



industree

Cartier Endline Assessment Analysis

PHILANTHROPY
Cartier



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01 Introduction

The NTFP Value Chain Development in Odisha Project, implemented in the Dasapalla block of Nayagarh district and the Kutikia block of Kandhamal district, was designed to strengthen the livelihoods of tribal women by integrating them into a structured and market-oriented Non-Timber Forest Produce (NTFP) value chain. The project focused on leveraging the economic potential of Sal and Siali leaves, recognising these forest resources as sustainable inputs for value-added production and income generation.

The project aimed to move women from irregular, low-paid forest-based activities to more organised, skilled, and regular livelihood opportunities, while simultaneously strengthening their role within the local economy and community institutions. Key interventions included skill development, access to organised production systems, engagement with value-added processing, and linkage to stable markets through collective enterprise models.

An endline study was conducted at the conclusion of the project to assess socio-economic, livelihood, and capability-level changes among women producers resulting from project participation. The study captures data across multiple dimensions, including demographic profile, household characteristics, employment patterns, income levels, skill enhancement, and engagement with the NTFP value chain.

The purpose of this endline and comparative analysis is to



Measure changes observed between the baseline and endline periods



Understand the extent to which the project contributed to improved livelihoods and economic security



Assess changes in skills, employment conditions, and income sources



Provide evidence-based insights into the project's outcomes and early impacts

The findings from this study are intended to inform learning, accountability, and future program design, and to provide Cartier Philanthropy with a clear understanding of the outcomes achieved during the project period.

02 Methodology

The endline assessment adopted a structured, systematic approach aligned with the baseline methodology to ensure data comparability and consistency across the project lifecycle. A structured endline questionnaire was developed by the Monitoring & Evaluation (M&E) team in consultation with Third party expert, building on the baseline tool and incorporating additional questions to capture changes over time in livelihoods, income, skills, and engagement with the NTFP value chain.

The questionnaire was digitised and deployed using Industree Foundation's in-house mobile data collection application, Ugao, enabling standardised and efficient data capture. This digital approach helped minimise data entry errors and ensured real-time monitoring of data quality during field implementation.

Prior to data collection, the field team underwent focused training on the endline questionnaire, data collection protocols, ethical considerations, and the technical operation of the Ugao application.

Endline data were collected through in-person interviews conducted by trained field coordinators. These interviews enabled direct engagement with women producers and ensured clarity and accuracy in responses while maintaining consistency.

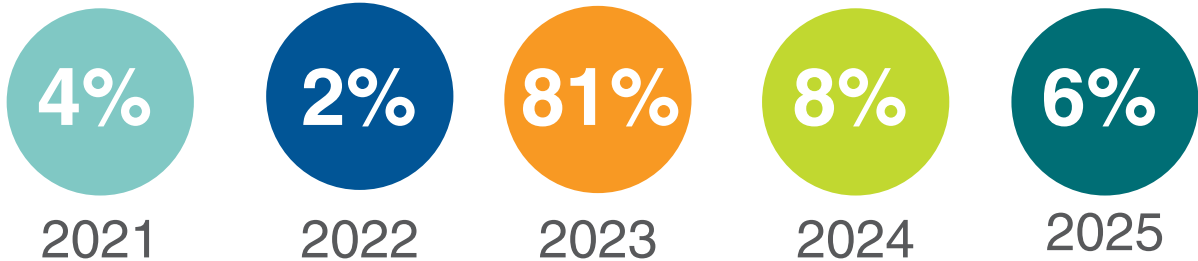
The endline survey covered women producers across the same project geographies, including Dasapalla and Kutikia blocks, and targeted beneficiaries who had participated in various stages of the Sal and Siali value chain, such as leaf collection, stitching, and pressing. Following data collection, the dataset underwent a rigorous validation and cleaning process, including checks for completeness, consistency, and outliers. Records with incomplete or inconsistent information were excluded to ensure the reliability of the final dataset used for analysis.

All endline data was securely stored in a centralised digital system, with access restricted to authorised personnel involved in data analysis and reporting. These measures ensured data confidentiality, integrity, and compliance with internal data governance protocols.

03 Analysis

Joining year of the enterprise

When did you join the Enterprise (Forest Green)?



The distribution of joining years indicates that the majority of women (81%) joined the enterprise in 2023, reflecting a period of rapid scale-up and value chain consolidation. This suggests that foundational investments made in earlier years, such as skills training, production systems, and market readiness, created the necessary conditions for expanded participation at scale. The smaller proportions joining in 2021 and 2022 highlight the project’s initial pilot and capacity-building phase, while continued onboarding in 2024 and 2025 indicates sustained demand for participation and confidence in the enterprise model. Overall, the pattern demonstrates a transition from gradual establishment to accelerated inclusion, aligning with a value chain approach where scale follows system readiness.

