the land. A total of 10,000 saplings were planted which included medicinal plants, fruit growing trees and forest varieties. Around 2X2 m spacing was maintained between saplings. Sections of the plot are protected by fences and there is full-time security staff who monitors the plot to ensure its safety. Regular weeding is undertaken. Currently labourers use pipelines for irrigation, however solar drip irrigation has been procured and the program is expected to utilize the solar drip irrigation system.

Afforestation of 5 acre land (Source: RTI International)

Effectiveness

The watershed development project has made transformational changes to the lives of several farmers

Beneficiary of well recharge
(Source: RTI International)

Gopal Patil, a farmer from Dhanwad village of Jalgaon block received a recharge pit from the project. After he received the recharge pit, he claims that the water level in his well has increased.

"Farmers have begun to undertake soil testing after the training program was conducted."

- Scientist, KVK Jalgaon

"Government officials used to visit us and share information on what we can do, however as part of the trainings received, we received information as well as demonstrations. This has increased our confidence to practice what we have learnt."

-Farmer (FGD conducted with RTI)

"Last year we didn't have water, as a result I had to migrate as a labourer to northern Karnataka, but after the structures were constructed, this year I did not have to go."

-Farmer (FGD conducted with RTI)

"Last year around this time, there wasn't any water for the livestock and for us. After the structures were constructed, now we have enough water for ourselves and our livestock"

-Farmers (FGD conducted with RTI)

"One sack of vermicompost that I produce has replaced one tractor of fertilizer"

-Farmers (FGD conducted with RTI)

Beneficiary of WAT
(Source: RTI International)

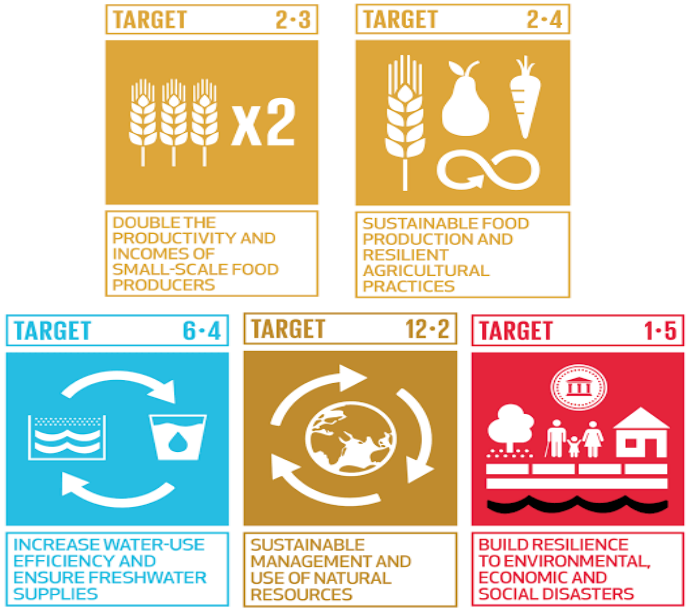
Aadhar Chindhu Patil benefitted after water absorption trenches were dug in his field. He does not face water scarcity and is able to provide sufficient irrigation to his cotton crop. He has reported that it has led to an increase in groundwater levels and soil moisture in his field.

Key observations & findings – 'Coherence and Convergence'

A2

The watershed development program makes efforts to converge with local government agencies such as Zilla Panchayat, as well as various government departments including agriculture, horticulture, and irrigation.

- Community participation has been observed in the project. The needs of the community as well as the types of interventions were discussed in village meetings
- The project has associated with several government departments such as agriculture, horticulture, forestry and irrigation. The Gram panchayat supports all the activities under the project. The Zilla Panchayat has given their lands for the development of the 5-acre afforested plot. The support of the gram panchayat is also taken to spread awareness on trainings being conducted in the village. They also participate, and members from different wards share their needs and challenges.
- At a higher level, the project is linked to national priorities such as 'doubling farmers' income', 'more crop per drop' and 'Har khet ko pani' (Water for every farm). The program is also aligned with the priority of the Jal Jeevan Mission on enhancing aquifer recharge in arid and semi-arid regions .
- In terms of internal coherence, the approaches followed by the Jalashay program in Maharashtra and the Jalashay program in Tamil Nadu were different. Cross learnings between the projects would strengthen the overall program.



Alignment of project with SDGs

Key observations & findings – ‘Sustainability’

A2

The program has leveraged community participation to ensure long term sustainability of infrastructure

- The project leveraged farmers’ support in terms of ‘in kind’ contributions. Farmers supported with labour required to build the various water harvesting structures.
- Interaction with farmers revealed that in the future, they would be willing to collect money among themselves and undertake desilting of the structures as needed. The communities have recognized the value of the structures and have realized that if they don’t maintain it, they would lose out on the benefits. This will ensure long term sustainability of the infrastructure created.
- A community model has been developed for the continued maintenance of the afforested plot. Currently, the project supports 10 women and 1 watchman. Once the afforested plot begins to yield produce, the women are expected to sell it. The cost of maintenance is expected to be generated from the sale of produce, and the additional amount will go towards supporting the livelihood of the women.

FGD with farmers (Source: RTI International)

Action points for improved program impact

A3

ASPECT	FINDINGS	ACTION POINTS
E	• The cropping pattern of the region is not sustainable. Cotton crop is not suited to the region. There is a challenge of growing other crops due to animal attacks. • Although awareness on sustainable agriculture may be there, farmers have challenges to adopt such practices. • Farmers largely practice monocropping and are vulnerable to price fluctuations and other risks. • While water may be available, the village faces an electricity problem due to which they are unable to pump water. Currently, diesel pumps are used in the village. • The water stored is used for domestic and livestock purposes • While there is a DPR available, a thorough baseline on socio economic and environmental aspects of the village is not available. • Presently, there does not appear to be defined KPIs and monitoring plan.	• Undertaking consultations with the agriculture, horticulture and forestry departments in the region to develop a suitable cropping model and exploring fencing initiatives. • Providing monetary and hand holding support to implement certain practices, E.g.:, support can be offered to farmers to help them adopt organic farming by encouraging certifications, etc.* • Providing farmers with different kinds of training; E.g.: sericulture would provide farmers with additional source of income. The growing of mulberry would also support livestock fodder requirements. Mulberry cropping is found to be suitable for available water conditions in Dhanwad region. • The project could explore provision of solar pumps in the region • Undertaking water quality testing to ensure that the quality of water is suitable for domestic and livestock consumption. Development of a database of beneficiary farmers to identify farmers who may need additional support from the project. • Development of a monitoring plan based on outcome indicators.

* Please note that the action point highlighted in different font colour is a recommendations that may be considered additionally. This is 'good to have' and is not critical.

B. Farm Pond project in Tamil Nadu

Evaluation Approach & Methodology

BI

Marico Ltd. engaged RTI International to carry out an independent impact assessment of the Jalashay program. RTI has adopted a qualitative approach to carry out the evaluation for the period FY 22 – 23.

RTI undertook a qualitative study using Key Informant Interviews, In Depth Interviews and field observations. RTI reviewed program documents available with PKF which included list of beneficiaries and baseline information on the project. In order to collect primary data, RTI undertook an interview with PKF to understand the interventions of the program. Sample size of 20 farmers was determined in consultation with Marico Ltd. RTI also engaged with several other stakeholders such as the Field Service Personnel (FSP), farmers and local government authorities. Data was collected using KoboToolbox (Open Data Kit platform). Validation rules were applied to ensure that data collection was robust. RTI collected consent forms from beneficiaries for their approval to use information collected.

RTI undertook the following interviews:

20 Farmers

1 Program Implementing Agency

8 Field Service Personnel (FSP)

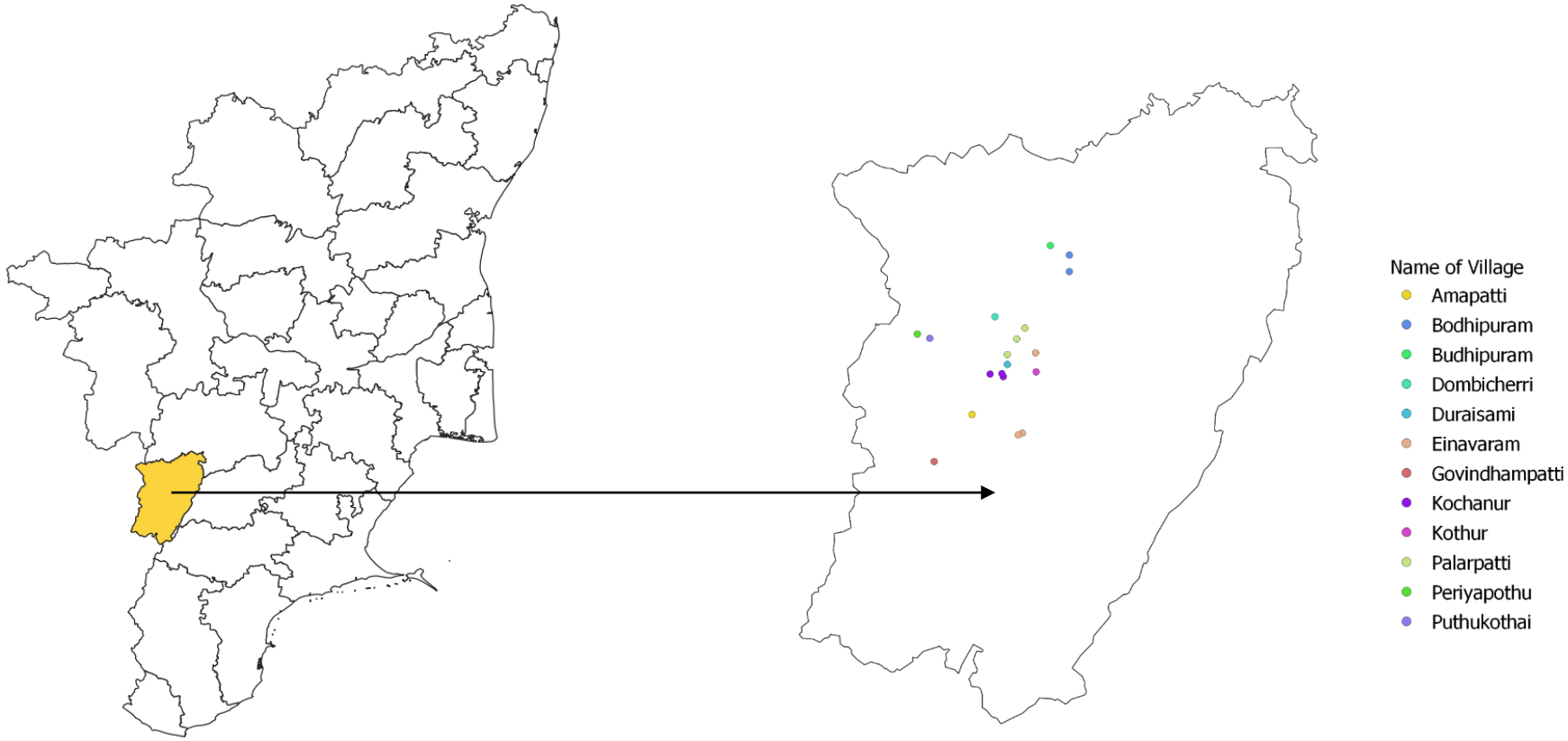
4 Local government stakeholders

1 Subject Matter Expert

Assessment Location

RTI visited 20 farm ponds in 11 villages, in 4 blocks of Theni district

Through the Jalashay program in Tamil Nadu, farm ponds were constructed in 4 districts. Theni district was chosen for the evaluation in discussion with Marico Ltd. Theni District lies at the foot of Western Ghats and is situated between 9′ 39′ 00 and 10′ 30′ 00 N and between 77′ 00′ 0 and 78′ 30′ 00 E. It is bound on north by Dindigul district, east by Madurai district, south by Virudhunagar district and west by Kerala State. It is comprised of 8 blocks, of which 4 blocks were visited under the evaluation.



