



Mid-term Impact Assessment Report
Bundelkhand Initiative for Water,
Agriculture and Livelihood (BIWAL)
Caring Friends – SRIJAN

April 2023

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Executive summary

Bundelkhand Initiative for Water, Agriculture and Livelihood (BIWAL) Project

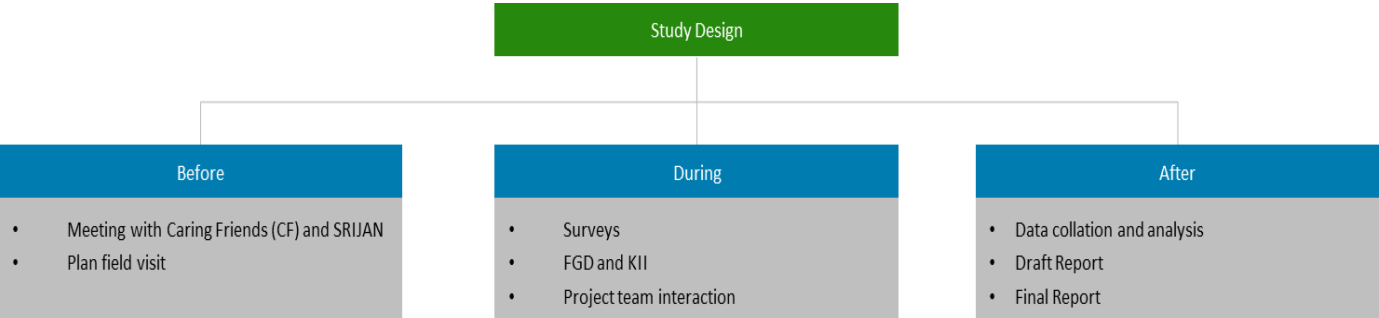
The Bundelkhand Initiative for Water, Agriculture, and Livelihood (BIWAL) is a joint endeavour of a consortium of civil society organizations led by Self-Reliant Initiatives through Joint Action (SRIJAN), with the aim to secure and enhance the income of farmers in Bundelkhand through comprehensive livelihood interventions. Specifically, the initiative focuses on economic and social development in the region commencing with natural resource management and improving water security, including restoration and revival of water bodies, and its integration with agriculture and livelihoods.

Caring Friends partnered with SRIJAN in February 2021 to implement the BIWAL project for a period of 5 years. The project aims to benefit 1,18,000 households across 1,000 villages in 9 districts of Madhya Pradesh and Uttar Pradesh in the Bundelkhand region. For the implementation of the project, SRIJAN acts like a mother non-governmental organization (NGO) to its partner NGOs. By January 2023, the project had reached its mid-term stage.

Caring Friends engaged Deloitte to conduct a mid-term impact assessment of the BIWAL project. Primary research involved visits to the areas of intervention of SRIJAN and select partner NGOs. Detailed interactions were conducted with different stakeholders, including farmers and other beneficiaries, core project staff, and field associates that belonged to the local communities. Visits to the project zone of impact enabled the team to make observations, understand processes and areas where there was scope for improvement, document best practices, validate outcomes through data collated, and assess the impact of the program by triangulation.

The Deloitte team interacted with a total of 124 stakeholders during a five-day field visit. This included 89 beneficiaries spread across 4 districts selected through a purposive sampling process. These interactions were done through surveys, focus group discussions (FGDs) and key informant interviews (KIIs). The team additionally interacted with 35 staff members of SRIJAN and its partner NGOs to understand the processes and collectively identify solutions and way forward.

The study design is illustrated below:



Key findings – Executive summary

At the two-year stage, the project demonstrated significant target achievement with regard to rejuvenation and restoration of tanks and Doha structures, number of households reached, villages impacted, and multi-layer farms established. The project hereafter needs to focus on the creation of Farmer Producer Organizations (FPOs) and mini forests (Tapovans). The outreach up to December 2022 is as follows:

| Indicator |  |  |  |  |  |  |  |  |  |  |
|-----------|---|---|---|---|---|---|--|---|---|---|
| Target | 1,18,000 HHs | 1,200 Livestock HHs* | 1,000 villages | 400 Tanks | 1,200 Doha | 3.6 billion litres | 2,200 Multi-layer farms (MLFs) | 367 Bio Resource Centres (BRCs) | 8 FPOs | 500 Tapovans |
| Achieved | 36,240 HHs | 1,284 Livestock HHs | 306 villages | 224 Tanks | 1,160 Doha | 1.55 billion litres | 666 MLFs | 190 BRCs | 1 FPO | 19 Tapovans |

* Yearly target

Cumulative outreach of BIWAL project (up to December 2022)

Pre-intervention scenario

- Poor quality of land resource, resulting in low productivity and household incomes
- Severe water stress in the region affecting farm productivity and household incomes
- Dependence on chemical fertilizers and pesticides for crops' nutrition and pest management
- Lack of community ownership of the water resources resulting in overutilization and dry outs
- High Level of migration due to low agricultural income

Post-intervention scenario

Enhanced water security:

- 224 tanks were rejuvenated, and 1,160 Doha structures were constructed leading to realization of 1.55 billion litres of water potential in the region and roughly 6.8 feet increase in the water level in wells
- Around 36,240 households have benefited from these rejuvenated tanks and Doha across 9 districts

Shift towards regenerative agriculture:

- Shift towards regenerative practices has led to an improvement in soil quality, which has further translated to increased productivity and income

Ownership of resources and interventions by communities through community-based organizations (CBOs):

- Formation of water user groups (Tank Management Committees) has led to an increase in community ownership and collective decision-making regarding governance of water resources in the village, along with other livelihood interventions
- 1 FPO formed to maximize farm income

Change in income and savings:

- Average annual net income: There has been an increase by 65%
- Average annual gross income: There has been an increase by 59%
- Average annual costs: There has been an increase by 11%
- Average crop yield: The crop yield of chickpea increased by 100% and that of wheat by 35%

Other modes of income generation:

- Multi-layer farming: By adopting multi-layer farming, income of farmers grew by four times – average annual income of INR 25,000 from a plot of 600 sq. ft as compared to an average of INR 6,000 from the same patch of land
- Livestock: Livestock vaccination has led to major savings by reducing sudden expenses and untimely loss of livestock

1. Introduction

1.1 Background

Caring Friends

Caring Friends is an informal group of friends who have come together to act as a bridge between NGOs and donors. The group supports credible and dedicated grassroots organizations with low visibility and low accessibility to funds and enables them to scale up. This helps build capacities of these NGOs, which, in turn, impacts the lives of a much larger number of beneficiaries. It also fosters collaboration, leveraging the expertise of its various constituent members and entities, which leads to continuous, long-term sharing, learning, and partnerships.

SRIJAN

SRIJAN was set up in 1997 and registered as a public charitable trust in January 2000. The organization aims to empower rural communities by developing and replicating unique and innovative community-owned sustainable livelihood models. Over the course of 20 years, SRIJAN has developed and scaled livelihood solutions in water and soil management, agriculture, livestock, and non-timber forest produce. The organization has worked extensively in challenging geographies, including Aravalli, Satpura-Maikal, and Bundelkhand regions, in partnership with state government departments and institutions. Till date, SRIJAN has impacted more than 2.9 lakh poor families across six states.

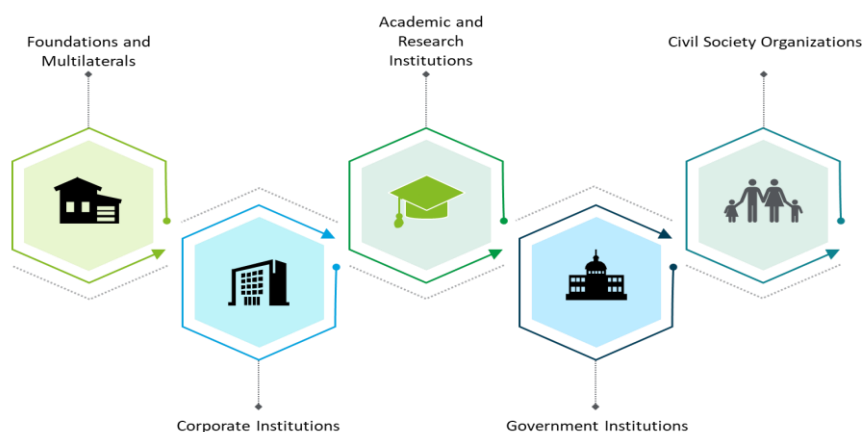
Caring Friends-funded BIWAL project

Rationale and background of the project

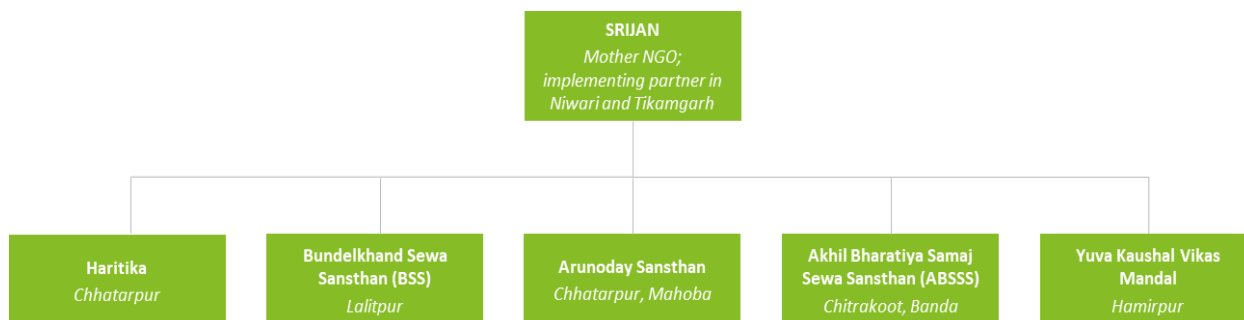
The Bundelkhand region, comprising 14 districts in Madhya Pradesh and Uttar Pradesh, lies between the Indo-Gangetic plain to the north and the Vindhya Range to the south. It has undulating topography – gently-sloping upland with barren hilly terrain and sparse vegetation. Most of the districts where the BIWAL intervention is being implemented, including Jhansi, Lalitpur, Tikamgarh and Chhatarpur, fall in a sub-region called Bundelkhand intermediate, which has mainly light black soil. Due to its geology, topography and rainfall pattern, Bundelkhand is prone to both drought and flooding. In most areas, an impermeable rocky layer is found at shallow depths, which makes groundwater recharge difficult, and leads to high runoff of rainwater and soil. Erratic rainfall and thin forest cover in many districts exacerbate the issue, leading to drought or flood in Bundelkhand every few years. As a result, agricultural productivity has been affected, forcing distress migration of farmers to urban areas.

The five-year project funded by Caring Friends initiated in February 2021 with the aim to improve water security, as well as agricultural and allied livelihoods of farmers in Bundelkhand through comprehensive livelihood interventions. SRIJAN and its five partner NGOs are implementing the project in Chhatarpur, Tikamgarh and Niwari districts in Madhya Pradesh and Lalitpur, Jhansi, Mahoba, Hamirpur, Banda and Chitrakoot districts of Uttar Pradesh. The project aims to benefit 1,18,000 households across 1,000 villages in these districts.

Partnerships and collaborations



Consortium of partners under BIWAL project



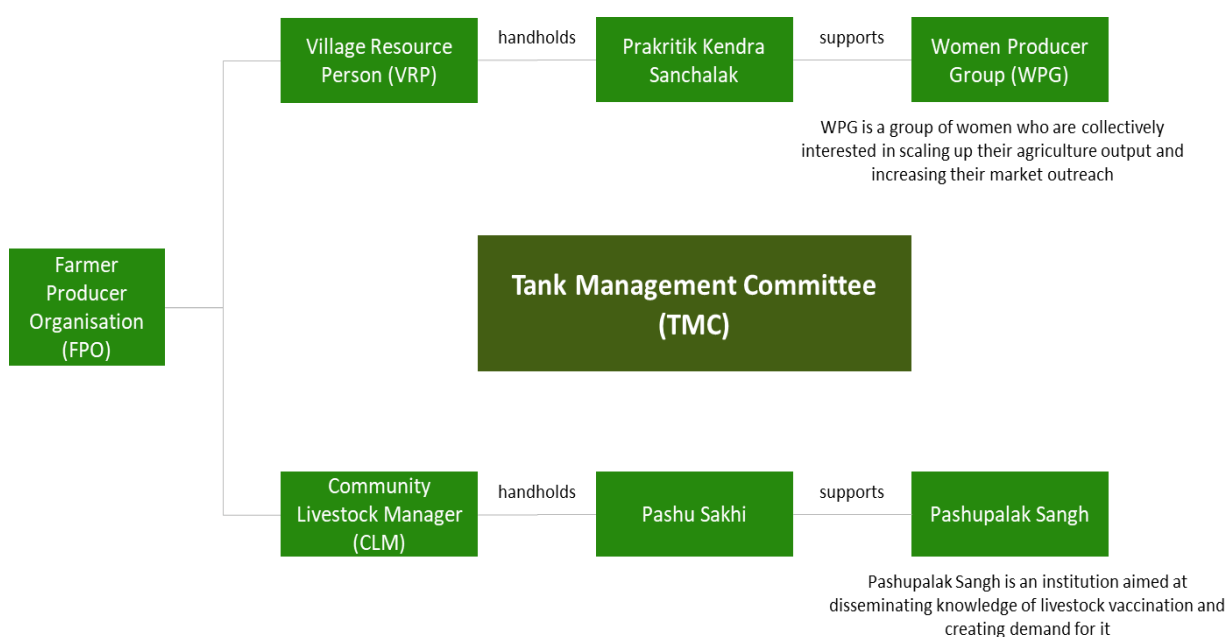
Focus areas of the program

In addition to improving water security in the region, the project aims to deepen the socio-economic and ecological impact of the initiative through a wider range of initiatives. It is expected that around 1.18 lakh farmer families would be covered through BIWAL. Given below are the key focus areas for the project:

- Water potential creation through restoration of tanks and construction of Doha structures
- Improvement in soil fertility through silt coverage and area treatment
- Fostering greater community governance and involvement to ensure sustainability through the formation of Tank Management Committees (TMCs)
- Improving agricultural practices through agri-based livelihood interventions, such as formation of Prakritik Kendras (Bio Resource Centres), multi-layer farming (MLF), nano-orchards, establishment of mini forests
- Creation of FPOs and market linkages
- Livestock development (through vaccination and feed management) for creating more income opportunities for beneficiaries

Implementation model

BIWAL has a three-tier model with two verticals to integrate agriculture and livestock interventions and is implemented across project locations through partner organizations.



