

IMPACT ASSESSMENT REPORT
INTEGRATED VILLAGE DEVELOPMENT PROGRAM (IVDP)
2024-25

IMPLEMENTED BY

NEIDA
An Initiative of TATA TRUSTS

INDIAN INSTITUTE OF FOREST MANAGEMENT

Acknowledgements

The project team sincerely acknowledges the support and guidance of the Titan CSR team in facilitating the conduct of this impact assessment. Their commitment to evidence-based evaluation and community-focused programming was central to the successful completion of this study.

We extend our heartfelt appreciation to the North East Initiative Development Agency (NEIDA) for their invaluable cooperation during the assessment in Nagaland. We are especially grateful to Mr. J. J. Dominic and Ms. Ankita Hazarika for their continuous encouragement and support. We also acknowledge the contributions of the NEIDA Head Office, Kohima, including Mr. Nagato K. Aye (Project Coordinator, IVDP Nagaland), Rampau Zeliang, Imrongkumla, Chovie Luhu, and Shiluinba, as well as the NEIDA Field Office, Pfutsero, including Awele, Khrotso, Tsuvelu, Venetholu, Vekhosa, and Vekhorayi, for facilitating fieldwork, beneficiary coordination, and logistical support.

We place on record our deep appreciation for the SHG members, community participants, and project beneficiaries across the project villages and districts, whose openness and lived experiences formed the foundation of this assessment.

We sincerely acknowledge the academic and institutional support of the Indian Institute of Forest Management (IIFM). We thank Mr. Tathagat Moitra, IIFM Project Associate, for coordinating data collection and compilation through KoboToolBox, and IIFM volunteers Diptarup Chakraborty and Meghna Mishra for their valuable support during documentation.

Finally, we acknowledge the efforts of all field staff, community facilitators, and contributors whose commitment under challenging field conditions ensured the depth, accuracy, and credibility of this report.

Prof. Parul Rishi
Dr. B. K. Upadhyay
Dr. Sanjay Bala

Tathagat Moitra,
(Project Associate)

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

Abbreviation	Full Form
CRP	Community Resource Person
CSR	Corporate Social Responsibility
CUM	Cubic Meter
DBI	Diversion-Based Irrigation
DPR	Detailed Project Report
DTR	Detailed Technical Report
EASIER	Effectiveness, Awareness, Sustainability, Impact, Efficiency, Relevance
FCI	Food Corporation of India
FGD	Focus Group Discussion
FPO	Farmer Producer Organization
FTK	Field Testing Kit
HEAD	Holistic Environmental and Agriculture Development
IIFM	Indian Institute of Forest Management
IVDP	Integrated Village Development Program
KII	Key Informant Interview
KIIs	Key Informant Interviews
LFA	Revolving Fund Assistance
LPM	Litre per Minute
LRCD	Loose Rock Check Dam
MCD	Masonry Check Dam
NAF	National Agro Foundation
Abbreviation	**Full Form**
NEIDA	North East Initiative Development Agency
NGO	Non-Governmental Organization
O&M	Operation and Maintenance
PIA	Project Implementation Agency
PRA	Participatory Rural Appraisal
SCT	Staggered Contour Trench
SDG	Sustainable Development Goal
SHG	Self Help Group
SMC	Soil and Moisture Conservation
TDS	Total Dissolved Solids
ToC	Theory of Change
UGs	User Groups
UWG	User Water Group
VDB	Village Development Board

VDC	Village Development Committee
VLI	Village Level Institution
VLM	Village Level Meeting
WRD	Water Resources Development

TABLE OF CONTENTS

EXECUTIVE SUMMARY - IVDP NAGALAND

Titan Company Limited, through its Corporate Social Responsibility initiatives, supported the Integrated Village Development Programe(IVDP) in Phek district of Nagaland, implemented by the Northeast Initiative Development Agency. The programme focused on improving rural livelihoods, strengthening agricultural productivity, and enhancing water security through livelihood interventions and springshed management. The Indian Institute of Forest Management, Bhopal, conducted an independent impact assessment of the project.

The assessment adopted a mixed-methods approach, combining household surveys, Focus Group Discussions (FGDs), Key Informant Interviews(KII), and field observations across selected villages. Project performance, outcomes, and early impacts were assessed through the EASIER framework, comprising Effectiveness, Awareness, Sustainability, Impact, Efficiency, and Relevance.

The project achieved full financial utilisation as planned, with strong community participation. Community contributions amounted to approximately 25 percent of the total sanctioned CSR funds, totaling ₹25.06 lakh against a project outlay of ₹1 crore, primarily through labour contributions, indicating high levels of ownership and engagement.

Livelihood interventions improved access to quality agricultural inputs, particularly through timely vegetable seed supply facilitated by strengthened Farmer Producer Organizations. Beneficiaries reported increased crop diversification, improved agronomic practices, and the ability to cultivate vegetables during the dry season. These changes contributed to incremental improvements in household income and income stability, with variations across villages due to market access, landholding size, and agro-ecological conditions.

Springshed management interventions, including diversion-based irrigation, jalkunds, recharge structures, and soil and water conservation measures, enhanced water availability for irrigation and domestic use. Monitoring data show an increase in spring discharge to around 30 litres per minute in 2025, with improvements ranging from 26 percent to 141 percent across assessed springs. These gains supported dry-season cultivation, reduced crop losses, and improved water security, although continued monitoring is recommended due to rainfall variability and hydrogeological factors.

Overall, the intervention mix was well suited to the hill context of Phek district, balancing targeted infrastructure investments with wider low-cost input support. Beneficiaries expressed demand for post-harvest infrastructure, livelihood diversification, and further strengthening of Farmer Producer Organizations. The assessment concludes that the Titan CSR–supported programme has generated positive and emerging livelihood and water security outcomes and has established a strong foundation for sustainable livelihood enhancement and resilience building in remote hill communities of Nagaland.

Objectives of the Impact Assessment

Titan Company Limited (TCL), through its Corporate Social Responsibility (CSR) initiative, the Integrated Village Development Program (IVDP), has been implementing development interventions in Phek district of Nagaland in partnership with the local implementing agency, the NorthEast Initiative Development Agency (NEIDA). The Indian Institute of Forest Management (IIFM), Bhopal, was engaged to undertake an independent impact assessment of the IVDP interventions implemented during the period 2024–2025, following an appropriate and scientifically robust sampling methodology.

The primary objective of the present assessment is to examine project performance, outputs, and outcomes across the key thematic areas of intervention, namely: (i) livelihood promotion through agricultural development, and (ii) springshed development for water security. The assessment systematically reviews implementation processes, institutional arrangements, and governance mechanisms, and evaluates progress against the stated program objectives and intended outcomes through a detailed assessment of all project sub-components.

A key focus of the assessment is to evaluate the relevance and appropriateness of the project interventions in the context of the local agro-climatic, topographical, and socio-economic conditions of the North-Eastern state of

Nagaland. It also examines the extent to which the interventions align with community-identified needs and priorities. The assessment seeks to document observed changes at both household and community levels, including improvements in socio-economic conditions, agricultural productivity, and water availability. In addition, the sustainability of project outcomes is assessed, with particular attention to the continued functioning and maintenance of water and natural resource management systems, adoption and continuity of improved agricultural and livelihood practices, strengthening of community institutions, and the capacity of local communities to sustain and scale project benefits beyond the project period.

Overall, the impact assessment aims to generate credible evidence on program outcomes and impacts, identify key implementation strengths and gaps, and derive actionable insights to inform adaptive management and the design of future CSR interventions under Titan's Integrated Village Development approach.

Scope of the Present Impact Assessment

The present impact assessment covered the implementation period from April 2024 to March 2025 and evaluated the Integrated Village Development Program (IVDP) implemented by the North East Initiative Development Agency (NEIDA) with funding support from Titan Company Limited (TCL). The assessment was carried out in sampled villages in Nagaland, covering all major interventions under the project.

The assessment examined the efficiency, effectiveness, outputs, outcomes, and impacts of project implementation using a Theory of Change (ToC)–based approach, tracing linkages from inputs and activities to outputs, outcomes, and longer-term impacts. Add a line whether it was a mixed-methods study.

Table 1: Scope of work

Evaluation Dimension	Scope of Work (Concise Description)
Efficiency & Effectiveness	• Assess adequacy, timeliness, and utilization of financial, technical, and human resources in relation to planned activities and outputs. • Examine implementation efficiency, adherence to timelines, and cost-effectiveness of project interventions. • Evaluate the effectiveness of institutional arrangements, coordination mechanisms, and implementation processes. • Assess alignment of interventions with local agro-climatic, topographical, and socio-economic conditions, as well as community identified needs and priorities. • Validate the Theory of Change (ToC) and test key assumptions influencing the achievement of intended outcomes.
Outputs & Sustainability	• Verify achievement, quality, coverage, and functionality of physical and non-physical outputs related to agricultural development and springshed interventions. • Assess adoption of improved agricultural, water management, and livelihood practices by beneficiary households and communities. • Examine strengthening of community institutions, governance mechanisms, and local capacities to sustain project benefits beyond the project period. • Evaluate prospects for sustainability, scalability, and replication of successful interventions.
Outcomes & Impact	• Document direct and indirect outcomes and impacts at household and community levels, including changes in agricultural productivity, income, water availability, and livelihood resilience.

	• Assess socio-economic and environmental impacts attributable to the project, including differential impacts across gender and vulnerable groups, where relevant. • Identify unintended positive or negative impacts arising from project implementation. • Generate evidence-based lessons, best practices, and actionable recommendations to inform adaptive management and future CSR programming.

Collectively, these dimensions provide a consolidated understanding of program performance, outcomes, and impacts, and the project's contribution to sustainable livelihoods, community resilience, and environmentally responsible rural development in Nagaland.

Sampling Strategy

A proportionate purposive sampling approach was adopted for the impact assessment in Nagaland to ensure balanced and meaningful representation of programme beneficiaries, while remaining sensitive to field realities in remote and hilly contexts. Although this sampling approach limits statistical generalisability beyond the study villages, methodological rigour was ensured through triangulation of data sources, including household surveys, Focus Group Discussions (FGDs), and Key Informant Interviews (KIIs), thereby strengthening the validity and reliability of findings.

The sampling design was structured to achieve the following objectives:

- Representation across all active IVDP components, including agricultural development interventions aimed at livelihood enhancement and springshed development interventions for water security.
- Inclusion of diverse socio-economic and livelihood profiles, capturing variations in landholding size, income sources, and migration status.
- Coverage of both core beneficiaries and peripheral households, enabling assessment of direct as well as indirect programme effects at the community level.

The number of household surveys, FGDs, and KIIs conducted in each village was determined based on village size (Based on data supplied by NEIDA), intensity of interventions, and the availability and activity levels of beneficiary groups. This flexible approach ensured adequate depth and relevance of data collection across intervention contexts.

Overall, the sampling strategy was designed to generate reliable, context-sensitive insights that accurately reflect ground realities and support a credible assessment of programme outcomes under the Titan IVDP. The relatively higher participation of women respondents reflects prevailing male out-migration patterns in the study villages and was addressed analytically through cross-verification of household-level findings with community-level discussions and institutional perspectives. The combined use of quantitative and qualitative methods further strengthened confidence in observed trends, despite modest sample sizes.

