

IMPACT ASSESSMENT REPORT OF NEER SANRAKSHAN- BOLARAM PROJECT

July 2025

Pernod Ricard India Private Limited

Price Waterhouse Chartered Accountants LLP

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- Our work was limited to the specific samples/ procedures described in this report and were based only on the information and analysis of the data obtained through interviews of beneficiaries supported under the programme, selected as sample respondents. Accordingly,

changes in circumstances/ samples/ procedures or information available after the review could affect the findings outlined in this report.

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- Our observations represent our understanding and interpretation of the facts based on reporting of beneficiaries and stakeholders. The recommendations provided may not be exhaustive from the perspective of bringing about improvements in the programme and additional steps/efforts may be required on the part of the management to address the same.
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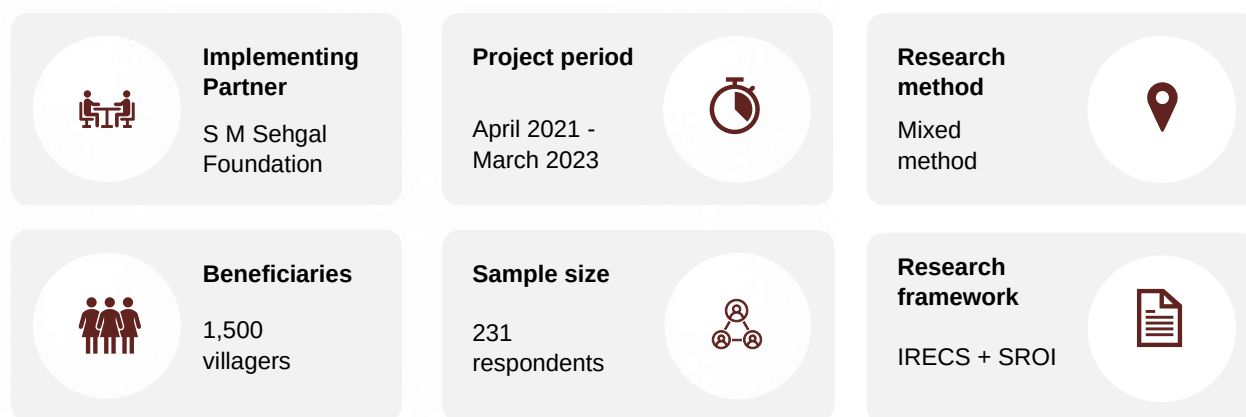
- For SROI based study:
 - The method has high data dependency, and the results may impact if the correct data is not available/ provided.
 - For a strong SROI study, the use of factual, documented & time bound data is essential. For the same, robust data processes and M&E framework (or result based framework) is required.
 - Specific areas such as deadweight, attribution and drop off has considerable subjectivity.
 - Since outputs and outcomes are valued at each level of stakeholder engagement, it is difficult to capture all aspects and arrive at holistic results.
 - Inflation rates and depreciation of assets, natural resources are difficult to measure if the duration of the Project is long.
 - The calculations to estimate the SROI value of the project have made use of either the extrapolation of the quantitative survey results on the total population or the data on the project reach or benefits provided by PRIPL as part of its monitoring reports. The exact number of community members or the entire quantum of benefits has not been validated or verified independently on-ground.
 - The proxy values for the calculations have been referred to from quantitative results of the study and information shared by key stakeholders during the interactions. PW does not claim the responsibility for the correctness of data shared by the stakeholders.
 - The data on project investment is shared by the PRIPL team. PW has not verified the investment figures independently.

List of acronyms

CL	-	Confidence Level
CSA	-	Centre for Sustainable Agriculture
CSR	-	Corporate Social Responsibility
FGD	-	Focus Group Discussion
FP	-	Financial Proxy
ICAR	-	Indian Council of Agricultural Research
ICRISAT	-	International Crops Research Institute for the Semi-Arid Tropics
IDI	-	In Depth Interview
INM	-	Integrated Nutrient Management
INR	-	Indian National Rupee
IPM	-	Integrated Pest Management
IRECS	-	Inclusiveness, Relevance, Effectiveness, Convergence, Sustainability
KII	-	Key Informant Interview
KPI	-	Key Performance Indicator
KVK	-	Krishi Vigyan Kendra
MoE	-	Margin of Error
NPV	-	Net Present Value
OBC	-	Other Backward Class
PRI	-	Panchayati Raj Institution
PRIF	-	Pernod Ricard India Foundation
PRIPL	-	Pernod Ricard India Private Limited
PWCALLP/ PW	-	Price Waterhouse Chartered Accountants LLP
SC	-	Scheduled Caste

Executive Summary

Pernod Ricard India Private Limited (PRIPL) initiated the Neer Sanrakshan- Bolaram project to enhance water management in Pothula Boguda and Edulapur villages in Telangana's Medak district. This project aimed to address the agricultural community's reliance on groundwater, leading to a declining water table and threatened their income. PRIPL engaged Price Waterhouse Chartered Accountants LLP ("PWCALLP", "PW") to carry out the impact assessment of the project with a purpose to evaluate the impact created on the community during the project period. PW's scope of work encompassed a desk review of project documents, development of research tools, data collection and analysis, and the presentation of key findings and recommendations in a report for management's consideration. The project details and the approach adopted for carrying the impact assessment is illustrated below:



Key Findings:

- Enhancements in crop yields were reported by 99% of farmers, attributable to improved water availability and better soil fertility facilitated by project interventions.
- Paddy yields specifically rose from 23.3 to 27.3 quintals per acre, a 18% increase. On an average, the income from agriculture among the respondents has more than doubled from 2020-21 to 2024-25.
- Communities observed a substantial increase in cultivated land, rising from 2.79 acres to 4 acres, which translates to a 43% growth.
- Farmers reported that the average groundwater depth improved from 210-220 feet to 160-170 feet, reflecting an improvement in the water table.
- Local farmers also highlighted the importance of these interventions, stating that water reserves now last 30-45 days longer after the monsoon compared to before the project, when community tanks would typically dry up by early January.
- Following the interventions, the time necessary to irrigate an acre of land decreased from approximately eight hours to about six hours.
- Farmers typically spent around INR 21,500 per acre for paddy cultivation, a figure that has now been brought down to approximately INR 20,000 per acre.

- Previously, bore wells served as the sole source of irrigation, however, due to the intervention, local farmers are now able to utilize water from farm ponds and tanks over an extended period.
- Enhanced availability of water following the intervention, farmers have been able to engage in more cropping cycles and diversify their production to include limited vegetable farming.
- Furthermore, the project also formed Tank User Groups (TUGs) comprising of local farmers, to carry out the task of overseeing the management and repair of the community tanks. To facilitate these responsibilities, these TUGs collect voluntary contributions from local farmers, creating a dedicated financial reserve for the maintenance and repair of the tanks.
- The project achieved a Social Return on Investment (SROI) value of 7.33, signifying that every INR 1 invested generated a social value of INR 7.33.