The Tank Management Committee (TMC) is the first touch point of any activity in the village. All interventions are carried out through the involvement of TMC and require its approval. TMC is further supported by the Panchayat. This creates convergence among the community institutions and the Panchayati Raj Institution (PRI).

2. Approach and methodology

2.1 Engagement approach

The approach to this project has been designed in line with the objectives and scope of the engagement. Deloitte has adopted a consultative approach for the mid-term impact assessment. The findings have been triangulated based on interactions with key stakeholders, supplemented by primary and secondary research, and complemented by domain knowledge and field expertise.

2.2 Scope of work

The five-year-long BIWAL project commenced in 2021 and has completed nearly 2 years of its duration. Caring Friends approached Deloitte to conduct a mid-term impact assessment of the project. The scope of Deloitte's advisory services is outlined below:

1. To develop a customized assessment template: Deloitte will understand the socio-economic challenges and livelihood options of the community. This will translate into structuring the objectives and interventions of the program, which will result in the creation of a mid-term impact assessment data template. This template will be used to measure changes in income, savings, expenses, and other indicators while assessing the impact as well as document the current status of the program
2. Prepare a mid-term impact assessment report
 - a) Conduct a mid-term impact assessment study on a statistically significant sample spread across the project area
 - b) Assess the intervention indicators year-wise and showcase impact both quantitatively and qualitatively with narratives, anecdotes, and success stories
 - i. Tank restoration
 - ii. Water potential created
 - iii. Silt coverage
 - iv. Agriculture and allied income
 - v. FPO membership, collectivization, and market linkage
 - vi. Prakritik Kendra coverage and impact
 - vii. Crop productivity and tree plantation
 - c) Identify best practices and areas requiring course corrections at mid-term stage
 - d) Develop case studies on above intervention indicators along with women empowerment, capacity building in on-farm and off-farm activities, enterprise development, etc.
 - e) Provide learnings and recommendations from the model

Approach and methodology

The engagement had four main components as outlined below:

| Steps | Design | Stakeholder consultation | Data analysis and documentation | Report finalization |
|-------------|--|---|---------------------------------|-----------------------------------|
| Objectives | Design the study tools | Data collection | Analyze findings | Final report with recommendations |
| Key | Selection of sample participants for the survey and interviews | Conduct primary research through stakeholder interactions | Data collation | Prepare final report |
| Activities | Structuring draft survey and interview tools | Programmatic review | Data entry | Present case studies |
| | Structuring final study tools | Review and collection of other documentation | Data cleaning and analysis | Recommend based on findings |
| Deliverable | Sample and study tools | Primary data | Report preparation | Final report |

The field-level research component included a five-day visit to the different partner office locations across Uttar Pradesh and Madhya Pradesh, and the beneficiary villages chosen in both states. This visit entailed interactions with the project staff, community institution members, panchayat leaders, and the direct and indirect beneficiaries of the program.

The site visits ascertained the outcomes through multiple research tools and techniques:

- Process documentation, including identification of ways to enhance the program design that can otherwise adversely affect the overall impact
- Validate outputs, outcomes and assess impact-related parameters of the program by triangulation methods
- Bottom-up understanding of the program for suggesting relevant course correction

Identification and interaction with primary stakeholders



Subject of study:

Direct beneficiaries (farmers and members of institutions)

Tools: Survey / focus group discussion (FGD) / case studies, assessment of interventions

Interaction with secondary stakeholders



Subject of study:

Families of beneficiaries
Community mobilizers / field associates / champions

Tools: KII, assessment of interventions

Interaction with key informants



Subject of study:

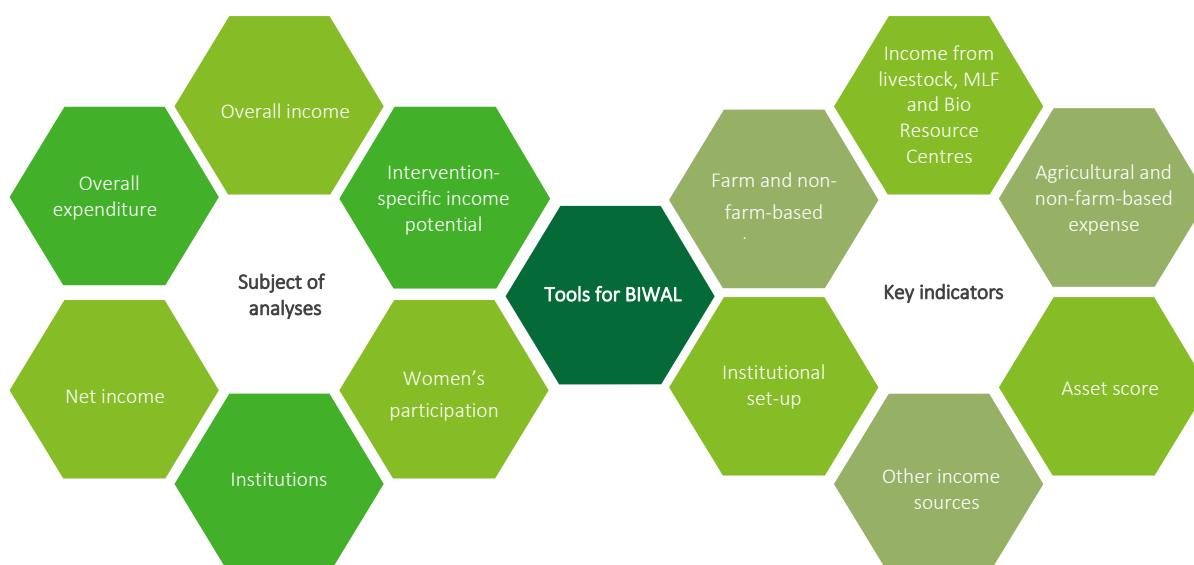
Local implementation partners' team
Volunteers / field associates working with implementation partners

Tools: KII

2.3 Stakeholder mapping

Indicators covered in the study tools

The progress of key performance indicators was captured with the help of a mix of qualitative and quantitative tools.



Stakeholder interactions

The following study tools were employed to gather information from all stakeholders covered during the study:

| S.No. | Stakeholder | Key points covered | Study tool employed |
|-------|------------------------------------|---|---------------------|
| 1 | IP team | The process, hierarchy, outreach, and funding pattern | KII |
| 2 | Community institution members | Thoughts, experiences, and feedback | KII |
| 3 | Institutions/ Farmer beneficiaries | Pre- and post-Intervention crop, livestock yield, standard of living, income, linkages to government schemes and entitlements, and feedback | Survey/FGD |
| 4 | Tank Management Committees | Nature of water bodies, their ownership and maintenance, and collective decision-making of the villages, etc. | KII/FGD |
| 5 | Other indirect beneficiaries | Access to water, common resources, local income opportunities, migration, etc. | FGD |

3.4 Study tools

| | | |
|------------------------------------|---|--|
| Desk review and secondary research | Thorough background research was undertaken to gain a situational analysis of the region and the program currently undertaken by implementation partners in partnership with Caring Friends | |
| Primary research tools | Assessment survey | A mid-term impact assessment survey is a set of predefined questions that have been standardized to guide the research analysis. It provides access to both qualitative as well as quantitative information from subjects |
| | Case study | A case study is a research method used to gather detailed observations on a single person, group, or event |
| | Focus group discussions (FGD) | FGD is a research technique that collects data through group interaction on a topic determined by the researcher. A group of 5-6 respondents are gathered and the researcher, acting as a facilitator, guides the discussion based on predetermined guidelines to explore opinions regarding the topic of discussion |
| | Key informant interviews (KII) | KIIs are in-depth interviews with people critical to the implementation of a project |

2.5 Sampling methodology

The mid-term impact assessment selected beneficiaries using purposive sampling proportionately spread across the list of villages and blocks provided by SRIJAN. 13 villages across 3 districts (5 blocks) of Madhya Pradesh and 1 district (1 block) of Uttar Pradesh were selected for the assessment. The sampling gives adequate representation to each subgroup/stakeholder in alignment with relevant project-specific independent variables.

| Stakeholder | Total sample size | Location-wise distribution and data collection method |
|--------------------------|----------------------------|--|
| Beneficiary target group | Survey = 40 FGD/KII= 49 | Villages across 6 blocks from 4 districts of the intervention region were selected for the study |
| Implementing staff | KII = 35 | |

List of beneficiary districts and blocks covered in the study

| State | District | Block | Sample coverage |
|----------------|------------|----------|-----------------|
| Madhya Pradesh | Niwari | Niwari | 19 |
| | Tikamgarh | Jatara | 16 |
| | | Palera | 13 |
| | Chhatarpur | Gaurihar | 27 |
| | | Bijawar | 7 |
| Uttar Pradesh | Mahoba | Jaitpur | 6 |

2.6 Pictures from the field interactions with target communities



Survey interaction with beneficiaries in Madhya Pradesh



Beneficiary interactions at multiple intervention locations



Tanks and Doha structures created/repared in intervention locations



Beneficiary interactions at multiple intervention locations across other interventions

3. Programmatic review of BIWAL

3.1 Programmatic review

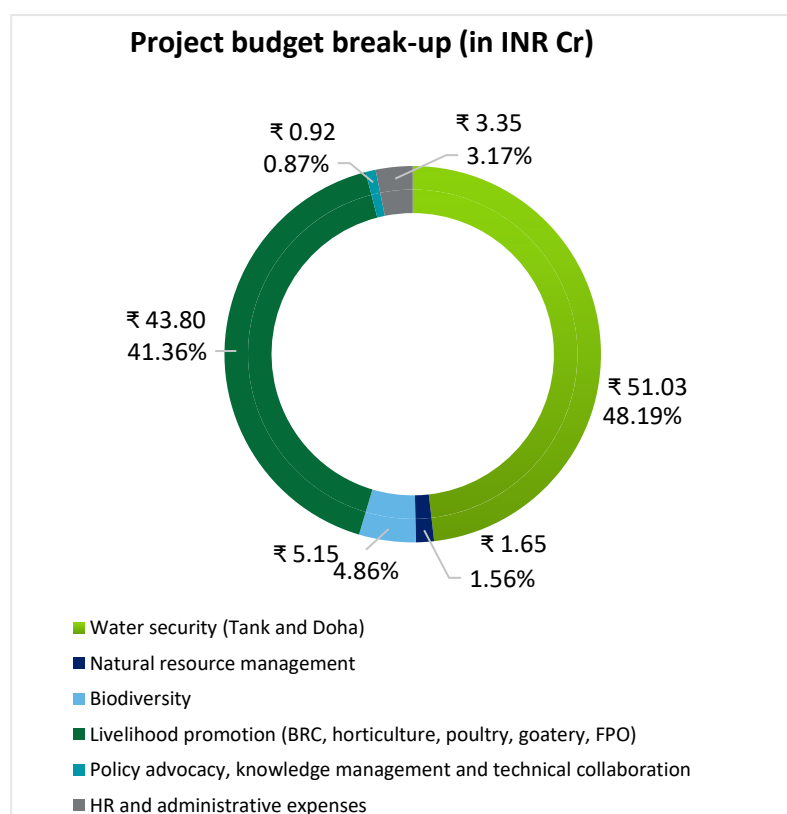
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| Sub-Pillar | Parameters | Status/Findings |
|---|------------------------------------|---|
| Inputs – Program design and planning | Overview and project interventions | <ul style="list-style-type: none"> Caring Friends has partnered with SRIJAN for the implementation of BIWAL project for a period of 5 years (February 2021 – January 2026). The project is being implemented by a consortium of six partner NGOs with SRIJAN acting as the mother NGO and housing the program management unit (PMU). SRIJAN builds the capacity of these NGOs and provides handholding support, wherever required, to ensure uniform implementation across different implementation partners and intervention areas. At the two-year stage (by December 2022), the project had covered 36,240 households across 306 villages in 9 districts across Madhya Pradesh and Uttar Pradesh. Key interventions include restoration and rejuvenation of tanks through de-silting, construction of Doha structures, agriculture-based interventions [such as MLF, nano-orchards, establishment of mini forests, formation of Prakritik Kendras (Bio Resource Centres or BRCs), creation of FPOs], as well as livestock interventions [such as through vaccination and feed management] for creating more income opportunities for beneficiaries. These interventions are listed in the table below: |

| Intervention | Description |
|---------------------------|--|
| Tank/Doha rejuvenation | Excavation of silt from tank and drainage line to conserve water. The silt used in farmlands enriches Soil Organic Carbon (SOC). |
| Bio Resource Centre (BRC) | An entrepreneurial initiative to train and supply products to promote regenerative agriculture |
| Demo plot | A 1-acre plot usually integrated with BRC to demonstrate regenerative practices |
| Multi-layer farming | An intensive model on a plot of ~ 600 sq. ft to grow vegetables in a layered form to ensure continuous harvest from the plot |
| Nano-orchard | Farmers growing fruit plantation in small patches of land (as small as 40 plants) |
| Tapovan (mini forest) | An intensive forestry technique called Miyawaki forest to raise highly dense plantations of local species of trees |
| Goatery | Vaccination of goats and housing management to reduce infestation of diseases |
| Collectivization | Collectivization of the community in different forums and build their capacity |

| Sub-Pillar | Parameters | Status/Findings |
|------------|------------|-----------------|
|------------|------------|-----------------|