Table 2 : Activity wise sample size and assessment method

Sl No	Description of Activity	No of Units	Sample size (%)	Sampled Unit	Assessment method Executed
1	**Agriculture development**				
1.1	Input support for New HHs under Phek	400	10	40	Personal Interview with 40 respondents
1.2	Support to FPO for purchase of pick up for marketing	1	100	1	Inspected the vehicle

1.3	Marketing support to FPOs	1	100	1	Interaction with FPO - Kade
1.4	S&W Pilot 1 acre	10	10	1	Visited S&W Pilot plot at Pholami
1.5	Hydroponics units for leafy vegetables	5	20	1	Visited Hydroponics at Pfutseromi Village
1.6	Jalkunds for new HH under Phek block	10	20	2	FGD with the villagers and Visited Jalkunds at Lozapuhu village
1.7	Diversion Based Irrigation under Phek Block	2	50	1	Visited DBI at Losami village
2	**Spring Rejuvenation**				
2.1	Spring treatment work as per DPR	25	16	4	FGD with the villagers and Spring-shed Committee Members, and Visited Spring treatment work at Phek Basa (Mutuyi Dzuri spring), Losatephe (Sekrunela spring), Losami (Ezhiri spring) & Middle Khomi (Chekami spring)
3	**Capex**				
3.1	Laptop and Peripherals	2	100	2	Visit Office infrastructure at Pfutsero field office
3.2	Office Furniture	5	100	5	
3.3	Colored Printer and Scanner	1	100	1	
3.4	Digital Camera	1	100	1	
4	**HR**				
4.1	Cluster & Field Coordinator (Livelihoods)	2	100	2	Interacted project staff at Head Office, Kohima and at Field Office, Pfutsero. Three of the Project Coordinators/Officers were also accompanied during the field visit of other components
4.2	Marketing Officer (Livelihoods)	1	100	1	
4.3	Programme Officer (Springs)	1	100	1	
4.4	Cluster Coordinator (Springs)	1	100	1	
4.5	Finance Officer & Accountant	1	100	1	
4.6	Admin support	2	100	2	

Data Collection Methods

Primary data were collected during October 2025, using a structured household questionnaire administered digitally through KoBoToolbox. The tool was designed to systematically capture both quantitative and qualitative information, including:

- Component-wise participation and levels of exposure to project interventions.

- Standardised Likert-scale responses (1–5) to assess outcome-level changes, beneficiary perceptions, and satisfaction with interventions.

- Before–after comparisons, based on respondent recall complemented by observable changes in practices and assets.

- Open-ended qualitative responses to provide contextual explanations, capture annualised impacts, and document illustrative case examples.

In addition to household surveys, focused group discussions (FGDs) and key stakeholder interactions (using structured interview schedule) were conducted with community members, representatives of community institutions (e.g., Springshed Management Committees), and the Project Implementation Agency (PIA). These discussions were used to triangulate household-level findings, validate emerging trends, and capture institutional and implementation perspectives.

Dedicated field visits were undertaken jointly with representatives of the PIA and local community members to physically verify and assess project interventions. These visits covered key activities, including agricultural fields (jhum lands), soil and water conservation pilot plots, hydroponics units, *jalkunds*, diversion-based irrigation structures, and spring rejuvenation measures. Systematic field observations were made across project components and subcomponents to assess the quality, functionality, and implementation status of executed works.

It is pertinent to note that while the study team was proficient in English and Hindi, and had a working understanding of Nagamese, the primary language spoken in the project villages— Chakhesang Naga—posed communication challenges, as only a limited number of respondents were conversant in English or Hindi. To address this language barrier and ensure accuracy of data collection, local staff from the Project Implementation Agency (PIA) provided facilitation support.

Household-level interviews were conducted with the assistance of three trained local interpreters who were fluent in Chakhesang Naga, Nagamese, English, and Hindi. The interpreters worked under the close supervision and guidance of the evaluation team, ensuring faithful translation of survey instruments and responses, clarity of communication, and consistency in data recording. This approach helped minimise interpretation bias and ensured that beneficiary perspectives were accurately captured.

Figure 1:Meeting with the community in a village

Analysis of Findings

The findings for the Nagaland Integrated Village Development Programme (IVDP) were analysed using both quantitative and qualitative approaches. Data collected through household surveys were compiled to assess changes in livelihood practices, agricultural activities, livestock management, and the functioning of community institutions such as Self-Help Groups. A before–after perception approach was used to capture changes experienced by households following the intervention.

Structured responses and indicator-based questions were analysed to understand levels of adoption, awareness, and perceived benefits of the programme. In addition, qualitative insights from community interactions and open-ended responses were used to contextualize the quantitative results and highlight village-level experiences.

The overall interpretation of findings was guided by the EASIER framework, allowing a structured assessment of programme outcomes across dimensions such as effectiveness, impact, and sustainability.

Project Area

The project is being implemented in Phek District, covering 4 Blocks, 48 villages, and with a target of benefiting 3500 households by 2024-25.

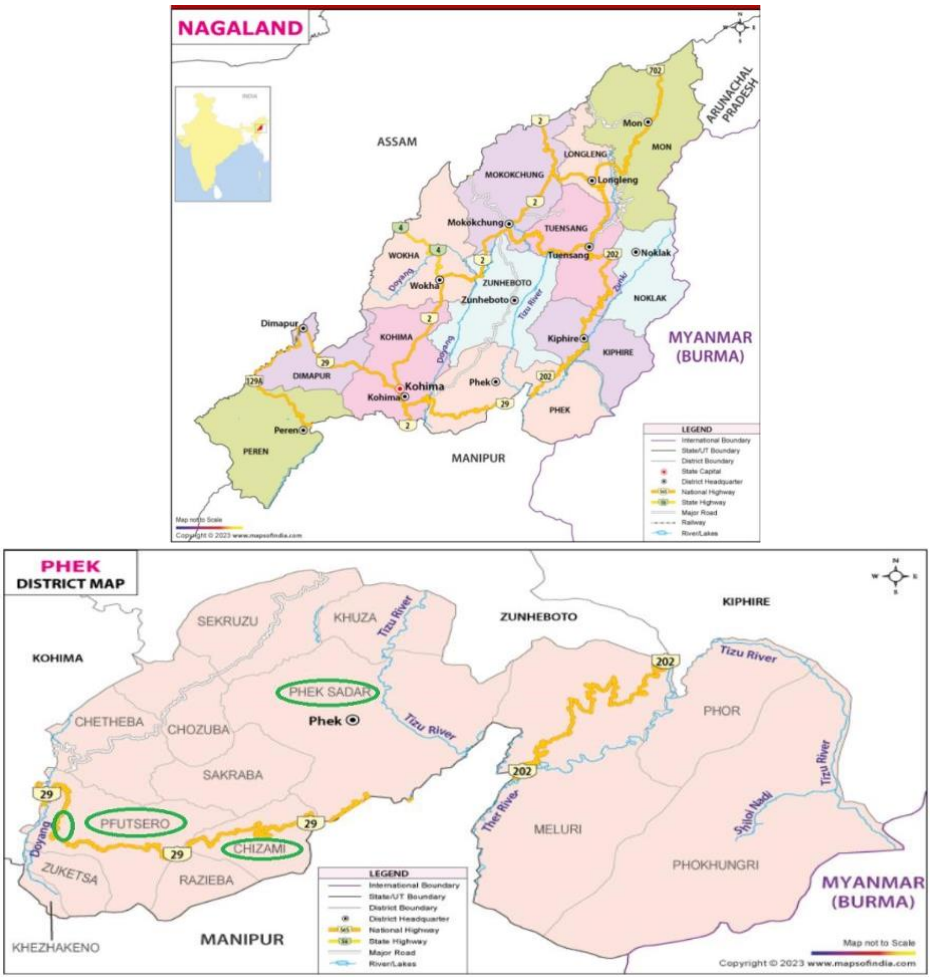


Figure 2: Map of project blocks under IVDP, Phek, Nagaland

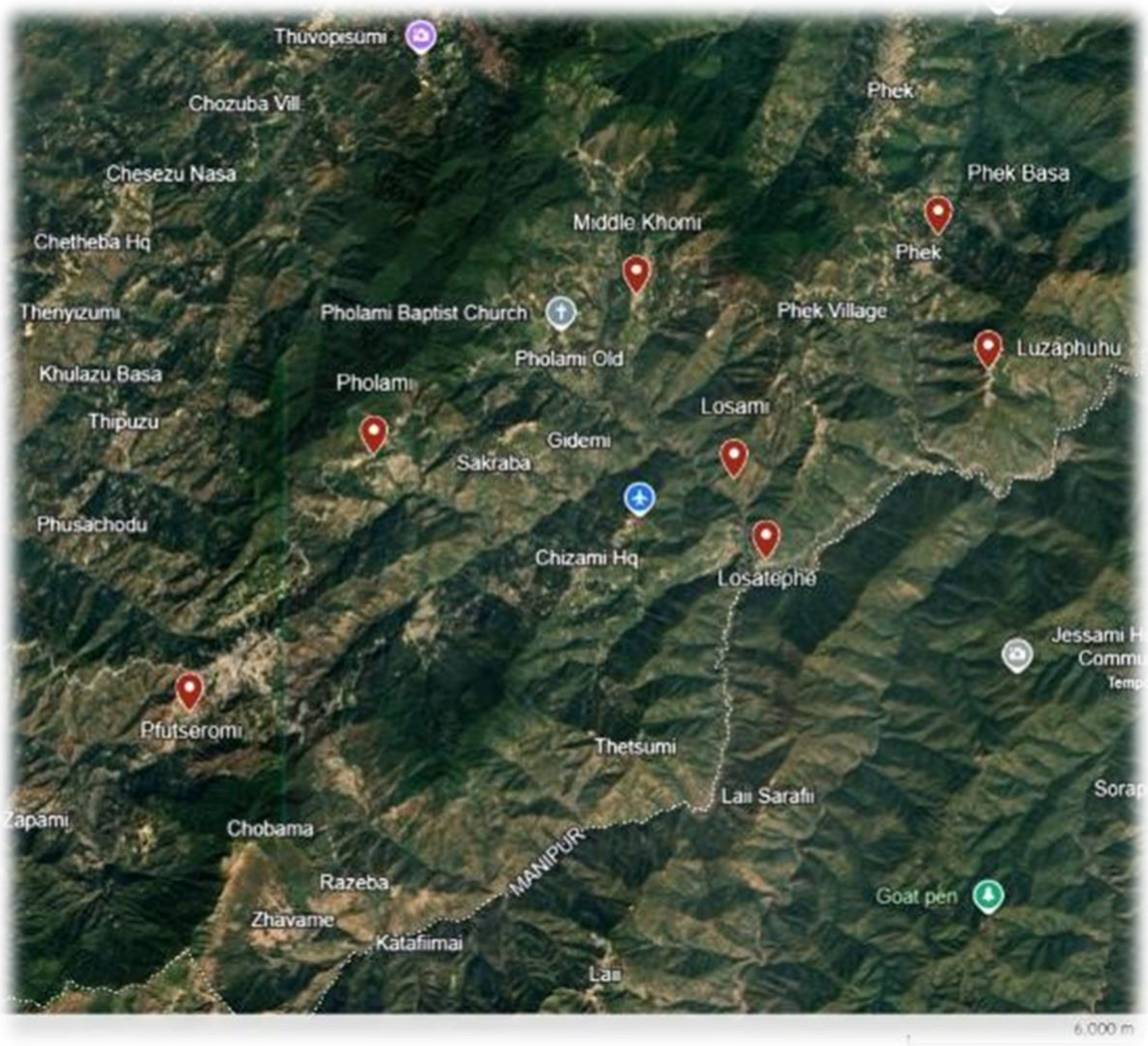


Figure 3:Map of field visit locations under IVDP, Phek, Nagaland

Performance of the Project – IVDP Nagaland

Livelihood Promotion activities through Agriculture and Allied Interventions

I. Agriculture Development

1.1 Input support for Agriculture

Both improved and hybrid varieties of vegetable seeds were provided to farmers as input support under the agriculture component. The supported crops included garden peas, green beans, coriander, cabbage, cauliflower, broccoli, king chilli (Naga mircha), potato, and Zanthoxylum. In total, more than 8,500 kg of potato seed and approximately 2,000 packets of assorted vegetable seeds were procured and distributed to farmers through Kade FPO and Mhatho Kewe FPO, ensuring timely access to quality inputs.

During 2024–25, a total of 59 farmer training programmes were conducted. The trainings covered key topics such as improved packages of practices for vegetable cultivation, postharvest management, integrated pest and disease management, on-field demonstrations of soil and water conservation models, and the operation and maintenance of irrigation structures and custom hiring centres.