Recommendations:

- PRIPL can encourage farmers to transition from rice-rice cropping to less water-intensive crops, collaborate with research institutions for insights, and provide training on crop diversification to improve ecological balance and soil health.
- PRIPL might implement educational initiatives on Sustainable Rice Intensification (SRI) to optimize water and nutrient use, promote reduced chemical inputs, offer incentives for adoption, and partner with agricultural experts for training and support.
- To ensure long-term sustainability, PRIPL could enhance the financial management skills of TUGs by developing targeted training programs focused on fundraising, resource allocation, and practical workshops.
- By collaborating with Krishi Vigyan Kendras and the horticultural department, PRIPL can promote agroforestry using locally adaptable tree species, which will improve soil health, increase farmers' income, and enhance biodiversity.
- Facilitating direct market access through co-operatives, PRIPL can enable farmers to secure fair prices, thus addressing income instability and economic vulnerability for greater financial stability and resilience.
- To achieve sustainable profitability, PRIPL may focus on enhancing the agricultural value chain by investing in infrastructure, forming strategic agribusiness partnerships, and promoting technology and financial access to address post-harvest management and market access gaps.

For a complete understanding of findings for the intervention, IRECS & SROI analysis and recommendations, please refer to the respective sections in the report.

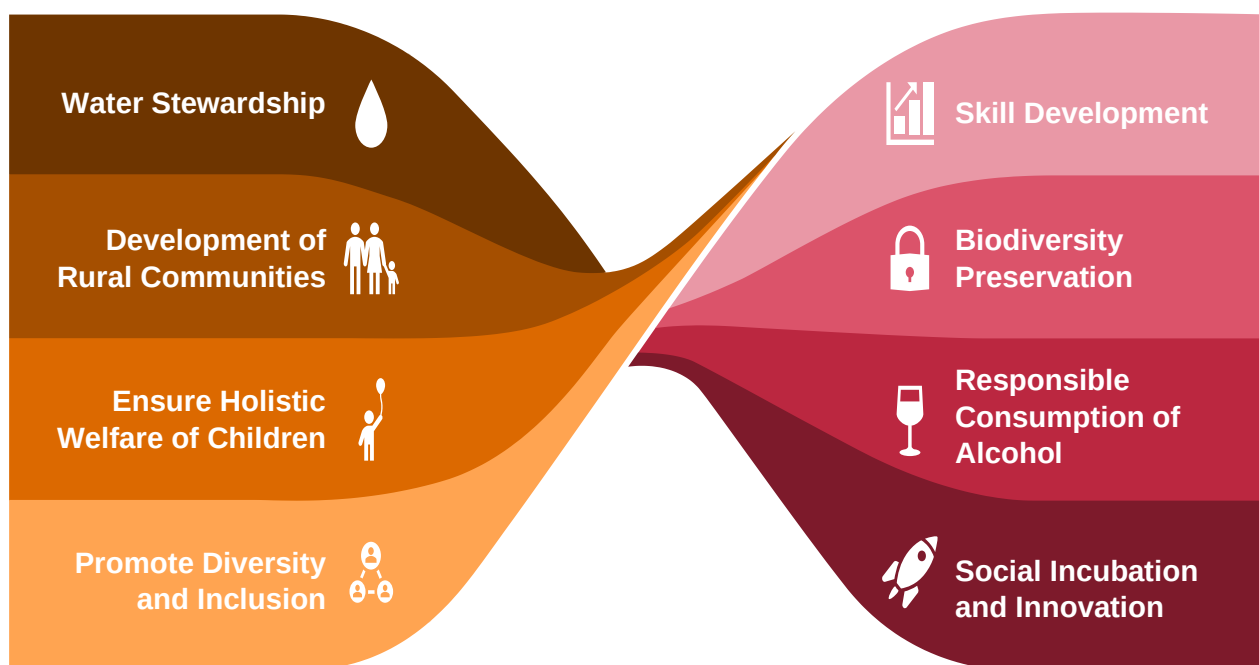
1.About PRIPL

Pernod Ricard India Private Limited (PRIPL), a multinational alcohol beverage company. As a wholly owned subsidiary of Pernod Ricard South Asia, PRIPL boasts over 30 years of heritage in India, with operations including a distillery in Nashik and 24 bottling facilities nationwide.

PRIPL is dedicated to responsible business practices and community involvement through its Corporate Social Responsibility (CSR) initiatives. Guided by PRIPL's CSR Policy, which aligns with Section 135 of The Companies Act 2013, these initiatives prioritize sustainable development and address the needs of marginalized and disadvantaged communities throughout its operational regions in India.

The Pernod Ricard India Foundation (PRIF), a Section 8 Company and a wholly owned subsidiary of PRIPL, leads the company's CSR endeavors. PRIF is committed to driving transformational growth and development in strategic program areas. PRIPL engages actively with stakeholders, such as government bodies and community members, to ensure meaningful CSR initiatives. Through sustained community engagement, PRIPL strives to enhance local development, strengthen communities, and ensure opportunities for everyone to prosper¹.

Figure 1: Key focus areas of PRIPL under the CSR vision 2030



¹ Source: [CSR program report 2023-24](#)

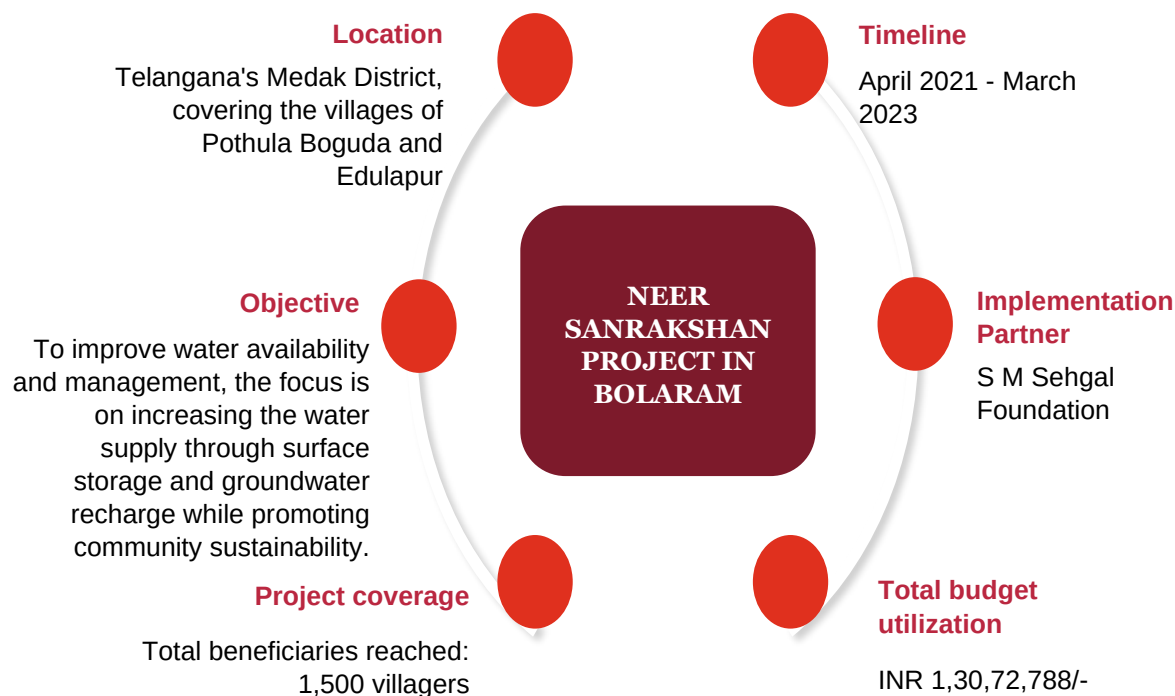
2. About the project

The **Neer Sanrakshan- Bolaram project** was initiated to improve water availability and management in the villages of **Pothula Boguda and Edulapur**, located in Telangana's Medak district. This project sought to address critical challenges faced by the agricultural community, which primarily relies on groundwater for irrigation. The community's dependency on groundwater had resulted in a declining water table, threatening their primary source of income.