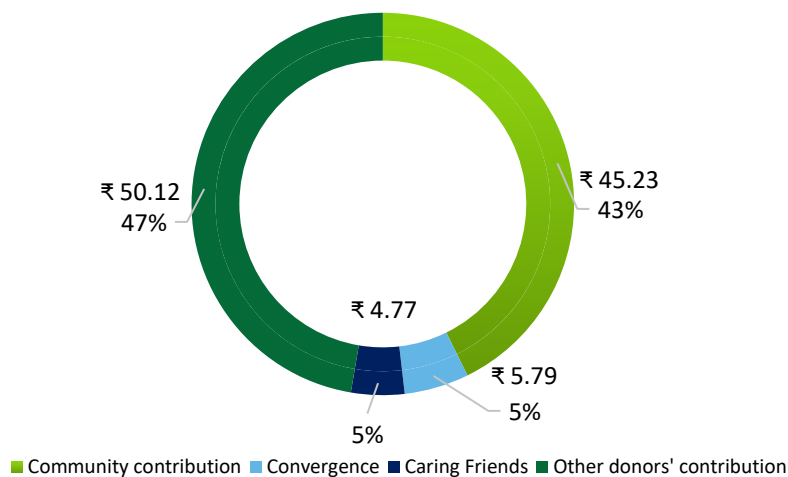
- | | |
|-----------------------------|--|
| | <ul style="list-style-type: none"> The project emphasis is on building, supporting, and sustaining people's institutions. At the two-year stage, the project has covered 224 tanks, 190 BRCs and 1 FPO. |
| Grant and fund mobilization | <ul style="list-style-type: none"> Project budget The total programmatic budget for 5 years is INR 105.91 Crore (Cr). A significant portion of the budget has been allocated to water security measures (49.19%), such as tank and Doha structure construction and rejuvenation, followed by livelihood interventions, such as BRC, MLFs, goatery, and FPOs (41.36%). A break-up of the budget is given below: |



- Funding sources**
While the Caring Friends' grant is significant as a major donor, the project has relied on leveraging various funds for the implementation. The major share of funds is sourced through community contribution (**51.83%**), realized in terms of cost of transportation of silt from the rejuvenated tanks to their farms at their own expense; labour costs for levelling and preparing their farms and land for mini forests, creation of demo plots under BRC; and cost of inputs, among others. A small portion of the funds is sourced through convergence with ongoing government schemes and leveraging government funds, such as for Mahatma Gandhi National Rural Employment Guarantee Scheme (MNREGS) and National Rural Livelihood Mission (NRLM). The remaining project budget amount is sourced through donors, including Caring Friends. A break-up of funding sources is given below:

| Sub-Pillar | Parameters | Status/Findings |
|------------|------------|-----------------|
|------------|------------|-----------------|

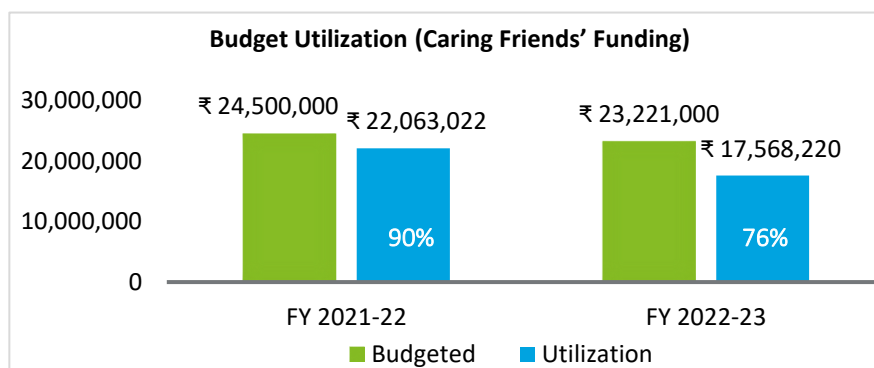
Project funding sources (in INR Cr)



*Caring Friends' support is based on actuals for past two years

- Budget utilization**

Over two financial years (FY 2021-22 and FY 2022-23), Caring Friends has contributed a total of 4.77 Cr. Till 31 December 2022, SRIJAN had utilized a total of 83% of the grant over two years. A centralized Google Sheet is used to track the program progress and budget utilization at the PMU level (SRIJAN).

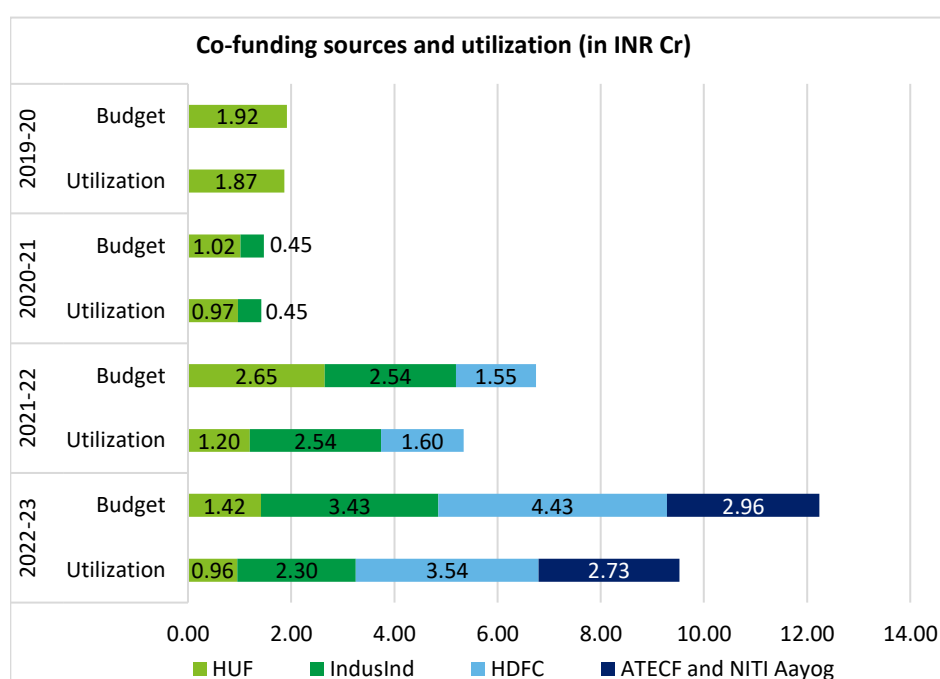


- Co-funding status and utilization**

The total amount of contributions from other funding agencies along with the interventions they support is listed below:

| Sub-Pillar | Parameters | Status/Findings | | | | | | | | | | | | | | | |
|--|----------------|---|-------|----------------|---------------------------------|-------------------------------------|------|-------------------|---------------|------|--|------|-------|---|--|------|----------------------------------|
| | | <table> <tr> <th>Donor</th><th>Budget (in Cr)</th><th>Program interventions supported</th></tr> <tr> <td>Hindustan Unilever Foundation (HUF)</td><td>7.15</td><td>Tank de-siltation</td></tr> <tr> <td>IndusInd Bank</td><td>8.79</td><td>Tank, Doha, area treatment agriculture, water harvesting structures repair</td></tr> <tr> <td>HDFC</td><td>14.29</td><td>Doha, water harvesting structures renov and new, agriculture, livestock</td></tr> <tr> <td>A.T.E. Chandra Foundation (ATECF) and NITI Aayog</td><td>2.77</td><td>Tank de-siltation (For one year)</td></tr> </table> | Donor | Budget (in Cr) | Program interventions supported | Hindustan Unilever Foundation (HUF) | 7.15 | Tank de-siltation | IndusInd Bank | 8.79 | Tank, Doha, area treatment agriculture, water harvesting structures repair | HDFC | 14.29 | Doha, water harvesting structures renov and new, agriculture, livestock | A.T.E. Chandra Foundation (ATECF) and NITI Aayog | 2.77 | Tank de-siltation (For one year) |
| Donor | Budget (in Cr) | Program interventions supported | | | | | | | | | | | | | | | |
| Hindustan Unilever Foundation (HUF) | 7.15 | Tank de-siltation | | | | | | | | | | | | | | | |
| IndusInd Bank | 8.79 | Tank, Doha, area treatment agriculture, water harvesting structures repair | | | | | | | | | | | | | | | |
| HDFC | 14.29 | Doha, water harvesting structures renov and new, agriculture, livestock | | | | | | | | | | | | | | | |
| A.T.E. Chandra Foundation (ATECF) and NITI Aayog | 2.77 | Tank de-siltation (For one year) | | | | | | | | | | | | | | | |

The utilization status of co-funding over the last four financial years is as follows:



*FY 2022-23 utilization for HUF and IndusInd Bank up to December 2022

FY 2022-23 utilization for HDFC up to January 2023

- BIWAL received the most amount of funds in the current financial year (FY 2022-23). Some of the funding is also location specific. For example, HDFC has earmarked funding only for Jhansi and Chitrakoot districts.

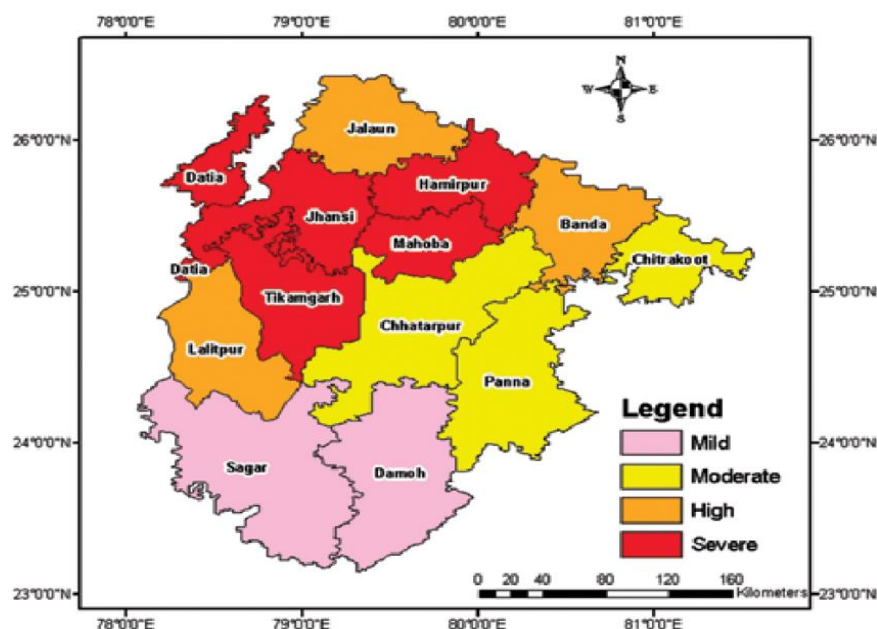
| | |
|----------------|---|
| Human resource | <ul style="list-style-type: none"> • Deloitte interacted with Ashish Ambastha, Team Leader of the project, at SRIJAN's office in Jhansi, Uttar Pradesh. • A total of 7 SRIJAN employees are part of the core implementation team that form the PMU. • The team is a mix of experienced and young professionals with backgrounds ranging from social development, agriculture and horticulture, commerce, and finance. • District-level teams are headed by team leaders and each team has Project Executives. |
|----------------|---|

| Sub-Pillar | Parameters | Status/Findings |
|------------|--|--|
| | | <ul style="list-style-type: none"> The Project Executives are supported by an on-ground team of Block Coordinators, Experts and Community Resource Persons (CRPs). The Project Executives initially start as trainees and undergo rigorous training of period varying from 1 to 1.5 years after which they undergo assessments. If found suitable, they start their journey as a Project Executive. |
| | Village identification | <ul style="list-style-type: none"> SRIJAN and its partner NGOs conducted in-depth discussions to finalise the project locations. The field teams visited potential intervention areas in the region and identified the villages based on the following criteria: <ul style="list-style-type: none"> Presence of small and marginal farmers Feasibility for improving tanks Level of the participation of community Willingness to contribute by bearing expenses for transportation of silt and farm inputs, adopting regenerative agricultural practices, and providing labour for agri-based interventions Willingness for future care and maintenance of tanks and Doha structures |
| | Adherence to annual work plan/activity timelines | <ul style="list-style-type: none"> BIWAL implementation partners had to first gain inroads into the community to deliver the project plan. It started with group meetings with members of the Panchayat and farmers, including discussions, participatory exercises, and exposure visits. After identification and approval of villages, a Tank Management Committee was formed in each village in partnership with the Panchayats. All other interventions in a village require the approval of the TMC. Adherence to annual work plan or timelines is ensured through regular monthly meetings with the farmers and other beneficiaries. |
| | Exit strategy | <ul style="list-style-type: none"> The project is currently at the mid-term stage. Women Producer Groups, BRCs, Goat Resource Centre and FPOs are an important part of the exit strategy. The aim is to build capacity of the people and generate good amounts of cash flow in these organizations, so they can cater to the supply of farm inputs in the area. This will enable community-based organizations to take up ownership and management of the water resources. Vendor and market linkages will also ensure a sustainable support system continues to benefit communities in the long term. |
| Coverage | Geographical coverage | <ul style="list-style-type: none"> The project covers 9 districts in the Bundelkhand region – Chhatarpur, Tikamgarh and Niwari districts in Madhya Pradesh and Lalitpur, Jhansi, Mahoba, Hamirpur, Banda and Chitrakoot districts in Uttar Pradesh. Given below is a map showing the Bundelkhand region: |