Under the vegetable nursery promotion initiative, seven nurseries were established and supported. These nurseries produced high-quality seedlings and saplings of major crops, including Naga mircha, cabbage, Sichuan pepper, and broccoli. In total, 103,136 seedlings and saplings were produced and sold, as detailed below:

- Naga mircha/ King Chili: 14,003
- Cabbage: 73,845
- Schezwan pepper: 718
- Broccoli: 14,570

Regular on-field demonstrations and handholding support were provided to nursery operators, focusing on polyhouse operation and maintenance, soil nutrient management, pest and disease control, and overall nursery best practices. These activities were closely monitored as part of a continuous capacity-building and quality assurance process.

Although the 'Input Support' component accounts for only about 3% of the total project budget, these targeted agricultural inputs generated disproportionately high impacts. Beyond enhancing crop productivity, the support enabled small and marginal farmers to adopt improved practices, build practical learning, and optimize the use of limited landholdings. The intervention also expanded the outreach of the TITAN CSR project to many beneficiaries, resulting in a 25–30% production surplus, which farmers were able to market for additional cash income.

Table 3: Area coverage through superior seeds input

SL No.	Crop Name	Variety	Area Harvested	Harvest MT	Productivity (MT/ha)	Count of farmers
	Bitter gourd	Local	0.78	6.52	8.36	116
2	Bottle gourd	Local	0.02	2.51	131.7	14
3	Brinjal	Local, Hybrid	0.76	13.01	17.23	168
4	Cabbage	Hybrid	17.65	121.17	6.87	314
5	Cauliflower	Hybrid	0.58	6.59	11.3	38
6	Colocasia	Local	16.75	80.58	4.81	248
7	Cucumber	Local/Hybrid	2.68	21.11	7.89	184
8	Garden pea	Local, Hybrid	12.27	32.56	2.65	252
9	Green Beans	Hybrid (var: Arkel), Kailash Seeds, Kolar Seeds, KSP 110, Hybrid	7.64	23.2	3.04	162
10	Mustard Leaves	Local	0.97	20.07	20.75	206
11	Okra/Bhindi	Local/Hybrid	0.27	3.92	14.44	56
12	Potato	Kufri Jyoti, Kufri kanchan, Local, Hybrid	24.96	149.07	5.97	296
13	Pumpkin	Local	35.95	79.89	2.22	270
14	Tomato	Local, Hybrid	2.32	11.41	4.93	171
15	Banana	Local	4.01	57.97	14.44	143

16	Khasi Mandarin	Hybrid	3.2	12.29	3.84	41
17	Kiwi	Hybrid	6.56	31.36	4.78	9
18	Litchi	Hayward, Hybrid, Local	0.07	0.1	1.37	7
19	Mango	Hybrid (Var: Amrapali etc), Local	0.41	6.41	15.46	22
20	Papaya	Local/Hybrid	0.55	7.78	14.1	59
21	Pineapple	Local/Hybrid	1.27	1.78	1.4	17
22	Garlic	Local	5.4	12.77	2.36	258
23	Ginger	Hybrid (Var. Nadia), Local	6.09	48.39	7.95	210
24	Green Chilli	Local	4.17	20.45	4.9	206
25	Naga mircha (King chilli)	Local	7.52	4.91	0.65	143
26	Spring Onion	Local	2.15	6.26	2.91	183
27	Turmeric	Hybrid (Var. Rajendra sonia), Local	0.47	1.03	2.2	6
28	Foxtail Millets	Local	1.87	9.27	4.96	62
29	Kidney beans/Kholar	Local	18.46	45.2	2.45	259
30	Maize	Local	89.43	289.59	3.24	363
31	Perilla	Local, Hybrid, Improved seeds (Arkel), Kolar Seeds, Kailash Seeds	2.01	8.47	4.22	84
32	Rice	Local	72.66	280.15	3.86	218
33	Rice Bean	Local	1.92	4.12	2.14	95
34	Soyabean	Local	16.06	23.96	1.49	174
	Total	367.89	-	-	950*	

* Total no. of farmers benefited is only 950, as each farmer has cultivated several crops.

Figure 4: Meeting with the villagers to assess various agriculture inputs

Figure 5: Meeting with the villagers to assess various agriculture productions

1.2 Support to FPO for Purchase of Pick Up for Marketing

As outlined in the approved budget plan under IVDP initiative, support was provided to Farmer Producer Organizations (FPOs) for strengthening market linkage infrastructure through the purchase of a pick-up vehicle. Accordingly, a pick-up vehicle was procured and handed over to KADE FPO, located in Pfutsero Block of Phek District, Nagaland.

This intervention addresses key marketing constraints faced by the FPO, particularly poor road connectivity and the high costs associated with hiring vehicles for transporting agricultural produce. The availability of a dedicated vehicle is expected to significantly enhance operational efficiency, reduce recurring transportation expenses, minimize post-harvest losses, and improve timely access to local and regional markets. Overall, the initiative strengthens the FPO's collective marketing capacity and contributes to improved income realization for member farmers.

Most farmers in the project area operate on very small landholdings, with an even smaller proportion allocated to vegetable cultivation. As a result, while individual households generate only modest marketable surpluses, the aggregated surplus across villages is substantial enough to justify transportation by a pick-up vehicle. However,

the volume of saleable produce is seasonal and may not be sufficient to ensure year-round utilization of the vehicle, potentially leading to underuse.

To maximize operational efficiency and ensure sustainability, the FPO should adopt a clear utilization strategy, approved by its Executive Body, to deploy the vehicle for multiple purposes, including produce aggregation, input distribution, and other permissible logistics services. Such a decision would help ensure regular use of the vehicle, adequate provision for maintenance, and viable engagement of the driver.

Figure 6:Pick up van provided to enhance marketing facility

1.3 Marketing support to FPOs

Collective Marketing:
In coordination with Village Level Institutions (VLIs) and Community Resource Persons (CRPs), Kade FPO and Mhatho Kewe FPO successfully aggregated and marketed approximately 14.5 metric tonnes of vegetables, predominantly cabbage, along with garden peas, green beans, and radish. In addition, the FPOs collectively marketed 9.12 metric tonnes of kiwi fruit and 4.3 metric tonnes of ginger during the reporting year. These collective marketing efforts enhanced farmers' price realization, reduced transaction costs, and strengthened market linkages.

Post-Harvest Management and Value Addition:
The FPOs also undertook small-scale value addition to improve shelf life and capture higher market value. Products processed included dried gooseberries and tree tomatoes, dried stink beans, wild apple, and kiwi. In November 2024, the following value-added products were prepared:

- King chilli powder: 100 packets
- Kiwi candy: 200 jars
- Gooseberry candy: approximately 300 jars
- Gooseberry–ginger tea: 50 jars

These initiatives contributed significantly to the diversification of income streams and enhanced livelihood resilience of member farmers. The two Farmer Producer Organizations (FPOs)—Kade FPO and Mhatho Kewe FPO—were systematically promoted and supported to generate revenue through multiple business verticals, including input services (supply of quality planting material), output marketing (sale of agricultural produce), processing and value addition (processed fruits and vegetables), and custom hiring services (rental of agricultural and processing equipment).

During the reporting year, Kade FPO recorded an annual turnover of ₹22,31,600 with a net profit of ₹74,100, while Mhatho Kewe FPO achieved a turnover of ₹12,26,440 and a net profit of ₹60,415 as detailed in the below table. Collectively, the two FPOs generated a total turnover of ₹34,58,040, reflecting their growing operational capacity and financial viability.

Table 4: Consolidated Turnover and Net Profit for FPOs

Sl. No.	Account Head	Total annual (Rs.)	
		Turnover	Net profit
	KADE FPO		
1	Value of input business by FPO	9,28,500	48550
2	Value of output business by FPO	12,61,500	16350
3	Value of Processing Business by FPOs	41,600	9200
4	Income from custom hiring centre	0	0
	Total	**22,31,600**	**74,100**
	MHATHO KEWE FPO		
1	Value of input business by FPO	570910	22865
2	Value of output business by FPO	601630	10430
3	Value of Processing Business by FPOs	10270	640
4	Income from custom hiring centre	43630	26480
	Total	**12,26,440**	**60,415**
	Grand Total (Kade + Mhatho Kewe)	**34,58,040**	**1,34,515**

Figure 7: A trust-based rural market in Sakraba village, where produce is sold without attendants and buyers deposit payments in a designated collection box

1.4 Soil and Water Conservation- Piloting

Bench terracing and heap composting interventions have been initiated on 10 plots across three blocks (Chizami, Pfutsero, Kikruma). In accordance with technical recommendations, bench terracing with boulder stone walling has been adopted in the selected plots to enhance slope stability and reduce soil erosion.

To improve soil fertility and moisture retention, soil nutrient–fixing plantations are being promoted, including leguminous vegetables as ground cover and species such as Gliricidia sepium and Tephrosia candida. These species are recommended for planting along plot ridges during May–June, coinciding with the onset of the monsoon.

Figure 8: Soil & Moisture Conservation Pilot Plot at Pholami

1.5 Hydroponics units for leafy vegetables

During the financial year, five hydroponic units were established to promote the cultivation of leafy vegetables using water-efficient hydroponic systems. The units primarily produce exotic leafy vegetables, including Red Oak Leaf and Crisp Head Lettuce, catering to emerging urban market demand.

In addition to infrastructure development—such as piping layouts, water circulation pumps, nutrient tanks, and growing systems—structured training was provided to beneficiary farmers on hydroponic cultivation practices, nutrient management, and system maintenance. To enhance energy reliability and sustainability, solar power systems with battery storage and automatic power switchover facilities were recently installed, ensuring uninterrupted operation and reducing dependence on grid electricity.

Table 5: Hydroponic unit supported during 2024-25

Sl. No	Block	Village	Beneficiary Name
1	Pfutsero	Tekhouba (Pfutseromi)	Weto Medo
2	Pfutsero	Tekhouba (Pfutseromi)	Deve Ruho
3	Chizami	Mesulumi	Rhilo Chiero
4	Chizami	Pholami	Zhoveyi Medeo
5	Pfutsero	Zapami	Lhiwetsho Wetsah

Figure 9: Hydroponics unit at Pfutseromi

1.6 Jalkunds for irrigation

A total of 10 Jalkund units, each with a storage capacity of 15,000 litres, were installed to strengthen irrigation support in the project area. These Jalkunds serve as a critical water source for vegetable cultivation by multiple farmers in surrounding fields and also provide essential water supply for Jhum huts, particularly during the winter and lean periods. The intervention has contributed to improved water availability, enhanced cropping reliability, and reduced seasonal water stress.