Tamil Nadu

Theni district

Please note: maps are for representation purposes and are not to scale

Key observations & findings – 'Inclusion'

B2

The Jalashay program does not discriminate based on selection criteria for farmers receiving farm ponds

Stage of program	Aspects of inclusion
Program design	• Farm Ponds are distributed to farmers on a 'first come first serve' basis. No selection criteria is applied for distribution of farm ponds.
Program implementation	• Landless and small holder farmers do not directly benefit from the program, although they may be benefitted from positive externalities arising from ground water recharge from other beneficiary farmers. Pockets that have high concentration of marginal and small farmers may be neglected since such farmers would not be able to apply for farm pond construction.

Farm Pond constructed under the project (Source: RTI International)

Key observations & findings – 'Relevance'

B2

The Jalashay program is relevant in terms of helping farmers become resilient to drought events and improving recharge of groundwater in depleted regions

About 63% of available groundwater resources in Tamil Nadu are being used. However, the development of ground water resources is not uniform all over the State, and in certain districts of Tamil Nadu, intensive groundwater development had led to declining water levels, increasing trend of Over Exploited and Critical blocks and saline water intrusion. During the period from 2015 to 2020, the percentage of safe blocks has declined from 35.6 % to 25.2% while the semi-critical blocks have gone up by a similar percentage. Over-exploitation has already occurred in more than a third of the blocks (35.8%) while eight blocks (2%) have turned saline.

In Theni district, groundwater development was 78% as of 2013. Four out of seventeen Firkas were found to be overexploited and two were found to be critical.

Provision of farm ponds are found to have numerous benefits including:

- Collection of excess runoff during rainy period
- Storage of water for supplemental irrigation to crops
- Conservation of soil and moisture

Farm Pond constructed under the project (Source: RTI International)

Key observations & findings – 'Effectiveness'

B2

219 crore litres of water harvesting potential was created by the Jalashay program in FY 22-23

- The average depth of the structures visited by RTI were 2 m and the average volume of structures was 1429 m^3, ranging from 800 m^3 to 2640 m^3. All farm ponds constructed under the program are unlined.

- The location of the farm pond was selected based on the sloping pattern of the land, or proximity close to the borewell, or based on available space in the farm. Those who were using the structure for irrigation mentioned that they chose a central location so that irrigation would be easy. Farm ponds were constructed near artificial canals and natural groundwater springs in some cases.

- Farmers had awareness of the use of the farm pond structures. When asked about the reasons why they needed the farm pond structure, the following reasons were mentioned:
    - Water scarcity
    - To capture runoff
    - For mixing fertilizer and using for irrigation
    - Storage of borewell water (groundwater)
    - Storage of canal water
    - Ground water recharge
    - For rainwater harvesting
    - For irrigation

Farm Pond constructed under the project (Source: RTI International)

Effectiveness

Almost all farmers practiced some form of maintenance for the farm pond structure

- 10/20 farmers (i.e., 50%) mentioned that water is retained for 3-6 months in the farm pond.
- Interactions with farmers revealed that 18/20 farmers undertake maintenance at least once a year (de-weeding). 2/20 farmers mentioned that they leave their cattle to graze naturally in the structure.
- Around 14/20 farmers used the water stored in the pond for irrigation. The stored water was not used for domestic purposes and livestock consumption.
- Some farmers undertook cleaning twice and even thrice a year. One farmer grew a few trees on the bund for maintenance of the bund structure.
- None of the farmers practiced fencing.
- Since some farmers were using the structure for storage for irrigation, the size of structure was calculated based on irrigation requirements. The other farmers dug pond sizes based on availability of space. Those who were using the pond for pisciculture mentioned that they chose a size that was suitable for maintenance.
- All farm pond farmers use drip irrigation, they have awareness of water conservation.
- RTI noticed that after getting the structure, it is being used for storage of borewell water. 11 out of 20 farmers interviewed are using the structure to store pumped out groundwater. If not monitored correctly, this could lead to abuse of groundwater resources.

Farm Pond constructed under the project (Source: RTI International)

Farm Pond constructed under the project (Source: RTI International)

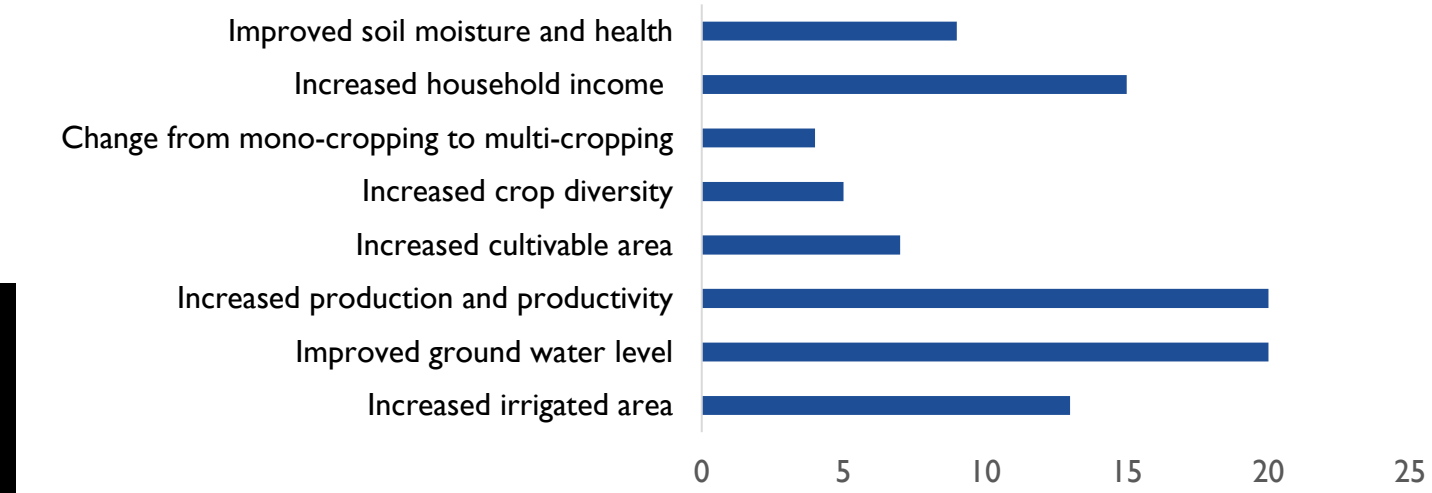
Effectiveness

The farm pond project has several positive outcomes including improved groundwater levels, increased crop productivity and production, increased household income, etc.

All 20 farmers visited by RTI mentioned that productivity increased for coconut cultivation.
7 farmers mentioned a median increase of 3.5 acres in cultivable area. Those who began multicropped began cultivation of jackfruit, lemon, banana, mulberry, chillies, cotton and fodder crops,

Chi square analysis was undertaken for two variables: type of farmer (Kalpavriksha or Jalashay farmer) and number who reported an increase in income. There was found to be a significant association between type of farmer and increase in income. More Jalashay farmers reported increase in income than Kalpavriksha farmers. There also appears to be a significant association between type of farmer and diversification of income. More Jalashay farmers reported increased diversification of income than Kalpavriksha farmers. This could be because an increased availability of water encourages farmers to grow other crops. Some farmers began growing mulberry and some began fish cultivation.

Benefits experienced by the farmers



Farm Ponds constructed under the project (Source: RTI International)

Effectiveness

The Farm Pond Project has transformed the lives of many farmers

Pandiyammal

"After I got the farm pond, I bought 15 cows, and now I sell milk"

Pandiyammal, a farmer from Periyapothu village of Theni district had major water challenges in her farm. Her farm was located in sloping land such that runoff was more than groundwater recharge. She was unable to provide sufficient irrigation to the coconut trees as well as other fruit trees. After she received a farm pond from the Jalashay program, she now has sufficient water for all her crops. She mentioned that the groundwater level has increased. She bought 15 cows because she has sufficient water to grow fodder crops and take care of the livestock needs of the cows. She now has an additional source of income and gets approximately 7-9 Lakhs per annum from sale of milk.

"My income has doubled, even tripled after I got a farm pond"

Annadurai, a farmer from Palarpatti village of Theni district faced water scarcity in his farm. After he received a farm pond through the Farm Pond Project , he has expanded the area of coconut cultivation. He experienced a 120% increase in coconut productivity. He also began cropping mulberry and banana. The FSP provided him with support to avail government subsidy for construction of a mulberry shed. He now gets an additional income of Rs 4.5 lakh per annum. He also learnt about the importance of demand side management of water. The FSP also provided him with support to connect with the forestry department to avail saplings of forest species. He is now practicing agroforestry and has planted guava, amla, teak, red sandalwood and mahogany.

Mulberry farming

"Coconut productivity increased by 150% after I received sufficient water for irrigation"

Jagadish

Jagadish, a farmer from Duraisami village of Theni district faced water scarcity in his farm. He did not have sufficient water to maintain his farm, but after he received the farm pond, he is able to provide sufficient irrigation to his coconut trees. His coconut productivity increased from 7 nuts per tree in a single harvest, to 18 nuts per tree. After the FSP advised him, he also began fish farming in the same farm pond. He cultivates Tilapia and makes an additional income for Rs 1 lakh per year.

Key observations & findings – 'Coherence and Convergence'

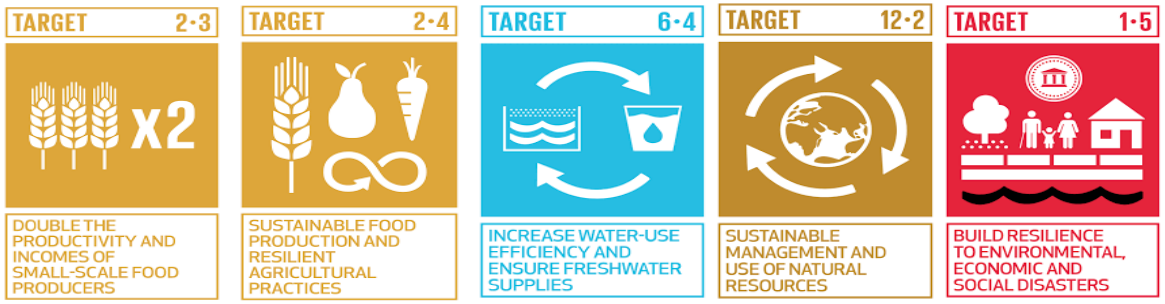
B2

The program is aligned with priorities of doubling farmers income, 'more crop per drop' and 'Har Khet Ko Pani'

The program is aligned with the government priority of 'Har khet ko pani' (Water for every farm). The program is also aligned with the priority of the Jal Jeevan Mission on enhancing aquifer recharge in arid and semi-arid regions . The program shows alignment with the objective of the World Bank funded Tamil Nadu Irrigated Agriculture Modernization Project to create farm ponds for harvesting rainwater from small catchments of 2-5 ha. However, the program does not follow an integrated watershed management approach and is not aligned with efforts of the Tamil Nadu Watershed Development Agency, gram panchayats, asset building efforts pertaining to water resource management under Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), and other water users in the watershed. The program works in isolation, and not with the broader vision of achieving water security at the watershed level.

