Draft impact assessment report

Work for Humankind : Millet Revitalization through Lenovo's Tech Ecosystem in Kanthalloor

Impact Practice
by CSRBOX

Contents

List of Figures

List of Tables

Disclaimer

- This report has been prepared solely for the purpose set out in the Memorandum of Understanding (MoU) signed between Renalysis Consultants Pvt. Ltd. (CSRBOX) and Lenovo (India) Private Limited dated July 2024 to undertake the Impact Assessment of their "Millet revitalization program in Kanthalloor" implemented in the financial year 2023-24.

- This impact assessment is pursuant to the Companies (Corporate Social Responsibility Policy) Amendment Rules 2021, notification dated 22nd January 2021.

- This report shall be disclosed to those authorized in its entirety only without removing the disclaimers.

- CSRBOX has not performed an audit and does not express an opinion or any other form of assurance.

- Further, comments in our report are not intended, nor should they be interpreted to be legal advice or opinion.

- This report contains an analysis by CSRBOX considering the publications available from secondary sources and inputs gathered through interactions with the leadership team of Lenovo India, project beneficiaries, and various stakeholders and knowledge partners. While the information obtained from the public domain has not been varied for authenticity, CSRBOX has taken due care to obtain information from sources generally considered to be reliable.

Specific to the Impact Assessment of the project, funded through the Lenovo India, CSRBOX has relied on data shared by the Lenovo India and the Implementation partner Dream India Network team. With Specific to Impact Assessment of "Millet revitalization at Kanthalloor" project:

- CSRBOX has neither conducted an audit nor due diligence nor validated the financial statements and projections regarding the project.
- Wherever information was not available in the public domain, suitable assumptions were made to extrapolate values for the same.
- CSRBOX must emphasize that the realisation of the benefits/improvisations accruing out of the recommendations set out within this report (based on secondary sources) is dependent on the continuing validity of the assumptions on which it is based. The assumptions will need to be reviewed and revised to reflect such changes in business trends, regulatory requirements, or the direction of the business as further clarity emerges. CSRBOX accepts no responsibility for the realisation of the projected benefits.
- The premise of an impact assessment is 'the objectives' of the project along with output and outcome indicators pre-set by the programme design and implementation team. CSRBOX's impact assessment framework was designed and executed in alignment with those objectives and indicators. and various stakeholders and knowledge partners. While the information obtained from the public domain has not been varied for authenticity, CSRBOX has taken due care to obtain information from sources generally considered to be reliable.

Executive Summary

Chapter 1

Project Background and overview

This section provided an overview of the funding organization, the programme cardinals, and detailed interventions.

1.1 About Lenovo

Lenovo India Private Limited is a subsidiary of Lenovo Group, a global leader in smart devices and solutions. Lenovo India was established in 2005 and has its headquarters in Bengaluru. The company has over 6,000 employees across India and offers a wide range of products, including laptops, desktops, tablets, smartphones, servers, storage, software and services. Lenovo India caters to various segments, such as consumers, small and medium businesses, enterprises, government and education.

1.2 Lenovo's CSR activities

Lenovo India is committed to conducting its business in a socially responsible and ethical manner. The company believes that it has a duty to contribute to the sustainable development of the society and the environment where it operates. Lenovo India's corporate social responsibility (CSR) programme was launched in 2014, with the aim of creating positive impact in the areas of education, employability, health and environment.

The thematic areas of intervention for Lenovo India's CSR programme are:

Education:

Lenovo India supports initiatives that enhance access to quality education, especially for underprivileged children and youth. The company provides digital infrastructure, learning materials, scholarships, teacher training and mentoring to improve the learning outcomes and skills of the students.

Employability:

Lenovo India supports initiatives that promote employability and entrepreneurship, especially for women and youth from marginalized communities. The company provides skill development, vocational training, career guidance and financial assistance to enable the beneficiaries to secure livelihood opportunities and start their own businesses.

Health:

Lenovo India supports initiatives that improve the health and well-being of the communities, especially those affected by chronic diseases, malnutrition and lack of sanitation. The company provides preventive and curative health services, awareness campaigns, nutrition supplements and hygiene facilities to improve the health outcomes and quality of life of the beneficiaries.

Environment:

Lenovo India supports initiatives that protect and conserve the environment, especially in the areas of waste management, energy efficiency and biodiversity.

Lenovo India's CSR programme is aligned with the United Nations Sustainable Development Goals and the national priorities of India. The company collaborates with various stakeholders, such as NGOs, government agencies, academic institutions and industry associations, to implement and scale up its CSR initiatives.

1.3 About the Programme

The Kanthalloor Millet revitalization Programme is a CSR initiative of Lenovo India that aims to revive the traditional millet cultivation in the Kanthalloor region of Kerala. Millets are highly nutritious, drought-resistant and climate-smart crops that can enhance food security, biodiversity and livelihoods of the local communities. However, due to various factors such as lack of awareness, market linkages and policy support, millet farming and consumption has declined over the years, leading to loss of indigenous knowledge and practices.

The Kanthalloor Millet Programme is an example of how Lenovo India is contributing to the sustainable development of the rural communities and the environment, by leveraging its core competency of technology and innovation.

1.4 Need of the Programme

Kanthalloor has always been known for its rich millet cultivation history, with as many as 18 varieties of millet were grown. However, these have dwindled to just two due to lack of demand, climatological reasons, Human wildlife conflict (HWC) and limited profitability and lack of market access. To revive millet farming practices in this tribal community, Lenovo's smarter technology is pivotal in improving accessibility, increasing awareness around the benefits of millet farming, and enhancing local farming knowledge and best practices. Market linkages are essential to transforming the millet food system into a profitable and sustainable model that supports rural livelihoods.

1.5 Objectives of the Programme

The programme aims to achieve the following objectives:

- To promote millet cultivation among small and marginal farmers in Kanthalloor and adjoining areas, by providing them with quality seeds, organic inputs, technical guidance and capacity building.
- To create awareness and demand for millet products among consumers, especially school children, women and urban population, by conducting awareness campaigns, nutritional education, product development and marketing.
- To establish a millet value chain that connects the producers, processors and consumers, by setting up a millet processing unit, facilitating market linkages and creating a millet brand.
- To document and disseminate the best practices and learnings from the programme, by conducting baseline and endline surveys, impact assessment and case studies.

1.6 Implementation of the Program

The Implementation of the program was through Dream India network a non-profit organisation, based in Bangalore. The program was implemented in the period between April 2023 to March 2024.

1 - https://news.lenovo.com/pressroom/press-releases/work-for-humankind- india-smarter- technology-millet-revival/

2 - https://news.lenovo.com/work-for-humankind-india-millet-revival-in- kanthalloor/

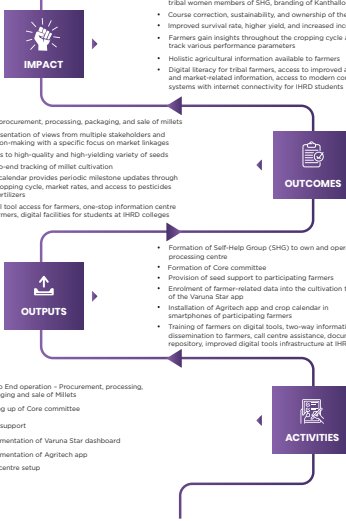
1.6.1 Stakeholders

Stakeholders	Role
Dream India Network Team	• On ground implementation partner
Gram panchayat	• Local self-governance- Ownership of the program
Agriculture Department – Krishi Bhavan	• Providing access to agriculture related information and services
IHRD college	• Operation of Digital tech centre with faculty coordinator and student volunteers • Conducting relevant training programs • Data collection and documentation
Kudumbasree - SHG	• End to End operation – Procurement, processing, packaging and sale of Millets
Homestay Owners association	• Set up kiosk for millet sales, promote millet recipes
Samudra Network	• Implementation of Varuna star dashboard for farmers and processing centre
Agri tech	• Agri tech app for farmers – Training and crop calendar
Farmers	• Cultivation of millets, selling the yield to processing centre, participation in training programs

1.6.2 Timelines of the program

Date	Event
23-01-23	Pre project visit
03-05-23	Date of sowing
23-05-23	Signing of MOU
23-05-23	Date of sowing
31-05-23	Tech centre inauguration
05-06-23	Home stay association meeting - 1
18-07-23	Core committee meeting
27-07-23	Magic show
28-07-23	Smartphone distribution
28-07-23	Magic show
08-08-23	Date of sowing
13-08-23	Core committee meeting
20-08-23	Inauguration of processing unit
08-10-23	Home stay association meeting - 2
16-10-23	Date of sowing
20-10-23	First date of procurement

1.7 Theory of Change



Chapter 2

Design and approach for Impact assessment

This section provides an overview of the objectives of the study, the adopted research methodology, and other details revolving around the study approach.

2.1 Objectives of the Study

01	Evaluate how Lenovo's support increased farmers' digital access to farm methods, support, and markets
02	Assess the project's impact on farmers income, including yield, sales, and profitability.
03	Assess the project's role in empowering the local community, through the Lenovo Digital Centre, and community networks
04	Assess the effectiveness and contribution of various programs activities and stakeholders
05	Provide recommendations and suggestions for similar programmes in the future.

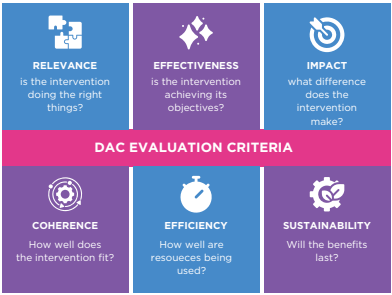
2.2 Evaluation Framework & Indicators

Given the objectives of the study and the key areas of enquiry, the design of the evaluation focused on learning as the prime objective. In this section, CSRBOX presents the approach that was adopted to develop and execute a robust, dynamic, and result-oriented evaluation framework and design.