The project aimed to achieve two major objectives: enhancing water availability through improved surface storage and groundwater recharge and establishing community sustainability mechanisms for the effective management of the newly created water replenishment structures. A comprehensive execution strategy, overseen by the **S M Sehgal Foundation** as the implementation partner, was employed. This strategy involved a structured three-phase approach encompassing project initiation, implementation, and post-project sustainability².

Please refer to the figure below for a project snapshot.

Figure 2: Snapshot of the project under assessment



² Source: Project documents received from PRIPL

The key activities carried out under the project included:



- As shared by PRIPL, the project focused on the improving the essential water recharge structures. Key activities included the development of Pothula Boguda, Edulapur, and Korakunta tanks with storage capacities of 21.8 million liters, 37.5 million liters, and 2.8 million liters, respectively.
- Additionally, the project also created farm pond with a total capacity of 28.8 million liters.
- To support enduring sustainability, the project emphasized community empowerment through the creation and capacity building of Tank User Groups.

3. Method of Impact Assessment

Pernod Ricard India Private Limited (PRIPL) engaged PW to carry out the impact assessment of the Neer Sanrakshan- Bolaram with a purpose to evaluate the impact created on the community during the programme period of April 2021 to March 2023. The scope of work included reviewing the Key performance indicators (KPIs) as defined by the Management of the PRIPL under the framework for implementing the Project for the outputs, outcomes and impact of the Project. Framework adopted was Inclusiveness, Relevance, Efficiency, Convergence, and Sustainability Framework (the 'IRECS') and Social Return on Investment (the 'SROI') and recommendations were provided on the Project's performance for their further evaluation and consideration.

The assessment was undertaken using the quantitative and qualitative methods to understand the interventions undertaken under the CSR project in mutual discussion with PRIPL. The scope

of work involved conducting the desk review of the project documents, mapping of key programme stakeholders, developing research methodology & impact map, data collection & analysis and report writing.

The overall methodology adopted for conducting the impact assessment study can be categorized into four stages as illustrated below:



Stage 1: Desk review

- Inception meeting was done with the PRIPL team to get a detailed understanding of the interventions.
- Built consensus on scope of work and understanding PRIPL expectations.
- Desk review of project documents was done.
- Based on the desk review and preliminary interactions with key stakeholders from PRIPL, mapping of project stakeholders was done in consultation with PRIPL team for interaction purpose.



Stage 2: Planning and tool preparation

- The data collection plan was finalised in consultation with the PRIPL team.
- Key indicators, research tools were also shared and finalised post incorporation of feedback from PRIPL team.
- A draft impact map for SROI was also created and finalised in consultation with PRIPL team.
- Digitisation and translation of the developed tools in local language was undertaken.
- PRIPL team was then apprised about the data collection plan for the field visit.



Stage 3: Data collection & field visit

- The field team was trained on the data collection tools.
- The field data collection process was initiated.
- Quantitative survey with project beneficiaries was undertaken to record their feedback.
- In-depth Interviews (IDIs) with Beneficiaries, PRIPL Team, Panchayat members, and Block Officials were conducted.
- Focus Group Discussion (FGD) with farmers were undertaken to gauge their views on the project.

Stage 4: Data analysis and report writing

- Assimilated the key findings to better analyse the data.
- Conducted SROI analysis using primary and secondary data.
- Prepared the draft of the impact assessment report to PRIPL team.
- Obtained and incorporated feedback received from PRIPL.
- Prepared and submitted final impact assessment report to PRIPL.

3.1. Sampling plan

The project's impact was evaluated using a mixed research methodology, which involved both qualitative and quantitative techniques to gain comprehensive insights. As part of the quantitative approach, a structured sampling plan was implemented, involving a survey with **a sample size of 231 beneficiaries which was estimated based on 90% confidence level and 5% margin of error** by considering the total number of beneficiaries covered under the project as the universe. The findings and analysis presented in the following sections of the report are based on the responses from these 231 samples.

As a part of the qualitative assessment, the following interactions including In-Depth Interviews (IDIs) and Focus Group Discussions (FGDs) were also conducted to ensure holistic feedback on the project activities from the stakeholders:

Table 1: Qualitative sampling plan

Stakeholder Name	Mode of interaction	No. of interaction
Community Members	Focus Group Discussion (FGD)	2
Tanker user group	Focus Group Discussion (FGD)	3
Panchayati Raj Institution (PRI) members	In-Depth Interview (IDI)	2
Government Stakeholder (Dept. of Water Resources/ Dept. of Agriculture)	In-Depth Interview (IDI)	2
Implementing partner	In-Depth Interview (IDI)	1
Total		10

4. Key findings and analysis

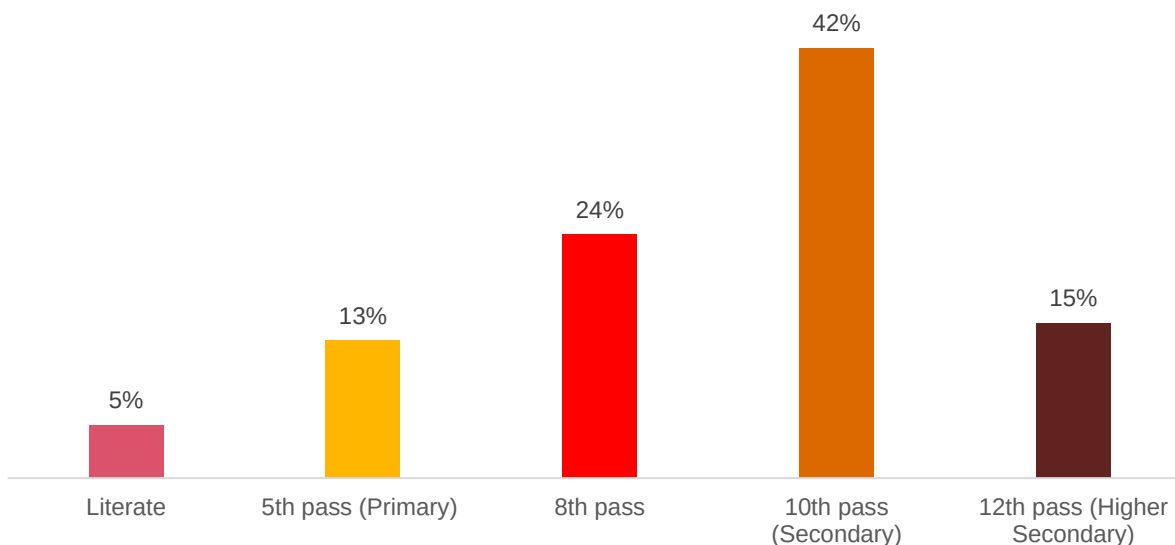
This section of the report highlights the key findings and analysis on the impact created by the Neer Sanrakshan- Bolaram project among the local communities. The findings and analysis are based on the responses of 231 participants (N=231) of the quantitative study along with information gathered during the qualitative interactions with key stakeholders.