Regarding internal coherence of the program, the farm pond project and Kalpavriksha program complement each other, since both are linked to increasing income of farmers, reducing cultivation costs, increasing crop productivity, etc. Furthermore, the demand side management of water is covered under the Kalpavriksha program (Field Service Personnel (FSPs) promote scientific practices such as precision agriculture as well as demand side management of water, to increase water productivity of coconut. FSPs promote drip irrigation, and several farmers have installed drip irrigation in their farms, making use of available subsidies.), while supply side augmentation is covered by the farm pond project.

On comparing the farm pond project in Tamil Nadu with the Watershed development project in Jalgaon, a watershed level approach is more scientifically robust as it caters to the needs of the watershed rather than the needs of an individual. Provision of farm ponds can be an intervention under a broader watershed program.



Alignment of project with SDGs

Key observations & findings – 'Sustainability'

B2

The project leverages 15% of the financing of the farm pond from the farmer to ensure maintenance of the structures

Implementation of the program

Lack of a monitoring system impacts program sustainability since there are no inputs in terms of the program's performance on ground or changes that need to be made in response to feedback received.

Accountability towards the farm pond structure

Groundwater is a common pool resource as it is not owned by an individual. Interactions with farmers revealed that 11/20 farmers filled the farm pond structure with groundwater since they used the structure for irrigation purposes. This may lead to exploitation of groundwater resources if not managed properly.

Environmental sustainability

In order to augment ground water resources, an approach of both supply side management and demand side management needs to be adopted. For effective groundwater recharge, farm ponds need to be situated in ground water recharge zones (areas where water is able to seep into the ground and refill an aquifer because no confining layer). Furthermore, undertaking localized watershed interventions that are scattered cannot guarantee water security at the watershed level.

Sustainable resource mobilization

Presently, the program does not leverage funds from government or other sources. The MGNREGS which provides support to farmers to construct farm ponds has not been explored.

Action points for improved program impact

B3

ASPECT	FINDINGS	ACTION POINTS
I	Landless and small holder farmers do not directly benefit from the program and may be neglected since such farmers would not be able to apply for farm pond construction.	• Development of community structures
E	• Farm level interventions benefit individual farmers at large. • Storage structures are more appropriate in drought prone regions than recharge structures. • Presently, there is no monitoring and evaluation system in place for the farm pond project due to which the impact could not be tracked and showcased. • Farmers under the jalashay program are more likely to be open to income diversification • Fencing is currently not practiced for any of the structures.	• Moving from farm level interventions towards watershed level interventions would ensure water security of the region as well as improve income and productivity of existing farmers under the Kalpavriksha program. • Undertaking a scientific planning approach by modelling the potential impacts of climate change in the watershed would help the program prioritize interventions under the program, i.e., storage structures and recharge structures, thereby increasing resilience of farmers to future drought events. • The project can consider collecting groundwater data from existing government monitoring wells in suitable locations based on project location. • Undertaking trainings on fish cultivation for farmers as a means to support income diversification. • Fencing around farm pond structures should be encouraged to avoid potential accidents.

Action points for improved program impact

B3

ASPECT	FINDINGS	ACTION POINTS
C	The program does not leverage support from government agencies and other stakeholders towards watershed level interventions.	Undertaking a collaborative approach of watershed development between farmers, government players and other water users, would bring synergy to watershed development, and with combined efforts, all concerned stakeholders can work together, towards increasing national and regional water security.
S	There is no accountability for the maintenance and use of the farm pond structures. There is scope for misuse and abuse of structures.	Construction of community level structures would benefit more farmers while also ensuring increased accountability of water usage in the community, as well as improved maintenance of the structures.

Impact assessment of Marico's Kalpavriksha program for FY 22-23

April 2024

RTI International is an independent, nonprofit research institute dedicated to improving the human condition. Clients rely on us to answer questions that demand an objective and multidisciplinary approach — one that integrates expertise across the social and laboratory sciences, engineering, and international development. We believe in the promise of science, and we are inspired every day to deliver on that promise for the good of people, communities, and businesses around the world.

For more information, visit www.rti.org

RTI Global India Pvt. Ltd.
6th Floor, Commercial Tower of Novotel
Pullman, Aerocity,
New Delhi 110 037
India

Tel: +91 11 4128 7150

Content

1. Background
2. Evaluation approach & methodology
3. Observations & key findings
4. Way forward

Evaluation Team:

- Nutan Zarapkar, *Director*
- Kapil A. Suresan, *Associate Director*
- Sumantra Mukherjee, *Senior Manager*
- Sherin Shiny George, *Senior Analyst*
- Venetia Sharanya, *Consultant*
- Navaneeth Chand, *Consultant*

About Marico's Kalpavriksha Program

I

The Kalpavriksha program's mission is to *'Help farmers increase their production and revenue'*. The Kalpavriksha program's primary focus is enhancing the crop productivity, while enhancing the income of farmers.

The Kalpavriksha program is run by the Parachute Kalpavriksha Foundation (PKF), a non-profit organization established by Marico Limited for the welfare of farmers to help them increase their yield. The program is operational in 4 states: Tamil Nadu, Karnataka, Andhra Pradesh, and Kerala. The program provides knowledge on best practices for crop cultivation, which include information on disease management, pest management, nutrient management, and water management. The program provides one-on-one knowledge support to farmers on improving coconut productivity in addition to providing other kinds of support such as improving access to agri-business services (root feeding, brush cutting, and power tilling); providing call center services (for query resolution on crop cultivation); providing an app (Kalpavriksha app) to support farmers on various aspects including market price information, locating buyers, query resolution, etc., and providing training sessions on various topics, throughout the year.

The objectives of the program are as follows:

- Objective 1: Enabling higher and sustainable crop yield
- Objective 2: Train farmers to handle their farms independently
- Objective 3: Convert myth and belief-based farming to scientific farming

~ 83 K — Total no. of farmers enrolled

~ 15 K — No. of farmers enrolled in FY 22 - 23

~ 14 Lakh Ha — Total area covered

~ 4.7 Lakh Ha — Area covered in FY 22 - 23

Evaluation Approach & Methodology

Marico Ltd. engaged RTI International to carry out an independent impact assessment of the Kalpavriksha program. RTI has adopted a qualitative approach to carry out the evaluation for the period of FY 22 – 23.

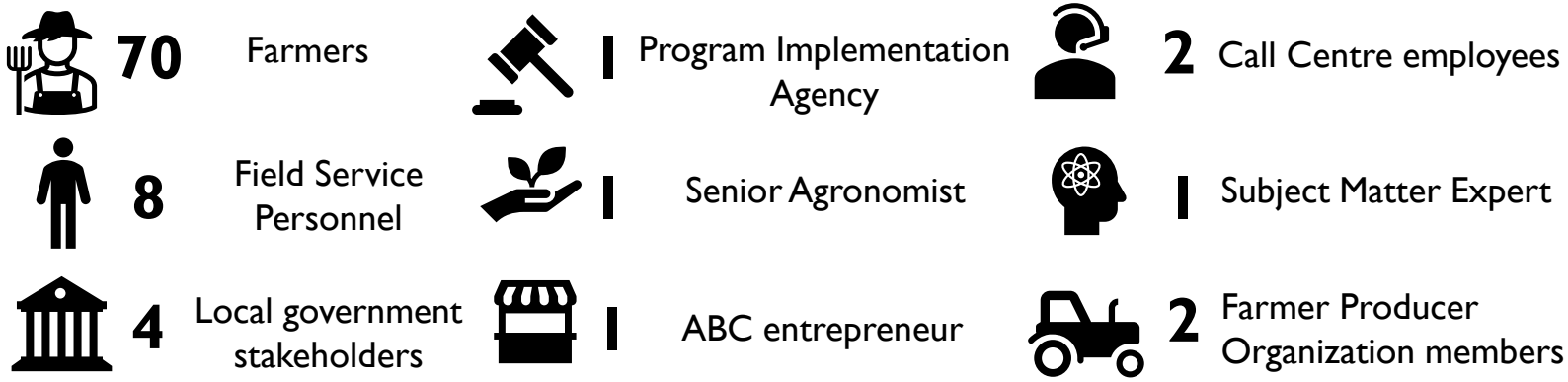
Purpose of the evaluation:

- Assess the extent to which the project objectives have been achieved.
- Identify lessons learnt and best practices for informing future interventions.

The program covered the following:

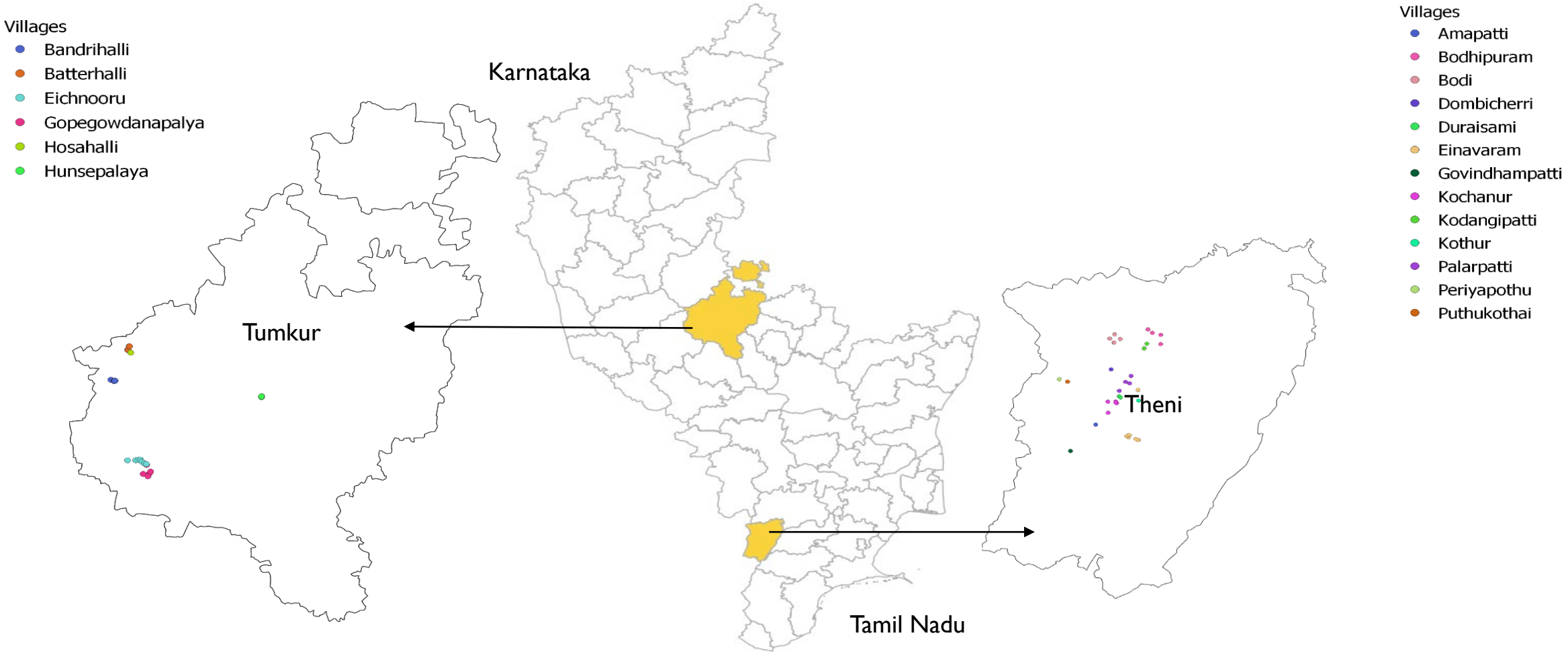
- Field Service Personnel (FSP) program
- Call Centre Service
- Agri business center (ABC) service
- Kalpavriksha app services