2.2.1 OECD DAC Framework

The evaluation followed the OECD DAC Framework, which defines six criteria for assessing an intervention's merit or worth: relevance, coherence, effectiveness, efficiency, impact, and sustainability. These criteria guided the evaluative judgements and helped to measure the project's contribution to the results, while considering the multiple factors that influenced the outcome.

This section provides an overview of the objectives of the study, the adopted research methodology, and other details revolving around the study approach.



23. Methodology

The programme evaluation used a mixed-methods approach that combined secondary and primary data sources and literature. The figure below shows the data collection and review methods. The secondary data included annual reports, closure reports, progress reports, and other relevant studies and research by reputable organisations on the area's situation.

The primary data consisted of quantitative and qualitative data collection and analysis methods. The qualitative data involved In-depth Interviews (IDIs) with the beneficiaries and key stakeholders, such as implementing and funding partners, government department staff, and other government officials engaged in the project. Quantitative surveys were conducted with the primary beneficiaries of the programme. Moreover, project implementation timelines, MoUs between the stakeholders, work orders, and other documents with details of the activities, processes, beneficiaries, and budget were also examined.

SECONDARY STUDY	PRIMARY STUDY
Study Reports	**Quantitative/ Qualita Tive Study**
Review of annual reports, relevant government reports Closure reports, MoU	Surveys Semi-structured interviews IDIs/KIIs FGDs

2.4 Data Collection

The data collection used a mixed-methods approach that integrated quantitative and qualitative techniques with primary and secondary data sources.

2.4.1 Sampling and outreach

The sampling and outreach strategy aimed to ensure the representation and participation of different stakeholder groups engaged in the project, including the primary and secondary stakeholders. The sampling design was based on a stratified random sampling method that considered demographic and geographic variables. The outreach activities involved engaging local partners, community leaders, and gatekeepers to facilitate access and trust among the respondents and the research team.

2.4.2 Quantitative Sampling

A non-probability convenience sampling technique was used for the survey, given the small size of the population and the availability of the farmers.

State	District	Primary Stakeholders	Universe	Sample	Rationale
Kerala	Idukki	Farmers	25	20	80% of the population

2.4.3 Qualitative Sampling

To get a holistic overview of the programme, qualitative data was collected from multiple secondary stakeholders of the project.

Sl. No.	Secondary Stakeholders	Mode of Data Collection	No. of Interactions
A.	Dream India Network Team	IDI	1
B.	PRI Members – Gram Panchayat President	IDI	1
C.	Krishi Bhavan (Agriculture Department) Officials	KII	1
D.	Stakeholders at Digital Centre – Tech Centre Coordinator and Student Volunteers	IDI/ FGD	2
E.	Kudumbasree Members – President	IDI	1
F.	Homestay Owners Association- Secretary	KII	1
G.	IHRD College Administration- Principal, Ex-Principal	IDI	2
H.	Samudra Network	IDI	1
I.	Agri Tech App	IDI	1
J.	Lenovo Employees	IDI	1
K.	Other Relevant Stakeholders	IDI/FGD	1

2.5 Challenges to conducting the study and mitigation measures adopted

Mobilizing the stakeholders for data collection – The Kanthalloor gram panchayat is a hill station, and the gram panchayat boundaries are spread across twenty kilometres. The farmer stakeholders were spread across 5 wards of this gram panchayat and few of these wards are in reserve forest. There is no public transportation to these locations. The implementation partners were able to mobilize four farmers at the processing centre. The Study team travelled to the farmers location across five wards to conduct the data collection. This resulted in extended travel and duration of data collection. During the five days of data collection, the Implementation partner was available only from the third day of data collection and the support in coordination was limited. The Study team reached out to multiple stakeholders through their own effort and coordination.

2.6 Ethical Practices

- As a part of the qualitative and quantitative data collection process, the team members adhered to basic ethical protocols by obtaining respondent consent before collecting their responses. The respondents were also informed of the purpose of the study, data collection outcomes, and how their testimonials will be captured in an as-is scenario.

- To create awareness and demand for millet products among consumers, The data collection process involved tools that collected personal information that could affect one's sentiments if not presented sensitively. To ensure such scenarios didn't come into action, the team conducted a sensitization session for the enumerators and other team members involved on how to proceed with the data collection process.

- Respondents were also assured of personal information confidentiality, and that the data would be used for research purposes only.

- Also, the consent of the beneficiaries was taken before clicking their photographs, or during the interaction process. The respondents were also informed that the photos could be used in the Impact Assessment report, which might be available in the public domain.

Chapter 3

Finding of the Impact assessment Study

Important observations and insights from the impact evaluation study, which are based on fieldwork and conform to the OECD DAC criteria as specified in the study's framework, are entailed in the following section. A comprehensive approach to data collection, involving both quantitative and qualitative techniques and interactions with various stakeholders of the program, was adopted to obtain these insights.

3.1 Relevance of the Programme

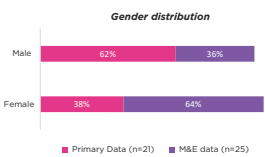
The project aimed to expand and enhance the cultivation and marketing of several varieties of millets in Kanthalloor, through incorporating digital strategies. The needs assessment revealed that the local community's primary requirements include the establishment of market connections for profitable millet farming, access to information, technology, digital systems, and knowledge of enhanced agricultural techniques. The project aimed to address these needs and challenges through the intervention.

3.1.1 Demographic Profile of Beneficiaries

The project as a pilot attempt, engaged with twenty-five farmers across five tribal wards of the Kanthalloor gram panchayat. The following are the socio-economic profile of the beneficiaries.

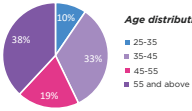
3.1.1.1 Gender

This section outlines the gender composition of the project's participants. Among the twenty-five tribal farmers enrolled in the project, women constituted 64%, aligning with the objective to promote inclusivity and empower female tribal farmers. However, in the survey conducted by CSRBOX it was observed that merely 38% of the survey respondents were women. It was further noted that, men predominantly assume the responsibility for farming and related decision-making within the family.



3.1.1.2 Age Group

The respondents are spread across age groups, 55 years and above (38%), 45-55 (19%), 35-45 (33%) and 25-35 (10%), shows engagement of farmers across all age groups in millet cultivation. Participation of younger generation aged 25-35, in cultivation shows the increased possibility of sustained and continued evolution of millet cultivation in the region. The farmers in the program are all from traditional tribal farmers who are engaged in millet cultivation for several generations. They have substantial experience in the nuances of millet cultivation.

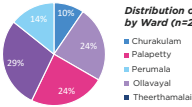


3.1.1.3 Ward

The project enrolled tribal farmers from five different wards, covering various tribal hamlets such as Chambakkad, Pongampally, and Palapetty in Palapetty ward, Kolachivayil in Perumala ward, Churakulam Ward, Ollavayal kudi in Ollavayal ward and Theerthamala Kudi in Theerthamala ward . By including remote areas that are difficult to access and lack proper transportation facilities, the project demonstrated its commitment to inclusivity, ensuring that even the most remote tribal communities benefit from the initiative. These farmers, who are secluded from rural and urban communities, more often habituated in reserve forest areas, require substantial assistance and special support for social development.

3.1.1.4 Caste

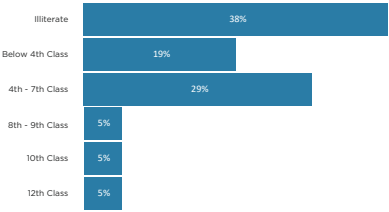
All respondents belonged to the Scheduled Tribe (ST) caste, which constitutes 13.13% of the total population in Kanthalloor village . The program specifically focused on the tribal farmers belonging to the five tribal wards of Kanthalloor gram panchayat.



3.1.1.5 Educational Qualification

A significant portion of the respondents were illiterate, Lower literacy rate among the respondents has a direct impact on the capability to use the digital tools promoted as part of the project, hence there was a need for appropriate methods of intervention. The project has considered the above limitations of the beneficiaries while conducting training programs specifically to train the farmers to use the smart phones.

Educational Qualifications

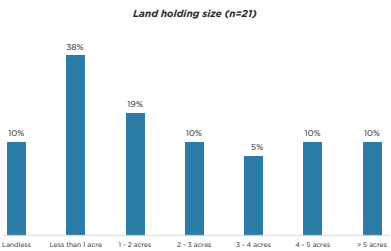


3.1.1.6 Family income

Annual income (n=21)

During the study, one of the major concerns identified was the low household income of the tribal communities. Nearly half of the beneficiaries fell below the poverty line, as defined by the Indian government, which is INR 27,000 per annum. Specifically, 48% of the beneficiaries had an annual income of less than INR 25,000. However, such low reported incomes are due to seasonal nature of livelihoods and inconsistent incomes. The respondents engage in a range of livelihood engagements such as farming, collection of forest produce, agriculture labour and other unskilled labour. They also get opportunities to work through MNREGA scheme. This variability is the underlying reason for not being able to report consistent incomes. The project aimed at enhancing the farm incomes of these respondents through revival and commercialization of millet cultivation.

3.1.2 Landholding



Ninety percent of the respondents fall under the category of small landholding farmers, with 67% being marginal landholding farmers (less than 1 hectare).

3.1.3 Demand side & Supply Side gap

Major Gap addressed

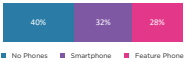
Demand	Supply
• High demand for organic millets	• Cultivated for just self-consumption
• High demand for variety of millets as healthy food option	• Ragi as the most preferred variety for cultivation
• Hygienically processed and packed millets	• Hand processed millets packed in newspaper

The above figure represents the gap between the demand and supply in the market. The project aimed to address the challenges in the supply side through digital intervention.