Category

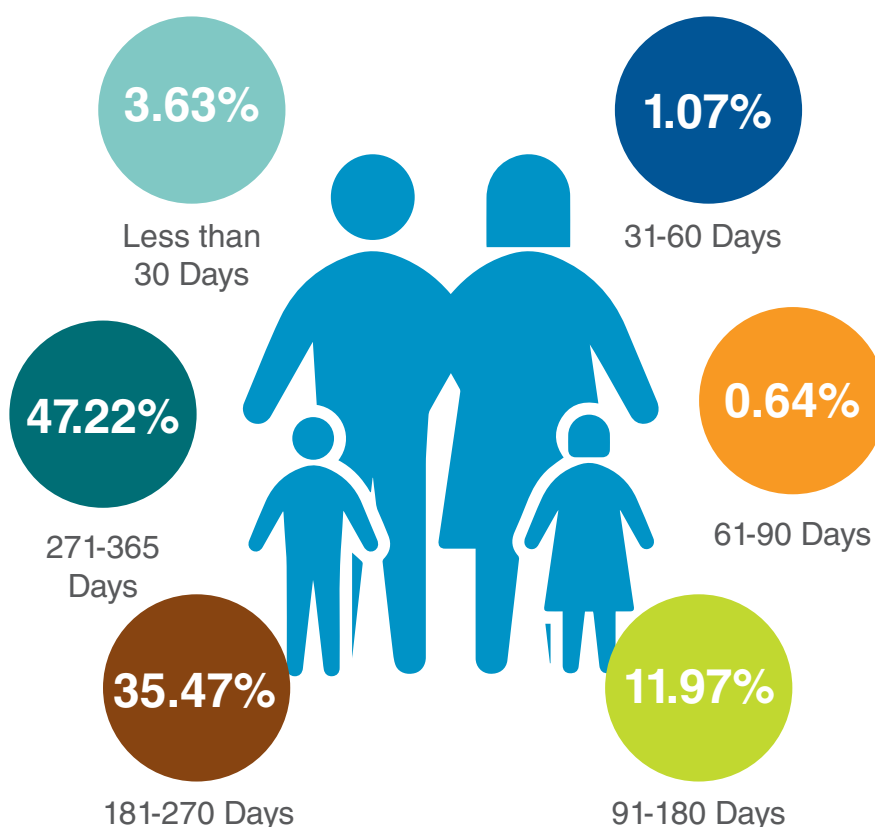


The social composition of participants indicates that the project has successfully reached deeply marginalised and forest-dependent communities. Women from Scheduled Tribe and Scheduled Caste backgrounds account for 85% of participants, with particularly strong representation from the Kandha tribal community (74.66%), followed by Harijana (11.30%) and Khaira (10.27%). This concentration reflects intentional targeting of communities for whom NTFP-based livelihoods are both culturally embedded and economically relevant. The inclusion of women from several smaller caste and tribal groups, albeit in limited proportions, further demonstrates inclusive outreach within the intervention areas. Overall, the data underscores the project’s effectiveness in embedding a women-led value chain within core tribal populations, contributing to equitable access to livelihood opportunities and strengthening participation of groups traditionally excluded from organised markets.

Work profile of family members

The work profile of adults highlights a livelihood context dominated by agriculture and informal, skill-based employment, with very limited access to formal salaried jobs. Nearly 40% of adults are engaged in farming on their own land, while another 20.7% are involved in NTFP value addition, underscoring the centrality of forest and agriculture-linked livelihoods in the project area. Engagement in skill-based full-time and part-time work (approximately 22%) indicates a gradual shift away from purely unskilled or distress-driven employment. Importantly, the relatively low levels of migrant labour and non-skilled seasonal work suggest that local livelihood opportunities have strengthened, reducing reliance on migration. Overall, the distribution reflects the project's relevance in strengthening locally anchored, skill-based livelihood pathways, particularly through the NTFP value chain, in a context where formal employment options remain extremely limited.