RTI reviewed program documents available with PKF which included MoUs on ongoing interventions, list of beneficiaries and baseline information on the project. In order to understand the program better, RTI undertook an interview with PKF. RTI undertook primary data collection by means of Key Informant Interviews (KIIs), In Depth Interviews (IDIs) and field observations. Sample sizes for various stakeholders were decided in consultation with Marico Ltd. RTI engaged with several stakeholders involved in the program including FSPs, subject matter expert, call center agents, local government authorities and Farmer Producer Organization members. Data was collected using Kobo Toolbox (Open Data Kit platform). Validation rules were applied to ensure that data collection was robust. RTI collected consent forms from beneficiaries for their approval to use information collected. RTI undertook the following interviews:



Assessment Location

Assessment of the Kalpavriksha program was conducted in 2 prominent program districts



RTI visited 70 farmers in 19 villages, in 7 blocks of Theni and Tumkur. The Theni district was selected because of the wide prevalence of the program (more than 50% of farmers in the block are enrolled under the program). The Tumkur district was selected because of the wide prevalence of the program compared to other districts in Karnataka.

Please note that maps are for representation purposes and are not to scale

Framework for analysis

The program evaluation was guided by underlying research questions and Key Performance Indicators developed after gaining understanding of the program, using the IRECS framework

Criteria	Research questions explored	Key Performance Indicators
Inclusiveness	• How did the Kalpavriksha program ensure that farmers from all socio-economic groups were included? • How did the Kalpavriksha program ensure that women were prioritized in the program?	• Participation of women in the program • Participation of farmers from different economic groups
Relevance	• Why is the Kalpavriksha program needed? • Is the Kalpavriksha program designed to address the local challenges?	• Program was aligned with needs and expectations of beneficiaries, local communities and local government agencies
Effectiveness	• Are there any challenges currently faced during program implementation? • What are the outcomes and impacts observed in the program?	• Examples of outcome indicators include increase in productivity, increased size in coconuts, reduction in workload, diversification of income, reduction in cultivation costs, etc.
Coherence and Convergence	• Is the program working in alignment with local government agencies? • Is the program aligned with Sustainable Development Goals (SDGs)? • Is the program aligned with national government priorities?	• The program is linked with global frameworks • The program has local government agencies involved • There is collaboration with other organisations • The program has the support of local community Farmer Producer Organizations
Sustainability	• What is being done to ensure that the benefits of the program continue after program ends? • What is being done to ensure financial sustainability? • Are the skills of the farmers built to a point where they are independent of the program?	• Farmers consult program only on a need basis • Finances are leveraged beyond the program • There are processes in place to reinforce learnings of the farmers

Key observations & findings – 'Inclusion'

The Kalpavriksha program is inclusive as almost 85% of the farmers enrolled in FY 22-23 are marginal and small farmers

Stage of program	Aspects of inclusion
Program design	• FSPs enroll all types of farmers. There is no exclusion criteria applied for enrollment. • While there are large and medium farmers who are part of the program, the bulk of farmers are marginal and small farmers
Program implementation	• There is currently no gender lens adopted in the program. For example, the attendance of women farmers during the group level trainings is not monitored. • There is currently no focus on inclusion for the disabled. Disabled persons can be trained and considered as resource people in the villages.

Woman beneficiary of the Kalpavriksha program (Source: RTI International)

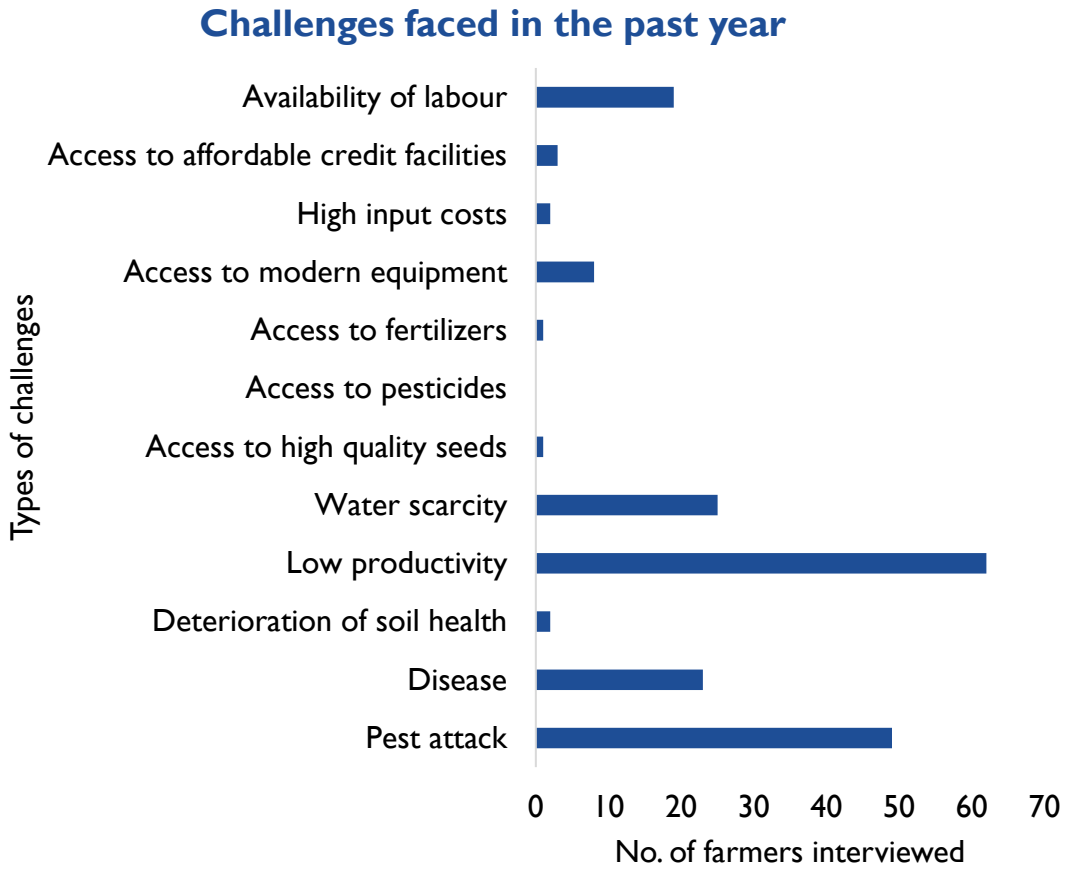
Key observations & findings – 'Relevance'

The Kalpavriksha program is relevant because it caters to the needs of the farmers. Farmers experience several challenges that lead to low crop productivity.

Challenges faced by farmers:

- Lack of awareness on aspects such as fertilizer management, water management, disease management and pest management
- Challenges on access and availability of inputs such as pesticides, fertilizers, etc., and access and availability to different kinds of machinery
- Challenges pertaining to climatic variations such as droughts, winds; pest infestations, human wildlife conflicts, etc.

The Kalpavriksha program was designed by keeping in mind the various challenges faced by the farmers. The FSP program promotes one-on-one knowledge impartation which promotes scientific management of the farm while increasing productivity. The Kalpavriksha app and call centre also promotes awareness of the farmer on scientific management. The program promotes practices that seek to reduce cost of cultivation. The program provides agri business services at a few locations which help improve availability and access of farmers to different inputs and services. Farmers under the Kalpavriksha program are also eligible to receive support for farm pond construction under Marico's 'Jalashay'[1] program.



[1]As part of this program, Marico supports farmers in constructing farm ponds wherein the cost per m^3 of excavation is borne by both Marico and the farmer. Marico pays Rs 48/m^3 of excavation and the farmer pays Rs 8/m^3.

Relevance

The Kalpavriksha program promotes scientific farm management while boosting coconut productivity

Kalpavriksha program caters to farmers whose sole livelihood is from coconut cultivation. Around 35% of the farmers that RTI interacted with were solely dependent on coconut for their livelihood. Furthermore, interactions with the farmers revealed that there is no other source of support that is available to them at the level provided under the Kalpavriksha program. Although there are government trainings and NGOs that may be present in a few locations, none of them provide comprehensive support.

The program is relevant because it seeks to increase farm productivity, reduce the cost of cultivation and indirectly promote good agricultural practices to improve soil health and improve natural resource management. The program also shares information on government related schemes and subsidies pertaining to crop growth for the benefit of farmers.

> *Through the Kalpavriksha program, farmers gain access to technology and gain exposure through various demonstrations undertaken.*
>
> *-Agricultural Officer, Bodi block*

When RTI asked farmers to rate the usefulness of the technical support that they were getting from the Kalpavriksha program in terms of 'Extremely useful', 'Moderately useful' and 'Not useful', around 91% (64/70 farmers) rated the technical support as 'Extremely useful', and the remaining rated the support as 'Moderately useful'. For most of the farmers that RTI interacted with, the Kalpavriksha program was the only source of information they had on farm management and on government related schemes and subsidies.

Harvesting of coconuts (Source: RTI International)

Key observations & findings – 'Effectiveness'

Field Service Personnel (FSP) form the backbone of the Kalpavriksha program

The program is implemented on ground by Field Service Personnel (FSP). FSPs receive training twice a year from experts and report to lead agronomists who oversee their performance. RTI interacted with 8 FSPs who oversee around 260 villages and over 5000 farmers.

FSPs are involved in the following tasks:

- *Enrolling farmers:* FSPs use different strategies to enroll farmers including visiting their farms, leveraging farmer groups and associations, leveraging support of gram panchayat and other govt. stakeholders, and leveraging family relationships.
- *Providing farmers with one-on-one information:* FSPs provide information and spread awareness on different scientific practices, information on government schemes and subsidies, undertake demonstrations of various types of treatment, and provides farmers with group level trainings. FSPs visit every farmer atleast once every 2 months to monitor how they are doing.
- *Supporting them in procuring inputs and services:* FSPs in certain locations help arrange services to farmers such as root feeding, brush cutting and power tilling. They also support the farmer with procuring certain kinds of inputs such as the TNAU coconut tonic which imparts resistance to pests, diseases and environmental stresses.

Interactions with farmers revealed that most farmers (47/70) enrolled in the program because the FSPs reached out to them. Other farmers enrolled after finding out about the program through their friends and peers (13/70), through family members (7/70) and after inquiring with the FSP (3/70).