3.1.3.1 Access to smartphone

Only 32% of the beneficiaries had prior experience using a smartphone before the project commenced and 40% of them did have own a mobile phone. The project's introduction of smartphones and digital inclusion initiatives aims to bridge this gap, empowering beneficiaries with essential tools for accessing agricultural information, market opportunities, and other critical resources.

Usage of Mobile phones pre-project (n=25)



3.1.3.2 Diminishing number of millet varieties

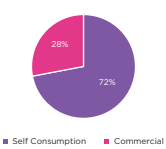
Kanthalloor historically engaged in the cultivation of close to 18 varieties of millet. However, over time, this diversity dwindled until only finger millet remained, primarily due to its significance as a staple in the tribal diet. To address this issue and promote diversity in millet cultivation, the project distributed free seeds of six additional varieties: Proso Millet, Foxtail Millet, Kodo Millet, Barnyard Millet, and Little Millet.

3.1.3.3 Challenges in marketing linkage

Farmers primarily cultivate millets, especially Ragi, for self-consumption, which is their staple diet. Millets were grown and stored to meet personal needs, benefiting from their high shelf life under optimal conditions, with minimal loss in germination quality. This resilience makes finger millet a crucial and adaptable food source, particularly in regions vulnerable to food insecurity.

The project aimed to elevate millet cultivation from subsistence to commercial levels, enabling farmers to generate additional income. This transformation involved bridging knowledge gaps among tribal farmers, from understanding where to sell their produce to learning how to process and market millets effectively. Unprofitable procurement price for their produce was a major concern of farmers who were willing to sell, the project tried to address this through setting up a processing centre and providing the confidence to farmers that their produce will be procured at a profitable price.

Purpose of Millet Cultivation (n=25)

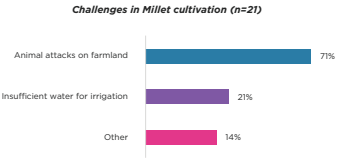


3.1.3.4 Yield processing

The tribal farmers who participated in the project relied on traditional methods to process the millet they cultivated. They used hand pounding, winnowing, stone chakki, and grinding to transform the millet grains into flour. These methods were labour-intensive and time-consuming and did not produce high-quality flour.

3.1.3.5 Challenges in millet cultivation

Prior to the project, many farmers had discontinued millet cultivation due to significant challenges such as frequent animal intrusions into farmland (71%) and limited availability of irrigation water (21%) among other challenges.



3.2 Coherence

The Coherence section of the report examines how well the program aligns with other initiatives within the country, specifically those of a similar nature being executed by different local, national and international institutions.

3.2.1 Alignment with state priorities

The Kerala Agriculture department has introduced the Millet Village program with specific focus on the 192 tribal hamlets in Kerala. The millet farmers will receive financial support of twenty thousand per hectare of cultivation . The agriculture department will also procure the yield at an above average price at Rs 40 per kilogram .

3.2.2 Alignment with national priorities

- The government launched the **National Year of Millets in 2018** to encourage the production, consumption, and research of millets.

- **The Pradhan Mantri Millets Promotion Scheme** (PMMPS) provides financial assistance and technical support to farmers who want to take up millet cultivation.

- The Sub-Mission on Nutri-Cereals under the **National Food Security Mission** (NFSM) is being executed across 28 States & 2 Union Territories, including Jammu & Kashmir and Ladakh, to improve millet production.

- The Minimum Support Price (MSP) for Millets has increased significantly, for instance, from Rs.1425 per quintal in 2017-18 to Rs.2250 per quintal in 2021-22.

- **The Global Millets (Shree Anna) Conference** was inaugurated by Prime Minister Narendra Modi, aiming to create domestic and global demand for millets.

- India spearheaded the United Nations General Assembly (UNGA) resolution to declare the year 2023 as the **International Year of Millets.**

- **The Indian Institute of Millets Research** (IIMR) in Hyderabad has been designated as the Centre of Excellence for facilitating research and technology exchange .

- everal states in India, such as Tamil Nadu, Karnataka, Rajasthan, and Odisha have developed millet policies and action plans to promote millets as a climate-resilient and sustainable crop .

4 - https://www.mssrf.org/our-stories/attappadi-small-grain-village-as-a-model-for-the-world/

5 - https://www.villagesquare.in/kerala-promotes-cultivation-of-millets-among- attapadi-tribal-farmers/

6 - https://static.pib.gov.in/WriteReadData/specificdocs/documents/2023/mar/ doc202331817350 1.pdf

7 - https://www.policycircle.org/society/millets-and-sustainable-farming/

3.2.3 Alignment with Sustainable Development Goals

The Millet revitalization project contributes to various Sustainable development goals,

1 (No Poverty) by enhancing the income and livelihood of smallholder farmers who cultivate millets in marginal lands.

(Zero Hunger) by improving the food security and nutrition of rural and urban populations who consume millets as a staple or supplementary food.

(Good Health and Well-being) by providing a rich source of micronutrients, dietary fibre, and antioxidants that can prevent and manage various chronic diseases such as diabetes, obesity, and cardiovascular disorders.

(Gender Equality) by empowering women farmers who play a key role in millet production, processing, and marketing, and by enhancing their decision-making and leadership skills.

(Clean Water and Sanitation) by reducing the water footprint of agriculture, as millets require significantly less water than other cereal crops such as rice and wheat.

(Decent Work and Economic Growth) by creating employment and income generation opportunities along the value chain of millet production, processing, marketing, and consumption, especially for rural youth and women.

(Reduced Inequalities) by enhancing the social and economic inclusion of marginalized and vulnerable groups such as smallholder farmers, women, indigenous peoples, and pastoralists who depend on millets for their livelihoods and food security.

(Climate Action) by increasing the resilience and adaptation of farming systems to climate change, as millets can withstand high temperatures, droughts, floods, and pests.

3.2.4 Alignment with CSR Policy

The Millet revitalization project contributes to Schedule VII of the Companies Act 2013 by addressing the following items:

Eradicating hunger, poverty and malnutrition:
The project promotes the cultivation and consumption of nutritious millets that can enhance food security, dietary diversity and income generation for smallholder farmers and rural communities.

Promoting health care including preventive health care:
Millet revitalization supports the prevention and management of chronic diseases such as diabetes, obesity and cardiovascular disorders by encouraging the consumption of millets, which are rich in fibre, protein, minerals and antioxidants.

Ensuring environmental sustainability:
Millet revival enables the conservation and enhancement of natural resources, biodiversity and agroecology by promoting the adoption of millet-based cropping systems that are resilient to climate change, drought, pests and diseases, and reduce water and chemical inputs.

Rural development projects:
The project facilitates the development of rural infrastructure, markets, value chains and local institutions that enable the production, processing, marketing and consumption of millets and related products, thereby creating employment, income and livelihood opportunities for rural populations.

3.2.5 Alignment with ESG Framework

Principle 2:
Businesses should provide goods and services in a manner that is sustainable and safe, and respect the interests of their stakeholders, especially those who are vulnerable and marginalized.

Principle 8:
Businesses should promote inclusive growth and equitable development and support affirmative action for disadvantaged and underrepresented groups.

3.3 Effectiveness of the Programme

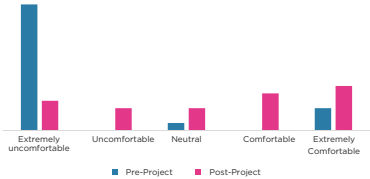
The program's effectiveness measures the extent to which the intended objectives have been achieved and identifies the supporting processes and systems that influence the achievement of these objectives. The assessment team's observations relating to programme effectiveness are stated below.

3.3.1 Training in smartphone usage

86% of the beneficiaries attended the training sessions, conducted by the tech centre. This statistic underscores the project's pivotal role in addressing digital literacy barriers.

69% of the respondents rated the training on mobile use as helpful, indicating the positive impact of the programme in enhancing digital literacy. However, it was noted that 14% of the respondents did not attend the training. According to the tech centre in charge, these beneficiaries did not show up for the training despite multiple invitations. The use of phones by other household members rather than the direct beneficiaries suggests that the programme's benefits extend beyond individual users, positively impacting entire households.

Ease of smartphone usage (n=21)



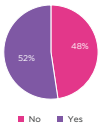
3.3.2 Smartphones

100% of the surveyed beneficiaries confirmed receiving a phone as part of the project. Although some beneficiaries do not directly use the phone, it is utilised by other household members, such as spouses, children, or siblings. All respondents displayed their phones received through the project and confirmed that the phones were in working condition. This high level of compliance with the agreement between the beneficiary farmers and implementation partner, which includes a clause preventing the sale of the phones. This successful distribution and retention of phones highlight the programme's effectiveness in promoting digital inclusion within households, ensuring that essential technological tools are retained and utilised to enhance connectivity and access to information and resources.

3.3.3 Usage of smartphones

The question of regularity in phone use sought to determine whether respondents carry their phones when travelling to other places. It was noted that almost half the respondents leave their phones at home during travel, using them primarily for occasional calls and recreational activities. Respondents also mentioned that Lenovo had recharged their phone numbers for a year, providing free internet and talk time.

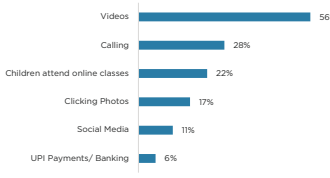
Participants using phones regularly (n=21)



Field observations revealed that a few respondents kept their phones in the original boxes, indicating minimal usage. Some respondents expressed concern that the implementing partner might ask for the phones back after some time, which made them hesitant to use them.

56% of the respondents used their phones primarily for making calls. Additionally, 22% reported that their children attended online classes using the phone provided through the project, indicating some educational use of the devices. These findings suggest that while the phones are being utilised for basic communication and some educational purposes, their primary intended use of accessing agricultural information for millet cultivation has not been fully realised by a significant portion of the beneficiaries.