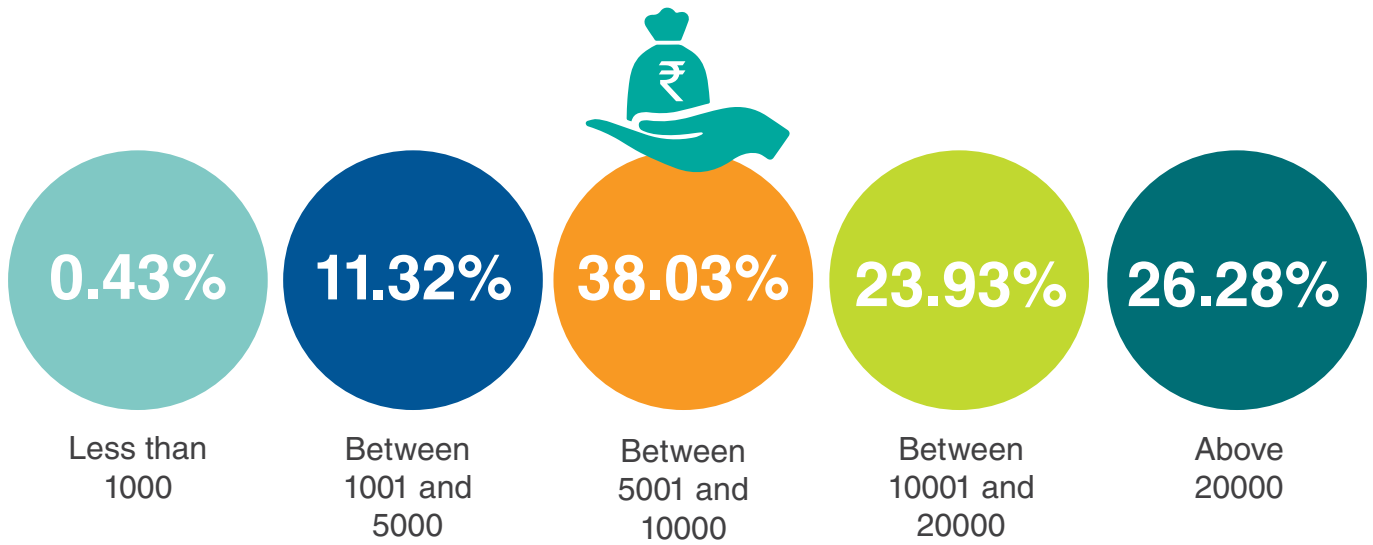
Workdays for family in a year



The distribution of annual workdays indicates a high level of employment intensity and livelihood stability among beneficiary households at endline. A significant majority of families report substantial engagement in work, with 47.22% working between 271–365 days and 35.47% working between 181–270 days in a year. This suggests a shift away from highly irregular or short-term employment toward more consistent and sustained livelihood engagement. The relatively small proportion of households reporting fewer than 90 workdays highlights reduced vulnerability to seasonal unemployment. Overall, the data reflects the project's contribution to strengthening year-round livelihood opportunities, particularly through value-chain-linked activities such as NTFP processing and allied work, which help smooth income flows across seasons.

Family income in the last 12 months

What are the total yearly earnings of your family during the last 12 months?



The distribution of annual household earnings indicates moderate but meaningful income improvement among beneficiary families at endline. A majority of households (62%) report annual earnings above INR 10,000, with 26.28% earning more than INR 20,000, suggesting improved earning capacity and diversification of income sources. At the same time, the concentration of households in the INR 5,001–10,000 and INR 10,001–20,000 ranges reflects the transitional nature of livelihoods in the project area, where gains are evident but full income security is still emerging. The relatively small proportion of households in the lowest income bracket points to reduced extreme vulnerability. Overall, the income distribution suggests that participation in the NTFP value chain has contributed to upward income movement, while reinforcing the need for continued value addition, productivity enhancement, and market strengthening to enable further income growth.