Bundelkhand Region Map



| Sub-Pillar | Parameters | Status/Findings |
|------------|------------|---|
| | | <ul style="list-style-type: none"> Due to its topography, geology and rainfall pattern, this entire region is prone to both droughts and floods. Given below is a drought hazard map of the region:¹ |



¹ Gupta, A., Nair, S., Ghosh, O., Singh, A., and Dey, S. 2014. Bundelkhand Drought: Retrospective Analysis and Way Ahead. National Institute of Disaster Management., New Delhi, Page 62.

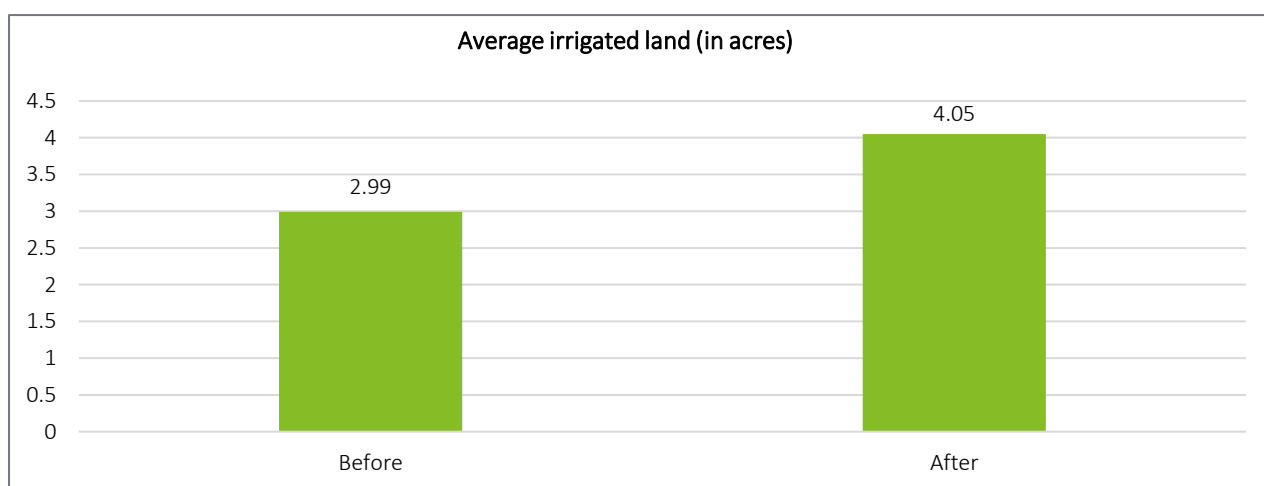
4. Assessment findings

The Deloitte team interacted with 89 beneficiaries across 5 blocks in 3 districts of Madhya Pradesh and 1 block in 1 district of Uttar Pradesh. Data was collected on the different socio-economic indicators, linkages to government schemes and entitlements, sources of income, such as farm and non-farm-based income, livestock possession, household possession, etc. to understand their income trend. Data was also collected to gauge the improvement in water security and agriculture, role and effectiveness of the collectives, improvement in women's participation, and other challenges pertaining to the region.

4.1 Key thematic take-aways of the intervention

Improved water security

- By developing a deep relationship with Tank and Doha beneficiaries and community members, implementation partners executed watershed management activities that have restored and rejuvenated tanks, and constructed Doha structures in the seasonal drainages. Creation of such watershed management structures has resulted in improved water security in the region.
- BIWAL model facilitated sustainable water resource management by facilitating community participation and collective decision-making. With the support of TMCs and Panchayats, the community has taken the onus of maintenance of water resources. It was observed that the local community members now feel a stronger sense of ownership of water resources and only require support from external agencies with building management capacity and creating income earning opportunities.
- Through this intervention, the average irrigated land among the surveyed farmers increased from roughly 3 acres to more than 4 acres.



Improved agricultural practices

- Through Bio Resource Centres (BRCs or Prakritik Kendras), the project has been demonstrating, training and motivating the community to adopt regenerative agricultural practices.
- BRC operators are entrepreneurial focal points at the village level. The operators are trained to make various concoctions at the centre, which are used for providing nutrition to the crop and pest management. The results are then demonstrated to the community in various training sessions organized by the implementation team. The community, in turn, can also place requests for the purchase of certain nutrition and pest management solutions available at the centre.
- A few of the BRCs are also hosting seed banks. The purpose of seed banks is to preserve local variety of seeds and propagate their use among the community. The seeds are available for free and the BRCs register the demand for seeds

in a timely manner. The farmers who take seeds from the seed bank must return a portion of their produce to the seed bank, so that the in next cycle, the seed can be distributed to other farmers as well.

Emergence of FPOs

- The FPOs play a crucial role in the management of various aspects of the supply chain in agriculture. BIWAL is working towards the establishment of FPOs for the benefit of farmer-beneficiaries in the intervention areas. Members of the community (Women Producer Groups) are eligible for becoming members in the FPOs. Each member has to pay a sum between INR 100 to INR 2,000 share capital.
- At the mid-term stage, 1 FPO had been created in Tikamgarh district. More than 1,200 members are part of the FPO.
- The FPO is being supported by the project. SRIJAN is helping build capacity of the Board of Directors of the FPO.
- The FPO had a turnover of around INR 25 lakh in the first year of its operations.

Long-term impact through community-led organizations

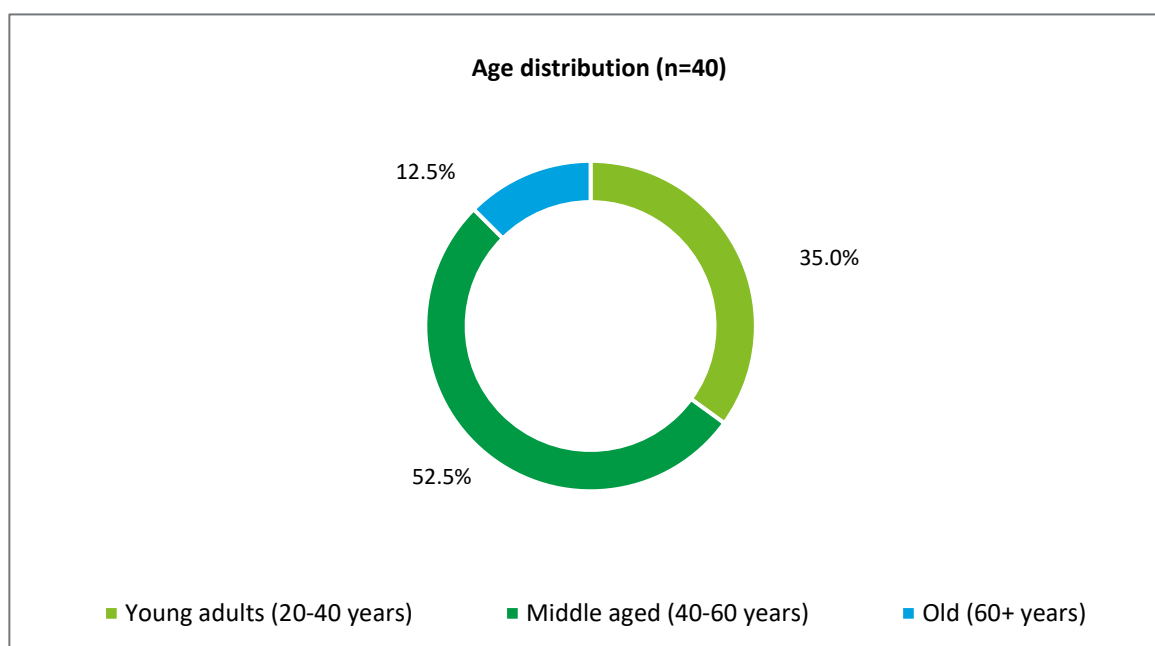
- To make the interventions sustainable and create a long-term impact in the community, implementation partners have set up and leveraged various collectives to oversee and manage various aspects of development in the intervention areas.
 - **Tank Management Committee (TMC):** TMCs are primarily responsible for conserving water resources and ensuring that tank-fed agriculture is sustainable. TMCs have played an important role in promoting a shared sense of ownership in the community by mobilizing the farmers.
 - **Farmer Producer Organizations (FPOs):** FPOs facilitate market arrangements, and collective purchase and sales of farmer produce. By leveraging a collective bargaining power, FPOs also try to ensure a fair price for the farmers' produce and are responsible for most part of the agriculture supply chain. Under BIWAL, FPOs are an important element of promoting sustainability of livelihood initiatives introduced in the community and improving farmers' income, thereby creating a long-term impact.

4.2 Beneficiary-level sample findings

Demographics and socio-economic indicators

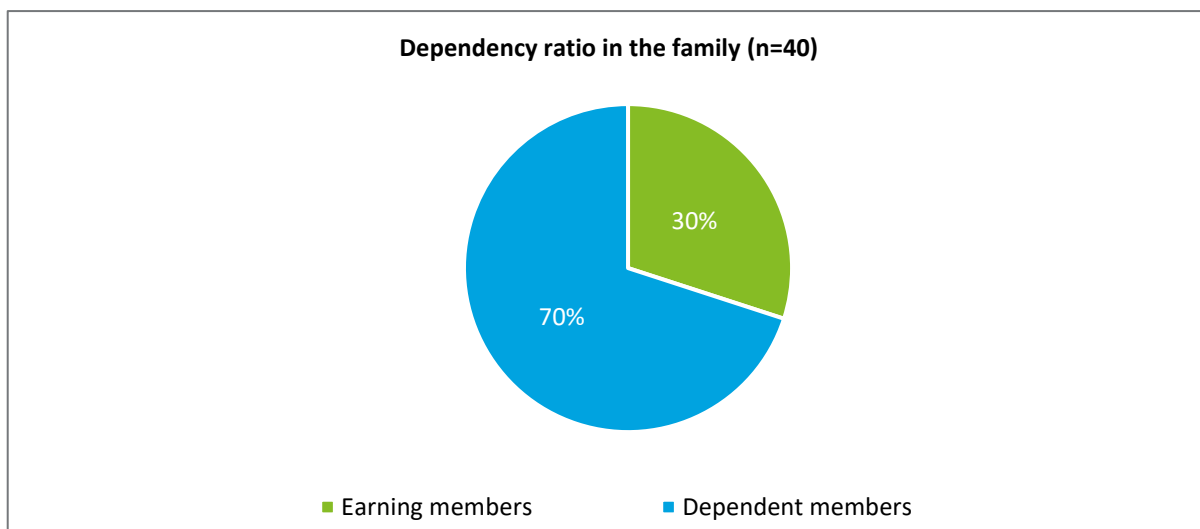
1. Age distribution of the beneficiaries

The Deloitte team interacted with beneficiaries across different age groups. Most of the respondents belonged to the working-age population (87.5%), with the highest proportion of sample beneficiaries in the middle-aged group (40-60 years). The age distribution of the sample beneficiaries is given in the figure below.