FSP inspecting farm of an enrolled farmer (Source: RTI International)

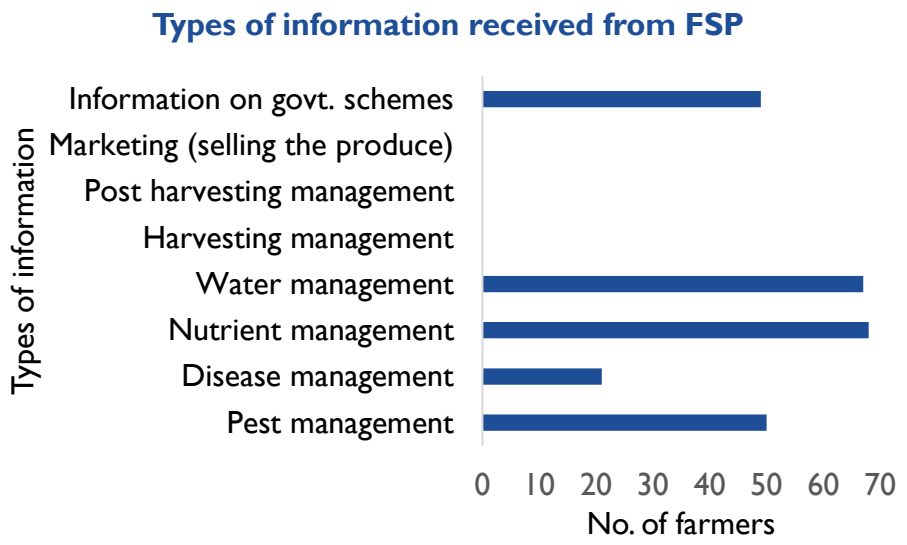
Effectiveness

In order to boost crop productivity, FSPs focus on the major issues faced in farm management

FSPs share information on the different aspects of farm management. When RTI interacted with the farmers, they asked them what were the areas of support they received from the FSPs, and almost all of them mentioned that they received information on water management and nutrient management. Aspects mentioned by the farmers:

- **Pest management:** Treatment methods for common pests such as White Fly, Eriophyid Mite, termites, Rhinoceros beetle, Red Palm Weevil and rat
- **Disease management:** Treatment methods for Basal Stem Rot and Stem bleeding
- **Nutrient management:** Treatment methods for Pencil Top disorder; Button Shedding; fertilizer application schedules; use of natural farming such as sun hemp cultivation; use of green manures such as Calotropis; neem cake application; preparation and use of Farmyard Manures; preparation and use of compost, etc.
- **Water management:** Awareness on importance of digging trenches, preparation of rings, use of mulches, irrigation scheduling, use of drip irrigation and farm pond construction under Marico's Jalashay program.
- Aspects such as marketing, harvesting and post harvesting management were not covered under the program.

Interactions with farmers on the types of information that they received from the FSP are captured in the graph below.



FSP demonstrating use of insect trap (Source: RTI International)

Effectiveness

FSPs work diligently towards spreading awareness on scientific farm management

Challenges faced by FSPs:

- *Enrollment:* Interactions with 8 FSPs revealed that while most farmers enroll, there are a few farmers who refuse to enroll in the program because they have their own management systems in place.
- *Effectiveness:* According to FSPs, the percentage of farmers who see improvement in crop productivity varies (Please refer to the table given alongside). There are several reasons why all farmers do not observe an increase in productivity:
  - They lack access to necessary inputs- e.g., water
  - They do not follow the recommended practices due to financial constraints
  - There are a few farmers who do not have coconut as the primary source of income and do not wish to put in the effort
- Unable to increase farmers' adoption of the app and call centre service
- Unable to increase farmers' adoption of sustainable practices such as micro irrigation in places where water is abundant
- Unable to make contacts with local government authorities because officers keep changing

Farmers who experience an increase in productivity and average increase in coconuts per tree according to the different FSPs interviewed (%)[1]

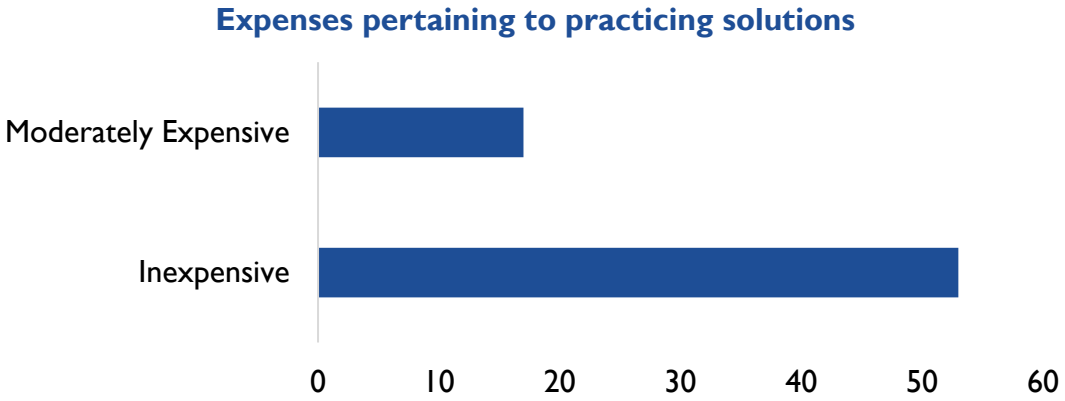
FSP	Farmers who see improvement in productivity (%)	Average increase in coconuts per tree
FSP 1 (TN)- In charge of 750 farmers	50	5
FSP 2 (TN)- In charge of 746 farmers	50	7
FSP 3 (TN)- In charge of 600 farmers	80	6
FSP 4 (TN)- In charge of 600 farmers	50	5
FSP 5 (KA)- In charge of 650 farmers	60	5
FSP 6 (KA)- In charge of 750 farmers	70	10
FSP 7 (KA)- In charge of 375 farmers	60	15
FSP 8 (KA)- In charge of 560 farmers	80	10

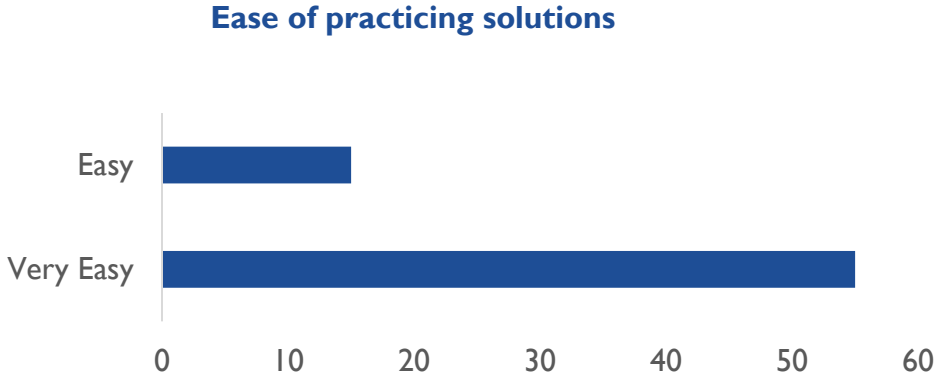
[1] Please note that the figures captured are based on the perception of the FSPs and are not actual estimates

Effectiveness

FSPs have identified best practices that they follow to improve the effectiveness of the program

Responses received from farmers on ease and expense of solutions suggested under the program





Best practices adopted by FSPs:

- They only suggest solutions that are affordable and practical for the farmers to execute.
- They undertake demonstrations for treatments that are complex.
- They are pro-active in identifying issues in the trees.
- They are easily accessible by farmers. They are friendly and approachable, and farmers confide in them.
- FSPs put efforts towards making connections with local government bodies and try to leverage their support.

Preparation of organic fertilizer by farmer enrolled in program
(Source: RTI International)

Effectiveness

FSPs suggest different types of agronomic practices based on environmental conditions and farmers' willingness to adopt; with the intention to provide information on reducing cultivation costs, promoting soil health, improving natural resource management and promoting diversification of income

Uptake of scientific farming practices by farmers enrolled under the program

FSPs	A	B	C	D	E	F	G	H	I	J
FSP 1 (TN)- In charge of 750 farmers	350	60	0	40	0	35	0	140	36	20
FSP 2 (TN)- In charge of 746 farmers	400	30	120	0	0	35	0	50	0	15
FSP 3 (TN)- In charge of 600 farmers	20	13	60	0	1	3	120	250	0	0
FSP 4 (TN)- In charge of 600 farmers	50	40	150	0	0	8	2	0	3	0
FSP 5 (KA)- In charge of 650 farmers	15	100	100	0	0	0	20	25	0	5
FSP 6 (KA)- In charge of 750 farmers	25	25	40	0	4	5	6	0	5	3
FSP 7 (KA)- In charge of 375 farmers	2	20	50	0	0		2	20	0	0
FSP 8 (KA)- In charge of 560 farmers	200	250	125	0	0	15	0	100	1	0

A - Drip irrigation
B - Composting
C - Natural farming
D - Bee Keeping
E - Fish farming
F - Adoption of farm pond
G - Adoption of biopesticides
H - Intercropping
I - Cattle rearing/ poultry
J - Dairy farming

Farmers practicing intercropping of coconut with banana (Source: RTI International)

47 out of 70 farmers interviewed by RTI mentioned that they started practicing aspects of organic farming after enrolling in the program.

Farmers practicing ring formation for conservation of water (Source: RTI International)

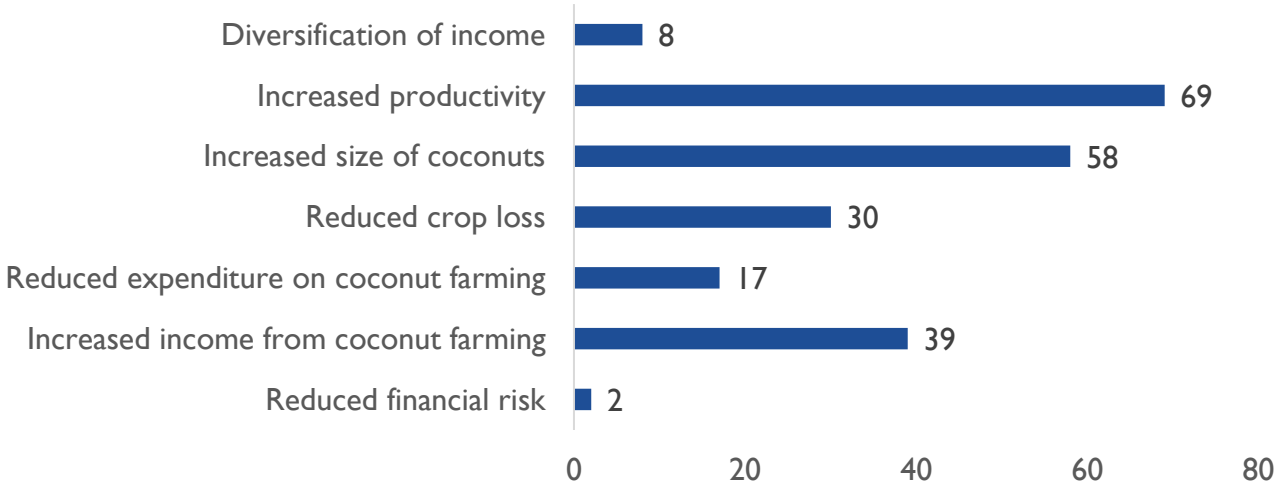
- *Please note that these numbers are not exclusive to FY 22-23*
- *Please note that these are approximate estimations given by the FSPs for their respective jurisdictions*

Effectiveness

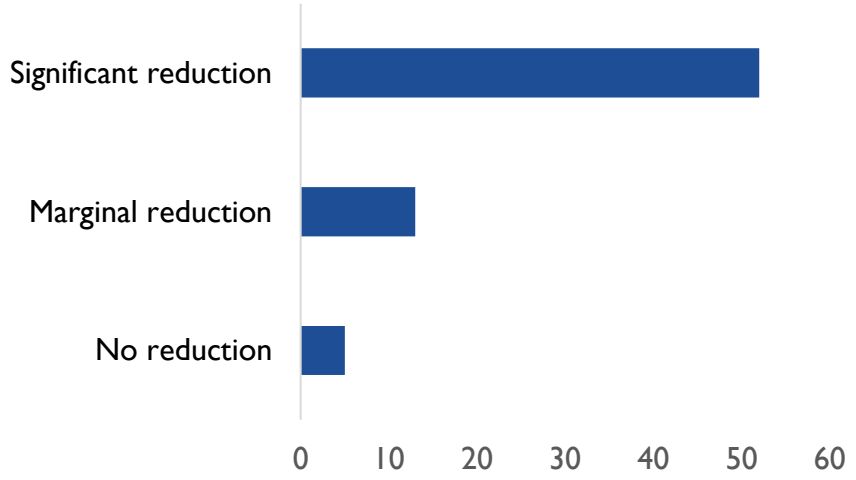
The Kalpavriksha program has led to several positive outcomes, including increased productivity, the major objective of the program.