4.1. Profile of the respondents

This section provides an overview of the demographic and socio-economic characteristics of the respondents involved in the Neer Sanrakshan- Bolaram project. The data collected offers insight into the community profile and highlights relevant aspects of their livelihoods.

- **Gender Distribution:** The survey findings indicate that all respondents were male, representing 100% of the sample. This is because of limited participation of females in agriculture and allied activities in the project area.
- **Age Range:** Most of the respondents fall within the age group of 41-50 years, accounting for 45%. Individuals aged 51-60 years constitute 26%, while those aged 30-40 years make up 21%, and those over 60 years represent 8%. These figures suggest that the workforce is predominantly middle-aged.
- **Educational Attainment:** None of the respondents were illiterate, indicating a basic level of educational attainment across the sample. The educational background of respondents reveals varied levels of schooling:

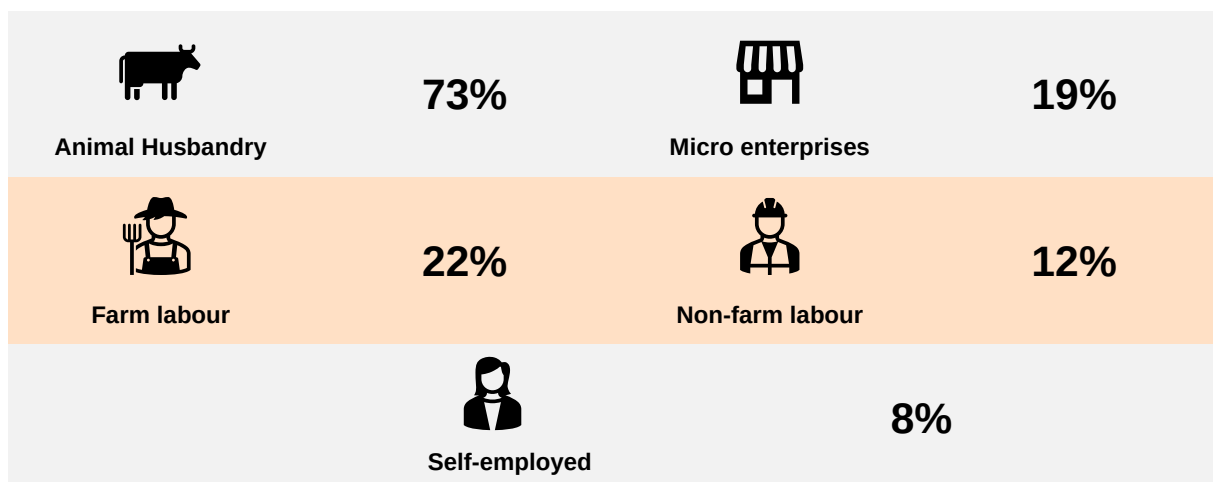
Figure 3: Educational Background of Respondents (N=231)



Note: A person who can read and write a simple message in any language with understanding is considered literate. Source: [MoSPI report](#)

- **Marital Status:** All of the respondents are married, with 100% affirming their marital status.
- **Economic Role:** All respondents serve as the chief breadwinner in their households, underpinning their critical economic role within the family structure.
- **Social Category:** Respondents belong predominantly to Other Backward Castes (56%), while 13% are from Scheduled Castes, and 31% are from the General category.
- **Source of Income:** The principal occupation of respondents is farming, comprising 100%. Respondents reported during qualitative discussions that the majority of them only cultivates paddy throughout the year in 2 seasons (Kharif and Rabi).
- **Alternative Income Sources:** Majority of the respondents (72%) reported that they have alternative sources of income. These alternatives include:

Figure 4: Alternative sources of income (N=167)



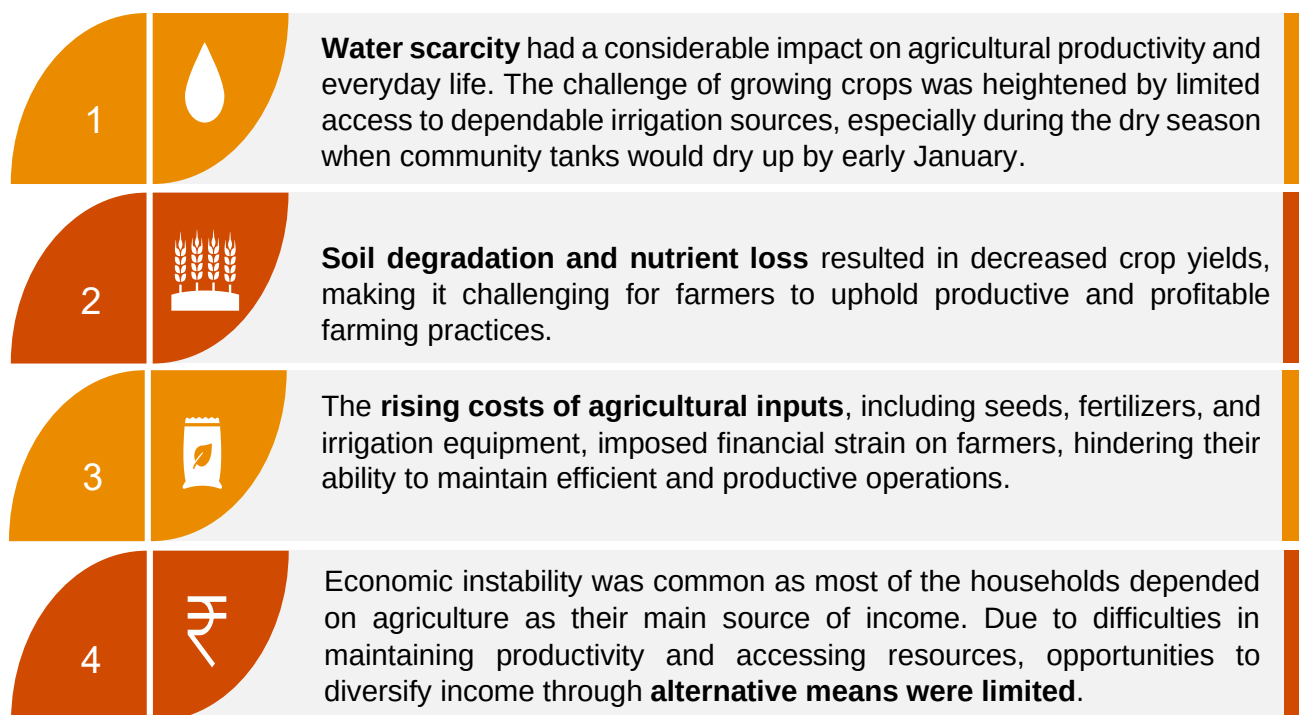
This is a multiple-choice question, and the total may not add exactly to 100%.