Table 6: Details of Jalkund established

Sl. no	Block	Village	No. of irrigation units	Total irrigated Area (in Ha)	No. of HH covered
1	Kikruma	Phusachodu	4	4.2	26
2	Pfutsero	Zapami	2	0.2	11
3	Pfutsero	Tekhouba (Pfutseromi)	2	0.3	12
4	Phek	Middle Khomi	1	0.2	7
5	Phek	Lozaphuhu	1	0.1	6

Figure 10: Jalkund at Lazaphuhu agriculture land

1.7 Diversion Based Irrigation

The diversion-based irrigation and water harvesting tanks, benefiting groups (more than 10 families at least). 2 Diversion-Based Irrigation units were constructed in Losami and Lozaphuhu villages. As a component of DBI, water tanks were constructed with a capacity of 10,000 liters each**.**

Table 08: Details of Diversion based irrigation facility

Sl. no	**Block**	**Village**	**No. of irrigation** unit	**Total irrigated** Area **(in Ha)**	**No. of HH** covered
1	Phek	Lozaphuhu	1	0.4	30
2	Phek	Losami	1	0.4	30

Figure 11: Diversion based irrigation facility at Losami

Table 7: Physical Targets vs Achievements in Livelihood interventions (2024-25)

Sl. No.	Particulars	Indicator Type	Total Target FY 2024-25	Achievement FY 2024-25	% Achievement
1	**Mobilization in Phek Block**				
1.1	Meeting with VLI from new villages under Phek	Number of VLIs	5	6	120%
1.2	Signing of agreement letter with VLI		5	5	100%
2	**Irrigation Structures**				
2.1	Conduct DBI Survey and Preparation of DTR	Number of Report	2	2	100%
2.2	Procurement and distribution of construction materials		2	2	100%
2.3	DBI Construction	Number of DBI	2	2	100%
2.4	Conduct Jalkund survey and prepare water maps	Number of Report	10	10	100%
2.5	Procurement and distribution of construction materials		10	10	100%
2.6	Jalkund Construction	Number of Jalkund	10	**10**	100%
3	**Vegetable Cultivation**				
3.1	Selection of vegetable farmers from Phek block	Number of Households	400	**324**	81%
3.2	Mobilizing farmers from Pfutsero, Chizami and Kikruma for Vegetable cultivation	Number of Households	2600	**3030**	117%
3.3	Rabi rollout plan finalization	Number of Plan	1	**1**	100%
3.4	Rabi Vegetable sowing	Number of Households	2500	**3354**	134%
3.5	Harvest of rabi vegetables	MT	76	**520**	684%

3.6	Finalizing Households for potato seed production	Number of Households	100	**100**	100%
3.7	Procurement and distribution of Potato tubers	MT	5	**5**	100%
3.8	Sowing of Potato (area in acre)	Acre	10	**10**	100%
3.9	Kharif season planning	Number	1	**1**	100%
4	**Soil & Water Conservation Piloting**				
4.1	S&W Pilot 1 acre Identification	Acre	10	**10**	100%
4.2	Layout plan finalization and demarcation of structures and measures	Acre	10	**10**	100%
4.3	S&W treatment work completion	Acre	10	**10**	100%
5	**Hydroponic enterprises**				
5.1	Identification of entrepreneur for hydroponic units	Number of Entrepreneur	5	**5**	100%
5.2	Procurement of materials for Hydroponic unit	Number	5	**5**	100%
5.3	Establishing Hydroponics units for leafy vegetables	Number of Hydroponics	5	**5**	100%
6	**Promotion of Farmers Producer Organization**			**0**	
6.1	Monthly turnover of Kade FPO	Rupees	2715500	**22,31,600**	82%
6.2	Monthly turnover of Matho Kewe FPO	Rupees	1904616	**12,26,440**	64%
6.3	Number of new shareholders to be mobilized- Kade FPO	Number	150	**103**	69%

6.4	Number of new shareholders to be mobilized- Matho Kewe FPO	Number	180	**21**	12%
7	**Documentation and reports**			**-**	
7.1	Submission of Photographs for social media	Number of Photos	10	**12**	120%
7.2	Monthly updates to be reported to Donor	Number of reports	10	**12**	120%
7.3	Quarterly Report submission to donors	Number of reports	3	**3**	100%

Perceived Changes in Household Income

Based on Household survey response, beneficiary perceptions indicate positive income-related outcomes following project support; however, the extent of perceived income gains varies across villages. Respondents from villages such as Zhavame, Losami, and Lozaphuhu reported relatively higher levels of income improvement, with households indicating moderate to substantial increases in income attributable to agricultural and livelihood interventions.

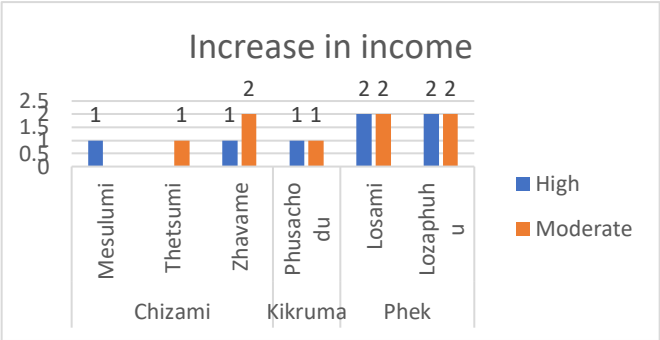


Figure 12: Change in Household income

In contrast, beneficiaries from villages such as Mesulumi and Thetsumi reported more modest income improvements. This variation may reflect differences in the intensity and maturity of interventions, scale of marketable surplus, and contextual constraints, including remoteness and limited access to markets.

Overall, the findings suggest that while income gains are beginning to emerge, they remain incremental and uneven across locations. This pattern reflects both the early-stage nature of livelihood interventions and underlying structural constraints, such as small landholdings and predominantly subsistence-oriented production systems.

These observed trends are consistent with the project's Theory of Change, which anticipates that productivity enhancement and strengthened market linkages will lead to progressive income improvements over multiple agricultural cycles, rather than immediate or large-scale income transformation.

Perceived Reduction in Crop Losses

Respondents across villages reported a reduction in crop losses following project interventions, with beneficiary perceptions ranging from moderate to high levels of improvement. Villages such as Losami and Lozaphuhu reported relatively higher perceived reductions in crop losses, which can be attributed to improved access to irrigation, better quality inputs, and the adoption of enhanced agronomic practices.

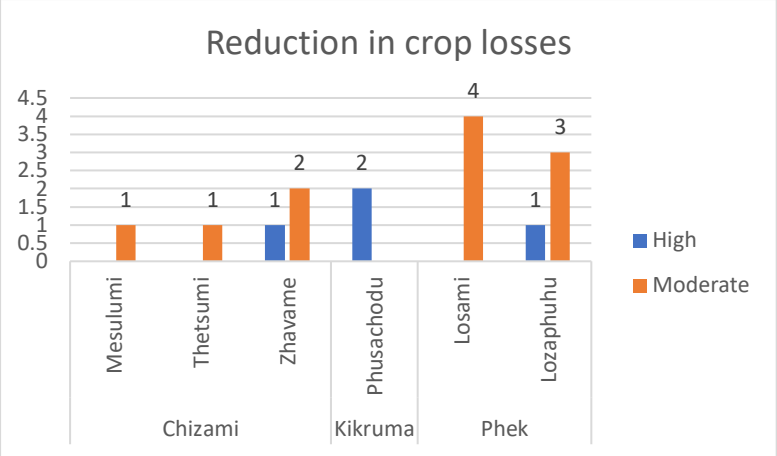


Figure 13: Perceived reduction in crop losses

In contrast, moderate reductions in crop losses were reported in Mesulumi, Thetsumi, and Zhavame, suggesting that while production risks have been partially mitigated, challenges related to moisture stress, pest and disease incidence, and post-harvest handling persist.

Overall, the observed trends indicate that interventions including improved seed distribution, creation of irrigation structures, and soil and water conservation measures have contributed to greater production stability and reduced vulnerability to climatic and agronomic risks.

However, the continued prevalence of moderate loss levels in several villages underscores the need for sustained extension support, integrated pest and disease management, and strengthening of postharvest infrastructure to further reduce production volatility, particularly within hill-based agricultural systems.

Overall impression of the Livelihood interventions

Based on the perceptions reported by individual respondents, the following livelihood-related impacts have been identified.

- Improved Access to Quality Agricultural Inputs - Livelihood interventions significantly improved farmers' access to timely and good-quality vegetable seeds, addressing a critical constraint in remote hill villages.
- Strengthening of Farmer Producer Organizations (FPOs) - Support to FPOs (notably Kade and Mhatho) enhanced input distribution, aggregation, and marketing services, enabling farmers to sell surplus produce more efficiently.
- Crop Diversification and Improved Production Systems - Farmers were enabled to cultivate a wider variety of vegetables, including high-value crops, contributing to improved household nutrition and income opportunities.
- Dry-Season Cultivation and Income Stability - Irrigation support linked to livelihood activities allowed farmers to continue cultivation during dry months, resulting in more stable and incremental household incomes.
- Improved Market Access and Logistics - Provision of transport facilities (pickup vehicles) to FPOs improved connectivity between villages and markets, particularly benefiting farmers in remote areas.
- Enhanced Livelihood Security and Community Empowerment - Overall, livelihood interventions contributed to greater confidence among farmers, improved production planning, and a gradual shift towards market-oriented agriculture.

EASIER for Livelihood Development through Production of Agriculture Crops

The major interventions under the head were - Production of vegetables, Vegetable nursery enterprises, Irrigation development, Hydroponics, and Soil and water conservation models

Table 8: : EASIER for Livelihood Development

Effectiveness	The IVDP interventions have been largely effective in enhancing agricultural productivity, strengthening input supply systems, and improving farm-level resilience in the project villages. • **Improved Agricultural Productivity -** Agricultural productivity has improved through the provision of superior-quality seeds coupled with the adoption of improved agro-techniques. Beneficiaries reported better crop performance, higher yields, and improved crop health compared to traditional practices. • **Strengthening Quality Planting Material Supply -** Vegetable nurseries were established to ensure a regular and reliable supply of quality planting material. These nurseries currently produce seedlings and saplings of key crops such as King Chilli (Naga Mircha), Schezuan pepper, cabbage, and broccoli, thereby reducing dependence on external sources and improving timely access to agricultural inputs. • **Enhanced Irrigation Infrastructure -** Irrigation facilities were strengthened through the introduction of Diversion-Based Irrigation (DBI) systems, which channel spring water through a network of small and narrow channels to agricultural fields. In addition, the establishment of *Jalkunds* has supported moisture availability in jhum and individual fields, enabling cultivation during extended periods and reducing dependence on rainfall. • **Market Linkages and Collective Marketing -** Surplus produce beyond household consumption is being sold in local market sheds in smaller quantities. Where production exceeds local absorption capacity, the Farmer Producer Organisation (FPO) aggregates the produce and facilitates transportation to larger markets using the pick-up van procured under the project. This has improved market access and reduced post-harvest losses. • **Demonstration of Innovative Cultivation Practices -** Hydroponics units have been established as demonstration models for the cultivation of exotic and high value agricultural crops. These units have introduced beneficiaries to modern cultivation techniques and associated skill sets, further strengthened through the integration of solar power systems to support nutrient recycling and energy efficient operations. **Soil and Moisture Conservation in Jhumlands -** Soil and moisture conservation models have been established in jhum cultivation areas through terrace formation and erosion control measures. These interventions have reduced soil erosion, improved moisture retention, and increased the duration and sustainability of cultivation in traditionally shifting agricultural landscapes. The pattern of intervention coverage and beneficiary-reported outcomes demonstrates that the project has been effective in reaching multiple villages with key livelihood inputs and supporting infrastructure, contributing to discernible gains in income.