Utility of smartphone (n=21)



3.3.4 Core Committee

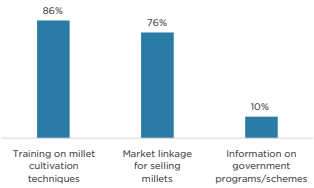
A core committee of stakeholders was established, comprising Panchayat president, the Principal of IHRD college, Farmers representative, Agri officer, Dream India network and Representative of the homestay association. This diverse group addressed significant challenges across training, demand, and supply sides of the project. Together, they collaborated to enhance training effectiveness, meet community demand for resources and support, and address supply-side barriers in agricultural production and market access. This collaborative effort ensured comprehensive support and coordination, aiming to maximize the project's impact and sustainability.

3.3.5 Awareness creation on millet cultivation

86% of the beneficiaries reported receiving training on millet cultivation, demonstrating the programme's effectiveness in providing agricultural related support. However, there were no records maintained at the tech centre on training provided on millet cultivation techniques. Additionally, 76% of the farmers were given awareness about market linkages for selling their millets. 10% of the respondents reported to receiving information on government schemes and programmes.

These figures indicate that the programme has been successful in disseminating critical agricultural knowledge and market information to most of the beneficiaries.

Type of support received from Training centre (n=21)

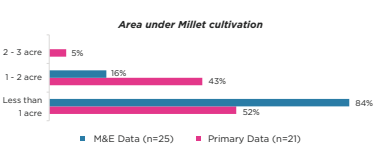


3.3.6 Participation of farmers

It's notable that all the enrolled farmers actively participated in millet cultivation during the project period, showcasing a robust endorsement of the initiative. The farmers claimed to be motivated through the awareness, engagement and training they received as part of the program.

3.3.7 Area under Millet Cultivation

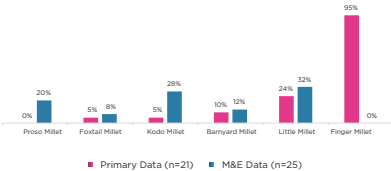
There were differences observed in area under millet cultivated between the secondary data and the primary data. The farmers had committed on an average of 30-50 cents of land per farmer to undertake millet cultivation, however, it was observed that some farmers have engaged in millet cultivation in more land than committed to the project. There are questions about the commercial viability of the operations, as the yield produced may not exceed the quantity needed for self-sustenance. Only 5% of the respondents reported conducting millet cultivation in more than 2 acres, which can produce a substantial yield for profit generation. These findings highlight the challenge faced by most farmers in achieving commercial scale in millet cultivation due to their limited land holdings. The programme's emphasis on improving cultivation techniques and market linkages becomes crucial in helping farmers maximize their productivity and economic returns within their available land constraints.



3.3.8 Quantity of Millets harvested

The initial plan of the project was to distribute free seeds of six varieties of millets across five different wards: Proso Millet, Foxtail Millet, Kodo Millet, Little millet and Barnyard Millet. This strategy was chosen because tribal farmers in Kanthalloor traditionally cultivated Finger Millets and already possessed seeds for this crop, passed down through generations. However, the project encountered a setback when the seeds provided by the implementing partner failed to germinate. As a result, farmers exercised their discretion to revert to cultivating Finger Millet, as depicted in the graph illustrating millet cultivation trends during the project period.

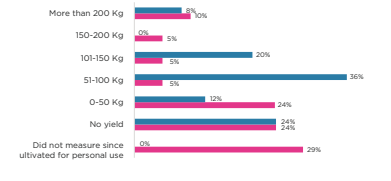
Millet Cultivated during the project period (n=25)



the seeds provided by the implementing partner failed to germinate. As a result, farmers exercised their discretion to revert to cultivating Finger Millet, as depicted in the graph illustrating millet cultivation trends during the project period.

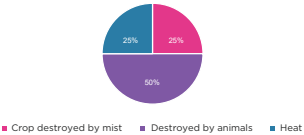
There was no proper record maintained for the total yield during the project period by the implementation partner, leading to discrepancies noted during primary data collection. All respondents from Theerthamala stated they had never measured their millet yield, as it had always been cultivated for self-consumption without interest in commercial sales. Additionally, 24% of respondents reported having no yield due to climatic conditions and human-wildlife conflicts.

Total millet yield during the project period



These findings underscore the project's challenge in accurately assessing and recording agricultural productivity among tribal farmers, particularly in contexts where cultivation is primarily for subsistence rather than commercial purposes. Addressing these issues would require improved data collection methods. Also, mitigation strategies for environmental and wildlife impacts on farming activities will improve better yield realization.

Reason for no yield (n=4)



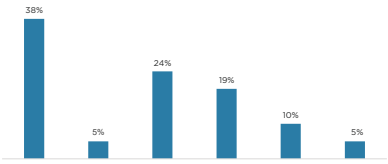
Climatic factors such as crop destruction due to mist and heat, as well as wildlife intrusions by animals like boars and elephants, were significant challenges noted during the project. These occurrences underscored the prevalent issue of human-wildlife conflicts in the area, which adversely affected agricultural yields. The impact of these factors highlights the need for adaptive agricultural practices and measures to mitigate conflicts between human activities and wildlife conservation efforts in such environments.

3.3.9 Total yield delivered to the processing unit

During the project period, only 34% of the respondents were able to sell their yield. 38% stated that they did not sell their yield because it was just adequate for their self-consumption. Five percent of the respondents reported being unable to sell their produce because the processing unit was not operational on the day they intended to sell. Additionally, only 5% of the respondents sold more than 100 kg of yield, which could potentially generate substantial revenue exceeding ₹5,000. The remaining 29% of beneficiary farmers were able to sell less than 100 kg of yield. Also 5% of the beneficiaries who could not sell was because of the lack of transportation as they live inside reserved forest without proper road connectivity.

These findings highlight the challenges faced by farmers in achieving significant commercial sales of millet during the project period. Factors such as limited production volumes, and the predominantly subsistence-oriented cultivation practices contribute to the varied sales outcomes observed among the respondents.

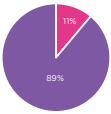
Total millet yield sold during the project period (n=21)



3.3.10 Inability to sell the yield

Eighty-nine percent of the respondents who did not sell their millet produce, despite harvesting a yield, indicated that the quantity harvested was just enough for their own sustenance. The remaining 11% reported attempting to sell their yield at the processing unit, only to find it closed on that day, forcing them to return with their produce. This situation highlights a communication gap between farmers and the processing unit, which impacted their ability to sell their harvest effectively. These findings underscore the importance of improved communication and coordination mechanisms between farmers and processing units. Enhancing reliability and accessibility of processing facilities could help mitigate such issues in the future, ensuring that farmers have consistent opportunities to market their produce and improve their economic outcomes.

Reason for not selling millet yield (n=9)



3.3.11 Price of the yield

The farmer who wanted to sell the excess millets approached the processing unit, which procured directly from the farmers. The processing unit operated under a fixed pricing of **₹50 per kilogram,** regardless of the type of millet. This pricing was determined by the core committee, which analysed market prices and considered the expectations of the farmers. Importantly, farmers received payment immediately upon procurement, ensuring timely compensation for their produce.

This approach streamlined the sale process for farmers, providing them with a reliable market and prompt payment for their harvest. By offering a fixed rate and facilitating immediate payment, the processing unit supported farmers in achieving stable income from their millet cultivation efforts, thereby enhancing economic sustainability within the community.

The farmers expressed that the fixed selling **price offered by the processing unit was the best** they could receive, as it relieved them from the burdens of processing and packaging. They also **appreciated receiving immediate payment after procurement,** which provided significant relief. This streamlined process not only ensured fair compensation for their millet produce but also reduced the logistical and financial burdens typically associated with marketing agricultural products.

By eliminating the need for farmers to handle processing and packaging tasks, the programme enabled them to focus more on cultivation, thereby potentially increasing productivity and income stability. The prompt payment further enhanced trust and satisfaction among farmers, reinforcing the effectiveness of the programme in supporting their livelihoods.

Currently, the processing unit has become the most preferred destination for farmers to sell their millet produce, primarily because it provides them with a reliable market and fair pricing. Before the establishment of the processing unit, farmers lacked market linkages and a customer base, making it challenging to sell their yield effectively. The processing unit has effectively bridged this gap, enabling farmers to secure a fair price for their harvest.

Farmers who are interested in commercial scale of millet cultivation are now optimistic about expanding their cultivation efforts and selling more yield to the processing unit in the upcoming cropping seasons. This indicates a positive shift towards sustainable agricultural practices and economic empowerment within the community. By continuing to support and enhance market access through initiatives like the processing unit, the programme can further stimulate agricultural productivity and improve livelihoods among tribal farmers.

3.3.12 Processing unit

The processing unit was established with the primary objective of procuring millets from beneficiary farmers and conducting mechanised processing and packaging to prepare millets for consumer consumption. Additionally, the unit undertakes branding initiatives, marketing the millets under the name "Kanthalloor Millet". This branding effort aims to enhance market visibility and promote the unique identity of locally produced millets.

Furthermore, the processing unit was initiated with a focus on empowering tribal women in the community. Seven tribal women were employed to work in the unit, and they have formed a committee with a president and secretary to make key operational decisions. This initiative not only provides employment opportunities but also empowers women to take on leadership roles within the agricultural value chain, thereby fostering economic independence and community development.

The procurement unit currently lacks a proper system for recording the total quantity of millets procured, processed, and sold. The processing unit relies solely on a receipt book that records quantities without detailed categorization, and the entries are not maintained in chronological order, as observed during field visits.

To enhance the efficiency of the processing unit, it is crucial to provide training in bookkeeping and accounting practices. This training is especially necessary given that the processing unit president is illiterate and lacks the necessary skills for record-keeping. Improving their accounting capabilities through training will not only streamline operations but also ensure accurate documentation of procurement, processing, and sales activities.