Figure 5: A de-silted community tank in village Edulapur in the late-January



4.2. Need for the intervention

Based on the discussions with the local communities in the project area, various challenges faced by them were highlighted before the project interventions:



4.3. Impact of the intervention

To address the community's needs as discussed above, the project implemented the activities outlined in the "About the Project" section. Here's a detailed analysis of the impact created by the project activities basis responses collected for 231 respondents:

Figure 6: Impact of the project activities among respondents

Improved crop yields	99%	Increased land area under cultivation	98%	Improved groundwater levels	96%
Less effort required for irrigation	95%	Increased availability of water for household	83%	Reduced dependence on groundwater	54%
Increase in the number of crops cultivated	51%	Reduced cost of irrigation	6%	No benefit	0%

This is a multiple-choice question, and the total may not add exactly to 100%.

1. Improved Crop Yields

Enhancements in crop yields were reported by 99% of farmers, attributable to improved water availability and better soil fertility facilitated by project interventions. **Paddy yields specifically rose from 23.3 to 27.3 quintals per acre, a 18% increase.** Before the project, yields were affected by unreliable water supply and excessive use of chemical fertilizers from poor soil quality. **The distribution of nutrient-rich tank silt improved soil health**, reducing dependency on chemical inputs and fostering more organic growth conditions.

Farmers have reported not only an increase in the quantity of their harvests but also improvements in the quality of their crops. This improvement, coupled with more sustainable farming practices, has enabled many farmers to cultivate additional land. As a result, 97% of respondents noted that this increase in yields has positively impacted their average annual household income. **On average, the income from agriculture among the respondents has more than doubled from 2020-21 to 2024-25.** While part of this income growth correlates with project interventions, it's important to acknowledge that there has been a 23% natural increase in the selling price of paddy over the same period.

“

With water being available till February month in the community tank, we can now provide more irrigation to our paddy crop in Rabi season. This has led to improved paddy yields. Earlier, I could produce around 20 quintals per acre of paddy in Rabi season which has now increased to 25 quintals per acre – A farmer from Pothula Boguda village.

”

2. Increase in land area under cultivation

The area of land being used for cultivation has seen positive growth, with a 98% of survey respondents acknowledging that this expansion was made possible through the support of project interventions. In the past, suboptimal water storage solutions restricted the amount of usable farmland.

Impact story of Pothula Boguda Village

Village Overview:

Pothula Boguda is an agricultural community with 200 households, where 80% of the population engages in farming activities, while others work as laborers or in local businesses.

Livelihood Activities:

Paddy is the main crop, grown during both the Kharif and Rabi seasons due to its importance in the local diet. The average landholding for farmers is approximately 6 acres, though many own less than 3 acres. Despite its high-water requirements, paddy remains a staple crop.

Water-Related Challenges:

Historically, Pothula Boguda struggled with water storage due to sediment accumulation in tanks, compromising their capacity. The groundwater level previously extended to an average depth of more than 200 feet, creating challenges in access and reliability, particularly for the water-intensive paddy cultivation.

Project Interventions and Impact:

The project efforts increased water availability, enhancing irrigation efficiency and raising groundwater levels significantly from 210-220 to 160-170 feet. The silt application notably improved soil fertility, reducing the reliance on chemical fertilizers and increasing paddy yields from ~23 to ~27 quintals per acre.

Economic and Lifestyle Adjustments:

Farmers saw their earnings rise by approximately INR 20,000 per acre each season, due to enhanced yields, more favorable pricing, and lower costs for chemical fertilizers.

Sustainability and Future Needs:

The project emphasized community involvement by forming Tank User Groups to manage and maintain project structures, crucial for sustainability.

Source: Qualitative interactions with community

However, following the implementation of these interventions, communities observed a substantial increase in cultivated land, **rising from 2.79 acres to 4 acres, which translates to a 43% growth.**

Prior to these improvements, numerous farmers were compelled to leave portions of their land unutilized due to insufficient irrigation systems that rendered those plots barren. With the development and management of water resources under the project, including the construction of new water bodies, these farmers have been able to harness previously fallow lands, boosting their cultivated land area and thereby enhancing agricultural productivity. This shift not only reflects improved water infrastructure but also underscores the transformative impact of targeted intervention initiatives on rural farming practices and community livelihoods.

3. Rejuvenated Groundwater Levels

According to 96% of respondents, the project has contributed towards improving the groundwater levels. Farmers reported that the **average groundwater depth improved from 210-220 feet to 160-170 feet**, reflecting an improvement in the water table.

Local farmers also highlighted the importance of these interventions, stating that **water reserves now last 30-45 days longer** after the monsoon compared to before the project, when community tanks would typically dry up by early January. This change has decreased the community's vulnerability during the dry months of February and March.

4. Less Effort Required for Irrigation

95% of the surveyed participants reported that the project has reduced the effort required for irrigation activities. The establishment of farm ponds and desiltation of community water tanks has streamlined the irrigation processes and substantially enhanced water accessibility for farmers. Previously, irrigation tasks demanded prolonged hours and intensive physical labor due to obstacles such as sediment-filled tanks and depleted groundwater resources. Following the interventions, the **time necessary to irrigate an acre of land decreased from approximately eight hours to about six hours.**

In discussions, farmers further expressed that there has been a noticeable reduction in wear and tear on irrigation equipment and a decrease in the manual labor required. This has led to lowering of cultivation cost per acre by 7%, bringing economic relief by reducing resource expenditure on irrigation activities. This was partly achieved through improved soil quality resulting from the use of silt extracted from the tanks. Prior to these changes, **farmers typically spent around INR 21,500 per acre for paddy cultivation, a figure that has now been brought down to approximately INR 20,000 per acre.** This cost reduction reflects the project's impact on increasing efficiency and fostering sustainable farming practices, ultimately offering financial benefits to the agricultural community.

“

In the past, irrigating fields was challenging because water levels in the community tanks would drop significantly after December. This resulted in extended irrigation times, often taking more than eight hours to water just one acre. The strain on pumps was considerable, causing them to need repairs almost every other year. However, since the desilting work was completed, water levels have remained stable until February, making it much easier to irrigate the fields— A farmer from Edulapur village.

”

5. Better access to water for household chores

A majority of respondents, **83%, reported enhanced water availability for household tasks**. Prior to the project's implementation, water scarcity was a major concern that impacted not only agricultural activities but also everyday domestic duties such as cleaning and cooking. By rejuvenating and expanding water storage capacities, the project has provided a more reliable and consistent water supply to meet these basic needs. This progress alleviated the strain on households—especially on women who are typically responsible for fetching water for domestic purposes.