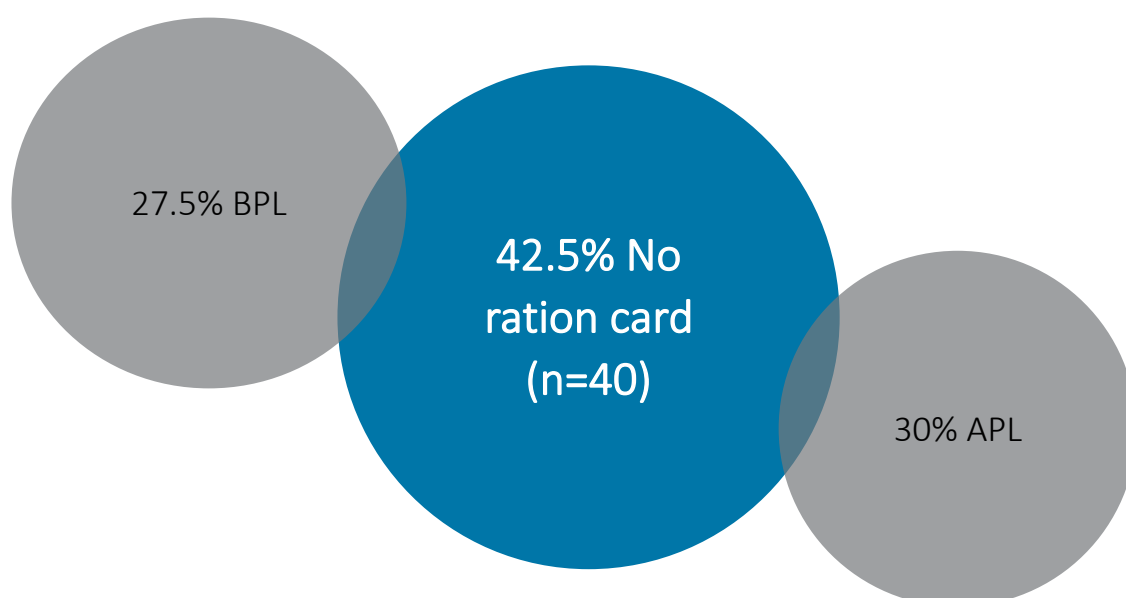
2. Earning and dependent beneficiaries

Average family size (members in the household) in the sample was 7. On an average, 68% of the households had 4 or more dependent members in the family. Majority (62%) of the sample beneficiaries had 1-2 earning members in the household.



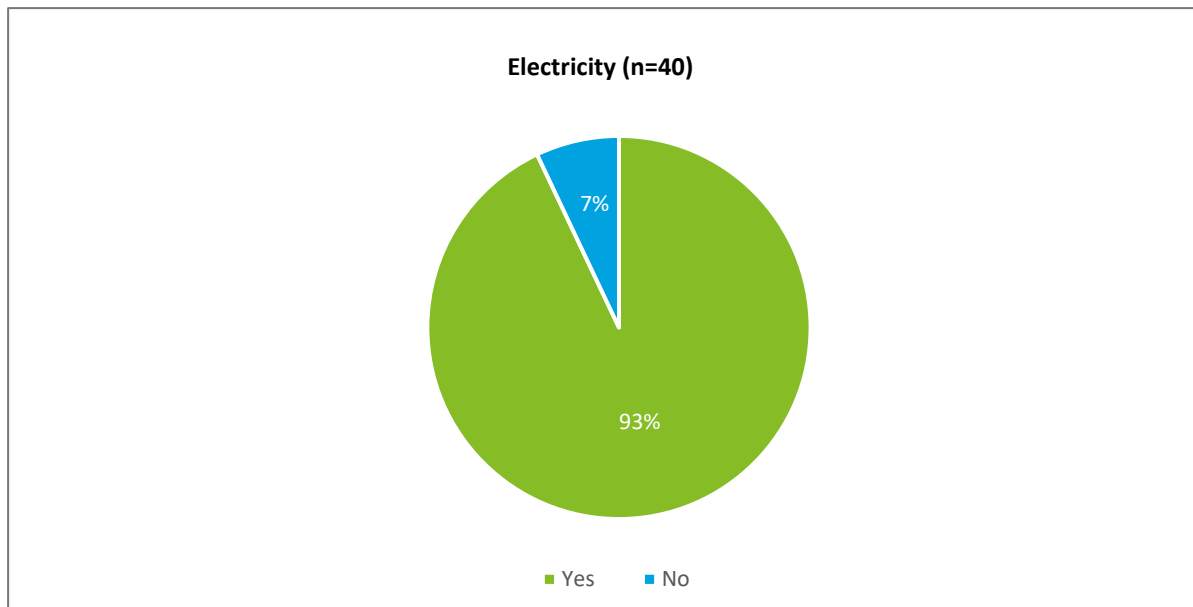
3. Socio-economic status

Majority of the respondents (42.5%) had no access to ration cards. 27.5% of the sample beneficiaries belonged to the BPL (below poverty line) category, while 30% were in the APL (above poverty line) category.



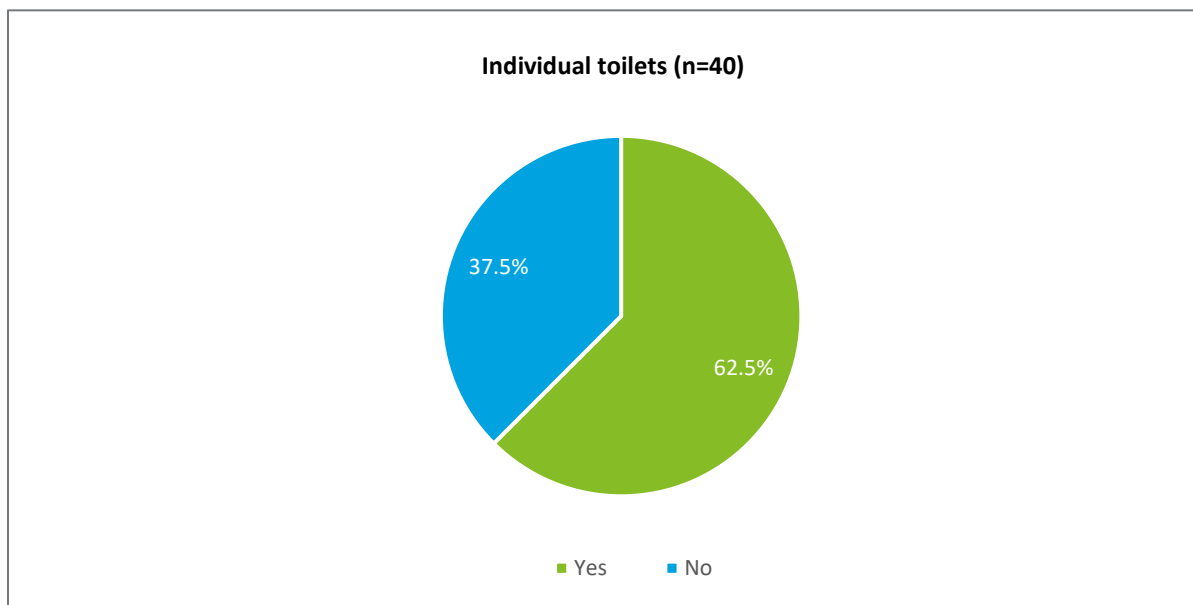
4. Electricity coverage

Most of the sample beneficiaries had electricity connection for household as well as farm usage.



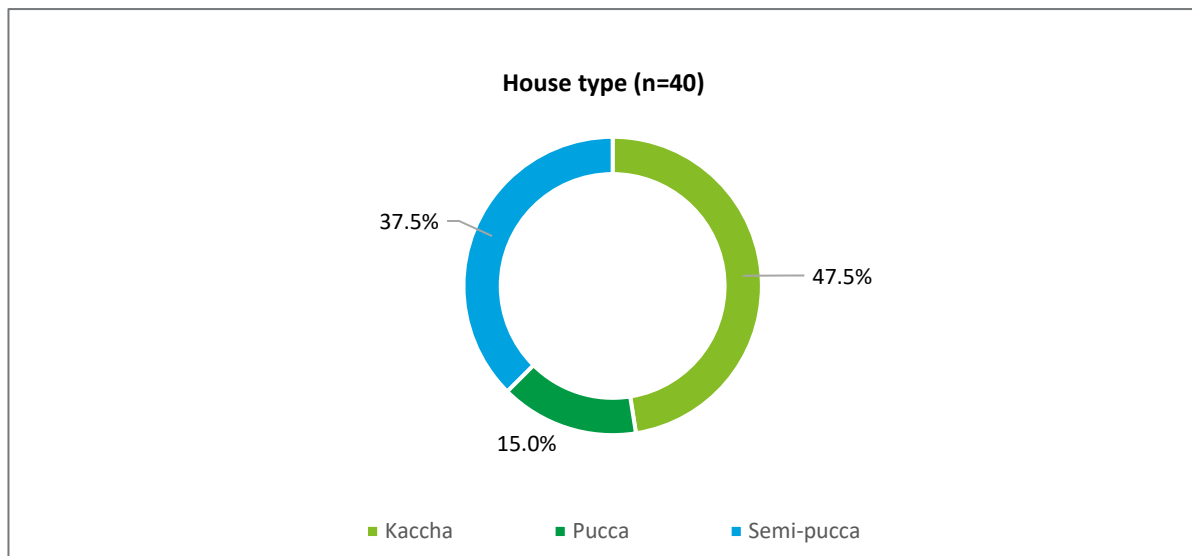
5. Individual toilets

While the majority of the sample households had access to individual toilets, a large proportion (37.5%) did not have such access



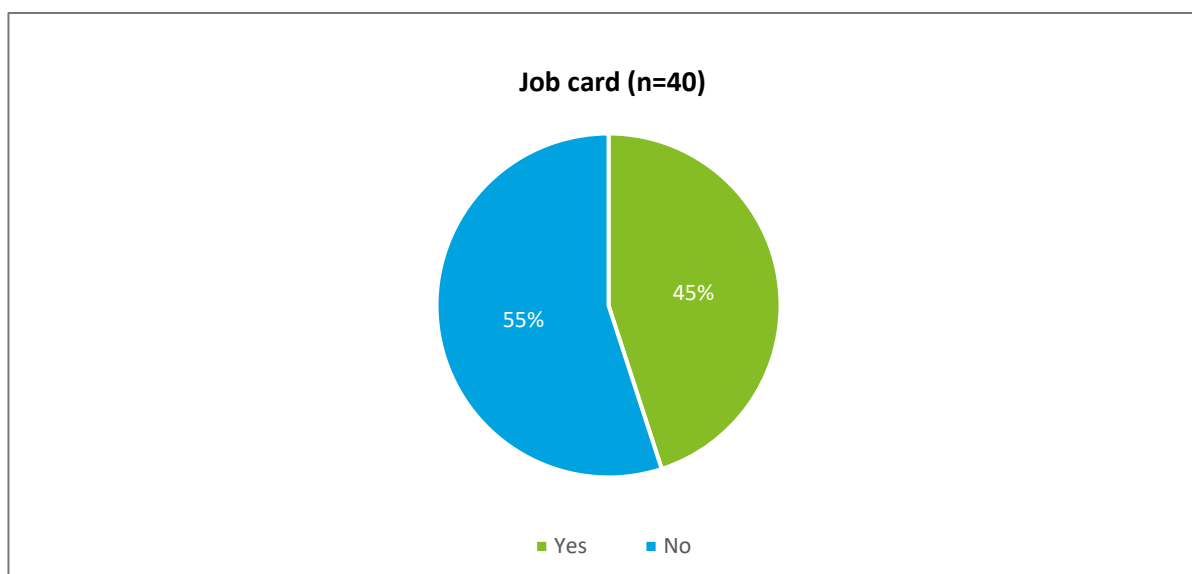
6. House type

Majority of the respondents did not have a pucca (concrete) house; 85% of them were living in kaccha and semi-pucca houses.



7. Job card

More than half of the sample beneficiaries (55%) had no access to a job card, which hinders their chances of earning non-farm income from government schemes like MGNREGS.