Awareness	The project has been effective in enhancing awareness among beneficiaries and local stakeholders regarding improved agricultural practices, resource management, and collective economic mechanisms. • **Awareness on Improved Agricultural Inputs -** The project created awareness among farmers on the importance of using quality agricultural inputs, particularly superior seeds, and their role in improving crop productivity, yield stability, and overall farm income. • **Entrepreneurial Potential of Local Nurseries -** Beneficiaries were sensitised to the potential of establishing local nurseries not only as a means of ensuring timely access to quality planting material but also as a viable micro-enterprise capable of boosting local production and generating supplementary income. • **Irrigation and Water Management Awareness -** Awareness was generated on the role of improved irrigation facilities, such as Diversion-Based Irrigation (DBI) systems and *Jalkunds*, in enhancing agricultural productivity during lean water seasons and reducing dependence on erratic rainfall. • **Understanding the Role of Farmer Producer Organisations (FPOs) -** The functioning and benefits of the FPO were explained to community members, highlighting how collective aggregation, marketing, and value chain participation can enhance income levels and ensure that additional profits are retained within the local community. • **Technology and Skill-based Productivity Enhancement -** The project increased awareness that productivity can be enhanced even in land-constrained areas through the adoption of appropriate technologies and skill development, as demonstrated through interventions such as hydroponics and improved cultivation practices. • **Soil and Moisture Conservation Awareness in Jhumlands -** Beneficiaries were sensitised to the long-term benefits of investing in soil and moisture conservation measures, including how such interventions can extend the productive tenure of jhumlands and promote more judicious and sustainable land use practices. The range of interventions observed across villages reflects an increasing awareness and acceptance among farmers of improved agronomic practices, market mechanisms, and innovative production systems such as hydroponics.
Sustainability	The sustainability of the IVDP interventions varies across components, with stronger prospects for input- and infrastructure-based interventions, while market- and technology-intensive components require continued handholding to ensure long-term viability. **Sustained Use of Improved Seeds and Inputs - Once beneficiaries experienced tangible productivity gains through the use of improved seeds,** their willingness to continue adopting these inputs increased significantly. The establishment of the FPO provides an institutional mechanism to ensure continued access to quality seeds and inputs, thereby supporting sustainability beyond the project period. • **Sustainability of Local Nurseries -** Given the limited availability of cultivable land, the establishment of one or two nurseries per village appears adequate and sustainable. These nurseries can meet local demand without oversaturating the market, improving their chances of remaining economically viable. • **Sustainability of Irrigation Infrastructure -** The visible benefits derived from simple and low-cost irrigation facilities such as Diversion-Based Irrigation (DBI) systems and *Jalkunds* have motivated farmers to collectively maintain these structures. This community ownership and ease of maintenance enhance the likelihood of sustainable water use for agriculture. • **Market Linkages and Supply Chain Sustainability -** Markets for agricultural produce have been identified and transportation arrangements have been put in place through the FPO. If the supply chain continues to function efficiently and aggregation volumes are maintained, these interventions have strong potential to evolve into sustainable business models. • **Sustainability of Hydroponics Interventions -** While hydroponics has demonstrated potential for cultivating premium and high-value crops, sustainability remains uncertain due to the distant location of markets, higher skill requirements, and the need for regular technical support. Continued capacity building and market facilitation will be essential for long-term viability. • **Long-term Sustainability of Jhumland Interventions -** The sustainability of soil and moisture conservation interventions in jhumlands can only be fully assessed over time.

	Continued productivity of treated fields beyond the traditional jhum cycle will need to be observed over the next 4–5 years to conclusively determine the effectiveness and sustainability of these measures. While core input-based and irrigation-related interventions demonstrate strong prospects for sustainability—owing to their visible benefits and broad community uptake—pilot initiatives such as hydroponics and soil conservation models will require continued technical handholding, capacity-building support, and institutional anchoring to ensure sustained adoption and long-term outcomes.
Impact	The IVDP interventions have generated measurable and emerging impacts on agricultural productivity, resource use efficiency, skills, and livelihood opportunities among the target beneficiaries, while some impacts are expected to materialise over the medium to long term. • **Increase in Agricultural Productivity -** The introduction of improved varieties of seeds and seedlings has resulted in a reported 20–30 per cent increase in agricultural productivity, leading to higher output levels and improved household food availability. • **Skill Enhancement and Income Opportunities through Nurseries -** The establishment of vegetable nurseries has contributed to skill enhancement among beneficiaries in areas such as polyhouse management, soil nutrient management, and pest and disease control. In addition to capacity building, the nurseries have created supplementary income opportunities through the sale of quality planting material. **Improved Water Resource Management -** Sustainable use of water resources has been enhanced through improved storage and channelisation systems. Interventions such as Diversion-Based Irrigation (DBI) and *Jalkunds* have increased water availability for agriculture and reduced vulnerability during lean seasons. • **Improved Market Access and Livelihood Security -** Through the functioning of the FPO, farmers now have collective platforms for aggregation and marketing of surplus produce. This has enabled more regular market access, reduced dependence on intermediaries, and strengthened livelihood security for participating households. • **Emerging Impact of Hydroponics Interventions -** Hydroponics has generated interest among community members and demonstrated the feasibility of cultivating high-value crops. However, its impact on income generation and sustained production remains limited at this stage and will require further time, skill consolidation, and market stabilisation to yield significant outcomes. • **Gradual Impact of Soil and Moisture Conservation (SMC) Measures -** Soil and moisture conservation interventions have shown early signs of improved land productivity. However, given the ecological and agronomic nature of jhum systems, the full impact of these measures will become evident only over time as treated fields continue to remain productive beyond the normal jhum cycle. While income enhancement outcome is clearly positive, they remain gradual, shaped by the limited duration of the evaluation period and underlying structural constraints such as small landholdings, geographic remoteness, and market infrastructure.
Efficiency	The project has demonstrated a high level of efficiency in terms of timely implementation, physical target achievement, and optimal utilisation of financial and community resources. • **Timely Input Delivery and Coverage -** Improved and hybrid vegetable seed inputs—including garden peas, green beans, coriander, cabbage, cauliflower, broccoli, King Chilli, potato, and *Zanthoxylum*—were supplied to farmers in a timely manner, contributing to income enhancement. A total of 3,354 households (112% of the target) were brought under vegetable cultivation, and 547 hectares (182% of the target) were covered under improved cultivation practices, indicating effective outreach and efficient resource deployment. • **Household Income Achievement -** Against the project objective of enabling households to achieve an annual income exceeding ₹1.3 lakh, 48 per cent of beneficiary households met this benchmark. An additional 25 per cent of households achieved annual

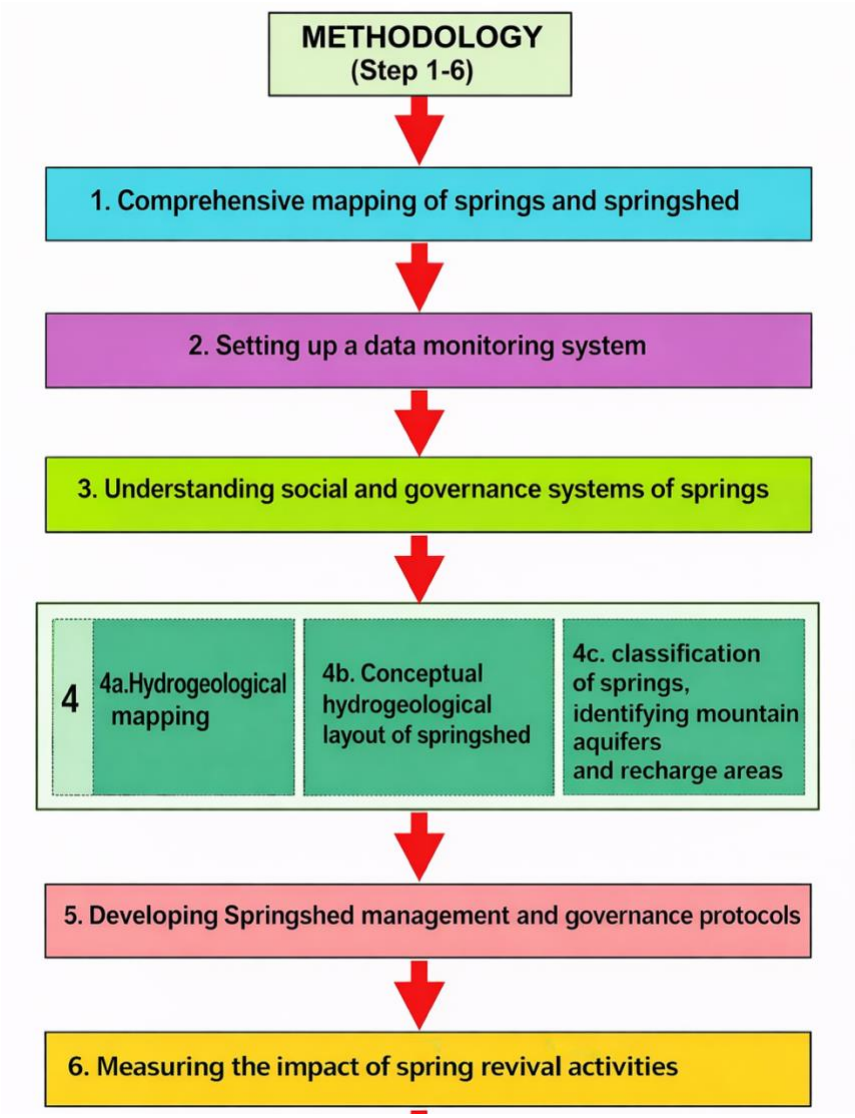
	incomes exceeding ₹1 lakh, reflecting substantial income gains, though the highest income target remains partially achieved. • **Nursery Development -** A total of seven nurseries were promoted as planned. These nurseries efficiently produced major vegetable planting materials, including King Chilli seedlings, Schezuan pepper saplings, cabbage seedlings, and broccoli seedlings, contributing to local input availability and reduced transaction costs. • **Irrigation Infrastructure Development -** The establishment of DiversionBased Irrigation (DBI) systems at two locations and 10 Jalkunds was completed in full, achieving 100 per cent of the planned targets within the project timeline. • **FPO Performance -** The annual turnover of the Farmer Producer Organisation reached approximately ₹35 lakh, against a target of ₹45 lakh, achieving around 77 per cent of the planned financial performance. This indicates reasonable operational efficiency with scope for further strengthening of aggregation and market linkages. • **Hydroponics and Renewable Energy Integration -** Five hydroponics units were established, achieving 100 per cent of the physical target. Some units were further strengthened through the integration of solar power systems, enhancing operational efficiency and reducing energy costs. • **Soil and Moisture Conservation (SMC) -** Soil and moisture conservation measures were implemented in 10 one-acre plots, fully meeting the planned targets and demonstrating effective execution of land management interventions. • **Financial Utilisation and Community Contribution -** The project achieved 100 per cent utilisation of the sanctioned budget of ₹1,00,00,000, while also successfully mobilising ₹25,06,000 as community contributions. This reflects strong financial management and effective leveraging of local resources. The selective implementation of high-cost interventions combined with broadbased low-cost input support reflects strategic and efficient resource allocation, consistent with a phased approach that emphasizes demonstration followed by scaling.
Relevance	The project interventions were highly relevant to the socio-economic, agroecological, and market realities of the project area, where subsistence agriculture, land constraints, and resource degradation posed significant development challenges. • **Alignment with Local Livelihood Needs -** In the project area, communities traditionally practised subsistence agriculture primarily for household consumption. Recognising the need to enhance agricultural production beyond subsistence levels, the project appropriately focused on increasing vegetable production through the supply of improved seeds and the establishment of modern nurseries to ensure access to quality planting material. • **Addressing Water Management Constraints -** Although the region receives substantial rainfall, inadequate conservation and utilisation of water limited agricultural productivity. The project's emphasis on water storage and channelisation through Diversion-Based Irrigation (DBI) systems and *Jalkunds* directly addressed this critical constraint, making the interventions highly relevant to local agro-climatic conditions. • **Responding to Market Access Challenges -** Anticipating that increased production could exceed the absorption capacity of conventional roadside and local market sheds, the project promoted a Farmer Producer Organisation (FPO). This institutional mechanism enabled aggregation, access to larger markets, and ensured that economic benefits were ploughed back to the community as stakeholder returns. • **Relevance of Hydroponics in Land-Constrained Areas -** Given the limited availability of cultivable land, the introduction of hydroponics was a wellconsidered intervention. It provided an alternative pathway for increasing production and income through space-efficient and high-value cultivation systems suited to local constraints. **Preventing Land Degradation and Unsustainable Expansion -** Soil and moisture conservation (SMC) interventions were particularly relevant in the context of jhum cultivation and land degradation. By sustaining agricultural productivity on existing lands, these interventions contribute to land degradation neutrality and reduce pressure on adjacent areas with natural vegetation that might otherwise be brought under cultivation. The mix of interventions is highly relevant to the hill agro-ecological context,

	where productivity enhancement, risk reduction, and strengthened market linkages represent critical constraints to sustainable livelihood improvement.

II. Springshed Development

Spring shed development planning involved various activities that are carried out chronologically or in parallel as under:

Figure 14: Steps of Spring rejuvenation



Preparation of the Detailed Technical Report (DTR) for Springshed Management

The Detailed Technical Report (DTR) was prepared using a systematic and participatory approach to ensure scientifically robust and community-owned springshed management interventions.