House ownership

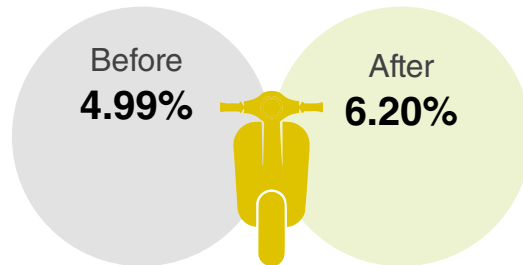
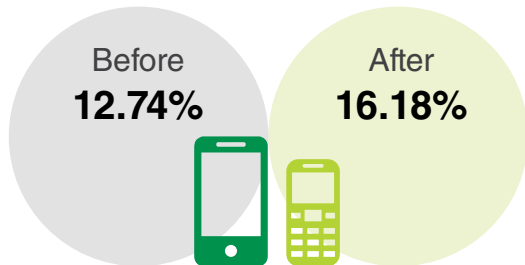
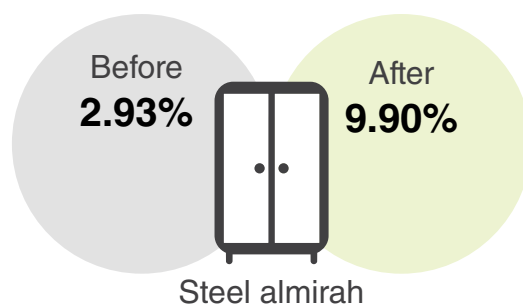
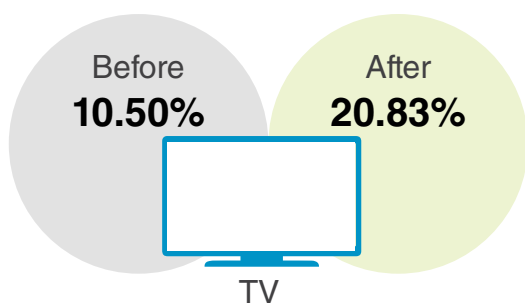
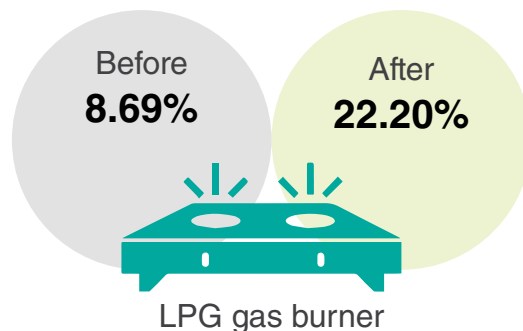
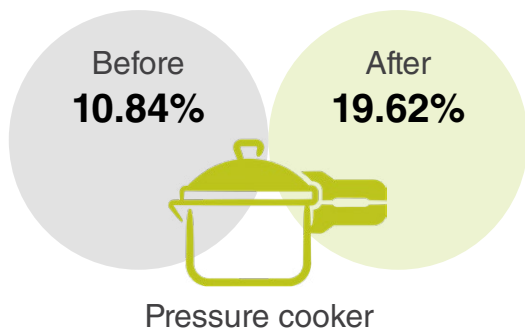
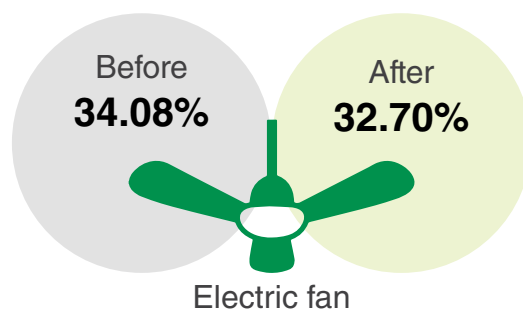
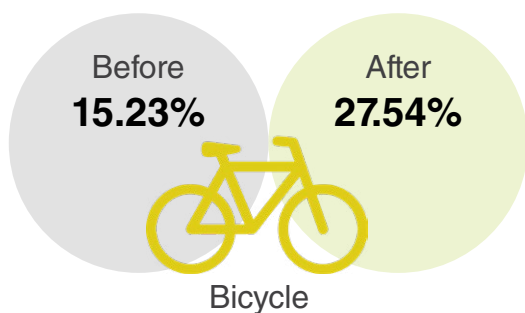
What type of house do you live in?



Endline findings indicate a high level of housing security among beneficiary households, with 99.36% residing in their own homes, suggesting low vulnerability to displacement or rental insecurity. In terms of housing quality and space, the distribution of rooms shows that a substantial proportion of households have two or more rooms, with over two-thirds (65.45%) reporting three or more rooms in addition to common living areas. This reflects a relatively stable asset base within the community, even as income levels remain modest. While housing improvements are not a direct outcome of the project, these conditions provide an enabling environment in which livelihood gains from the NTFP value chain can be more effectively absorbed, supporting productivity, household wellbeing, and resilience. Overall, the data positions housing as a contextual strength that complements livelihood-focused interventions rather than a direct indicator of project impact

Household assets

What all household assets did your family own before you joined this enterprise?