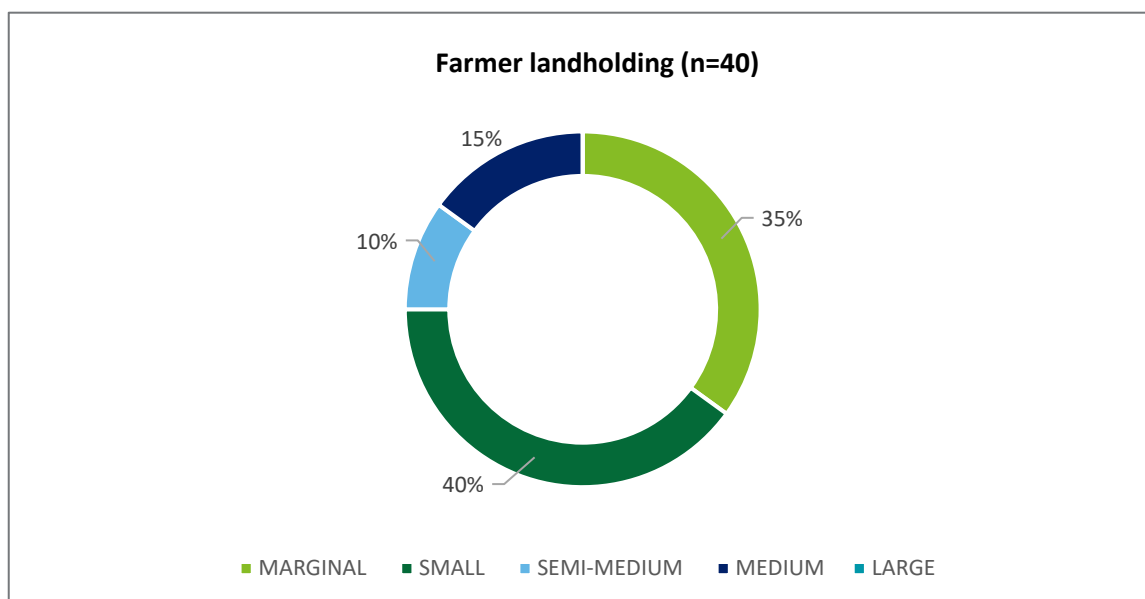


8. Farmer landholding

Based on landholding, the study classified the beneficiaries into:

- Landless: Without any land
- Marginal farmer: Landholding of less than 2.5 acres
- Small farmer: Landholding 2.5-5 acres
- Semi-medium farmer: Landholding of 5-10 acres
- Medium farmer: Landholding of 10-25 acres
- Large farmer: Landholding of above 25 acres

The beneficiary profile had a diverse landholding pattern. Among the sample beneficiaries, 75% were small or marginal farmers with landholding of up to 5 acres.



4.3 Intervention-wise findings

Tank rejuvenation and construction of Doha structures

- Bundelkhand region has more than 12,000 tanks from the Chandela and Bundela era. Over the years, these tanks have collected a lot of silt from their catchment areas, which has led to a decrease in availability of water. Under the BIWAL project, 224 tanks have been desilted so far. Additionally, 1,160 Doha structures (drainage channels that let the rainwater flow out) have been constructed along the tanks.
- Before excavating the silt, there is a provision of creating a pilot pit to check the quality of the silt and determine how much silt can be excavated without rupturing the structure. Silt excavation is not done near the embankments to avoid leakage of the structure.
- TMCs are responsible for the management of tanks and their catchment areas. TMCs have been institutionalized through the support of Panchayats and is the entry point for other activities and programs in the villages. All other interventions (MLF, BRCs and nano-orchards) are being carried out by submitting proposals to the TMCs.
- Silt excavation has resulted in increased water holding capacity of the tanks, which has amounted to 1.55 billion litres of water so far. This has resulted in an increase in the land area under irrigation.
- 75% of the sample beneficiaries observed a change in water level in wells. Out of these, 16% were able to quantify it to an average of 6.8 feet increase in water level (for January 2023).

Bio Resource Centre

- Bio Resource Centre (BRCs) or Prakritik Kendra is a village-level model cattle shed, which demonstrates how to collect resources (cow urine and dung) and their use in regenerative agriculture. Additionally, BRCs acts as training centres and groom entrepreneurs at the village level.
- BRCs are integrating livestock capital with other natural capitals (land and water). They are required to have around 3-4 cows to ensure optimum supply of cow dung and cow urine. The floor is sloped towards an outlet, which is used to collect cow urine.
- Various training programs are organized to promote regenerative agriculture and inputs (such as jivamrit, ghanjivamrit, neemasthra, brahmastra, mathastra, etc.).
- A 1-acre plot is used as a demo plot where all these concoctions are used as and when required to showcase the effect of regenerative agriculture.

- BRC operators also sell the various concoctions and bio-fertilizers to villagers at a reasonable price.
- Some BRCs have also started collecting local variety of seeds and are promoting them.
- BRCs also serve as a meeting and training point for various women producer groups (WPGs).
- At the time of the assessment, most of the BRCs were new and thus did not generate much revenue. One exception was a BRC in Lidhoratal, where the operator is making around INR 1.5 lakh per annum as a BRC entrepreneur.

Nano-orchard

- Nano-orchards are a proven method to not only increase the Soil Organic Carbon but also diversify the income of farmers. As the produce is organic, it leads to better soil health and increased productivity after a couple of years. It also requires less labour after a couple of years.
- During the assessment, it was observed that the most preferred variety in the region for nano-orchard was guava. There was a disparity in the number of plants in sample nano-orchards, which ranged from 40-2500.
- Farmer sample expressed that the fruit is better in taste and has longer shelf life than ordinarily grown guava.
- Some farmers confirmed making approximately INR 1,000 per tree after a period of 2 years. Since their produce is organic, they are at times able to earn a premium over the market rates.

Multi-layer farming (MLF)

- Multi-layer farms are intensive plots where crops are planted in a way to ensure harvest throughout the year. Crops are grown at four levels: root, leafy, bush and climbers. The plots are treated with home-made concoctions (jivamrit, ghanjivamrit, neemasthra, brahmastra, mathastra, etc.) and other bio-fertilizers.
- Farmer sample expressed that the continuous harvest provided them with a steady flow of income.
- They also expressed that the produce had a better taste and longer shelf life.
- Farmer sample highlighted that the produce fetched premium rates as it is organic. 70% of the farmer sample confirmed that their income grew by four times after shifting to MLF (average income of INR 25,000 from the 600 ft² of land as compared to average of INR 6,000 from the same patch of land).
- Most of the sample farmers expressed willingness to increase the area under MLF.

Tapovan

- The mini-forests or Tapovans being developed under the project follow the Miyawaki technique to create highly dense forests in a short time frame. This technique was developed by a Japanese botanist Akira Miyawaki. The rate at which Miyawaki forest grow is much faster than a normal forest.
- The purpose of this Tapovan is to reintroduce the local varieties of trees that are being replaced. These mini forests are being raised on community land while ensuring availability of water. The land is treated with bio-fertilizers before plantation.
- The plantation is done in a circular manner with only local species of trees. Species mapping is done before the plantation to ascertain the local variety of trees.
- For first two years, the forests need intense care (frequent irrigation during summer). A large number of such mini forests in an area can positively influence the climate in a region.
- Sample stakeholders confirmed that the mini forests have attracted a lot of bird species, which helps maintain a healthy environmental balance.

Livestock

- Pashu Sakhi is a parallel intervention model to the agriculture-related interventions under the project. This supports the landless community members or those who are unable to continue farming (such as older farmers).
- Pashu Sakhi is a self-sustainable model at the village level. The intervention includes a vaccination program and housing management for goats. A Pashu Sakhi is paid by the community for the services she provides through vaccination and marketing of goats' mineral mixture (feed for goats). They are able to earn around INR 1,500-2,000 per month through these activities.
- Goat Resource Centres (GRCs) have been set up to anchor all activities around goateries.
- Vaccination drives are carried out in partnership with the block administration office. Vaccines are mobilized at the block level and cold chain is maintained throughout for ensuring the effectiveness of vaccines.
- Sample stakeholders confirmed that there have been instances in villages when farmers lost a huge portion of their livestock to a disease outbreak. Pashu Sakhis are ensuring timely vaccination and good quality feed to the livestock of willing farmers.

Collectivization of women

- Under the project, women are being collectivized into Women Producer Groups (WPGs), FPOs and Pashupalak Sangathan at the village level. These institutions are supported by Village Resource Persons (VRPs) and Pashu Sakhis.
- FPO is an important exit strategy of the project and will ensure its sustainability. So far, one FPO has been formed under the BIWAL project. The Ken-Betwa Mahila Farmer Producer Company Limited was formed in 2022 FPO under the Companies Act.
- It currently has around 1,200 members. The criteria for membership include holding 10-200 shares with a face value of INR 10.
- Its Board of Directors (BoD) has 7 women members and BoD meeting is organized every month. The Chief Executive Officer, VRP and CLM are being supported by SRIJAN.
- It raised a total of INR 7 lakh shareholder capital, and this was used to provide input linkage and seed banks. The FPO also runs a custom hiring centre where it leases its equipment to a BRC from where the BRC operator handles it
- BRC and GRC are two arms of the FPO to operationally segregate agricultural and livestock activities respectively.
- Currently, the turnover is around INR 25 lakh through its seed business.

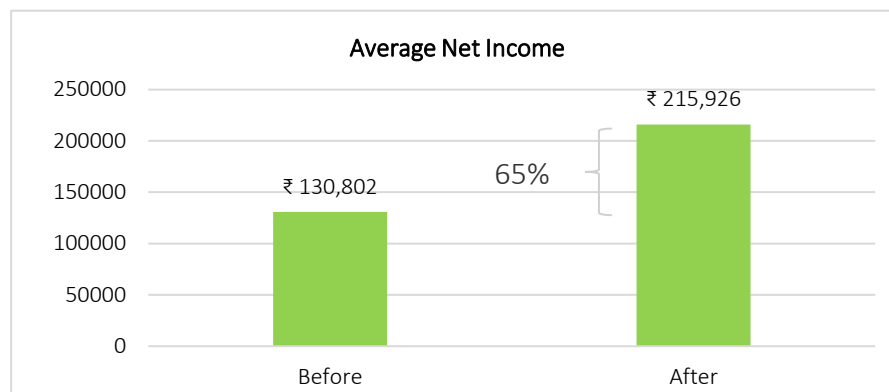
4.4 Income-related indicators

The net and gross income, cost-related data collected during the study is based on recall of the respondents. The data has been analysed to assess accurate change in financial indicators due to the intervention. The sample for all income-related indicators is 40. These 40 farmers benefitted from Tanks and Doha restoration/construction.

| Sub-pillar | Aspect | Status/Findings |
|-----------------|------------------------------|---|
| 4.4.1 Income | Annual net disposable income | <ul style="list-style-type: none"> • Net disposable income is the annual gross income after subtracting the annual cost (expenditure). The total annual gross income of the beneficiaries includes earning from farming, kitchen gardening, livestock, tree plantation, MGNREGA, collection of forest produce and daily wages. |

- The average annual net income of sample beneficiaries is given below:

| Before | After | Change |
|--------------|--------------|--------|
| INR 1,30,802 | INR 2,15,926 | 65% |

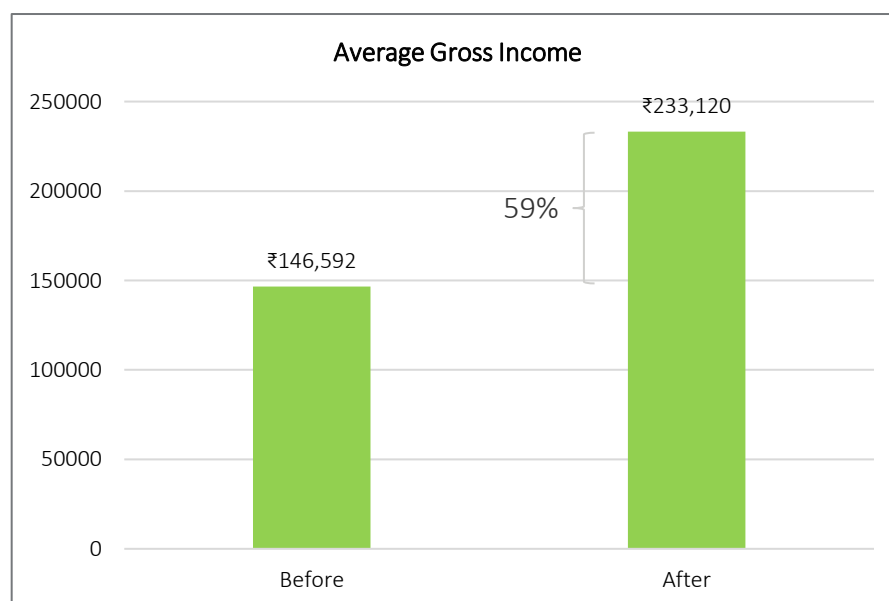


- Majority of the respondents (60%) had an annual net income above INR 1,00,000.
- There is a significant rise in the number of beneficiaries with a net income of over INR 1,00,000. While only 27.5 % of the beneficiaries had a net income of over 1,00,000 before the intervention, the proportion now stands at 60%.

Annual
gross
income

- The gross income equals the income from farm activities (agriculture, horticulture, kitchen gardening, tree plantation, livestock etc.), from non-farm activities (net income from migration, micro-enterprise, wage labour, etc.), from common land and forest produce, and income from any other sources (pension, social security, etc.). This is aggregated to all earning members of the household.
- The average annual gross income of the sample beneficiaries increased by 59% after the intervention

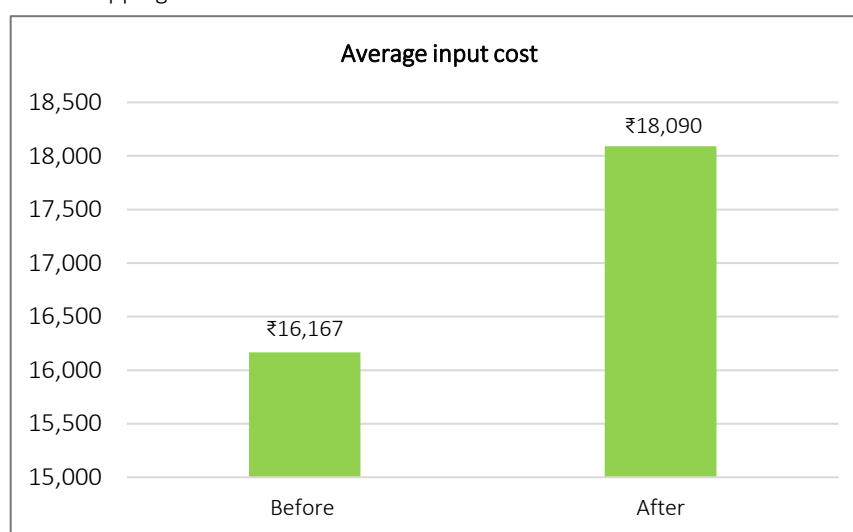
| Before | After | Change |
|--------------|--------------|--------|
| INR 1,46,592 | INR 2,33,120 | 59% |



- Only 30% sample beneficiaries had a gross income of less than INR 1,00,000 per annum before intervention. Post the intervention, this proportion rose to 70%.
- This is indicative of the positive impact of the interventions on the gross income of the households.