The process began with a reconnaissance survey to assess village-level water resources, with a specific focus on springs. Spring inventories were prepared, and critical springs were prioritised based on dependency levels and domestic water demand. This was followed by primary data collection, involving field surveys to document spring

location, typology, topography, land use, and existing water infrastructure, along with consultations with community members and local institutions to understand water-use practices and concerns.

Secondary data were reviewed through desk research, including existing reports, maps, and online resources, to contextualise field findings. A hydrogeological assessment was conducted to delineate probable recharge areas and assess technical feasibility of spring rejuvenation measures. Based on this, appropriate recharge and treatment interventions were identified and incorporated into the DTR.

Water quality analysis was undertaken for key physico-chemical parameters such as pH, temperature, and Total Dissolved Solids (TDS) to establish baseline water quality and guide safe drinking water use.

To ensure long-term functionality, the DTR included an Operation and Maintenance (O&M) plan, developed in consultation with the WATSAN Committee, detailing roles, responsibilities, and maintenance protocols. Capacity-building and training sessions were planned to support effective implementation.

Community participation was ensured through Village Level Meetings (VLMs) and a Participatory Rural Appraisal (PRA) exercise, using tools such as transect walks, resource and land-use mapping, trend analysis, and institutional mapping. These exercises helped integrate local knowledge, land ownership details, and community priorities into the DTR. The detailed PRA findings are provided in the annexure.

Spring Recharge Interventions

To enhance groundwater recharge, reduce surface runoff, and minimise soil erosion in spring recharge areas, a combination of engineering and bio-engineering measures was adopted based on slope, terrain, and site-specific conditions.

Staggered Contour Trenches (SCTs) were constructed in recharge areas with slope gradients of less than 50 per cent. These trenches capture surface runoff, increase infiltration time, and facilitate groundwater recharge. SCTs also help in reducing soil erosion, with sediments collected in the trenches being reused on cultivated fields after desilting. The layout and spacing of SCTs were finalised through contour mapping using simple tools such as A-frames or pipe levels, ensuring alignment perpendicular to surface water flow.

Soil and stone bunds were constructed as continuous embankments to slow runoff, enhance infiltration, and retain eroded soil. Where locally available, stone bunds were preferred for durability. These structures were often combined with vegetative planting along bund tops to further stabilise the soil and improve productivity.

Brushwood and bamboo check dams were installed in gullies and drainage lines to reduce flow velocity, trap sediments, and promote natural re-vegetation. Constructed using locally available bamboo and vegetative materials, these structures support gradual moisture retention and ecological restoration of degraded channels.

Bench terracing was introduced in suitable locations with slopes ranging between approximately 16.7 and 33 per cent. This intervention reduced slope length and runoff velocity, minimised erosion, and enabled more intensive and settled cultivation practices in selected recharge areas, reducing dependence on shifting (jhum) cultivation.

In areas with slopes exceeding 50 per cent, structural measures were avoided, and vegetative interventions were prioritised for moisture conservation and runoff control. Selection of plant species was based on local availability, ecological suitability, and community preference to ensure better survival and long-term sustainability.

Table 9: Details of Springshed development and interventions in Phek Block

S.no	Village	Total Treated area (in Ha)	No.of SCT completed	SCT Volume (cum)	No. of recharge pits completed	Bench - Terrace - No of units	No of Sapling planted	No. of Stone bunding	No. of Dugout Pond	No. of Brushwood check dam
1	Kizari	2.2	220	118.8		20		5		6
2	Kizari	2.1	190	102.6				4		4

3	Kizari	2	195	105.3				4		4
4	Kizari	2.2	220	118.8		20		5		6
5	Tuzatsu	2	220	118.8		20				10
6	Tuzatsu	2.2	250	135		50				10
7	Tuzatsu	2	162	87.48		28		5		
8	Khutsokhuno	2	220	118.8		38				6
9	Khutsokhuno	1.3	200	108		16		6		6
10	Khutsokhuno	2.6	200	108		35				7
11	Losami	2.2	250	135		50				10
12	Losami	2.3	210	113.4		30				9
13	Losami	2.1	220	118.8		20				10
14	Sohomi	2.1	250	135		50				10
15	Sohomi	2.1	162	87.48		15		6		
16	Phek Basa	1.5	220	118.8		54				10
17	Phek Basa	1.9	220	118.8		38	400			6
18	Losatephe	1.3	300	162		20		2		2
19	Losatephe	2	220	118.8		38				6
20	Suthotsu	1.5	200	108	80	15		6		
21	Suthotsu	1.79	200	108	80	15		4		
22	Upper Khomi	2.3	220	118.8		38				6
23	Chepoketa	1.8	220	118.8		38				6
24	Chepoketa	1.8	220	118.8		38				6
25	Mutsale	2	153	82.62		30			10	
26	M. Khomi	1.5	450	243	160				19	

Springshed Committee: Institutional Framework and Responsibilities

A Springshed Committee was established to ensure effective management, operation, and long-term sustainability of the spring. The Committee was constituted through a democratic and participatory process, with members elected by the Village Council to ensure equitable representation across caste, class, age, and gender groups. The Committee is responsible for overseeing project implementation, operation, and maintenance in coordination with the Village Council and the NEIDA team. **Committee Structure and Roles**

The Springshed Committee has a structured leadership comprising a **Chairperson/Chairman, Secretary, Treasurer, and Members**, each with clearly defined responsibilities.

- **Chairperson/Chairman:**
  Leads the Committee, convenes and chairs meetings, facilitates consultative decision-making, and ensures overall coordination and accountability.
- **Secretary:**

Coordinates Committee activities, maintains records and documentation, and prepares minutes of meetings, capturing key discussions and decisions.

- **Treasurer:**
  Manages financial records related to community contributions, water service fees, and operation and maintenance (O&M) expenses; oversees bank transactions in coordination with the Chairperson; maintains transparent accounts and facilitates financial audits.
- **Members:**
  Support the leadership in implementation, monitoring, community mobilisation, and adherence to Committee decisions.

Key Responsibilities of the Springshed Committee

- Lead planning, implementation, and monitoring of springshed activities as per the DTR, under the guidance of the NEIDA team
- Participate in capacity-building and training programmes and disseminate knowledge within the community
- Mobilise community participation and local resources (labour and materials) for recharge and conservation works
- Coordinate with the Village Council and Village Development Board (VDB) on water governance and resource management
- Frame and enforce village-level rules related to water use, sanitation, and hygiene practices
- Supervise field activities and ensure adherence to technical guidelines
- Undertake regular operation and maintenance visits and ensure functionality of infrastructure and equipment
- Protect and conserve designated recharge areas, including timely desilting of recharge structures
- Collect beneficiary contributions for O&M and manage associated funds with proper records
- Maintain project records with transparency and accountability
- Liaise with relevant government departments for utilities such as electrical connections, where required
- Conduct regular meetings (at least once every three months) and periodic consultations with the Village Council on water-related issues

The typical cost estimates for rejuvenation of the selected spring were prepared based on technical study of hydro-geological and engineering surveys. The proposed budget is Rs. 1,60,000/- and the details are given below:

Table 10: Cost break up of springshed development

Sl. No.	Activity	Area (Ha)	Dimensions (m)	Volume (cum)	Units/ Nos	Rate	Amount (Rs)
1.1	SCT	1.2	2x0.6x0.45	0.54	220	250.38	₹ 29,745.14
1.2	Bench terracing	0.4	3x1.2x1.03	3.708	38	250.38	₹ 35,279.54
1.3	Brushwood check dam		3x1x1	3	6	7,375.93	₹ 44,255.57
1.4	Springbox	NA	2x1.5x1.2	3.6	1	50,699.72	₹ 50,699.72
1.5	Plantation	NA	NA	NA	400	30	
						Grand Total	**₹ 1,59,567.58**
						Say	**₹ 1,60,000.00**

Water discharge of Springs

A significant increase in spring discharge was observed during the current assessment period (2025), with discharge levels rising to approximately 30 litres per minute (LPM) compared to the baseline measurements recorded during October–November 2024. Across the assessed springs, the increase in discharge ranged from 26% at Mutuyi Dzuri to as high as 141% at Ezheri, indicating substantial improvements in spring flow.

Table 11: Water discharge details of studied Springsheds

Sl	Block	Village	Spring	Discharge Data 2024 (LPM)	Discharge Data 2025 (LPM)	Increase (%)
13	Phek	Losami	Ezheri	12.46	30.05	141.17
17	Phek	Phek Basa	Mutuyi Dzuri	2.05	2.59	26.34
18	Phek	Losatephe	Sekrunula	8.91	21.05	136.25
26	Phek	M. Khomi	Chekami	8.61	10.96	27.29

These enhanced discharge levels are contributing positively to improved agricultural productivity and strengthened water security for both irrigation and domestic use in the beneficiary villages. Increased and more reliable water availability has enabled timely irrigation, supported dry-season cultivation, and reduced water-related stress at the household level.

However, it is important to interpret these results with due caution. Spring discharge is influenced by multiple interacting factors, including seasonal rainfall variability, hydrogeological conditions, land-use practices, and upstream recharge dynamics. During the current year, rainfall was comparatively substantial, which is also likely to have contributed to increased spring flows, in addition to the water harvesting and recharge structures created under the spring rejuvenation interventions.

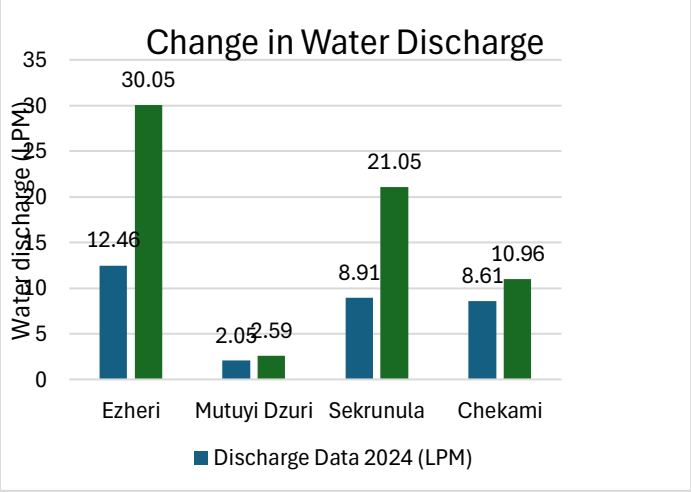


Figure 15: Change in Water Discharge in Springs

Consequently, while the observed improvements are encouraging and suggest a positive contribution of the project interventions, long-term monitoring across multiple seasons and years will be necessary to conclusively attribute changes in spring discharge to project activities and to assess the sustainability of these gains.