Local communities shared that with **improved access to water, families have experienced better health and hygiene standards**, which has contributed positively to the general well-being of the community. Access to ample water facilitates regular cleaning and proper food preparation, reducing the risk of waterborne diseases and promoting healthier living conditions. Moreover, the time and effort saved from water collection have allowed women to engage in other productive activities, enhancing their quality of life and fostering social and economic empowerment. These changes underscore the project's significant role in fostering sustainable community development and enhancing the quality of life for its members.

6. Reduced Dependence on Groundwater Resources

The project has significantly **decreased the communities' dependence on groundwater resources, with 54% of respondents** acknowledging this reduction. Previously, bore wells served as the main source of irrigation, leading to excessive extraction and a subsequent decline in groundwater levels, which had reached depths of 210-220 feet before the project's intervention. The rejuvenation and development of surface water storage facilities, particularly through the process of tank desiltation, have lessened this reliance. As a result, **local farmers are now able to utilize water from farm ponds and tanks over an extended period**.

This shift not only alleviates pressure on underground water reserves but also promotes a more sustainable approach to water management within the community. By utilizing surface water sources, farmers can avoid the risks associated with groundwater depletion, such as land subsidence and increased pumping costs. Moreover, the refreshed water storage capabilities contribute to a more balanced ecosystem, helping to maintain local biodiversity and soil health. This transformation reflects the project's broader impact on enhancing environmental sustainability and resource management, which in turn supports the long-term viability of agricultural practices and community resilience.

7. Increase in crop diversity

There has been a noteworthy **increase in both the variety and volume of crops cultivated, with 51% of respondents reporting** this growth. Before the project's intervention, farmers typically held land parcels averaging 2-3 acres, and primarily focused on cultivating paddy during the Kharif and Rabi seasons. This focus was driven by the need to produce a staple crop aligned with local dietary preferences. However, with the enhanced availability of water following the intervention, farmers have been able to engage in more cropping cycles and **diversify their production to include limited vegetable farming**.

This progress is evident in the **approximately 40% increase in cultivable land utilized during both the Kharif and Rabi seasons**. Conversations with local communities reveal that the ability to grow a wider range of crops has significantly bolstered household food security. By producing

multiple types of crops, families not only have a more varied diet but also benefit from potential additional income through the sale of surplus produce. This diversification reduces dependency on a single crop and enhances resilience against price fluctuations and crop failures. Overall, the project's success in expanding agricultural opportunities is contributing to improved economic stability and nutritional well-being in the community.

Furthermore, the project also formed **Tank User Groups** comprising of local farmers, to carry out the task of overseeing the management and repair of the community tanks. To facilitate these responsibilities, the TUG collects voluntary contributions from local farmers, creating a dedicated financial reserve for the maintenance and repair of the tanks. This approach not only guarantees the ongoing functionality and efficiency of the tanks but also fosters a sense of ownership and accountability within the community. By engaging farmers directly in the stewardship of their water resources, the project champions long-term sustainability and empowers the community to manage their environmental assets.

However, it is crucial for these groups to develop the capacity to raise the necessary funds for carrying out maintenance activities. Strengthening their ability to secure financial resources will enhance their resilience and ensure their continued effectiveness in safeguarding the local water infrastructure. Providing support to the TUG in building their financial management capabilities is essential for maintaining the positive outcomes of the project in the long run.

4.4. Summary of the impact created by the project

Below is a summary table illustrating the project's impact on water and soil management activities, detailing the benefits realized by respondents and the overall effects on agricultural productivity and community resilience.

Water and Soil-related Project Activities	Benefits Realized by % of Respondents	Detailed Impact on Respondents
- The majority of project activities focused on the desiltation of tanks, which impacted 98% of respondents, highlighting the importance of this activity in water conservation. - Farm pond construction was less frequently reported, noted by 7% of respondents. - The application of tank silt was implemented in 48% of cases, promoting soil fertility.	- There was a unanimous response indicating that all participants benefitted from the project, with 0% reporting no benefit. - A high percentage of beneficiaries reported improvements in critical agricultural dimensions: 99% noted improved crop yields, 98% experienced increased land area under cultivation, and 96% observed better groundwater levels. - The data indicates a notable shift in resource usage and management,	- The total land area under cultivation saw a considerable increase of 43%. This increase was consistent for both Kharif and Rabi seasons. - The total land area under irrigation also rose by 40%, aligning with the overall expansion in cultivated land. - Time required to irrigate one acre of land reduced by 28%. - The groundwater level improved, with a 25% reduction in depth, showing effective recharge.

• Formation and capacity building of Tank User Groups was a major part of the project, with 90% participation among the respondents.	with 54% of respondents experiencing a reduced dependence on groundwater resources, and 95% finding less effort required for irrigation. • The project significantly improved domestic water availability, as noted by 83% of respondents.	• Cultivation costs decreased by 7%, indicating economic benefits for the farmers. • The yield per acre for Paddy crops increased by 18%, demonstrating enhanced agricultural productivity. • Average income per year surged by 107%, reflecting significant economic upliftment for the respondents.
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Figure 7: A farm pond constructed at a farmer's field in Pothula Bogura village



5. SROI Analysis

Assessment of impact of the 'Neer Sanrakshan- Bolaram' project was done basis the Social Return on Investment framework which helped in measuring and accounting for value in a broad sense.

Establishing the Impact

The Social Return on Investment (SROI) Framework design helps us measure and account for value in a broad sense. The overall impact and the subsequent calculation of the return was done after preparing an impact map for the programme. Thereafter, the cumulative benefit was derived after adjusting the deadweight, displacement, attribution (by others) and dropoff factors from the year wise benefits. These factors are defined in detail as follows:

Deadweight	Deadweight is the estimation of the benefits which would have occurred even in the absence of the programme. For the benefits attributable to this project, deadweight has been considered to be 80% based on the interaction with the stakeholders on-ground.
Displacement	Displacement is the component which informs the assessor on how much one outcome of the project may influence any other outcome. During the assessment for this project, there was no evidence of any displacement noted or reported. Hence, the displacement factor is taken to be 0% for the calculations based on the interaction with the stakeholders on-ground.
Attribution (by others)	Attribution (by others) is an estimate of what proportion of the impact may be attributed to the efforts of other stakeholders involved. During the assessment and the survey, it was found that for benefits from this project, attribution (by others) can be set at 30-50% .
Dropoff	Dropoff is factored in as in the subsequent years, the benefit or the impact would be slightly less than the previous year. During the qualitative interactions it was found that around 30% of the beneficiaries have either stopped practicing/ using the trainings/ supports promoted under the project. Accordingly, a dropoff of 30% has been considered for calculations.