By implementing structured record-keeping practices and enhancing the skills of personnel involved, the processing unit can improve transparency, efficiency, and overall management of millet production and marketing processes. This would further support the unit's goals of empowering tribal women and promoting sustainable agricultural practices within the community.

A processing unit was established to tackle a significant supply-side gap in the project. Previously, farmers hand-processed their millets and sold them without proper packaging and value addition. The processing unit was set up in a building provided by Panchayat and operated by a SHG established specifically for this purpose consisting of seven tribal women who received training on the unit's machinery. This unit mechanized the millet processing and focused on branding and packaging the millets.

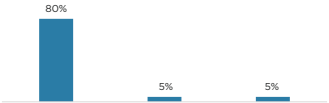
It facilitated the procurement of millets from farmers at ₹50 per unit and directly sold them to a range of customers, thereby streamlining the supply chain and ensuring higher-quality products reach the market. This initiative aimed not only in value addition to the millet production process but also empowering the tribal women in entrepreneurship and skill development.

3.3.13 Tech centre

3.3.13.1 Number of calls to tech centre

Only 10% of the respondents reported having personally called the tech centre for assistance. However, monitoring and evaluation (M&E) data indicated that approximately 56% of the beneficiaries have utilized the tech centre's services by making calls.

Number of times respondents called to the tech centre (n=21)



This discrepancy suggests a potential gap in awareness or communication regarding the tech centre's availability and services among the beneficiary farmers. Enhancing outreach efforts and communication strategies could help increase the utilization of tech centre services, ensuring that more farmers benefit from the support and information provided. Improving awareness and accessibility to these resources is crucial for maximizing the impact of the programme on agricultural practices and community development.

3.3.13.2 Aspects of support requested

Farmers who called the tech centre reported that they did so primarily to obtain information on government schemes and subsidies, upcoming meetings, and queries related to farming practices. This indicates that the tech centre plays a vital role in providing crucial information and support to farmers, addressing their needs for timely and relevant agricultural information.

By serving as a hub for information dissemination on governmental support, local events, and farming techniques, the tech centre enhances farmers' ability to make informed decisions and access resources that contribute to their agricultural productivity and economic well-being. Encouraging more farmers to utilize these services can further empower them with the knowledge and tools necessary for successful millet cultivation and sustainable livelihoods.

3.3.13.3 Turnaround time of calls

The farmers confirmed that the turnaround time for calls to the tech centre was almost immediate, which they found extremely helpful in receiving quick and instantaneous responses. This efficient communication process has facilitated timely resolution of queries, enabling farmers to make informed decisions promptly regarding their agricultural activities.

The rapid response capability of the tech centre not only enhances the effectiveness of farmer support services but also reinforces its role as a reliable resource hub for agricultural information and assistance. This responsiveness is crucial in meeting the dynamic needs of farmers, fostering greater efficiency and productivity in millet cultivation and management practices.

3.3.14 Homestay Kiosk

The homestays were among stakeholders in the project, responsible for marketing the processed millets from the processing unit. Both the president and secretary of the homestay association were actively involved in the core committee overseeing project activities. Initially, 15 homestays had committed to marketing the millets produced by tribal farmers, demonstrating strong support for local agricultural initiatives.

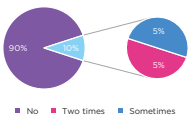
Despite an initial promise to provide kiosks for displaying millets at each homestay, it was observed during field visits that only one kiosk was set up at The Cure Monastery resort in Kanthalloor. Despite this shortfall, the homestay association had already decided to proceed with direct selling to their customers and integrating millets into their menus. However, there were no official records of transactions at the Cure monastery on the sale of Millets.

3.3.15 Core committee

The Core Committee was composed of key stakeholders, including the Panchayat president acting as the chairperson, the president of the homestay association, a representative from Dream India Network (the implementation partner), the president of the CDS (Community Development Society), a farmer representative, the principal of IHRD college, and a representative from the agriculture department.

This diverse representation ensured that the core committee encompassed perspectives from local governance, community development, educational institutions, agricultural expertise, and project implementation. Together, they played a crucial role in guiding and overseeing the strategic direction and implementation of initiatives aimed at supporting tribal farmers and promoting sustainable agricultural practices in the Kanthalloor area. The sustainability and ownership of the Millet revitalization programs rests on the effectiveness of the functioning of the committee. However, the committee meetings have been inconsistent, and the stakeholders are not aware of the status of the project.

Respondents who have used agritech app (n=21)



It was observed during field visits that farmer in Kanthalloor had the Agritech app installed on their phones, although only 10% of respondents had actively used it. One farmer mentioned using the app occasionally for general browsing, while another accessed it to check agricultural inputs like fertilizers, pesticides and to check crop rates.

Following qualitative discussions with Agritech app representatives, it became evident that personalized versions of the app were not initially available for millet farmers in Kanthalloor. In response, specific information about different millet crops has been incorporated into the app to better serve local farmers. Moving forward, farmers will receive training to utilize features such as crop calendars, providing essential farming guidance. To enhance accessibility, the app will support 11 languages, facilitating broader engagement among farmers. The Agritech app representatives confirmed that farmer onboarding is scheduled for July 21, 2024.

3.3.17 Varuna star dashboard

The Varuna Star dashboard initiative faced significant challenges and ultimately did not launch due to issues with data accuracy and communication. According to the third-party handling the dashboard, there were discrepancies attributed to miscommunication between farmers and student volunteers from IHRD College.

Critical data related to yield, labour, and processing unit operations was incomplete or inaccurate, which hindered the feasibility of rolling out the dashboard. This included discrepancies in procurement records, total yield reporting, and payments made for produce. Without reliable data, the dashboard could not fulfil its intended purpose of providing transparent and actionable insights for project management and decision-making.

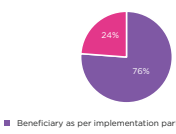
Addressing these data quality issues would be essential for any future initiatives aiming to implement a dashboard system effectively. Clear communication channels and robust data collection protocols are crucial to ensure accurate reporting and improve project oversight in similar agricultural development projects.

3.4 Efficiency of the Programme

3.4.1 Beneficiary as a Primary Cultivator

It was noted that after comparing the project data with survey responses, 24% of the cultivation and agriculture-related decisions were made by the respondents' spouses. This indicates a significant involvement of family members, particularly spouses, in the decision-making processes related to farming activities.

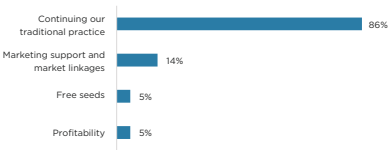
Primary Cultivator (n=21)



This finding suggests a nuanced dynamic within the households, where agricultural responsibilities and decisions are often shared. It also highlights the potential need for targeted training and support not just for the primary beneficiaries but also for their spouses, ensuring that all individuals involved in the agricultural process are equally equipped with the necessary knowledge and skills.

Recognizing the role of spouses in decision-making can lead to more inclusive and effective training programs, ultimately enhancing the overall impact of the project by empowering entire households rather than just individual farmers. This approach could lead to more cohesive and informed decision-making, benefiting the sustainability and productivity of millet cultivation in Kanthalloor.

3.4.2 Motivation for Millet Cultivation



The primary motivation for millet cultivation during the project period was to continue the traditional practice among the tribal communities. Millets have been an integral part of their agricultural heritage and staple diet.

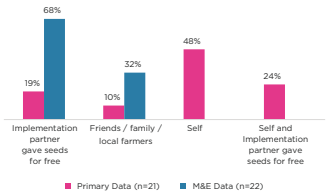
Additionally, 14% of the traditionalists highlighted marketing support and market linkage as motivating factors, indicating that the project's efforts to provide a structured market for their produce resonated with some farmers. Meanwhile, 5% of farmers cited the provision of free seeds and the prospect of foreseeable profit as their main motivations.

This underscores the importance of cultural heritage in agricultural practices while also revealing that economic incentives and market support play a crucial role in encouraging participation. The combination of maintaining traditional practices and introducing market linkages suggests a balanced approach that respects cultural practices while promoting economic sustainability. The project's future strategies should continue to honour these traditions while enhancing economic benefits to ensure long-term success and farmer engagement.

3.4.3 Seed Support

One area that lacked efficiency in the project was the quality of seeds distributed to the farmers. According to the monitoring and evaluation data, 68% of the farmers attempted cultivation with the seeds provided by the implementation partner. However, during field visits, it was noted that these seeds often failed to germinate, attributed to both poor seed quality and unsuitable climatic conditions. Consequently, many farmers opted to use their own seeds or source them from friends and family.

Source of seeds durinng project period

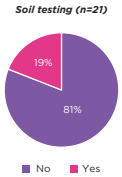


Only 19% of the farmers reported using the seeds received from the implementation partner for their cultivation. Additionally, 24% used a combination of the provided seeds and their traditionally stored seeds. This highlights a significant issue with the seed distribution aspect of the project, indicating that the provided seeds were not sufficiently reliable or adapted to the local conditions.

This inefficiency points to a critical need for better quality control and adaptation in seed distribution. Ensuring that the seeds are of high quality and suited to the local environment is crucial for the success of such agricultural projects. The project should consider conducting thorough trials and consultations with local farmers to identify the most suitable seed varieties before large-scale distribution. Additionally, providing training on seed selection and storage could further empower farmers and enhance the project's overall impact.

3.4.4 Soil test

Soil testing was carried out by only 19% of the farmers. This low participation rate was primarily due to cultural beliefs and lack of awareness. Many tribal farmers from certain areas did not agree to soil testing, believing that taking soil from their land was against their traditions and that the soil should remain undisturbed. Only the tribals from Churakulam and Palapetty agreed to soil testing.



Additionally, some respondents mentioned they were unaware of the soil testing process. This highlights a significant gap in communication and education regarding the benefits of soil testing for agricultural productivity.