Table 12: Progress in Spring Rejuvenation through Spring shed Development

Sl No	Planned Activity	Measurement Unit	Target	Achievement	Achievement in %
1	Spring Inventorization	No. of Springs	25	**40**	160%
1a	*Number of villages where springs were inventoried*	*No. of Villages*	15	15	100%
2	Training of Para-workers	No. of Trainings	1	1	100%
3	PRA exercise -Social map, Resource map, Land use map, Timeline & seasonality and Water budget estimation	No. of Villages	15	**16**	107%
4	Hydrogeological Mapping and identification of Recharge Area	No. of Springs	25	**30**	120%
4a	*No of villages covered for hydrogeological survey*	*No. of Villages*	15	15	100%
5	Approval for Initiation of Phase 2 - PRA report and spring inventory, forwarded to technical team for shortlisting/approval of springs for DTR preparation	No. of Villages	15	15	100%
6	Finalization of Detailed Technical Report (DTR)	No. of DTRs	25	**26**	104%
7	VLM 1 - Community mobilization and details of project sharing with VC and Village representatives	No. of Meetings	15	**19**	127%
8	Formation/Adoption of Springshed/WATSAN Committee	No. of Committees	15	12	80%
9	Selection of village level Paraworker and signing of Agreement	No. of Paraworkers	15	12	80%
10	VLM 2 - DTR Workshop and signing of Agreement with the VC and Springshed Committee	No. of Villages	15	12	80%
11	Number of Water Security Plans (DTR) prepared and approved by WUGs/Springshed Committee/Village Council	No. of DTRs	25	**26**	104%

12	Village Level para-worker Training -1: Orientation about the project, roles and responsibilities and distribution of hydrological data register	No. of Paraworkers	15	14	93%
13	Capacity building of Springshed Committee on design, implementation & maintenance of springsheds	No. of Committees	15	12	80%
14	TM 1 - Introduction to Spring hydrogeology-1 for community level	No. of Trainings	15	12	80%
15	TM 2 - DTR implementation training for VC, key community leaders and Village representatives	No. of Trainings	15	12	80%
16	Request letter from VC to NEIDA for DTR implementation	No. of Villages	15	12	80%
17	VLM 3 - Work Plan: Activity implementation milestones finalized in Village meeting, implementation timelines, roles and responsibilities agreed by all parties	No. of Villages	15	12	80%
18	Number of Springs treated as per Detail Technical Reports (DTRs)	No. of Springs	25	**26**	104%
19	Submission of Completion Certificate signed by VC, Springshed/ WATSAN Committee and verified by NEIDA	No. of Certificates	25	**26**	104%
20	TM 3 - What is Climate Change	No. of Trainings	15	12	80%
21	TM 4 - Introduction to spring hydrogeology - 2	No. of Trainings	15	12	80%
22	TM 5 - Operation and Maintenance - 1	No. of Trainings	15	12	80%
23	TM 6 - Operation and Maintenance - 2	No. of Trainings	15	12	80%
24	VLM 4 - O&M plan finalized and agreed	No. of Trainings	15	12	80%
25	Establishment of manual rain gauge station in sample villages	No. of Stations	5	4	80%

26	Laboratory water quality testing of 10 sample springs (once in 6 months)	No. of Tests	1	1	100%
27a	*No. of springs covered for lab water quality testing*	*No of Springs*	*10*	10	100%
27b	*No. of villages for which lab water quality test were conducted*	*No. of Villages*	*10*	10	100%
28	Six Monthly FTK Water Quality Testing of 10 sample springs	No. of Tests	1	1	100%
28a	*No. of springs covered for water quality testing (FTK)*	*No. of Springs*	*10*	10	100%
28b	*No. of villages for which water quality test (FTK) were conducted*	*No. of Villages*	*10*	10	100%
29	Monthly spring discharge data collection of selected springs	No. of Spring discharge measurement	5	5	100%
29a	*No. of springs where spring discharge measurement conducted*	*No. of Springs*	*25*	**26**	104%
29b	*No. of villages where spring discharge measurement conducted*	*No. of villages*	*15*	**52**	347%
30	Rainfall data collection (monthly)	No. of Rainfall Data Collection	5	5	100%
30a	*No. of villages where rainfall data was collected*	*No. of Villages*	*5*	**20**	400%

Overall impression of the Springshed interventions

Based on the perceptions reported by individual respondents, the following Springshed related impacts have been identified.

- Improved Water Availability for Irrigation - Springshed interventions such as Diversion-Based Irrigation (DBI), jalkunds, and recharge structures ensured a more reliable and timely water supply for agricultural use.
- Enablement of Dry-Season Farming - Improved water management through springshed activities made cultivation possible during the dry season, reducing crop losses and production risks.
- Soil and Water Conservation Benefits - Interventions supported better soil moisture retention and nutrient management, contributing to improved crop performance and reduced land degradation.
- Reduction in Production Risks and Crop Losses - Farmers reported reduced vulnerability to moisture stress, leading to more stable yields and lower crop losses across multiple villages.
- Support to Settled Cultivation Systems - Improved soil and water availability encouraged farmers to remain on a single plot, reducing reliance on shifting cultivation practices.
- Enhanced Drinking Water Security - Recharge structures also improved access to drinking water, generating important co-benefits beyond agriculture.

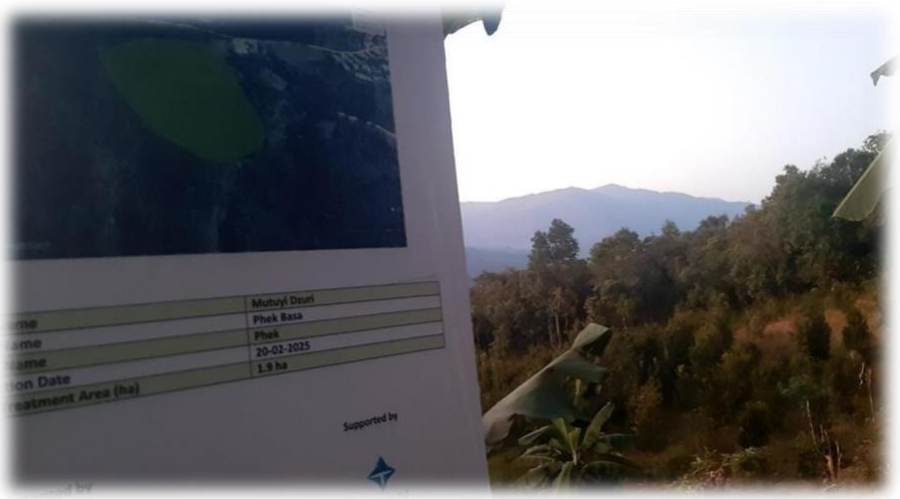


Figure 16: Springshed development at PhekBasa Village

EASIER for Springshed Management

Table 13: EASIER for Springshed Management

Effectiveness	The project adopted a systematic and scientifically grounded approach to springshed management, combining technical planning with strong community engagement. The interventions began with comprehensive inventorisation of springsheds, hydrological mapping, and preparation of Detailed Technical Reports (DTRs). These technical processes were complemented by Participatory Rural Appraisal (PRA) exercises, community mobilisation, and the formation of village-level springshed committees. Capacity-building initiatives included training of paraworkers, sensitisation programmes for committee members, and hands-on training on spring discharge measurement and maintenance protocols. Treatment of identified springsheds was carried out as per approved technical plans, with active involvement of local communities. Formal agreements were signed with community institutions to ensure shared responsibility for the maintenance and management of springsheds, thereby enhancing the effectiveness of interventions.
Awareness	The project significantly enhanced awareness among community members regarding the availability, condition, and importance of local water sources, particularly village springs and their associated springsheds. Beneficiaries were sensitised to the principles of spring hydrology, the impacts of climate change on water availability, and the need for scientific and community-based management of water resources. Awareness was also created regarding the roles and responsibilities of springshed committees, operation and maintenance requirements, and sustainable water-use practices. Through village-level trainings, meetings, and demonstrations, the project strengthened community understanding of spring rejuvenation processes and fostered a sense of collective ownership over water resources.
Sustainability	The sustainability of springshed interventions depends on multiple interrelated factors, including rainfall patterns, vegetation cover, effectiveness of recharge structures, and continued community engagement. While these external and ecological variables pose challenges, the project has laid a strong foundation for sustainability by building local awareness, institutional capacity, and communitybased water governance mechanisms. The formation and activation of springshed committees, coupled with improved understanding of maintenance practices, enhance the likelihood of sustained spring discharge over time. With continued functionality of community institutions and regular upkeep of treatment measures, the rejuvenated springs are expected to maintain regular and improved discharge levels.

Impact	The project has generated significant hydrological, social, and institutional impacts. Each targeted springshed was scientifically mapped, supported by a DTR, and treated with active community participation. As a result, spring discharge in the visited springsheds increased substantially, ranging from 26 per cent to as high as 141 per cent within one year, with many springs showing signs of becoming perennial. Beyond physical outcomes, the project has created strong social impacts by enhancing community understanding of springshed management in the context of climate change. The establishment of springshed committees has improved local governance and accountability in water management. Water quality testing further empowered communities by enabling identification of safe drinking water sources and promoting informed water-use decisions. However, it is important to note that impact attribution remains complex within a one-year assessment period, particularly as spring discharge is influenced by multiple factors, including annual rainfall variability. The project year experienced higher rainfall compared to the previous year, which may have contributed to increased discharge levels. While the observed improvements are encouraging and consistent with the implemented recharge and treatment measures, longer-term monitoring over multiple hydrological cycles will be required to conclusively attribute changes in spring behaviour to project interventions and to assess their durability under varying climatic conditions.
Efficiency	The project demonstrated high implementation efficiency, exceeding several planned physical targets. Inventorisation of springsheds achieved 160 per cent of the target (40 against 25), hydrological mapping reached 120 per cent (30 against 25), and preparation of DTRs achieved 104 per cent (26 against 25). Measurement of spring discharge and treatment of springsheds also exceeded targets at 104 per cent each. Community mobilisation through PRA exercises and village meetings similarly surpassed planned levels. However, certain activities experienced partial achievement due to time constraints, including formation and capacity building of springshed committees, signing of maintenance agreements, and training of para-workers (80 per cent achievement), as well as establishment of rain gauges (80 per cent of target villages). Data collection activities such as spring discharge monitoring, rainfall recording, and water quality testing using Field Testing Kits met their targets. Financially, the project achieved 100 per cent utilisation of CSR funds and additionally mobilised community resources, reflecting efficient financial management and stakeholder participation.
Relevance	Despite recent expansion of household water supply under the Jal Jeevan Mission, natural springs continue to be the primary and most reliable source of water for domestic, agricultural, and livelihood needs in the project area, which forms part of the Eastern Himalayan region. Piped water supply systems themselves are largely dependent on these springs. Increasing threats from climate change, declining water quality, and drying of springs due to unsustainable land-use practices underscore the urgent need for scientific springshed management. The project's interventions are therefore highly relevant, as they integrate scientific approaches with traditional knowledge to support aquifer recharge, community-led conservation, and sustainable water use. These efforts contribute directly to year-round drinking water security, soil and moisture conservation, and enhanced agricultural productivity for local communities.

Financial Progress

The IVDP implemented in Phek district of Nagaland has achieved 100 percent financial progress as planned. Notably, the project mobilised substantial community contributions, amounting to approximately 25 percent of the total CSR funds sanctioned. Against a total

project outlay of ₹1,00,00,000, community contributions amounted to ₹25,06,000, primarily in the form of labour inputs.