Feature phone/smartphone/(Key/button based)

Motor vehicle(2-Wheeler)

The comparison of household asset ownership before and after joining the enterprise shows a clear upward shift in asset accumulation, indicating improvements in economic security and household well-being. Ownership of key consumer durables and productive assets increased across most categories, notably bicycles (from 15.23% to 27.54%), pressure cookers (10.84% to 19.62%), LPG gas burners (8.69% to 22.20%), and televisions (10.50% to 20.83%). These gains suggest enhanced purchasing capacity and prioritisation of assets that reduce drudgery, improve efficiency, and support quality of life.

The increase in ownership of steel almirahs and mobile phones further reflects growing household stability, improved storage and asset management, and better access to communication and information. While ownership of motor vehicles remains limited, the gradual increase indicates early-stage mobility gains. The slight decline in electric fan ownership likely reflects replacement or reclassification rather than asset loss. Overall, the pattern of asset growth points to incremental but meaningful economic advancement, consistent with livelihood interventions where income gains are first translated into essential and utility-enhancing household assets rather than high-value capital goods

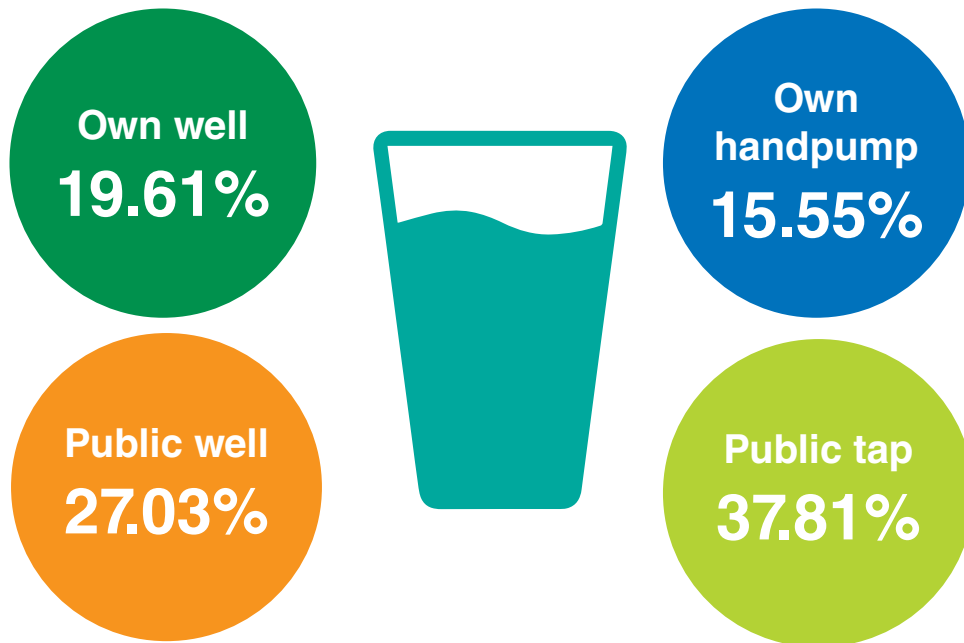
Sanitation and water supply

Access to Toilet: *Do you have a covered toilet in your house?*



Endline findings indicate moderate access to basic sanitation infrastructure among beneficiary households. While 70.73% of households report having a covered toilet, nearly one-third (29.27%) continue to lack this essential facility, highlighting persistent gaps in sanitation access. Further, among households with toilets, 60.47% have access to a tap water supply within the toilet, suggesting that water availability remains a constraint for a significant proportion of families. These findings underscore that, although the project does not directly intervene in sanitation infrastructure, improved and more regular livelihoods may create enabling conditions for gradual household-level investments in hygiene and living conditions.

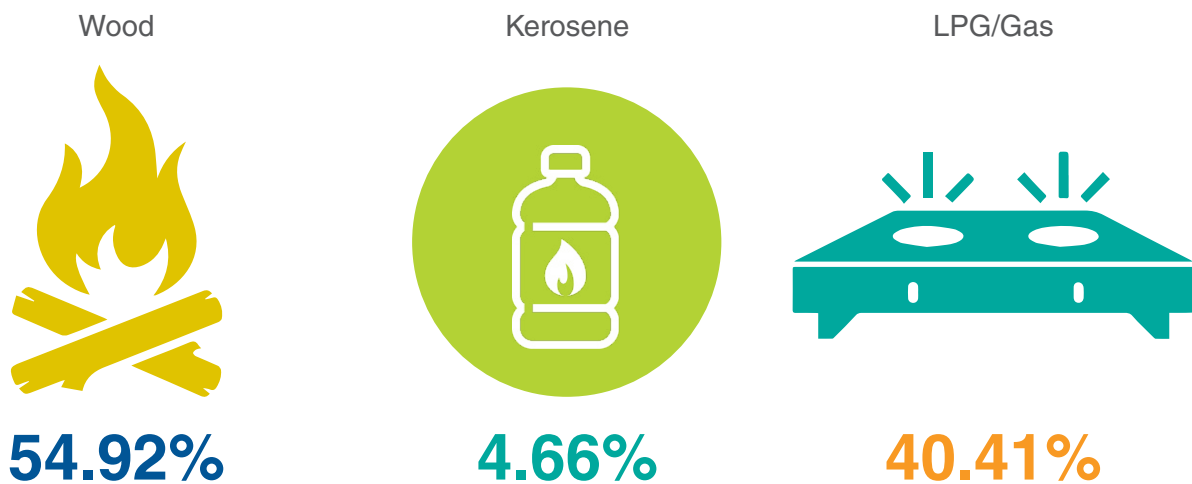
Access to water supply: *What is the main source of water for your household's needs?*