To improve productivity, it is essential to promote soil testing among all farmers. This can be achieved by:

Cultural Sensitivity:
Engaging with the community leaders and respecting traditional beliefs while educating the farmers about the importance and benefits of soil testing in a culturally sensitive manner.

Awareness Campaigns:
Implementing awareness campaigns to inform farmers about the advantages of soil testing, such as improved crop yields and better soil health management.

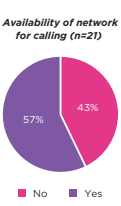
Involvement of Local Stakeholders:
Involving local stakeholders, such as the Panchayat members and community leaders, to build trust and encourage participation in soil testing.

Accessibility:
Ensuring that soil testing services are easily accessible to all farmers, perhaps by integrating them with other services provided at the tech centres or during community meetings.

Improving participation in soil testing will likely lead to increased productivity and better crop management, ultimately benefiting the farmers and the success of the project.

3.4.5 Access to Mobile Network

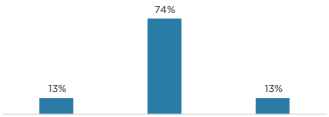
Availability of mobile network is a crucial factor on which this project hinges, given that digital inclusion is one of its major objectives. During the field visit, it was noted that 43% of the tribal farmers resided in areas without mobile network coverage. This lack of connectivity significantly reduced the efficiency of the project, as it prevented farmers from accessing the services of the tech centre from the comfort of their homes. Consequently, this created hesitation among beneficiaries to call the tech centre, leading to improper information dissemination.
To address this challenge, the following steps could be taken:



Community Hubs:
Create community hubs with reliable network access where farmers can gather to use smartphones and access tech centre services. These hubs could be set up in locations that already have network coverage, such as schools or community centres.

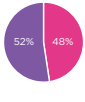
Scheduled Visits by Tech Centre Staff:
Organise periodic visits by tech centre staff to remote areas. These visits can ensure that farmers receive necessary information and support without needing to travel.

Distance travelled for calling (n=8)

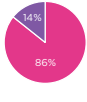


Most of the respondents who did not have network access at their homes or hamlets had to travel 500 meters to reach an area where they could access mobile networks to make calls. This necessity for travel led to improper communication and hesitation to make calls, further hindering the efficiency of access to information.
Internet access was intended to be a major facilitating factor in this project, enabling farmers to leverage their phones for accessing farming-related information. However, 48% of the respondents did not have internet connection in their homes or localities, significantly diminishing the efficiency of the project.

Availability of internet connection (n=21)



Accessed information related to farming (n=21)



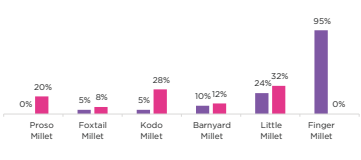
The project's digital training and support mechanisms rely heavily on internet access. The inability to connect online hinders farmers from participating in virtual training sessions, accessing instructional videos, or seeking real-time advice from experts. Due to the lack of internet access and hesitation to use phones, only 14% of the respondent's accessed information related to farming. This underscores the low efficiency of the digital inclusion aspect as intended by the project. The low percentage of respondents accessing farming information via smartphones indicates a significant underutilisation of the digital tools provided. This is a critical shortfall, considering the project's emphasis on digital inclusion.

3.5 Impact of the Programme

3.5.1 Increase in number of millet varieties cultivated

The project managed to motivate farmers to cultivate five different varieties of millets namely Proso, Foxtail, Kodo, Barnyard and Little millet. These are varieties which are different from the usually cultivated Finger millet (Ragi). However, due to the various external factors the most produced millets through the program were Ragi. The reasons include failure of seeds provided by organic Kerala did not germinate, there was failure of rain at the time of sowing, cultivation was destroyed by wild animals. Given these reasons the farmers decided to go ahead with the cultivation of their preferred millet during the period of the project which was vastly Ragi.

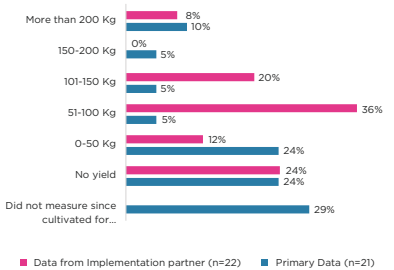
Millet Cultivated during the project period



3.5.2 Increase in the production of millets

The project has contributed to increase in production of millet specific to the five varieties that were envisaged during the project. However, the exact quantity of production could not be determined due to the unavailability of accurate baseline or endline information. The following chart present the quantity of yield as part of the project reported during the primary survey. Ten percent of the farmers have had and yield more than 200 Kgs, 5% of the farmers reported having and yield between 150 to 200 kgs. Twenty-four percent of the farmers have reported that there was no yield and 29 percentage of the farmers. Reported that they didn't measure the yield since it was cultivated for personal use. The area of cultivation that the farmers had committed for this project was on an average of 50 cents of land. However, the variation in yield is due to the variation in land cultivated by the farmers which ranged from 20 cents to 3 acres.

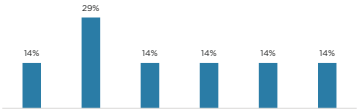
Total millet yield during the project period



3.5.3 Income through Millet cultivation

Based on the data collected, 33% of the farmers sold the millets cultivated to the processing unit, indicating moderate engagement in market linkage facilitated by the project. Among those who sold their produce, 14% earned an income exceeding ₹ 5,000, 14% generated income ranging between ₹ 4,500 and ₹ 5,000. However, a majority of 43% earned a nominal income of less than ₹ 1,000, reflecting challenges in achieving higher sales volumes or securing favourable pricing. The average income reported by these farmers amounted to ₹ 2,450.

Income made through selling millets (n=7)



3.5.4 Strengthening of local agriculture networks

One of the major activities of the project is the setting up of the core committee. Including all the relevant stakeholders in the community to engage in the revitalization of millet cultivation. One of the major outcomes of this is the profitable pricing of the millets at Rs 50 per kg. The farmers reported that this the best price they can avail at Kanthalloor for millet.

3.5.5 Processing centre

The setting up of the processing centre has given the confidence to the farmers that there are market opportunities to sell the produce and avail the right price. The farmers reported that they are satisfied with the rate that they have received. Another important benefit realised by the farmers is the immediate payment for their produce, all the farmers who have sold the

produce to the processing centre reported that they received the right payment through cash instantly. One farmer reported that they were not able to sell the produce, because on the day the produce was taken to the processing centre the centre was closed.

The processing centre has created local infrastructure for procurement, processing, packaging and marketing of the millets cultivated in Kanthalloor. This has given the farmers confidence about the market opportunities.

3.5.6 Digital tools

The digital tools envisaged as part of the project such as Varuna star dashboard and Agritech app has not been implemented.

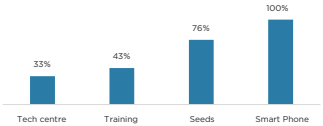
3.5.7 Smartphones

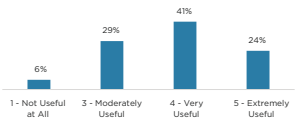
Based on the project's focus on introducing smartphone technology to tribal farmers, it was evident that a significant majority, had never used a smartphone before the programme began. This lack of familiarity highlighted a substantial digital divide within the community. Despite initial discomfort, there was a noticeable increase in comfort levels with smartphones after the programme's implementation.

It's important to recognize that introducing new technology to traditionally underserved communities take time for adaptation. Providing smartphones enabled these farmers to gain hands-on experience, bridging the digital gap gradually. Continued support and training will be crucial in further integrating digital tools into their farming practices and daily lives, thereby enhancing their overall digital literacy and empowerment.

3.5.8 Project activities

The respondents unanimously acknowledged smartphone support as the most widespread benefit, with 100% of beneficiaries receiving this essential tool. Seed support was recognised by 76% of respondents. However, training received was mentioned by only 43% of respondents, suggesting a potential gap in engagement or awareness. Interestingly, tech centre support received minimal mention, attributed to challenges such as residing in areas with no network coverage or reluctance to make calls. This underscores the importance of addressing connectivity issues and improving outreach strategies to ensure all beneficiaries can fully utilise available resources and support services.





The project received overwhelmingly positive feedback from the respondents, with 94% rating it as useful. Among them, 24% considered the project extremely useful, while 41% found it very useful. This high level of satisfaction underscores the project's effectiveness in meeting the needs and expectations of the tribal farmers involved.

3.6 Sustainability

3.6.1 Farmer

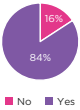
It was noted that one of the significant challenges reported by respondents was the issue of human-wildlife conflict. Farmers expressed deep concern over frequent wildlife intrusions into their farms and agricultural areas. These intrusions have led to substantial losses, causing both financial strain and emotional distress among the farmers. According to their testimonies, instances of wildlife destroying entire yields have become more frequent in recent years, a trend they attribute to habitat loss faced by wildlife populations.

Challenges in continuing Millet Cultivation (n=21)

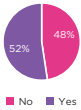
It was noted that 84% of the farmers expressed their continued interest in millet cultivation, indicating a strong commitment to sustaining the project's agricultural activities. However, the remaining 16% cited challenges related to wildlife intrusion as a significant barrier to profitable cultivation. These farmers highlighted the need for financial assistance, proposing financial requirements in the range of 15000 to 50000 per acre to mitigate these challenges and make their farming endeavours economically viable.

It's promising to note that 52% of the respondents reported that farmers in their areas have shown interest and made enquiries about the millet project. This indicates a growing interest and potential for the project to scale up and become more sustainable in the long run. Increased awareness and interest among local farmers could lead to broader adoption of millet cultivation practices, further strengthening the project's impact and sustainability over time. This positive response underscores the potential for continued community engagement and expansion of millet farming initiatives in the region.