Interactions with farmers highlighted several outcomes received from the program

Outcomes experienced after enrolling in the program



Reduction in workload



15 out of 70 farmers interviewed by RTI mentioned that they availed benefits of government schemes after FSPs supported them. FSPs provide information on different kinds of government schemes and subsidies on micro irrigation, crop insurance, loans, subsidies for availing machineries, subsidies for apiculture, subsidies for poultry farming, subsidies for sericulture, labour cost subsidies through MGNREGA scheme, etc.

Interactions with 8 FSPs revealed a few observed impacts through the program. All 8 FSPs that RTI interacted with, agreed that improved knowledge, improved management of natural resources, improved soil health, increased coconut productivity, and increase in income are observed. However, only 4 FSPs from Tamil Nadu, out of 8 FSPs observed that the program led to creation of multiple sources of income.

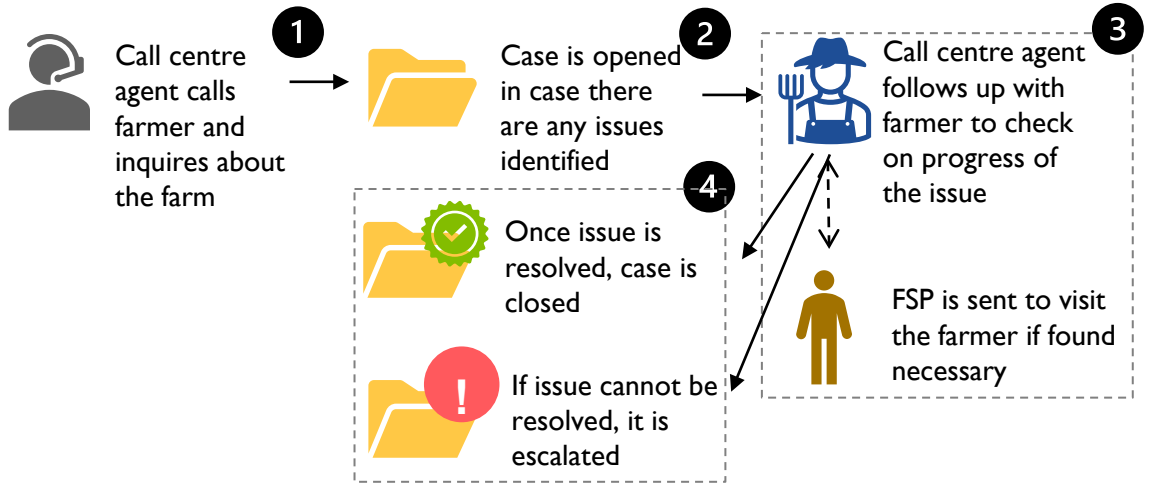
Effectiveness

Kalpavriksha's call centre services are able to reach farmers beyond the existing program geography

- RTI interacted with Kalpavriksha's call centre which focuses solely on making outgoing calls. The call centre regularly follows up with farmers who are enrolled under the program. The services inquire if the farmer is facing any challenge and supports in query resolution pertaining to management of crops, relevant government schemes and local market prices (applicable only in TN).
- Call centre services are available in 4 languages: Tamil, Telugu, Kannada and Malayalam.
- Only 23% of the outbound calls made gets connected. This may require a re-examining of the contact database to understand why percentage of calls connected is low.
- Only around 14% of cases registered in FY 22-23 got closed within the same time period. According to employees, it roughly takes 8-12 months to close a case because it takes substantial time to observe changes in the coconut trees. While most cases are ongoing, around 12% of the cases got escalated. A few reasons for the same include challenges for farmers to access required inputs, water scarcity problems, income related challenges, lack of interest to follow advice given by the call centre, etc.
- It must be noted that when farmers ask for support on non coconut crop, no support is extended. Efforts should be made by the call centre service to support farmers to connect to government agriculture helpline services (Kisan Call Centres).
- The call centre maintains a database of farmers' rating and feedback of the call centre services and the FSP visits that occur through the call centre services from the farmers. It was observed that the feedback is collected separately in an excel sheet maintained by the call centre agents only for those cases that require FSP visits. It is not linked to the case file database. Analysis of 6 months of feedback collected from Tamil Nadu revealed that close to approximately 50% of the farmers gave a rating of 4 out of 5 showing that they are satisfied with the service.

RTI's interactions with farmers revealed that not all of them received incoming calls from the call centres. Out of 70 farmers, 40 of them rarely or never got calls from the call centres. However, it must be noted that although farmers may be receiving calls, they may not have attended them.

Mechanism adopted by call centre



Effectiveness

The Kalpavriksha program has transformed the lives of many farmers

"After enrolling in the Kalpavriksha program, I experienced a 30% increase in income"

Natarajan, a small farmer from Bodhipuram village of Theni district had several challenges in his farm such as Button Shedding and Eriophyid mite attacks. He would only get 9 coconuts per tree in a single harvest. After enrolling in the Kalpavriksha program, the FSP advised him on the treatment for Eriophyid mite attacks. He also began practicing the use of organic fertilizer. The fertilizer is made from calotropis, aloe vera, jaggery and neem. He began using this mixture 3 times in a year. He also began practicing mulching and digging of rings for water conservation. He says that after adopting these new practices, his input expenditure reduced by 16%. He has experienced an increase in productivity and a 30% increase in income. He says that he is now able to send his sons to study further because of the increase in income.

"I learnt a lot from the Kalpavriksha program"

Thirumurrugan, a farmer from Kondagipatti village of Theni faced low crop productivity. He faced pest attacks from Rhinoceros beetle and Red Palm Weevil. After he enrolled in the program, he learnt about the treatment methods for pest management. Furthermore, he learnt about correct fertilizer dosage and application. He also began practicing green manuring. He claims that his input cost decreased by 50%. After following practices shared by the FSP, he has experienced a 500% increase in coconuts produced annually.

"I learned about the preparation of Jeevanamrutham through the Kalpavriksha program"

Shankarapan, a small farmer from Bandrihalli village in Tumkur district of Karnataka began preparation of Jeevanamrutham after FSP gave him guidance. He also began intercropping arecanut with coconut after the FSP gave him the required information. He has experienced a 120% increase in number of coconuts annually. He availed government subsidies and loans through the FSP. He is satisfied with the program and has given a rating of 9/10.

Effectiveness

The Kalpavriksha app had over 80,000 downloads in FY 22-23

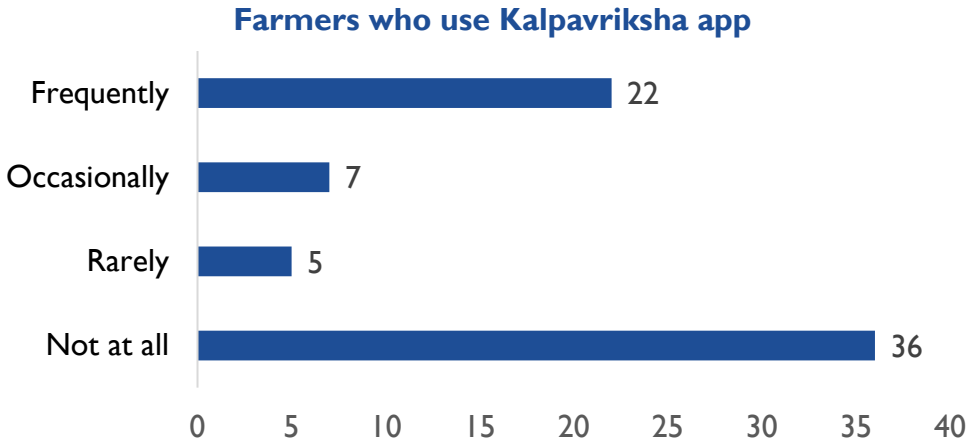
PKF created an app, 'Kalpavriksha' that provides farmers with support on connecting to traders, fertilizer calculation, information on relevant state government schemes, market rate updates, query resolution, etc. Farmers can also reach out to PKF through the app.

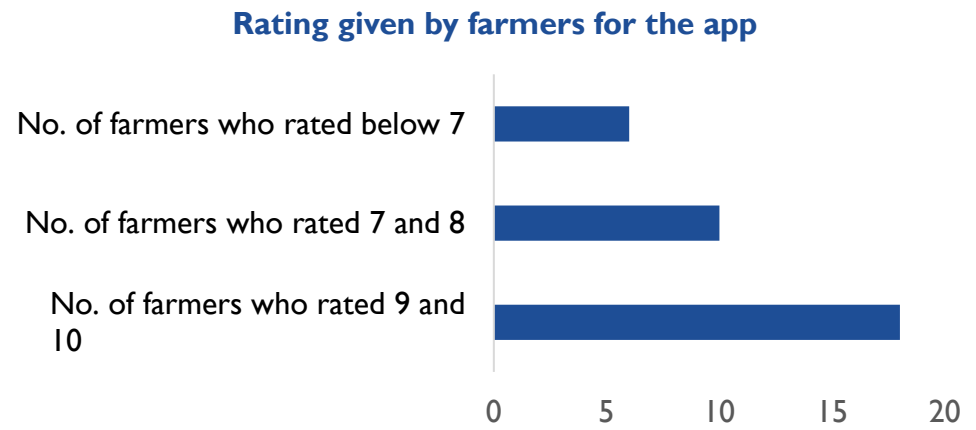
While FSPs try to promote the Kalpavriksha app, there are several reasons why farmers do not utilize the app:

- Several farmers do not have access to smart phones, or they do not know how to utilize smart phones even if they have access.
- Few farmers are not accustomed to using apps in general
- Farmers get whatever information they need from the FSP so do not feel the need to get the information from the app

The most used and appreciated feature of the app is for the information on market rates. Other features of the app are not used as much. Farmers in Karnataka do not use the app because it doesn't give them the local copra rates.

RTI's interactions with farmers revealed that almost half of them do not use the app.