The distribution of household water sources reflects a mixed reliance on private and public water infrastructure within the project area. A majority of households depend on public water sources, with 37.81% using public taps and 27.03% relying on public wells, indicating continued dependence on shared infrastructure. At the same time, a notable proportion of households access water through own wells (19.61%) and handpumps (15.55%), suggesting partial household-level asset ownership. This pattern highlights existing constraints in reliable water access, which can influence time use, particularly for women, and affect both household wellbeing and participation in livelihood activities. While not a direct project outcome, the findings provide important context for understanding living conditions and structural limitations within which livelihood improvements have been achieved.

Fuel used for cooking

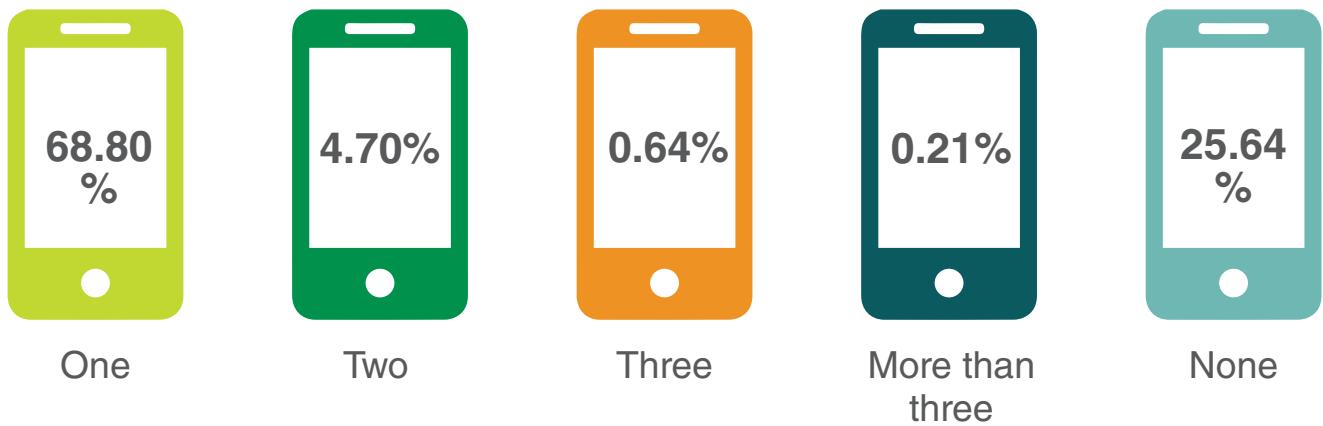
What is the main fuel used for cooking in your house?



The distribution of cooking fuel indicates a transitional energy profile among beneficiary households. While a majority of households (54.92%) continue to rely on wood as the primary cooking fuel, a substantial proportion (40.41%) have adopted LPG/gas, reflecting a gradual shift towards cleaner and more efficient energy sources. The continued use of kerosene remains limited (4.66%). This pattern suggests that although traditional biomass use remains prevalent, consistent with forest-dependent and rural contexts, there is increasing access to modern cooking fuels, likely influenced by improved income stability. While not a direct project outcome, this indicator provides important context on household wellbeing, time use (particularly for women), and health-related conditions within which livelihood improvements have taken place.