Interest towards continuing Millet cultivation (n=21)



Interest from Peer farmers in Millet cultivation (n=21)



3.6.2 Processing Unit

Various factors affect the smooth functioning of the processing unit in the future such as

Rent-Free Space:
The provision of two rent-free shops by the panchayat significantly reduces fixed costs for the processing unit, saving ₹10,000 per month. This financial benefit enhances the profitability of the processing centre by lowering operational expenses.

Free Electricity:
The commitment from the panchayat to cover electricity costs in case of operational losses provides a safety net, further reducing operational risks and ensuring sustainable operations of the processing unit.

Value-Added Products:
Introducing a pulveriser for milling millets into powder responds to market demand for convenient cooking solutions, potentially increasing product sales and diversifying revenue streams for the processing unit.

Bookkeeping:
Currently lacking expertise in bookkeeping, the processing unit faces challenges in maintaining accurate records of procurement and sales. Implementing basic bookkeeping training would be crucial for assessing profitability accurately and ensuring financial sustainability.

Chapter 4

Learnings and Recommendations

4.1 Learnings

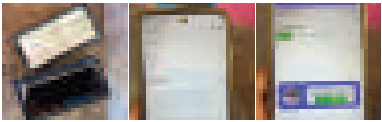
4.1.1 Farmers

The project selected the farmers from the tribal communities of Kanthalloor who had a tradition of growing millets. The ward members of the gram panchayat nominated the farmers for the project.

4.1.1.1 Support received by the farmers

The project provided the following support to the farmers: **training and smartphones for each participant, seed support, and information access through the tech centre at IHRD college.**

The main activities and challenges related to millet cultivation were discussed with the farmers. The farmers reported that **human-wildlife conflict, rainfall failure, and lack of marketing support were the major difficulties** they faced. They also expressed their interest and commitment to cultivate on average 50 cents of land per farmer for millet cultivation. **The project enrolled 25 farmers, 60% of whom were women.** However, the primary survey revealed that the men of the household were more involved in the cultivation, and that some of the trainees and smartphone recipients were not the actual cultivators.



It was found during the primary survey, that more than 90% of the farmers never have used a smartphone before the project. Most of the farmers who have received these phones, have kept at home, gave the phone to a family member and not have been using for the intended purpose. The primary use of these smartphones is only for calls. **In 3 of the villages where the farmers hail from, there's no network facility to use the smartphone.** Out of the 25 farmers, it can be noted that around 20% of the farmers are using the phone regularly and for multiple purposes like watching videos, WhatsApp and other features.

When it comes to the digital tools such **as Agritech app and Varuna Star Dashboard,** The Agritech app was installed among all the smartphones that have been given to the farmers. However, **only 2 farmers reported they have opened the app once or twice** during the project period. Varuna Star dashboard was not implemented, and farmers were not aware of the same. Most of the farmers who attended the training have reported that the training was useful. However, there were 3 farmers who hail from Kolachivayal kudi who received the smartphones without attending the training programme. The **overall use of smartphones among farmers has increased** from before the project. However, there was **little relevance found regarding the usefulness of the smartphones for agricultural purposes other than communication.**

4.1.1.2 Motivation towards Millet cultivation

The **farmers who were nominated** for the projects were tribal farmers who have been cultivating millets as part of their lifestyle and livelihood for generations. The primary reason or **motivation for these farmers to cultivate millets is for self-consumption.** And the **most desired millet variety** for them is little millet also locally known as **Ragi,** which forms part of their staple food.

In at least three of the tribal villages, where the primary survey was conducted the farmers never had the intention of growing or selling millets at commercial scale or purpose. One reason for this is the size of the land that is under cultivation for millets. Majority of the tribal farmers are marginal farmers with less than one hectare of land in many cases less than one acre. The tribal farmers also do not own the land as it is in the forest area. It doesn't make sense for them to cultivate millets commercially. However, growing cultivating millets along with the other crops, gives them food for self-consumption. Among the farmers who are interested to cultivate crops commercially, there was a concern on the marketability and profitability of millets. Adding to it, there was also another major reason of concern, which is the human wildlife conflict in the farming villages as all the tribal villages are either inside forest lands or in the periphery.

The major human wildlife conflict is because of wild animals such as elephants, wild boars, Wild Buffaloes, deer and birds. Due to this reason, the farmers mostly were never able to realise full yield. There's always an uncertainty about realising the yield after cultivation among these farmers. This was another reason why in the past few years the farmers have reduced the cultivation of millets both in terms of varieties and the area under cultivation.

In addition, one other major factor in engaging in Millet cultivation is the input cost. The farmers reported that to cultivate millets, they require input costs ranging from 15,000 per acre. And the attribution of this cost is to the manual labour in clearing of the land, tilling of the soil and land preparation, Labour costs in terms of weeding, harvesting etc. Most of the farmers have engaged in Millet cultivation with limited self and family labour which leads to production limited to self-consumption. In case of a larger yield, it shared among the villagers, or it is sold at a personal level to different people from neighbouring communities. However, they never attempt to sell it outside given the very low cost and lack of marketing opportunities.

The **secondary data suggests that average yield per acre** in rainfed situation for ragi is around 800 to 1000 kilograms per acre. However, in the conditions existing in Kanthalloor, the **farmers reported close to 200 to 300 kilograms per acre.** At this level of yield and required input costs, the engagement is Millet cultivation is unprofitable and uneconomical at commercial scale.

During the project it was decided that **five different Millet varieties will be revived.** However, the **seeds given through organic Kerala did not germinate.** The farmers on their discretion cultivated varieties of their own choice, which was **mostly Ragi. 90% of the farmers were engaged in the project have cultivated ragi.** However, some of the farmers still managed to cultivate the other varieties of millets at a lower scale.

Only seven farmers Have given sold their produce to the processing unit. The farmers are satisfied with the cost they received in selling their produce, which is ₹**50 per kilogram** at the processing centre.

On being asked about if they will continue growing millets this year, some of the farmers reported that **they will not cultivate this year as they cannot safeguard their crops from the wild animals.** However, **most of the farmers reported they will continue Millet cultivation at least for the self-consumption.** However, there are lot of externalities which are not under their control. The farmers also enquired that **if there will be any financial support to continue millet cultivation.** The farmers expect financial support and subsidies for engaging in Millet cultivation at commercial scale. **Only one farmer among the 25 had received the millet subsidy from the agricultural department.**

With respect to the support from the **Tech Centre, there are fourteen farmers who have called the Tech Centre for various queries and these queries involved primarily in the subsidy for agriculture.** There have been a **total 47 calls made** to the tech centre. There were also calls made by farmers other than the twenty-five enrolled farmers.

There are **certain cultural limitations among the farmers, for example in terms of seed support,** in multiple villages, it was reported that the farmers will not use the seeds from outside and will only use the seeds from previous harvest.

In general, the seeds that are used in Kanthalloor are traditionally low yielding variety because of the rainfed cultivation. There is hesitance among farmers to use the seed from outside.

The **tribal farmers also reported the hesitance to undertake soil testing and use of fertilizers and pesticides.** As instructed by their forefathers they cannot send the soil out of their villages for testing. The farmers also have hesitance in using fertilizers and pesticides in their produce. The tribal farmers reported that they will not use any fertilizers. In one village, it was reported that the use powdered cow dung as a fertiliser. The earlier practice in village cultivation was to burn the weeds while clearing the land and plough them through the soil for nutrients. However, burning the weeds for clearing the fields has been banned by the forest department and hence currently the farmers do not engage in this practice. And the hesitance towards using fertilizers and pesticides also has an impact on the yield of the Millet cultivation.

Some **farmers also reported that they will not be able to afford the recharge cost of the smartphones** once the current recharge period ends. This was understood because some of the farmers smartphones have not been recharged for one year as it was planned. There was a discrepancy in smartphone recharges and farmers reported the same to the implementation partner, but this the issue has not been resolved. Farmers reported reluctance to recharge at existing rates for smartphone recharge.

The ability of the farmer to engage in large scale farming in case where they want to cultivate 3 to 4 acres is dependent on the labour support they receive from the MNREGA, through the gram panchayat.

4.1.2 Core committee

The core committee, including the major stakeholders of the project, convened for the first-time 18th of July 2023. The second core committee meeting happened in 13th of August 2023. It was decided to have core committee meetings, once every month to ensure the progress of the project. However, since the last meeting in 13th of August 2023, there hasn't been any further core committee meetings conducted. There have been several changes among the members of the core committee. For example, the core committee president who was the earlier the gram panchayat president has moved away from the Post of gram panchayat president. The principle of IHRD College who are was earlier as part of the core committee has also moved out of college. The agricultural department officer, who was earlier part of the core committee, has also moved out of his role. The Homestay Association president, who was part of the core committee, has become the gram panchayat president. Since there has a lot of movement of the people in the core committee. The core committee has not been convened after the changes in personnel. The current people in the designated positions are not aware of the project. It was understood that the ownership of the project rests with the gram panchayat, however the change in personnel has affected the sustainability of project.

4.1.3 Tech centre

The tech centre set up at the IHRD College has improved the digital infrastructure available at the college. The tech centre has successfully completed the smartphone training for 22 farmers and has maintained the inventory list of the devices that were given as part of the project.

The tech centre also served as a call centre to address the farmers' queries. According to the review of documents, the tech centre received 47 calls from different farmers. Out of these, 14 were part of the project and the rest were other farmers from the local region. The tech centre answered the queries on the same day. The tech centre was managed by a faculty member designated as the tech centre coordinator. All the calls were received by the tech centre coordinator.

Besides the call centre function, the tech centre was supposed to document the traditional millet cultivation practices of the community. However, this task was not completed. No project-related documents were found in any of the systems at the tech centre.

The student volunteers of the tech centre said that they felt useful and satisfied to be part of the project. They helped the farmers to use the smartphones and visited some of the farmer villages and fields. The tech centre also conducted a few Google Meet sessions with the farmers. However, there was no documented evidence of these interactions.