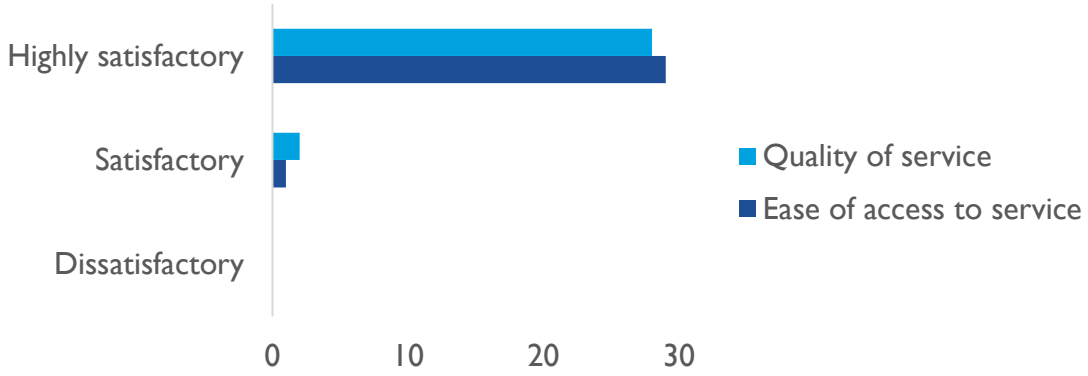


Effectiveness

PKF provides Agribusiness services by supporting local entrepreneurs

In Theni district, root feeding[1] services are provided to farmers through the FSPs. Out of 35 farmers that RTI interacted with in Theni, 30 of them availed root feeding services from the program. When asked to rate the affordability of the service, 26 out of 30 farmers (around 86%) rated it as inexpensive and 4 out of 30 (around 14%) rated it as moderately expensive. Some of the farmers mentioned that the cost of the root feeding services availed through the program is lower than other root feeding services available. Root feeding services are currently not provided in Karnataka.

Farmers response on quality and ease of access to root feeding services



RTI interviewed a local entrepreneur that started an agribusiness centre in Thanjavur district with support from PKF in 2019. The owner of the centre had previously worked under the Kalpavriksha program as an FSP, so he understood the needs and challenges faced by farmers. PKF followed a unique model in disbursing financial support to the entrepreneur by means of a revolving fund. PKF provided Rs 2 lakh as working capital every year for a period of 3 years such that the entrepreneur is able to generate sufficient revenue and become independent after a period of 3 years. The goods and services provided include root feeding, provision of manual labour, and provision of inputs such as fertilizers, micronutrients and pesticides.

The centre has reached over 4000 farmers in 4 years, out of which around 1000 farmers are regular customers. He provides services to farmers within a radius of 10 km. The benefits that farmers have received through the centre are as follows:

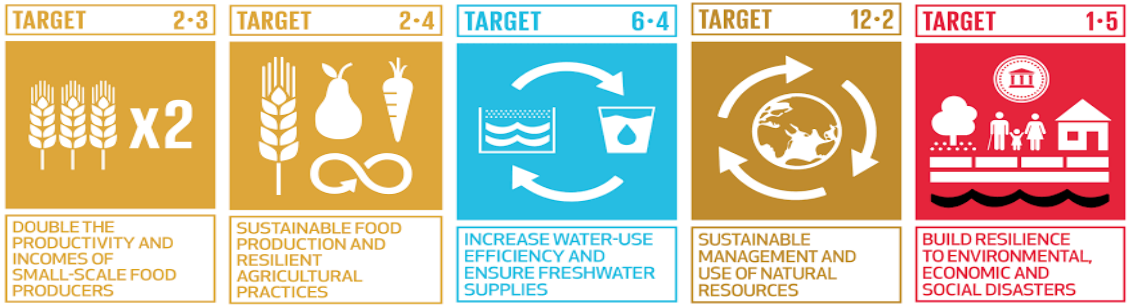
- Increased access to affordable labour since the centre provides labour at subsidized rates (Rs 500 per labourer per day is offered instead of Rs 600)
- Increased access to root feeding and fertilizer application services- Per tree, the price charged is 20% lower than prevailing market rates; for fertilizer application, the price charged is 22% lower than prevailing market rates
- The centre offers delivery services for small and large quantities, reducing the workload and saving the farmers' time

[1] A method of fertilizing or feeding a tree that injects beneficial fertilizer directly to the roots.

Key observations & findings – 'Coherence and Convergence'

The Kalpavriksha program makes efforts to converge with local government priorities

- Interactions with FSPs revealed that at the grass root level, efforts are made to connect with gram panchayats and different government departments such as agriculture and horticulture to leverage existing schemes and activities organized by the government. FSPs play a major role in spreading awareness about the local schemes and subsidies such as irrigation related schemes, agroforestry, apiculture, sericulture, procurement of machinery, etc. However, it must be noted that the awareness of schemes is limited to agriculture and does not focus on schemes that may be beneficial for the farmer and his household.
- FSPs interact with the community organizations such as Farmer Producer Organizations.
- The program is coherent with government policies such as 'double farmers income', 'more crop per drop' and the National Mission for Sustainable Agriculture in terms of its objectives and the various interventions promoted under the program. The FSPs promote scientific practices such as precision agriculture, demand side management of water, to increase water productivity of coconut, etc.
- In terms of linkages with Marico's internal sustainability goals, the Kalpavriksha program is aligned with Marico's 'Sustainable Agriculture Program', the focus of which is to promote sustainable practices in agriculture, such as precision farming. Marico aims to empower approximately 1+ lakh farmers about sustainable practices and develop a Sustainable agriculture standard that provides recommendations to offset the crop's carbon footprint across its entire lifecycle. These measures are aimed at improving productivity and enhancing climate resilience, as well as offsetting carbon impact through afforestation programs, across plantations. The program aims to enroll 4+ lakh acres of plantation by 2025 and achieve a cumulative productivity improvement rate of 16%.

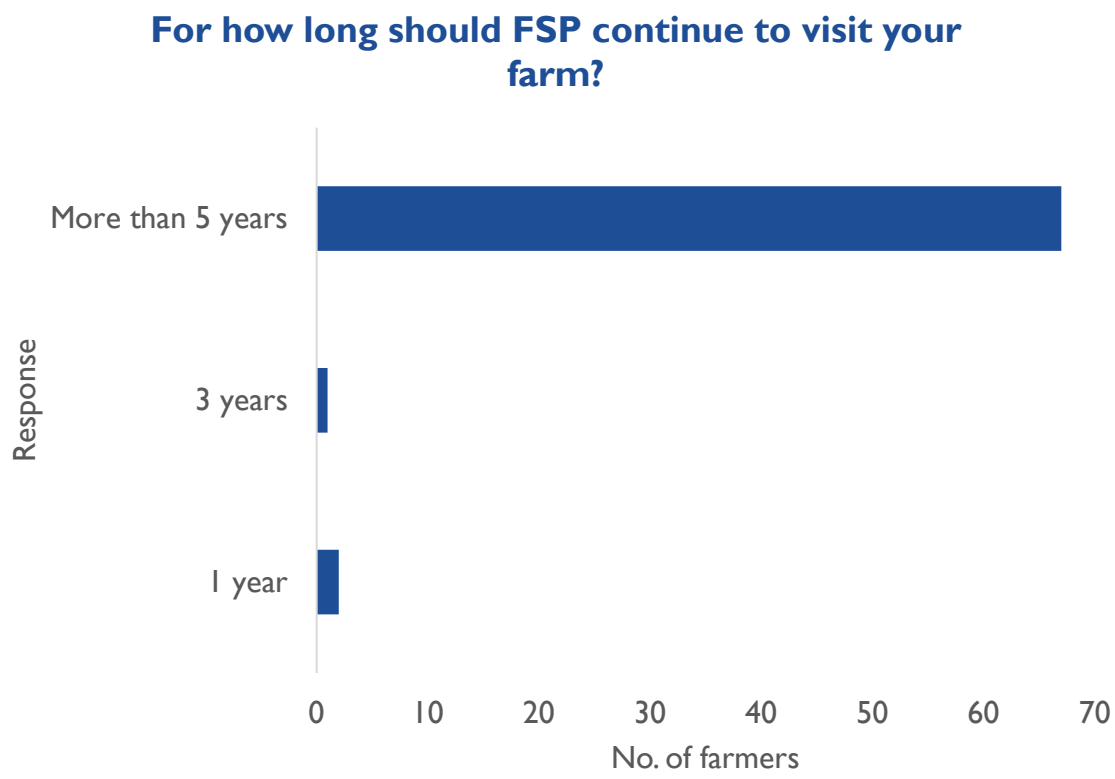


SDG linkages with the Kalpavriksha program

Key observations & findings – ‘Sustainability’

The program is presently very dependent on the Kalpavriksha foundation

- Interactions with farmers and FSPs revealed that the program has presently not been successful in fulfilling objective 2, i.e., Train farmers to handle their farms independently. Farmers are highly dependent on FSP visits to their farms and have not moved towards adopting the call centre and app services offered under the program.
- When RTI interacted with 8 FSPs and asked them about how many farmers would continue to practice what they have learnt, FSPs replied that lesser than 50% of the farmers would continue without their support. When RTI interacted with farmers asking them if they were willing to let go of the FSP visits, most of them were not willing as they feel more confident when the FSPs visit their fields and identify challenges.
- While FSPs attempt to promote government schemes locally, there may be a need to leverage funding in innovative ways for the different interventions. Presently there is no financial sustainability to ensure the program runs without support of PKF.
- The call centre services do not utilize or leverage services provided by government helpline services for farmers (Kisan call centres)



Action points for improved program impact

4

ASPECT	FINDINGS	ACTION POINTS
I	• There is currently no gender lens adopted in the program. • There is no training SOP for FSPs on inclusion	• The GEDSI framework can be adopted throughout program lifecycle. • Introduce a module on 'inclusion' in training SOP.
E	• There is presently no comprehensive baseline that captures information on income levels and other socio economic and environmental characteristics. The lack of this baseline makes monitoring impact difficult. The lack of information also restricts the program in offering region and farmer specific support. • Several farmers have only coconut farming as their main source of income. Due to which they are vulnerable to the effects of price fluctuations, climate change, etc. • Labour shortage in the agriculture sector is increasing. Farmers interacted with mentioned that hiring labour is difficult and expensive • Hesitations to adopt organic farming to improve soil health • Chemical input prices have been increasing.	• Development of a comprehensive baseline. • Extending support to select farmers and regions based on available information. • Provision of monetary and technical support on various kinds of diversification avenues, E.g.: Dairy farming • Extending support in terms of trainings and subsidies/ services towards agricultural mechanization in terms of climbing machinery for harvesting of coconuts, providing machinery for easier farm management such as power tiller, brush cutter and rotavator, etc. * • Handholding a small number of farmers to make the shift from chemical fertilizers to organic farming, and/or natural farming, setting up demo farms to encourage organic farming practices may generate more momentum on its adoption. Trainings on organic farming and natural farming to spread awareness can also be undertaken. * • In order to reduce cultivation costs for farmers, while improving productivity, trainings on green manuring, fertigation practices, use of animal dung and other 'low cost' solutions can be promoted.

 * Please note that the action points highlighted in different font colour are those recommendations that may be considered additionally. These are 'good to have' and are not critical.