Calculating the Impact

The impact of the project has been arrived at based on the following calculations:

- **Impact Value for the first year:** Quantity of change or Number of beneficiaries or Number of benefit units x Financial Proxy (FP) value x (1- deadweight) x (1- displacement) x (1- attribution)

- **Impact value for subsequent years:** Quantity of change or Number of beneficiaries or Number of benefit units x Financial Proxy (FP) value x (1- deadweight) x (1- displacement) x (1- attribution) + [impact of previous year] x (1-drop off)]

Based on the above calculations, the **cumulative benefit or impact generated by the project** from the year **FY 2021-22 till the end of the financial year 2024-25** comes out to be **INR 95,710,456/-**. The impact map, detailed calculations and year-wise values can be referenced from the Annexure.

Calculating SROI value:

The SROI value is expressed as a ratio of the return and is calculated by dividing the net present value of total Impact value (or cumulative benefit) created under the project divided by the net present value of the total investment or funds utilized for the project.

Net Present value of total impact value (or cumulative benefit) is INR 88,849,510/- whereas the net present value of Total Utilization or Investment (till the time of survey) is INR 12,115,652/-.

Now, to calculate the SROI following formula has been used:

SROI = Net Present value of benefits/ Net Present Value of Investment

Net Present Value can be calculated using the below formula:

Net Present Value of benefits = Cumulative benefits*POWER ((1+r) time) where 'r' has been taken as per the yearly CPI inflation (general) rate for Telangana during the project period³.

SROI	$\frac{\text{Net Present value of benefits}}{\text{Net Present Value of Investment}}$
NPV of benefits	INR 88,849,510/-
NPV of Investment	INR 12,115,652/-
SROI Value*	7.33

SROI value of 7.33 indicates that an investment for every INR 1 invested in the project, a social value of INR 7.33 is generated.

³ Source of inflation rate- [Reserve Bank of India](#)

6. IRECS Analysis

Basis the interactions with the key stakeholders and desk review, the impact of the project was also assessed on the IRECS framework parameters. The IRECS analysis summary has been presented in below table:

Parameter	Assessment from Study
Inclusiveness	- The demographic profile reveals participation from diverse social categories, predominantly including Other Backward Castes, General, and Scheduled Castes, promoting fair involvement and representation. - By engaging communities in both the planning and execution phases, the project ensured that interventions were tailored to meet the needs of all societal segments. - The project could have improved inclusivity by increasing the number of direct female beneficiaries, as they are currently underrepresented.
Relevance	- The project effectively identified and addressed key water and agricultural challenges affecting local communities. - By prioritizing tank rejuvenation, farm pond construction, and the application of tank silt, the project tackled urgent needs related to water conservation and soil fertility. - These measures were vital in addressing issues like water scarcity, inconsistent irrigation, and fluctuating crop yields, demonstrating their significant relevance to the community's primary socioeconomic concerns, particularly given their dependence on agriculture as the main source of livelihood.
Effectiveness	- The area of irrigated land within communities expanded significantly, increasing from 2.79 acres to 4 acres—a 43% rise. This growth was made possible by efficient water resource management, including the creation of new water bodies that overcame previous limitations, allowing cultivation on previously unused lands. - A substantial increase in crop yields was reported by 99% of farmers, attributed to better water availability and enhanced soil fertility due to the project's interventions. Specifically, paddy yields rose from 23.3 to 27.3 quintals per acre, marking an 18% improvement. - The project successfully enhanced groundwater levels, with 96% of respondents observing improvements. These efforts resulted in a

Parameter	Assessment from Study
	notable reduction in the depth of groundwater, going from 210-220 feet to 160-170 feet, reflecting a positive shift in water table levels. • A majority of respondents, 95%, noted that the project decreased the effort needed for irrigation. The introduction of farm ponds streamlined the irrigation process and vastly improved water availability. After the intervention, the time required to irrigate one acre was reduced from approximately eight hours to six hours, as farmers moved away from sole reliance on borewells. • The project also led to a 7% reduction in cultivation costs per acre. This economic advantage emerged from lower resource expenses related to irrigation activities, due in part to improved soil quality through tank silt application. • Furthermore, the project achieved a Social Return on Investment (SROI) value of 7.33, signifying that every INR 1 invested generated a social value of INR 7.33.
Convergence	• The project collaborated with the Local Panchayat to execute the desiltation of water tanks. The project also benefited from the Panchayat's assistance in identifying appropriate tanks and pinpointing farmers who were most in need of farm ponds on their land, making the initiative highly convergent.
Sustainability	• Emphasizing community-led management of water structures, especially through Tank User Groups, is vital for ensuring the enduring sustainability of project outcomes. The establishment of these groups has laid the groundwork for ongoing care and upkeep of water systems. However, it is crucial for these groups to develop the ability to secure funds necessary for undertaking repair activities.

7. Recommendations

The following recommendations are based on valuable insights shared by farmers, Tank User group members, PRI representative, and government stakeholders along with our own understanding of the sector. These can be considered for further improving the efficiency and effectiveness of the project (or similar projects) in future.

Promote Gradual Shift from Rice-Rice Dual Cropping System:

- **Introduce Locally Suitable Crops:** Encourage farmers to diversify their crop systems by transitioning from the traditional rice-rice dual cropping to other suitable crops that are less water-intensive and have the potential to enhance soil health. This diversification can lead to better ecological balance and reduce the dependency on water-intensive crops like rice.
- **Collaborate with Research Institutions:** Partner with leading research organizations such as the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), the Indian Council of Agricultural Research (ICAR), and the Centre for Sustainable Agriculture (CSA) to research alternative crops. These institutions can provide insights into locally adapted crop varieties, pest and disease resistance strategies, and best practices that align with the ecological and socio-economic conditions of the project region.
- **Develop Training Programs:** Implement training sessions for farmers on the benefits of crop diversification, including information on selection, planting, growing techniques, and market opportunities for alternative crops.

Promotion of Sustainable Rice Intensification (SRI) and Similar Practices:

- **Educate Farmers:** Implement educational initiatives to demonstrate practices such as Sustainable Rice Intensification (SRI) that advocate for optimal use of water and nutrients, reducing the need for excessive chemical inputs.
- **Promote Judicious Use of Chemical Inputs:** Foster awareness campaigns on the environmental impact of chemical fertilizers and pesticides, including their long-term effects on soil health and water quality. Promote organic methods where possible and encourage the use of integrated pest management (IPM) techniques.
- **Provide Incentives for Adoption:** Create incentives for farmers who adopt SRI and similar sustainable practices, such as subsidies for organic inputs or financial assistance for implementing water-saving irrigation methods.
- **Partner with Agricultural Experts:** Collaborate with agricultural experts and extension officers who can provide on-the-ground support and training for the adoption of sustainable practices.

Capacitating the Tank User Groups:

To ensure the long-term sustainability and effectiveness of the project, it is recommended to further enhance the financial management capabilities of Tank User Groups (TUGs). While these groups have been instrumental in maintaining and repairing community tanks by collecting voluntary contributions from local farmers, there is a need to strengthen their ability to consistently raise funds for these activities.

Develop targeted training programs that focus on financial management, fundraising strategies, and resource allocation to empower TUGs to create robust financial reserves. These programs should include practical workshops and mentorship opportunities to build confidence and competency in financial matters.