The student volunteers at the tech centre said that they expected a certificate of participation from Lenovo, but it was not provided. They also expected course-relevant technical skilling/training sessions and internship opportunities from Lenovo. They expressed some reservations about working on Saturdays and Sundays as part of this project. They also reported that they did not engage in any online search of information related to farming.

The tech centre coordinator also reported that the students did not receive any technical training or skill development as part of their engagement in this project. The students also reported that there was some reluctance from the tribal community to engage with them. The tech centre coordinator reported that other than the technical infrastructure that was provided to the college, there was no other value addition for them to be part of this project. As of July 2024, there is a change of the tech centre coordinator as the previous one has resigned and moved out of the role.

The digital infrastructure systems with the internet connection have been used by the students at the college. There is a register that records the utilization. The first entry was on 7th of June 2023 and the last entry was on 22nd of July 2023.

4.1.4 Processing centre

The processing centre is located in the panchayat building provided by the gram panchayat without rental charges. An SHG of six tribal women was formed to own and operate the centre. Mrs. Eshwari, the president of the SHG, was given the responsibility of the centre. However, none of the SHG members are educated and the president cannot read or write. The centre is currently managed by the president's husband, who is also the farmer coordinator. He handles all the sales and marketing activities.

The centre has procured, processed, packaged and sold millets. However, the records of these activities are not properly maintained or verified. Some of the procured millets are left unprocessed, as the centre claims that the demand is low. The unprocessed millets are planned to be distributed as seeds for the next cultivation season.

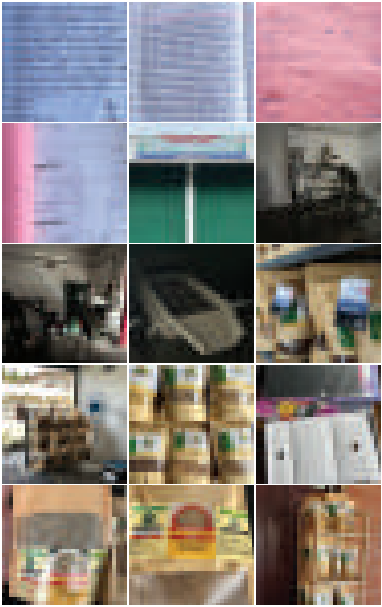
The financial transactions and the bank account passbook of the centre have not been updated since November 2023. The centre has set up a kiosk for selling packaged millets in a homestay called Cure Monastery, but there is no record of the sales.

One of the farmers who is part of the pilot project was asked to take care of the centre for two months, but he did not receive the promised conveyance and payment. The SHG members are not involved in the operations of the centre.

The two tablet PCs given to the centre to record and report the operations digitally through the Varuna Star dashboard have not been used.

A student volunteer was hired to do the bookkeeping of the centre for a few months in early 2024, but he quit after a month, saying that the centre was not functioning and there was no work.

The centre is planning to procure a pulveriser and start value addition by powdering and packaging the millets, but there is no incentive to do so. The centre tried to sell the millets at local events, but the sales were only 500rs in two days.



4.1.5 Dream India network

Dream India Network has been the implementation partner for this project on ground. They have served as the main liaison for all the stakeholders and facilitated the reporting and the communication and the information flow. The observation is that Dream India Network has executed all the planned activities on ground. However, the documentation of the activities and the monitoring and evaluation of the project are inadequate.

4.1.6 Assessment of activities

4.1.6.1 Dream India Network

Activities	Goal	Remarks
Conducting a baseline survey on the identified beneficiary population	Will result in clear establishment of pre vs post intervention differences with respect to the WFH project	**Completed**
Facilitating awareness generation campaigns within the beneficiary group w.r.t millet production and its	Will help in generation of enthusiasm within the targeted beneficiary population in taking up of millet production as a livelihood generation	**Completed -** Meetings with tribal community in IHRD college
Awareness Generation Campaigns	Meetings, Street Plays, Posters	**Completed**
Identifying key contact points within the beneficiary population for take up of the WFH	Will lead to a feeling of project ownership within the beneficiary population and creation of local self-governance and leadership	**Completed - Core committee formation**

Conducting a market survey to understand the scope of building concrete market linkages for millets produced by the beneficiary population	Imperative to understanding sale avenues for millets and consequently creating a concrete livelihood generation avenue for the farmers. This activity will be carried out with the help of the on-boarded Lenovo volunteers.	**No clear information on market survey or documentation**
Searching for, and organizing meetings with local stakeholders such as schools, colleges, government departments (such as KVKs, Krishi Bhavans), and so on.	Will help in making the WFH initiative a strong community-based project with wide-ranging local and national momentum. Local stakeholders should be mobilized to contribute to the project implementation and sustenance.	**Completed - Formation of core committee**
Identifying the key policies/schemes/ subsidies	Will be necessary to ensure that the beneficiary population can fully utilize the existing avenues for cost-effective millet production.	**No documentation**
available for millet production by the beneficiary population.	the existing avenues for cost-effective millet production.	
Mapping resources for commercial production of millets by the beneficiary population	Will facilitate an in-depth understanding of resources/inputs required to carry out effective commercial production of millets.	**No documentation or information available**

Conducting a market survey to understand the scope of building concrete market linkages for millets produced by the beneficiary population	Imperative to understanding sale avenues for millets and consequently creating a concrete livelihood generation avenue for the farmers. This activity will be carried out with the help of the on-boarded Lenovo volunteers.	**No clear information on market survey or documentation**
Searching for, and organizing meetings with local stakeholders such as schools, colleges, government departments (such as KVKs, Krishi Bhavans), and so on.	Will help in making the WFH initiative a strong community-based project with wide-ranging local and national momentum. Local stakeholders should be mobilized to contribute to the project implementation and sustenance.	**Completed - Formation of core committee**
Identifying the key policies/schemes/ subsidies	Will be necessary to ensure that the beneficiary population can fully utilize the existing avenues for cost-effective millet production.	**No documentation**
available for millet production by the beneficiary population.	the existing avenues for cost-effective millet production.	
Mapping resources for commercial production of millets by the beneficiary population	Will facilitate an in-depth understanding of resources/inputs required to carry out effective commercial production of millets.	**No documentation or information available**

Creating a livelihood generation plan for the commercial production of millets by the beneficiary population	Will help in creation of a clear-cut cost-benefit plan for the beneficiary population to earn a livelihood through millet production. This activity will be carried out with the help of the on-boarded Lenovo volunteers.	**No documentation or information available**
Understanding and facilitating additional support to the beneficiary population group such as creation of a 'society' or a 'company'	Will ensure smooth project implementation and facilitation of community project ownership.	**Farmer collective**
Undertaking regular project documentation and consequent reporting to all relevant stakeholders.	Will be imperative in ensuring that all stakeholders are aware about the progress on-field and are able to holistically contribute to the project	**Infrequent reporting**
The timelines for reporting will include-daily, weekly, and monthly updates.	Will be imperative in ensuring that all stakeholders are aware about the progress on-field and are able to holistically contribute to the project	**Infrequent reporting**

Identifying the training needs of the beneficiary population w.r.t to end-to-end project implementation.	Will help in ensuring that the beneficiary population is fully equipped with all skill sets and knowledge necessary for smooth takeover of the project. This can include training w.r.t technology operation, inventory management, end-to-end sale of millet produce, and so on. This activity will be carried out with the help of the on-boarded Lenovo volunteers.	**There is no training need identification. However, trainings were conducted in smartphone usage. Inventory management was not implemented**

4.1.6.2 IHRD college

Sr. No.	Activities	Goal	Remarks
1	Will provide place in the IHRD College to set up Tech Centre	An appropriate size room to accommodate devices and technology deployed to support farmers	**Completed**
2	Will allow for the Tech Centre to be branded as a social impact project funded by Lenovo	The branding will contain the mention of Dream India Network as the "Implementing Partner and funded by 'Lenovo India Pvt Ltd'	**Completed**
3	Lenovo computer, accessory devices and equipment will be kept at the Lenovo Digital Centre for Kanthalloor Millets	The room allocated for the Kanthalloor Millets Tech Centre will only be used for the computers, accessory devices and equipment that is kept for the purpose of supporting farmers.	**Also used as classrooms and meeting halls and computer centre**

4	The college will utilize the Digital Centre and related software (including the app etc.,) to engage the students and farmers for promoting Millets in the district	The college will continue to own the donated devices and the related software for the use of the farmers which the students from IHRD college will support the community.	**No Millet cultivated related documents were found in any of the devices in the tech centre**
5	College Students will be allowed to utilize the infrastructure for their studies.	Under Lenovo's brand promise of Smarter Technology for All, the said devices in the tech centre can be utilized by the students for the purpose of their studies in as is where is. Devices, accessories and software will not be moved from the Kanthalloor Millets Tech Centre.	**Utilization data is available from June to July 2023**

4.2 Recommendations to the Project

- Voluntary enrolment of farmers rather than nomination
- Making the ST promoter as a stakeholder in this project as they can be an effective channel of communication
- Clear identification of the ownership and primary driver of the project
- Improving communication among core committee members
- Enhance the outreach and awareness of the call centre at IHRD among the target population who are the local tribal farmers.
- Technical skill training with modules for student volunteers
- Effective periodic monitoring and evaluation of the project by the Implementation partner

- Advertisements about the processing centre and Millet sales, probably moving the processing centre to a prominent location.
- Bookkeeping and basic financial and business orientation for the leadership of the processing centre
- Proper procurement and sale records

Annexure

5.1 Stakeholder interactions

CSRBOX®
Doing Good in a Better Way

CSRBOX & NGOBOX
Swati Trinity, Applewood Township,
A-404, Shela, Sarkhej-Okaf,
Gujarat 380058