Action points for improved program impact

4

ASPECT	FINDINGS	ACTION POINTS
E	• While awareness on importance of soil testing has increased, farmers find it difficult to get their soil tested because often the testing labs are at far locations. • There appears to be a gap in terms of how many farmers can avail support under schemes. • There are regions where farmers find it difficult to access credit facilities. • The program currently focuses more on empowering farm productivity rather than empowerment of entire households • Call centre services are unable to provide information pertaining to non coconut crop.	• Support towards facilitating soil testing would help farmers understand the soil needs of their farm as well as form a baseline for the Kalpavriksha program, to see how the various soil health practices being promoted improve the soil. * • There is a need to support those farmers who are unable to qualify for support under schemes due to non eligibility or other factors, but who are from economically weaker backgrounds. * • The program can explore collaboration with microfinance institutions to support farmers in availing loans. * • The focus of the program should move from increasing productivity towards empowerment of household and increasing household income. • Call Centre services Linking or directing farmers to call Kisan Call Centres for non coconut crop related support.
S	There is a need for change management in order to reduce dependence of farmers on FSPs and increase sustainability of the program.	• A shift needs to be made from an FSP led model to a digital model (i.e., increased adoption of app and call centre services).

 * Please note that the action points highlighted in different font colour are those recommendations that may be considered additionally. These are 'good to have' and are not critical.

Impact assessment of Marico Innovation Foundation for FY 22-23

April 2024

RTI International is an independent, nonprofit research institute dedicated to improving the human condition. Clients rely on us to answer questions that demand an objective and multidisciplinary approach — one that integrates expertise across the social and laboratory sciences, engineering, and international development. We believe in the promise of science, and we are inspired every day to deliver on that promise for the good of people, communities, and businesses around the world.

For more information, visit www.rti.org

RTI Global India Pvt. Ltd.
6th Floor, Commercial Tower of Novotel
Pullman, Aerocity,
New Delhi 110 037
India

Tel: +91 11 4128 7150

Content

Evaluation Team:

- Nutan Zarapkar, *Director*
- Kapil A. Suresan, *Associate Director*
- Sumantra Mukherjee, *Senior Manager*
- Dhwani Mehta, *Senior Consultant*
- Sherin Shiny George, *Senior Analyst*
- Venetia Sharanya, *Consultant*
- Navaneeth Chand, *Consultant*

Image Source: RTI International

About Marico Innovation Foundation (MIF)

I

MIF is a beacon of support that aims to act as a catalyst within the dynamic landscape of innovation and entrepreneurship to help enterprises streamline and scale-up

Marico Innovation Foundation (MIF) is a non-profit organization established in 2003 with the mission to foster innovation in India across social sectors. Founded by respected Mr. Harsh Mariwala, the visionary entrepreneur behind Marico Limited, MIF has played a pivotal role in nurturing groundbreaking ideas and empowering innovators to make a tangible impact on society.

Driven by the belief that innovation is the cornerstone of sustainable development and social progress, MIF has adopted a multi-pronged approach to catalyze change. Through its 'Scale Up Program', MIF identifies and supports promising early-stage businesses, providing them with customized mentorship, networking opportunities, and access to capital. It also honors exceptional Indian innovators and fosters collaboration through digital platforms through its 'MIF Award' and 'MIF Involve' programs, respectively.

100+
Innovative Ideas supported

5,000+
Jobs created

Social Innovations
Scale up program

Inspire | Involve | Impact

One path-breaking innovation has a domino effect in changing the entire ecosystem. Marico Innovation Foundation, nurtures such exceptional innovations that have a positive impact on society.

Evaluation approach & methodology

2

Marico Limited has engaged RTI International to carry out an independent impact assessment of the MIF program. RTI has adopted a qualitative approach to carry out the evaluation for the period FY 2022 – 2023.

Purpose of the evaluation

- Assess the extent to which the MIF has achieved the intended objectives
- Identify lessons learnt for informing future interventions

Scope of the evaluation

- The evaluation covered the support provided to 8 start-ups through the scale-up program for the period FY 2022 – 2023

Methodology

- RTI undertook a qualitative study using Desk Review, Secondary Research, Key Informant Interviews (KIIs), and field observations to come to conclusions.

Data collection

- RTI reviewed program documents available with MIF which included list of beneficiaries and baseline information
- To collect primary data, RTI undertook KIIs with randomly selected 4 start-ups including,
  - Atomberg Technologies Pvt. Ltd.,
  - Ishitva Robotic Systems Pvt. Ltd.,
  - Purple Ribbon Healthcare Services Pvt Ltd, and
  - St. Judes India Childcare Centers.

The interviews were guided by structured research questions based on the IRECS framework* and the Business Model Canvas tool.

** Note: A detailed note explaining the IRECS framework has been provided as Annexure 2.*

Key observations & findings – ‘Relevance’

3

The scale-up program of MIF supports the creation of a positive socio-economic impact on society by addressing the functional needs of organizations, aimed at benefiting the community.

Innovative organizations play a pivotal role as catalysts for socioeconomic progress, acting as job creators, economic boosters, and drivers of innovation. While they contribute significantly to advancing technology and improving quality of life of people, the process of scaling up a novel concept poses inherent challenges.

Recognizing these hurdles, MIF provides crucial customized assistance to early-stage innovation organizations. Offering tailored mentorship, networking opportunities, and access to capital, MIF's support becomes instrumental in helping such organizations navigate the complexities of their formative years, establishing a sturdy foundation for future success.

By fostering disruptive innovations, MIF not only propels individual organization growth but also makes substantial contributions to broader socio-economic development.

> “Without Marico's support, we would have faced substantial challenges in attaining our current level of success. Their assistance has expedited our learning process, compressing what would have taken two to three years into a span of three to six months. In domains where we didn't seek their guidance, such as quality of service, it took us significantly more time to streamline without the input of experts.
>
> Mr. Arindam Paul, Founder
> Atomberg Technologies

Key observations & findings – ‘Inclusiveness’

4

MIF's support is inherently inclusive, transcending specific sectors. This approach has yielded benefits, impacting a diverse array of organizations and end-beneficiaries, encompassing women, children, and economically vulnerable populations.

MIF extends their support to organizations operating in a wide variety of sectors such as Healthcare, Energy, Education, Agriculture, Waste Management, etc. The impact created by these organizations is felt by a wide range of beneficiaries, encompassing women, lactating and pregnant mothers, children, students, cancer patients, lactating and pregnant mothers, children, students, cancer patients, as well as farmers and micro-entrepreneurs.

Key observations & findings – 'Coherence'

MIF's support to innovative organizations aimed at societal benefits aligns with the Government of India's priorities and schemes such as Make in India, Start-up India, and various Sustainable Development Goals (SDGs).

The Indian government is dedicated to fostering innovation through initiatives like the Atal Innovation Mission, with a focus on positioning India as a global innovation hub. The 'Make in India' initiative reinforces this commitment to innovation, robust manufacturing, job creation, and global competitiveness. MIF's support for disruptive innovations aligns with these government initiatives, as acknowledged by beneficiary organizations, highlighting MIF's role in achieving overall organizational growth, contributing to economic development, and job creation.

MIF's support also aligns with various Sustainable Development Goals (SDGs), contributing to India's commitment to SDGs.

SDG 3	*Multiple healthcare innovations supported by MIF*
SDG 4	*Educational institutes supported by MIF*
SDG 5	*Women entrepreneurs supported by MIF supported organizations*
SDG 7	*Energy efficient appliances supported by MIF supported organizations*
SDG 8	*MIF's support generates employment and contributes to economic growth*
SDG 9	*Disruptive innovations fostered by MIF*
SDG 11	*Waste management sector and sustainable agriculture focused organizations supported by MIF, leading to sustainable communities*

Key observations & findings – ‘Effectiveness’

Through a thorough, competitive selection process, MIF provides timely and customized support to the most deserving and innovative ideas. All organizations evaluated expressed high satisfaction with the selection process and the support received.

MIF employs a rigorous process to down-select ideas promising innovations that fulfill the following criterion:

- A focus on creating social, environmental, & economic impact
- Unique with a robust and differentiated USP.
- Potential for rapid scalability in the near future.

Each innovation seeking the support of MIF is required to demonstrate their alignment with MIF criteria. Subsequently, they undergo multiple rounds of discussions with Marico experts. The selection process is comprehensive, competitive, and ensures that the the most deserving ideas are identified.

Upon inception into the scale-up program, MIF identifies the challenges impeding the innovative idea's growth and facilitates customized mentorship from both external and in-house (Marico) domain experts, to address the challenges identified.

Key observations & findings – 'Effectiveness'

MIF's support to eight organizations during the fiscal year 2022-23 has had a positive impact the society across various sectors through the accelerated development of these organizations.

Sector	Organization	Outcome Achieved at Organization Level.				Outcome Achieved Beyond Organization		
		Improved Products Services	Improved Finances	Improved Daily O&M	Improved Partnerships	**Social benefit to society**	**Environmental benefit to society**	**Economic benefit to society**
Healthcare	St. Jude		●	●	●	●		●
	Purple Ribbon		●	●	●	●		●
	Caremother	●		●	●	●		
Energy	Atomberg			●	●	●	●	●
Waste Mngt.	Ishitva			●	●	●	●	●
Agriculture & Food	S4S Tech		●	●		●		●
	EF Polymer			●		●	●	
Education	ISBD			●		●		

Key observations & findings – ‘Sustainability’

The sustainability of MIF's support is evident, as all organizations studied reported having institutionalized the learnings, ensuring ongoing and sustained benefits for their operations.

MIF has consistently offered tailored support to founders and core teams, ensuring its institutionalization for sustained benefits as organizations grow. The MIF team has effectively established strong connections with entrepreneurs, and according to the study, remains accessible even after the completion of engagements with beneficiary organizations, showcasing a lasting commitment to support.

> “Even after the completion of training and support from MIF, our ongoing connection remains strong. As we continue to grow, our relationship with MIF persists.
>
> We have institutionalized the valuable learnings, ensuring our team builds upon the robust foundation established with MIF's support.
>
> Mr. Arindam Paul, Founder
> Atomberg Technologies

Way forward: Improving program's efficiency & long-term success

- **Strengthen data-driven decision-making:** Invest in robust data collection and analysis to track the environmental, social, and economic benefits to society through supported organizations and measure progress towards MIF's overall goals. This data can inform strategic decisions and demonstrate the real-world value of the program.

- **Foster collaboration and ecosystem building:** Connect supported organizations with each other, and industry leaders. This can facilitate knowledge sharing, cross-pollination of ideas, and the creation of a vibrant ecosystem for social impact innovation.

Contact us

RTI Global India Pvt. Ltd.
6th Floor, Commercial Tower of Novotel Pullman,
Asset No. 2, Aerocity Hospitality District, IGI Airport,
New Delhi 110 037,
India

Tel: +91 11 4128 7150

Annex I

IRECS Framework has 5 broad evaluation parameters, explained below:

Inclusiveness: *Ability of different stakeholders, particularly poorest and most marginalized - to access the benefits of activities, be part of institutions at various levels and have access to shared benefits through the intervention.*

Relevance: *Are the services /inputs /institutions facilitated in the project able to meet community priorities? How was the planning done? Was it participatory? How were the success indicators developed? Was the community involved in development of project indicators?*

Effectiveness & Efficiency: *Have the activities been able to effectively address community expectations? If the project is completed within the finalized time duration How efficiently have the resources been deployed, monitored and utilized? If there is a potential to replicate the solution in other states or districts?*

Convergence: *Degree of convergence with government/other partnerships; relationship between individuals, community, institutions and other stakeholders.*

Sustainability: *Do communities feel ownership over the assets created by the activities and/or will the Project initiated community interventions sustain even after the exit of the funding agency. Are the institutions strengthened adequately to effectively manage and sustain the activities after the completion of project? Has an exit strategy been drafted?*