Furthermore, we have identified specific areas for consideration within PRIPL's overall Water and Livelihoods Portfolio that we believe can contribute to designing comprehensive interventions focused on water conservation and livelihood enhancement.

Promotion of Agroforestry:

Collaborating with Krishi Vigyan Kendras (KVKs) and the horticultural department to promote agroforestry using locally adaptable tree species can greatly benefit the environment and local economies. This initiative not only improves soil health through organic matter enhancement but also provides additional income sources for farmers, as well as biodiversity benefits that strengthen the ecosystem.

Implement Soil Moisture Conservation Techniques:

Introduce soil moisture conservation practices such as mulching, contour farming, and cover cropping. Training programs can emphasize these techniques' role in retaining soil moisture, minimizing evaporation, and enhancing water infiltration, ultimately leading to improved crop resilience.

Soil Health Monitoring:

Regular soil health assessments are essential for developing tailored soil conservation strategies. These assessments ensure that farmers are informed about the nutrient levels and composition of their soil, allowing for targeted interventions that will maintain long-term fertility and productivity of agricultural lands. This proactive approach supports sustainable farming practices and enhances overall crop output.

Community Training Programs:

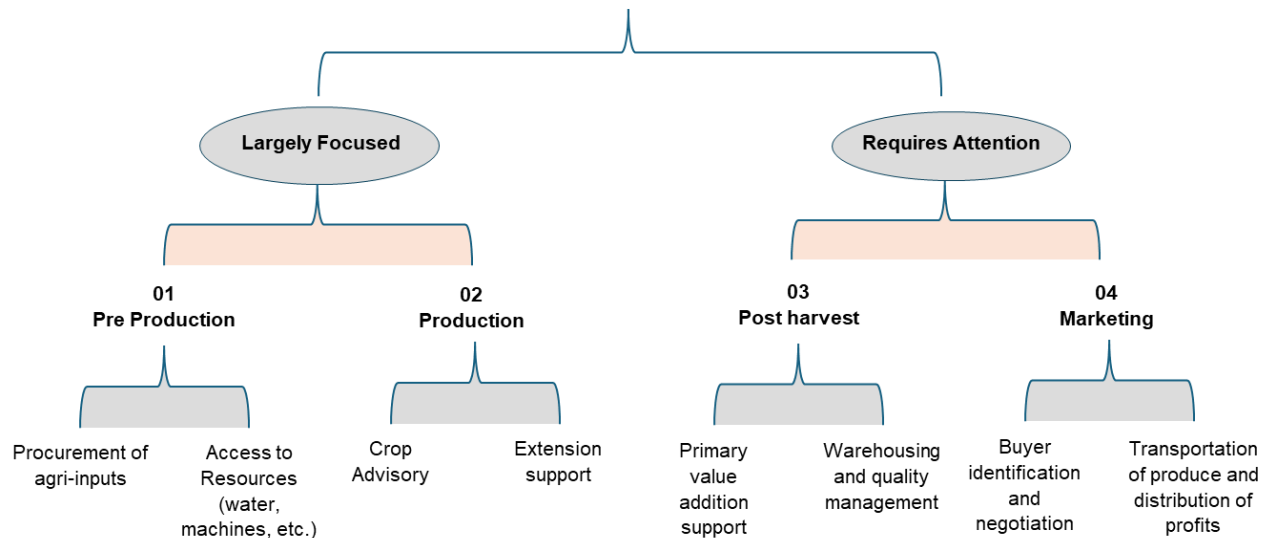
To facilitate practical learning and empower farmers, it is important to promote demo-plots at progressive farmers' fields and establish farmer field schools. These initiatives will encourage widespread adoption of sustainable practices and help farmers manage their natural resources effectively, ultimately leading to improved agricultural productivity and resilience.

Focus on bridging the gap between farmers and market:

- Many farmers face challenges in accessing markets to sell their produce at fair prices. This disconnect often results in reduced income and economic vulnerability.
- PRIPL can facilitate direct market linkages for farmers by establishing farmer cooperatives/ companies.
- Such efforts empower farmers, ensuring they receive appropriate value for their produce, ultimately contributing to increased financial stability and resilience.

Value-chain centric focus to make farming more remunerative

- Enhancing the agricultural value chain is crucial for achieving sustainable profitability for farmers.
- Current CSR initiatives frequently offer limited, short-term support, overlooking critical aspects such as post-harvest management and market access.
- PRIPL can bridge these gaps by investing in infrastructure development, fostering strategic agribusiness partnerships, and promoting technological solutions alongside financial access to empower farmers long-term.



8. Annexure

Impact Map

Activities	Stakeholders	Output Indicators	Outcome Indicators	Impact Indicators
1. Establishment of water conservation structures (ponds and tanks) 2. Desiltation of tanks 3. Promotion of usage of silt in farmlands 4. Promotion of Tank User Groups	Local farmers	1. Number of water retention structures built or repaired 2. Number of farmers benefiting from pond/ tank construction and desiltation 3. Number of desiltation and bunding activities completed 4. Number of farmers using silt in farming	1. % increase in groundwater levels 2. % increase in water retention per structure 3. Increase in average land area under cultivation 4. Increase in % of land under irrigation 5. Increase in cropping intensity 6. % reduction in chemical fertilizer usage 7. Reduced dependence on external inputs for farming 8. Improved yield per acre 9. Increased farm income due to getting better prices for products 10. Improved quality of produce 11. % reduction in water for irrigation used per acre	1. % reduction in cost of cultivation per farmer for different crops 2. % reduction in time required for irrigating an acre per farmer 3. % reduction in cost required for irrigating an acre per farmer 4. Increased savings from improved crop yields per farmer 5. Increased farm income due to getting better prices for products per farmer

During the data collection process, using both quantitative and qualitative methods, it was found that certain anticipated benefits of the project were not realized for some indicators in the impact map. Specifically, respondents reported baseline values of zero for:

1. Reduction in cost required for irrigating an acre
2. Increased farm income due to getting better prices for products

Respondents indicated that there is no change in cost associated with irrigation as electricity for irrigation is free of cost in Telangana. Additionally, farmers consistently grow paddy and sell to government buyers at the Minimum Selling Price, which was unaffected by the project since it did not include agricultural marketing activities. Hence, these 2 indicators are not made part of SROI analysis.

SROI estimation – Impact Values

Benefits	Deadweight	Displacement	Attribution (by others)	Drop-off	Total value to be created between 2021-2022	Total value to be created between 2022-2023	Total value to be created between 2023-2024	Total value to be created between 2024-2025
Reduction in cost of cultivation per acre for different crops	80%	0%	50%	30%	(8,401,929)	(5,881,350)	(4,116,945)	(2,881,861)
Reduction in time required for irrigating an acre	80%	0%	50%	30%	(9,015)	(6,310)	(4,417)	(3,092)
Increased savings from improved crop yields	80%	0%	50%	30%	46,196,359	32,337,451	22,636,216	15,845,351
Total benefit created					37,785,415	26,449,791	18,514,853	12,960,397

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