Access to a smartphone

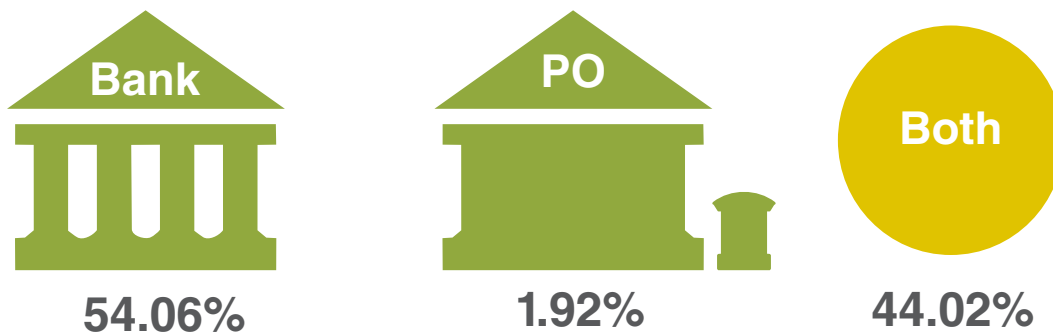
How many smartphones/touchscreen phones were purchased in your family after you joined the enterprise?



Endline data shows a significant uptake of smartphones following participation in the enterprise, with nearly three-quarters of households (74.35%) reporting the purchase of at least one smartphone after joining. The fact that 68.80% purchased one device suggests that smartphones are being prioritised as essential household assets, supporting communication, access to information, and connectivity to services. Multiple device ownership remains limited, reflecting prudent household spending and the continued prioritisation of basic needs. At the same time, the 25.64% of households reporting no smartphone purchase highlights ongoing affordability and access constraints. Overall, the findings indicate early digital inclusion gains, which are particularly relevant for women-led enterprises as smartphones increasingly enable participation in digital payments, coordination of production, and access to market and service information.

Access to banking and financial services

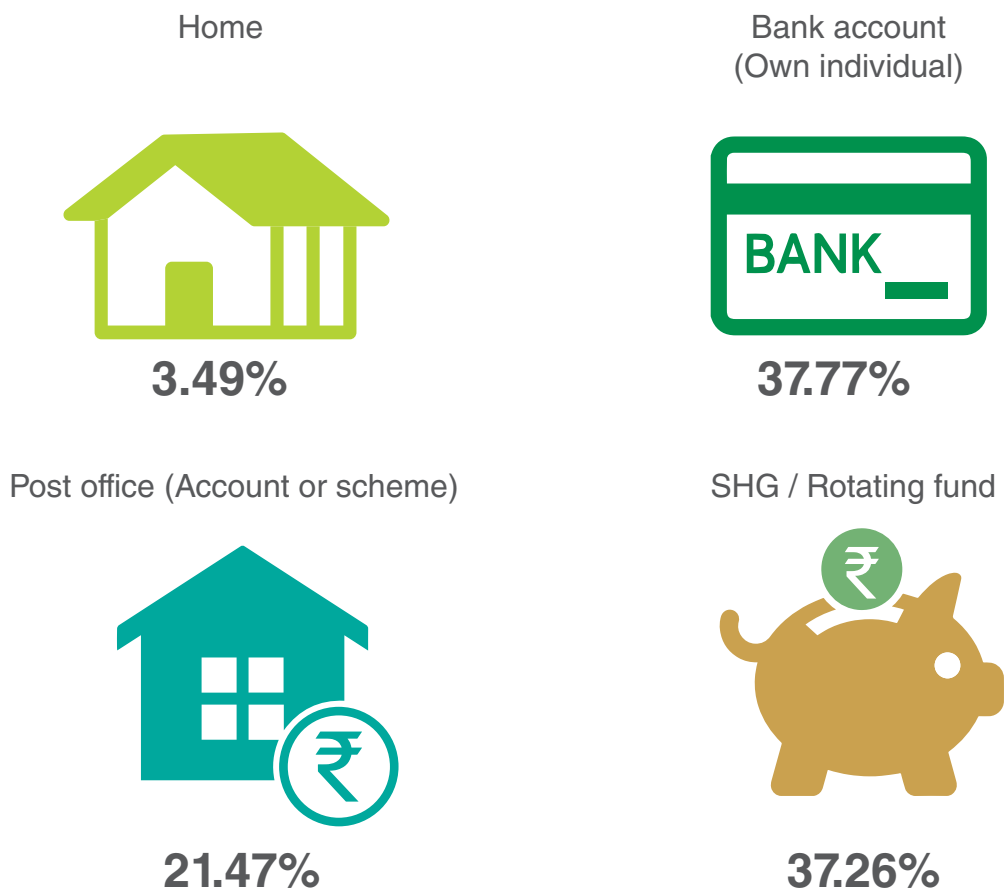
Do you have a bank and / or post office account?