Annual cost

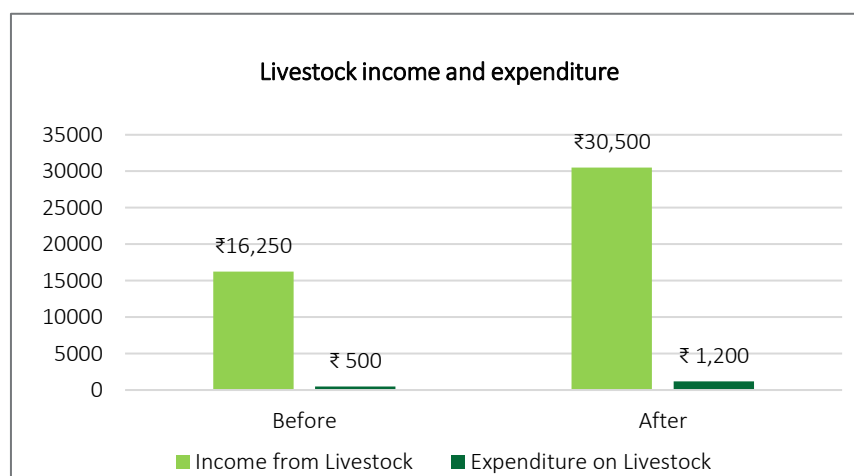
- Total cost borne by the beneficiaries equals the expenditure on inputs for farm activities (seeds, fertilizers, labour, pesticides, machinery, fuel, storage, transport, purchase of livestock, fodder, veterinary charges, etc.), and expenditure on inputs for non-farm activities.
- The annual cost was observed to have increased over time along with the increase in gross income. But the proportion of increase in average gross income is much larger than the increase in average input cost. This is primarily due to shift to regenerative practices, which has reduced cost of cultivation.
- The increased cost also correlates with many farmers now increasing the intensity of their cropping.



| Before | After | Change |
|------------|------------|--------|
| INR 16,167 | INR 18,090 | 12% |

Income from livestock

- Sample Pashu Sakhis expressed that they are earning around INR 1,500-2,000 per month through goat vaccination and marketing of mineral mixture. The total income and expenditure from livestock-related activities is given below:



4.5 Other financial indicators

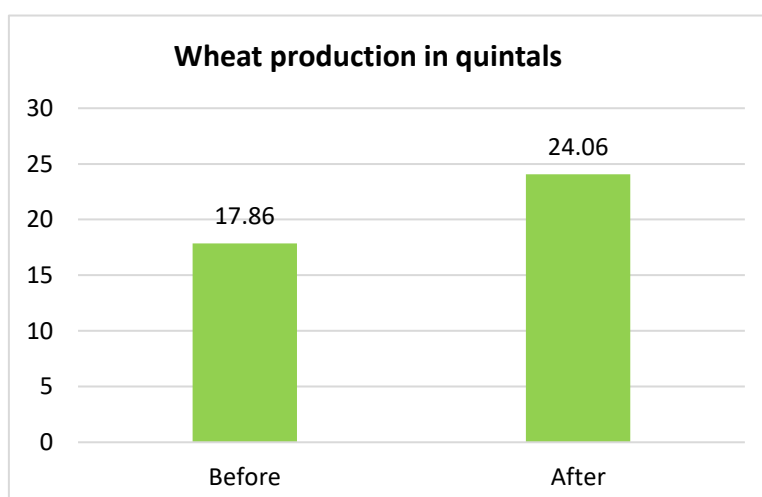
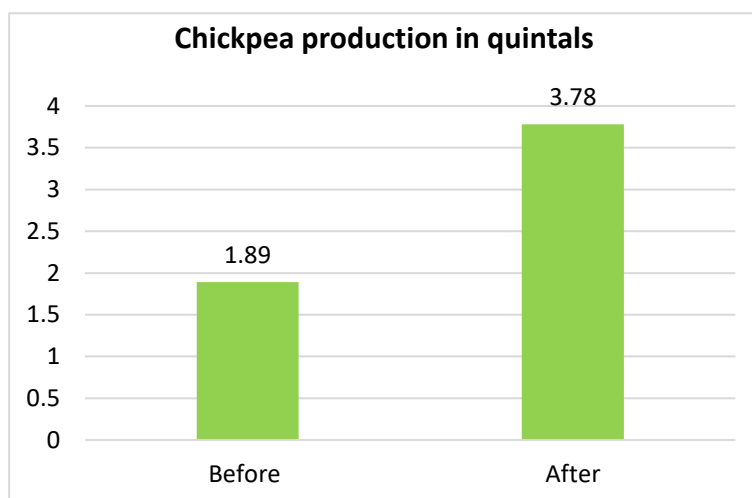
| Sub-pillar | Aspect | Status/Findings |
|------------------------------|-----------------|--|
| 4.5.1 Financial inclusion | Asset ownership | <ul style="list-style-type: none"> The beneficiaries were assessed on the possession of five common household assets, i.e., television, cell phone, bicycle, two-wheeler vehicle, and gas stove. The average household score was found to be 2 and 4 before and after the intervention respectively. Majority of beneficiaries reported owning at least 3 or 4 out of the 5 listed assets after the intervention. |

| Before | After | Change (%) |
|--------|-------|------------|
| 2 | 4 | 50% |



4.6 Non-financial indicators

| Sub-pillar | Aspect | Status/Findings |
|-----------------------|------------|---|
| 4.6.1 Productivity | Crop yield | <ul style="list-style-type: none"> During the interaction with sample beneficiaries, two major crops – wheat and chickpea – showed a good margin of increase in average output. This, in turn, also impacted the average income of beneficiaries. Overall, better availability of water throughout the year and better knowledge of farming practices have reaped dividends for the community. Increase in the average output from crops can be attributed to increased fertility of land due to water availability for most parts of the year. Farmers have also started crop diversification practices which in turn helps them grow crops throughout the year leading to better income. Wheat and chickpea alone contributed to an increase of around INR 22,130 in the average net income. |



4.7 Case studies

1. Distress migration

The area in and around Kudar village of Niwari district in Madhya Pradesh witnesses high migration of the community to bigger cities like Delhi, Bengaluru, Indore, Surat, and Hyderabad. Most of these migrants work in these cities as daily wage labourers. The primary reason for migrating was dwindling agricultural income due to poor farm productivity, poor quality of land resources, and low availability of water for irrigation.

Murti Benskar, a resident of the village narrated how the use of tank silt helped enrich the soil in her farm. The soil enrichment and increased availability of water due to tank rejuvenation led to improved resource quality and quantity. She observed an increase in the farm productivity, which led to an increase in her income in the last two years. She expressed that this was the reason why she and other members of the community decided to stay back and returned to their primary profession i.e., agriculture. She expressed her gratitude to the BIWAL project, which has led to an increase in income-generating opportunities in the village. She added that the intervention's impact increased with the introduction of improved farming methods.



Deloitte team interacting with conversation with Murti Benskar, Kudar village

Murti Benskar quoted, *“Our land was not arable, and our well was all dried up for some years and we had no source of income in the village. So, we used to migrate to Delhi every year with our children and work there as daily wage labourers. Our kids were also studying in government schools in Delhi. Only after using the silt excavated from the tank, our 3 acres of land has become arable, and we have started cultivating it since 2021. I like it here in the village. Here, we can get rest and we are the owners of our destiny.”*

2. Role model for the community

Bharat Bhushan Nigam of Manwara village in Chhatarpur district of Madhya Pradesh has a keen interest in the reintroduction of local variety of seeds while helping her wife, Basanti Nigam, with operating the BRC in their village. When he came to know about the initiative in the region, he led from the front to increase traction of regenerative agriculture within the community. He went above and beyond the intended purpose of the BRC in producing bio-fertilizers and farm inputs and integrated the seed bank within the BRC. Local variety of seeds, unlike hybrid seeds, do not need to be changed every few years and gel well with the bio-fertilizers.

The FPO formed under the BIWAL project is now engaged with the seed banks at BRCs to provide them with local variety of seeds. Thereafter, the seed bank distributes the seeds to interested farmers. Farmers, after harvesting the crop, return 25% of the produce to the BRCs so that it can be used as seed by more farmers.



Bharat Bhushan Nigam with local variety of seeds

Seed distribution recordkeeping at BRC in Manwara

Bharat Bhushan Nigam said, “Our local variety of seeds have immense production potential. My personal favourite is Kathiya, it is a local variety of wheat, and its roti is a delicacy to have. Apart from this we are trying to propagate the local variety of seeds through an agreement with farmers that they will have to give back 25% of the produce to the BRC so that it can be provided to more farmers.”

3. Multi-level farming – a boon for small and marginal farmers

Mohan Raikwar is a marginal farmer from Barma Tal village of Tikamgarh district. He mentioned that most of the farmers in the region are small farmers and have little knowledge about improved farming techniques. This, combined with the increasing cost of chemical fertilizers like DAP and urea and pesticides, has increased their cost of cultivation and decreased the fertility of the land. He shared how practicing MLF helped him become self-sufficient by providing a continuous source of income throughout the year from his small piece of land at lower input cost. He believes this has helped provide a better future for his children.



Mohan Raikwar quoted, “With MLF, my income has increased. Now, I am earning INR 50,000 a year and that too by practicing it only on 1 acre of my 2-acre land. I am now self-sufficient; the farm can support my family’s nutritional needs and I can send my children to schools. I have also bought 3 buffaloes with my surplus income. I was the first one to start this practice in my village and now there are 12-13 farmers following it after me. I feel happy when someone approaches me to learn this method. The organic manure which I use, results in better growth, and the vegetables are healthier and better in taste. I want to learn more about other farming techniques.”

Mohan Raikwar and his wife at their farm where they have been practicing MLF for the last one year

5. Learnings and recommendations

5.1 Learnings

The learnings from the model are as follows:

* The below action points are not in any order of prioritization or preference. Deloitte team advises that finalization of action points be done by the client after due consultation and discussion based on the perceived community needs, implementing partners' inputs and client project team's internal priority-setting analysis.

| Aspect | Findings | Recommendation |
|--|---|---|
| Partnership with other civil society organizations | <ul style="list-style-type: none"> The project implementation with SRIJAN acting as the mother NGO and partnering with five grassroots-level organizations is a unique feature of the model The partnership, as reported by various stakeholders, is strong and has achieved significant consistency in terms of implementation, design, processes, and outputs as well The data management and record-keeping aspects have also been consistent and up to date across the partners | A program-level workshop/seminar can be organized for providing cross-learning opportunity |
| Social issues like patriarchy, caste discrimination, etc. | <ul style="list-style-type: none"> Through sample and various stakeholder interactions, it was observed that the interventions have been successful in reaching out to a wide array of communities across the spectrum Without the presence of implementing partners, the silt distribution would have only benefited large farmers with access to vehicles for the transportation of silt. However, mobilization on the ground, setting up of TMCs and community involvement ensured social inclusion Women-led SHGs are involving women into decision-making roles | Women-led SHGs should be the focal points for future livelihood interventions |
| Maturity stage of interventions | <ul style="list-style-type: none"> While at the two-year stage, the project is still not at maturity with many of the outcomes and sustainability factors yet to be realized, tank rejuvenation and Doha structure creation activities have shown the most coverage. These two activities can be expanded for scale along with collectivization of women | Additional tanks should be identified, and Doha structures should be constructed in the region |
| Drinking water sources | <ul style="list-style-type: none"> Some respondents agreed that the additional water availability has helped in the domestic usage and drinking water source for livestock Impact on drinking water for human consumption is still to be seen at large scale and at sustainable levels | Assessment of current water sources can be conducted as baseline to identify hotspots |