Table 14: Financial Progress of the project

Sl No	Description of Activity	Units	Unit Cost	No of Times	Project Fund	Community contribution	Grand Total (Rs).
1	**Agriculture development**						
1.1	Input support for New HHs under Phek Block	400	1,200	1	3,36,000	1,44,000	4,80,000
1.2	Support to FPO for purchase of pick up for marketing	1	14,00,000	1	11,20,000	3,37,000	14,57,000
1.3	Marketing support to FPOs	1	2,50,000	1	2,50,000		2,50,000
1.4	S&W Pilot 1 acre	10	1,00,000	1	8,00,000	2,00,000	10,00,000
1.5	Hydroponics units for leafy vegetables	5	80,000	1	3,20,000	80,000	4,00,000
1.6	Jalkunds for new HH under Phek block	10	35,000	1	2,45,000	1,05,000	3,50,000
1.7	Diversion Based Irrigation under Phek Block	2	4,00,000	1	5,60,000	2,40,000	8,00,000
1.8	Travel cost- Livelihoods	8	4,000	9	2,88,000		2,88,000
	Sub Total				**39,19,000**	**11,06,000**	**50,25,000**
2	**Spring Rejuvenation**						
2.1	Spring treatment work as per DPR	25	1,60,000	1	26,00,000	14,00,000	40,00,000
2.2	Detailed Technical Report Preperation	25	5,832	1	1,45,788		1,45,788
2.3	Travel Cost- Water team	7	4,000	9	2,52,000		2,52,000
	Sub total				**29,97,788**	**14,00,000**	**43,97,788**
	Programme (Total)				**69,16,788**	**25,06,000**	**94,22,788**

3	**Capex**						
3.1	Laptop and Peripherals	2	75000	1	75,000		75,000
3.2	Office Furniture	5	25000	1	50,000		50,000
3.3	Colored Printer and Scanner	1	45000	1	45,000		45,000
3.4	Digital Camera	1	25000	1	25,000		25,000
	Sub Total				**1,95,000**	**-**	**1,95,000**
4	**HR Cost**						
4.1	Cluster & Field Coordinator (Livelihoods)	2	32,852	8	5,25,624		5,25,624
4.2	Marketing Officer (Liveliho ods)	1	58,668	5	2,93,340		2,93,340
4.3	Programme Officer (Springs)	1	47,406	8	3,79,248		3,79,248
4.4	Cluster Coordinator (Spri ngs)	1	25,000	9	2,25,000		2,25,000
4.5	Finance Officer & Accountant	1	35,000	9	3,15,000		3,15,000
4.6	Admin support	2	19,000	9	3,42,000		3,42,000
4.7	Staff welfare and Health Insurance	8	35,000	1	2,80,000		2,80,000
	Sub Total				**23,60,212**	**-**	**20,80,212**
5	**Overheads**						**-**
5.1	Office Rent	1	60,000	4	2,40,000		2,40,000
5.2	Office Maintenance - Consumables and recurring Cost	1	32,000	9	2,88,000		2,88,000
	Total				**5,28,000**	**-**	**5,28,000**
	Grand Total				**1,00,00,000**	**25,06,000**	**1,22,26,000**

Table 15: Expenditure Summary

SL. No.	Major Head	Amount (Rs.)	% of total Expenditure
1.	Programme	69,16,788	69%
2.	Capex	1,95,000	2%
3.	HR	23,60,212	24%
4.	Overheads	5,28,000	5.3%
		1,00,00,000	100%

Case Study: Kade Farmer Producer Organization (FPO)

Strengthening Market Access and Value Addition in Pfutsero Block, Nagaland

Background

The Kade Farmer Producer Organization (Kade FPO) was promoted by the North East Initiative Development Agency (NEIDA) through TITAN CSR fund in the Pfutsero Block of Phek District, Nagaland, with the objective of strengthening smallholder farmers' livelihoods through collective action, improved market access, and value addition. Operating in a hilly and remote terrain characterized by small and fragmented landholdings, farmers traditionally faced high transportation costs, weak bargaining power, and limited opportunities for processing and organized marketing.

Profile of the FPO

- **Name of FPO:** Kade FPO
- **Total Members:** 670
- **Major Output Markets:** Kohima, Dimapur, Imphal (Business-to-Business)
- **Major Crops Handled:** Cabbage, Garden Pea, King Chilli, Kiwi, Persimmon

Project Support through NEIDA

NEIDA provided integrated institutional, functional, and infrastructural support to strengthen the FPO's business viability and governance.

1. Capacity Building Support

Members and office bearers of Kade FPO received structured training on:

- Leadership and institutional management
- Food processing and value addition, particularly for fruits and vegetables

These trainings enhanced managerial capacity, compliance awareness, and entrepreneurial skills among FPO leaders and members.

2. Functional Support

To strengthen backward linkages, Kade FPO was supported in:

- Acquiring a seed license, enabling the FPO to legally procure and supply quality seeds to member farmers on a regular basis

This intervention reduced dependency on external input suppliers and ensured timely access to quality planting material.

3. Infrastructural Support

NEIDA facilitated key infrastructure investments, including:

- Solar drying units for fruit processing and value addition
- Pick-up van for aggregation, transportation, and marketing of farm produce

These assets significantly reduced post-harvest losses, improved processing efficiency, and lowered transportation costs.

Business Operations and Revenue Streams

Kade FPO has diversified its operations across multiple business verticals:

- Input Business: Banana chips, kiwi candy, wild apple candy, tree beans, ginger candy
- Output Business: Aggregation and sale of fresh agricultural produce
- Processing Business: Value-added processed fruit and vegetable products
- Custom Hiring Centre: Not operational during the reporting year

Financial Performance (Annual)

Table 16: Financial performance of Kade FPO

Business Segment	Annual Turnover (₹)	Net Profit (₹)
Input Business	9,28,500	48,550
Output Business	12,61,500	16,350
Processing Business	41,600	9,200
Total	**22,31,600**	**74,100**

The FPO recorded a **total annual turnover of ₹22.32 lakh** with a **net profit of ₹74,100**, reflecting steady growth and improving financial discipline in its early operational phase.

External Linkages and Recognition

Kade FPO has also received support from **NABARD** under the **Rural Entrepreneurial Service Promotion initiative**, including establishment of a **Rural Mart**, which further strengthened its market presence and branding of local products.

Outcomes and Impact

- Improved price realization for member farmers through collective marketing
- Reduced post-harvest losses through processing and solar drying
- Diversification of income sources beyond raw produce sales
- Enhanced institutional capacity and self-reliance of the FPO
- Strengthened backward and forward market linkages in difficult hill contexts

Conclusion

The experience of Kade FPO demonstrates how targeted institutional strengthening, infrastructure support, and capacity building, when combined with strong local leadership, can transform a farmer collective into a viable rural enterprise. Promoted by NEIDA with support from development partners, Kade FPO represents a scalable model for FPO-led livelihood enhancement in the hill ecosystems of Nagaland and the wider North-Eastern Region.

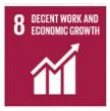
Figure 17: Photographs related to Kade FPO

Linking Project interventions with SDGs (IVDP, Nagaland)

The Integrated Village Development Program (IVDP) makes a direct contribution to SDGs 1 (No Poverty), 2 (Zero Hunger), 6 (Clean Water and Sanitation), 8 (Decent Work and Economic Growth), 12 (Responsible Consumption and Production), 13 (Climate Action), and 15 (Life on Land), while also advancing gender equality (SDG 5) and multi-stakeholder partnerships (SDG 17). Through integrated interventions in livelihoods, water security, and ecosystem restoration, the program promotes sustainable, inclusive, and climate-resilient rural development in Nagaland.

Table 18: Linking Project interventions with SDGs (IVDP, Nagaland)

SDG	Project Contribution (IVDP)
	Enhanced farm incomes, livelihood diversification, reduced vulnerability of small and marginal farmers through agriculture and water security interventions
	Climate-resilient vegetable production, improved productivity, diversified cropping systems, and improved household food security
	Reduced drudgery for women through improved water access; enhanced participation of women in producer groups and community institutions
	Spring rejuvenation, springshed management, water harvesting and irrigation systems ensuring reliable access to water

	Promotion of agripreneurship (nurseries, hydroponics), FPO-led marketing, and local enterprise development
	Reduced post-harvest losses, collective marketing, efficient resource use, and sustainable production practices
	Climate-resilient agriculture, soil and water conservation, and enhanced adaptive capacity of hill communities
	Soil conservation, springshed and forest regeneration, sustainable land-use and ecosystem restoration
	CSR partnership between Titan, NEIDA, community institutions, FPOs, and local stakeholders

Suggestions and Recommendations

Based on beneficiary perceptions and feedback from the Titan CSR-funded IVDP, several key areas have been identified where continued support could further enhance livelihoods, strengthen institutional capacities, and sustain project gains. Respondents consistently emphasized the need for improved access to quality inputs, market infrastructure, diversified livelihoods, and technical guidance.

In line with these insights, the following recommendations are proposed to consolidate and scale the benefits of the project. They are firmly grounded in beneficiary feedback and reflect both their practical needs and aspirations. Implementing these measures would reinforce the Titan CSR-funded IVDP's objectives of enhancing livelihoods, strengthening local institutions, and building resilience in remote hill communities of Nagaland.

Post-Harvest Infrastructure and Market Access

- Construction of roadside marketing sheds within or near villages would enable daily sales of farm produce, improve local market access, and generate regular household income.
- Community-level cold storage facilities would help reduce post-harvest losses and allow farmers to sell their produce at better prices.

Strengthening of Farmer Producer Organizations (FPOs)

- Capacity-building and business management training for FPO members, including Boards of Directors and key shareholders, is recommended to improve governance, marketing, and financial management.
- Continued institutional support and engagement with FPOs would sustain input distribution, market linkages, and community confidence in collective action models.

Expansion and Diversification of Livelihood Interventions

- Introduction of piggery and other small livestock initiatives could provide additional sources of income and enhance livelihood resilience.
- Support for horticulture and orchard-based livelihoods, including provision of kiwi and cardamom saplings, would strengthen income diversification and longterm food security.

Continued and Enhanced Input Support

- Provision of high-quality, high-yielding vegetable seeds (potato, maize, cabbage, broccoli, beans, etc.) should continue in upcoming seasons.
- Since improved vegetable cultivation is relatively new to many farmers, ongoing technical guidance and hands-on support is recommended to ensure adoption and optimal productivity.

Irrigation and Water Management Improvements

- Strengthening of Diversion-Based Irrigation (DBI) systems through technical assistance, supply of materials, and periodic monitoring would improve reliability and crop yields.
- Additional interventions such as pipeline connections from springs to villages and solar-powered water pumps could enhance water access and reduce labor.
- Sprinkler systems inside polyhouses, where feasible, would further improve irrigation efficiency and productivity during dry periods.

Farm Tools and Maintenance Support

- Provision of tools and materials for routine maintenance and minor repairs of agricultural and irrigation infrastructure would help sustain the benefits of project investments.

- Long-Term Engagement and Sustainability
- Sustained engagement with farmers and continued support for key interventions would consolidate gains, promote adoption of improved practices, and enhance income security over the long term

References:

- https://csrbox.org/Impact/description/Impact-stories_full_Integrated-Village-Developmenthttps://csrbox.org/Impact/description/Impact-stories_full_Integrated-Village-Development-Program---A-Joint-Journey-Towards-Development--_371Program---A-Joint-Journey-Towards-Development--_371 https://socialfighters.org/our-work/integrated-village-development-programme/ https://thehansfoundation.org/ivdp/
- https://www.nabard.org/auth/writereaddata/File/Holistic%20Development%20of%20villages%20through%20Village%20Development%20Programme.pdf https://tnwatershed.a2zweb.in/scheme?utm_source=chatgpt.com https://agritech.tnau.ac.in/agriculture/agri_resourcemgt_water_waterresourceorg.html https://nationalagro.org/csr-and-nabard-watershed-projects.php https://villageinfo.in/tamil-nadu/tiruvannamalai/tiruvannamalai.html
- TWAD report 2023 , Krishnagiri District profile on water level. https://www.twadboard.tn.gov.in/content/krishnagiri TWAD report 2023
- Tiruvannamalai District profile on water level. https://www.twadboard.tn.gov.in/content/tiruvannamalai
- CGWB 2009. DISTRICT GROUNDWATER BROCHURE KRISHNAGIRI DISTRICT, TAMIL NADU. Central Ground Water Board South Eastern Coastal Region Chennai March 2009
- https://www.census2011.co.in/data/subdistrict/5727-tiruvannamalai-tiruvannamalai-tamilhttps://www.census2011.co.in/data/subdistrict/5727-tiruvannamalai-tiruvannamalai-tamil-nadu.htmlnadu.html#google_vignette http://www.krishnagirikvk.org/disprofile.html
- M. panner, Dr Anand Kumar, Dr .N Ramesh kumar (2017). AQUIFER MAPPING AND GROUND WATER
- MANAGEMENT Upper Ponnaiyar River Basin, Tamil Nadu. CGWB - Publications and Media Warehouse
- CGWB (2018), AQUIFER MAPPING FOR SUSTAINABLE MANAGEMENT OF GROUNDWATER RESOURCES IN UPPER PONNAIYAR AQUIFER SYSTEM, TAMIL NADU . CGWB, Tamil Nadu.

CONTACT US

DR PARUL RISHI

CHAIRPERSON, CENTRE FOR CSR

PARUL@IIFM.AC.IN;

CCSRIIFM@GMAIL.COM

INDIAN INSTITUTE OF FOREST MANAGEMENT

MOEFCC

HTTPS://IIFM.AC.IN/C-CSR/