5.2 Recommendations

| Aspect | Recommendation |
|---------------------------------------|---|
| Natural Resource Management | A ridge to valley approach to treat a large area in terms of soil and water conservation yields superior results. Also, treatment at valley level will have low sustainability and tanks will need excavation regularly. In situ soil conservation techniques like farm bunding to be promoted in the catchment area of the tanks |
| Rights and entitlements | A large part of the sample did not have access to toilets and job cards. MGNREGS can become a source of fund mobilization for tank rejuvenation and income generation for farmers (55% of the sample did not have job cards and 42.5% did not have ration cards) |
| Funding security | Tank de-siltation requires regular flow of funds. There are chances of a fallout in the program in case there is no concrete source of funding for de-siltation |
| Alignment with NRLM | WPGs are like a parallel institution to the NRLM structure (SHGs and Federations). Integration of both can lead to huge fund mobilization for the WPGs and FPOs |
| High rate of informal interest | Through conversations it was also observed that community have limited access to formal source of credit and there were farmers who have taken loan from informal sources at a very high rate of interest. This is one of the threats to the community and may limit the participation of the needy in the program |
| Target achievement | The project would need to focus on the creation of FPOs and mini-forests as they are below par at the mid-term stage |

6. Annexure: Stakeholder coverage

List of SRIJAN and IP teams

| S. No. | Name | Designation | Organization | Type of interaction |
|--------|------------------|--|--------------|---------------------|
| 1 | Ashish Ambastha | Program Lead | SRIJAN | KII |
| 2 | Kamlesh Kurmi | Team Member | SRIJAN | KII |
| 3 | Rakesh K. Singh | Team Lead | SRIJAN | KII |
| 4 | Yashpal Singh | Village Resource Person | SRIJAN | KII |
| 5 | Mangat Singh | Project Executive | SRIJAN | KII |
| 6 | Mahendra Khare | Village Resource Person | SRIJAN | KII |
| 7 | Surendra Adivasi | CLM | SRIJAN | KII |
| 8 | Pramod | Horticulture Expert | SRIJAN | KII |
| 9 | Shivani | Project Executive | SRIJAN | KII |
| 10 | Diksha | Project Executive | SRIJAN | KII |
| 11 | Jay Bihari Ghosh | Block Coordinator | SRIJAN | KII |
| 12 | Neetu | Village Resource Person | SRIJAN | KII |
| 13 | Shalini | Project Executive | SRIJAN | KII |
| 14 | Mamta | Village Resource Person | SRIJAN | KII |
| 15 | Shashi | Community Resource Person | SRIJAN | KII |
| 16 | Hari Krishna | Village Resource Person | SRIJAN | KII |
| 17 | Rohit Singh | FC | SRIJAN | KII |
| 18 | Kamlesh Kurmi | Project Manager | SRIJAN | KII |
| 19 | Pramod | SME (Horticulture) | SRIJAN | KII |
| 20 | Sulekha | SME and Village Resource Person | SRIJAN | KII |
| 21 | Mamta Kumari | Project Executive | SRIJAN | KII |
| 22 | Dilip Shakya | SME (Horticulture and Multi-layer farming) | SRIJAN | KII |
| 23 | Diksha Thakur | Project Executive | SRIJAN | KII |
| 24 | Antara Rajput | Agri Expert | Haritika | KII |

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|----|-----------------------|-------------------------|----------|-----|
| 25 | Yuvraj Yadav | Agri Expert | Haritika | KII |
| 26 | Angitha | Program Director | Haritika | KII |
| 27 | Gautam Chaudhary | Program Manager | Haritika | KII |
| 28 | Mahendra | Community Coordinator | Haritika | KII |
| 29 | Abhishek | Founder | Arunoday | KII |
| 30 | Shoba Lal | Village Resource Person | Arunoday | KII |
| 31 | Jayendra Patel | Village Resource Person | Arunoday | KII |
| 32 | Kalka Prasad | Team Member | Arunoday | KII |
| 33 | Chandraprakash Tiwari | Panchayat Coordinator | Arunoday | KII |
| 34 | Ramesh Prasad | Panchayat Coordinator | Arunoday | KII |
| 35 | Vinay | Team Member | Arunoday | KII |

List of FPO members

| S. No. | Name | Designation | Organization | Type of interaction |
|--------|--------------|-------------|-----------------------|---------------------|
| 1 | Barsha Patel | CEO, FPO | Ken Betwa Mahila FPCL | KII |

List of beneficiaries

| S. No. | Name of beneficiary | State | District | Block |
|--------|---------------------|----------------|------------|----------|
| 1 | Tulsa Khushwah | Madhya Pradesh | Chhatarpur | Bijawar |
| 2 | Shyam Bai Khushwaha | Madhya Pradesh | Chhatarpur | Bijawar |
| 3 | Kashibai Raikwar | Madhya Pradesh | Chhatarpur | Bijawar |
| 4 | Sarju Prajapati | Madhya Pradesh | Chhatarpur | Bijawar |
| 5 | Shivram Mishra | Madhya Pradesh | Chhatarpur | Bijawar |
| 6 | Varun Dubey | Madhya Pradesh | Chhatarpur | Bijawar |
| 7 | Ramsakhi Khushwaha | Madhya Pradesh | Chhatarpur | Bijawar |
| 8 | Suresh Patel | Madhya Pradesh | Chhatarpur | Gaurihar |
| 9 | Ram Pratap | Madhya Pradesh | Chhatarpur | Gaurihar |
| 10 | Rajesh | Madhya Pradesh | Chhatarpur | Gaurihar |
| 11 | Devchand Patel | Madhya Pradesh | Chhatarpur | Gaurihar |
| 12 | Seeta Kushwah | Madhya Pradesh | Chhatarpur | Gaurihar |
| 13 | Rajesh Tiwari | Madhya Pradesh | Chhatarpur | Gaurihar |
| 14 | Santosh Singh | Madhya Pradesh | Chhatarpur | Gaurihar |

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|----|-----------------------|----------------|------------|----------|
| 15 | Arjun | Madhya Pradesh | Chhatarpur | Gaurihar |
| 16 | Ramdev Patel | Madhya Pradesh | Chhatarpur | Gaurihar |
| 17 | Ram Kishore | Madhya Pradesh | Chhatarpur | Gaurihar |
| 18 | Santosh Patel | Madhya Pradesh | Chhatarpur | Gaurihar |
| 19 | Sitasharan Patel | Madhya Pradesh | Chhatarpur | Gaurihar |
| 20 | Awadhesh Patel | Madhya Pradesh | Chhatarpur | Gaurihar |
| 21 | Kaushal Tiwari | Madhya Pradesh | Chhatarpur | Gaurihar |
| 22 | Rajesh Tiwary | Madhya Pradesh | Chhatarpur | Gaurihar |
| 23 | Narendra Singh | Madhya Pradesh | Chhatarpur | Gaurihar |
| 24 | Murat Singh Sengar | Madhya Pradesh | Chhatarpur | Gaurihar |
| 25 | Nallu | Madhya Pradesh | Chhatarpur | Gaurihar |
| 26 | Vimla | Madhya Pradesh | Chhatarpur | Gaurihar |
| 27 | Gyanwati | Madhya Pradesh | Chhatarpur | Gaurihar |
| 28 | Basanti Nigam | Madhya Pradesh | Chhatarpur | Gaurihar |
| 29 | Bharat Bhushan Nigam | Madhya Pradesh | Chhatarpur | Gaurihar |
| 30 | Lakhanlal | Madhya Pradesh | Chhatarpur | Gaurihar |
| 31 | Raj Kumar | Madhya Pradesh | Chhatarpur | Gaurihar |
| 32 | Dharmendra | Madhya Pradesh | Chhatarpur | Gaurihar |
| 33 | Fula Chadar | Madhya Pradesh | Chhatarpur | Gaurihar |
| 34 | Rekha Ahirwar | Madhya Pradesh | Chhatarpur | Gaurihar |
| 35 | Kaushalya Kewat | Madhya Pradesh | Niwari | Niwari |
| 36 | Murti Benskar | Madhya Pradesh | Niwari | Niwari |
| 37 | Mana Devi Khushwaha | Madhya Pradesh | Niwari | Niwari |
| 38 | Ramkunwar Khushwaha | Madhya Pradesh | Niwari | Niwari |
| 39 | Girija Devi Khushwaha | Madhya Pradesh | Niwari | Niwari |
| 40 | Chintu Yadav | Madhya Pradesh | Niwari | Niwari |
| 41 | Bhanu Pratap | Madhya Pradesh | Niwari | Niwari |
| 42 | Ballu Pal | Madhya Pradesh | Niwari | Niwari |
| 43 | Surendra Singh | Madhya Pradesh | Niwari | Niwari |
| 44 | Chhatrapal Singh | Madhya Pradesh | Niwari | Niwari |
| 45 | Ghanshyam Pal | Madhya Pradesh | Niwari | Niwari |
| 46 | Chinu Kushwah | Madhya Pradesh | Niwari | Niwari |
| 47 | Manju Devi | Madhya Pradesh | Niwari | Niwari |

| | | | | |
|----|-------------------------|----------------|-----------|--------|
| 48 | Lakshmi | Madhya Pradesh | Niwari | Niwari |
| 49 | Dayawati | Madhya Pradesh | Niwari | Niwari |
| 50 | Usha Devi | Madhya Pradesh | Niwari | Niwari |
| 51 | Vandana Khushwaha | Madhya Pradesh | Niwari | Niwari |
| 52 | Neema Sor | Madhya Pradesh | Niwari | Niwari |
| 53 | Ram Kuwar Devi | Madhya Pradesh | Niwari | Niwari |
| 54 | Ramdevi Rajput | Madhya Pradesh | Tikamgarh | Jatara |
| 55 | Harkunwar Khushwaha | Madhya Pradesh | Tikamgarh | Jatara |
| 56 | Kusum Khushwaha | Madhya Pradesh | Tikamgarh | Jatara |
| 57 | Mohan Lal | Madhya Pradesh | Tikamgarh | Jatara |
| 58 | Sarman Lal Chadar | Madhya Pradesh | Tikamgarh | Jatara |
| 59 | Channu Kushwah Simariya | Madhya Pradesh | Tikamgarh | Jatara |
| 60 | Ramabai Ahirwar | Madhya Pradesh | Tikamgarh | Jatara |
| 61 | Guddi Bai | Madhya Pradesh | Tikamgarh | Jatara |
| 62 | Ramabai Ahirwar | Madhya Pradesh | Tikamgarh | Jatara |
| 63 | Ratan Khushwaha | Madhya Pradesh | Tikamgarh | Jatara |
| 64 | Vinodbai | Madhya Pradesh | Tikamgarh | Jatara |
| 65 | Khilanbai | Madhya Pradesh | Tikamgarh | Jatara |
| 66 | Khilan Khushwaha | Madhya Pradesh | Tikamgarh | Jatara |
| 67 | Sukhbat Khushwaha | Madhya Pradesh | Tikamgarh | Jatara |
| 68 | Praveen Singh | Madhya Pradesh | Tikamgarh | Jatara |
| 69 | Kalyan Singh | Madhya Pradesh | Tikamgarh | Jatara |
| 70 | Jhundani Yadav | Madhya Pradesh | Tikamgarh | Palera |
| 71 | Dharmdas Yadav | Madhya Pradesh | Tikamgarh | Palera |
| 72 | Ratanlal Yadav | Madhya Pradesh | Tikamgarh | Palera |
| 73 | Vijay Singh Thakur | Madhya Pradesh | Tikamgarh | Palera |
| 74 | Trilok Singh Thakur | Madhya Pradesh | Tikamgarh | Palera |
| 75 | Chandrabhan Yadav | Madhya Pradesh | Tikamgarh | Palera |
| 76 | Mohan Yadav | Madhya Pradesh | Tikamgarh | Palera |
| 77 | Mahendra Singh Dangi | Madhya Pradesh | Tikamgarh | Palera |
| 78 | Lakshmi Ghosh | Madhya Pradesh | Tikamgarh | Palera |
| 79 | Surmat Chadar | Madhya Pradesh | Tikamgarh | Palera |
| 80 | Rakesh Giri | Madhya Pradesh | Tikamgarh | Palera |

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|----|-----------------|----------------|-----------|---------|
| 81 | Kishan Dangi | Madhya Pradesh | Tikamgarh | Palera |
| 82 | Gokaran Awasthi | Madhya Pradesh | Tikamgarh | Palera |
| 83 | Khem Chandra | Uttar Pradesh | Mahoba | Jaitpur |
| 84 | Hakam Singh | Uttar Pradesh | Mahoba | Jaitpur |
| 85 | Ramesh | Uttar Pradesh | Mahoba | Jaitpur |
| 86 | Govind Singh | Uttar Pradesh | Mahoba | Jaitpur |
| 87 | Khem Chand | Uttar Pradesh | Mahoba | Jaitpur |
| 88 | Sushma | Uttar Pradesh | Mahoba | Jaitpur |

Social Impact engagement team



Anjani Kumar

Partner

- Engagement partner
- Project supervisory role
- Expert inputs on report



Dr. Ashishraj Jayseela

Director

- Engagement manager
- Project supervisory role
- Report editing



Archana Sharma

Senior Consultant

- Field team lead
- Research and final report submission
- Engagement coordinator for BIWAL project



Gurjeet Singh Rana

Consultant

- Field team member
- Approach and methodology
- Data entry and analysis
- Report writing: Sections on field observations, learnings and recommendations



Chaitanya Gupta

Analyst

- Field team member
- Data entry
- Report writing: Sections on programmatic review, field observations.



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