Endline findings indicate a high level of financial inclusion among participant households. Nearly 98% of respondents hold a bank account, either exclusively (54.06%) or alongside a post office account (44.02%), while reliance on post office accounts alone remains minimal (1.92%). This widespread access to formal financial services provides a strong foundation for direct payments, savings, and participation in enterprise-linked financial transactions. Overall, the data highlights strong institutional readiness for deeper financial integration as the value chain moves toward greater scale and commercial maturity.

Savings mechanism

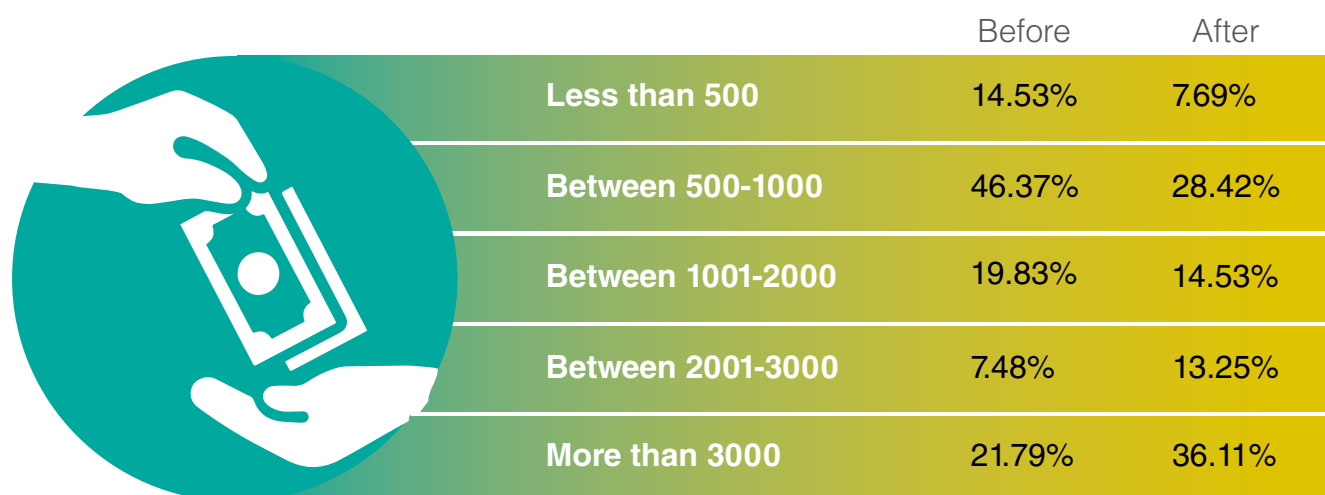
Where do you keep most of your savings?



The distribution of savings locations indicates a clear shift toward formal and semi-formal financial mechanisms among beneficiary households. A significant majority of savings are held through bank accounts (37.77%) and SHG/rotating funds (37.26%), reflecting increased trust in institutional and collective savings systems. An additional 21.47% utilise post office accounts or schemes, further strengthening financial security. The very low proportion of households keeping savings at home (3.49%) suggests reduced exposure to risk and improved financial discipline. Overall, this pattern points to strengthened financial inclusion and savings behaviour, which is critical for building household resilience, supporting women’s financial decision-making, and enabling smoother participation in enterprise-linked income flows and future investments.

Personal savings

What was/ is the total amount in your savings, recurring deposits and fixed deposits accounts with banks and post office you have?



The before-and-after comparison of personal savings levels shows a substantial upward shift in savings accumulation following participation in the enterprise. At baseline, savings were largely concentrated in lower-value brackets, with over 60% of women holding less than INR 1,000. At endline, this proportion reduced markedly, alongside a significant increase in higher savings brackets. Notably, the share of women participants with savings above INR 3,000 increased from 21.79% to 36.11%, indicating improved capacity to generate and retain surplus income.

At the lower end, the proportion of women with savings below INR 500 declined from 14.53% to 7.69%, suggesting reduced financial vulnerability. The redistribution across mid- and higher-range savings categories reflects more regular income flows, improved financial discipline, and increased engagement with formal savings mechanisms. Overall, the data points to strengthened financial resilience and forward-looking financial behaviour, which are critical foundations for women’s economic empowerment and the long-term sustainability of enterprise-linked livelihoods.

Health, safety and insurance

Did you have life insurance joining?



Did you have accidental insurance?



Did you have health insurance?

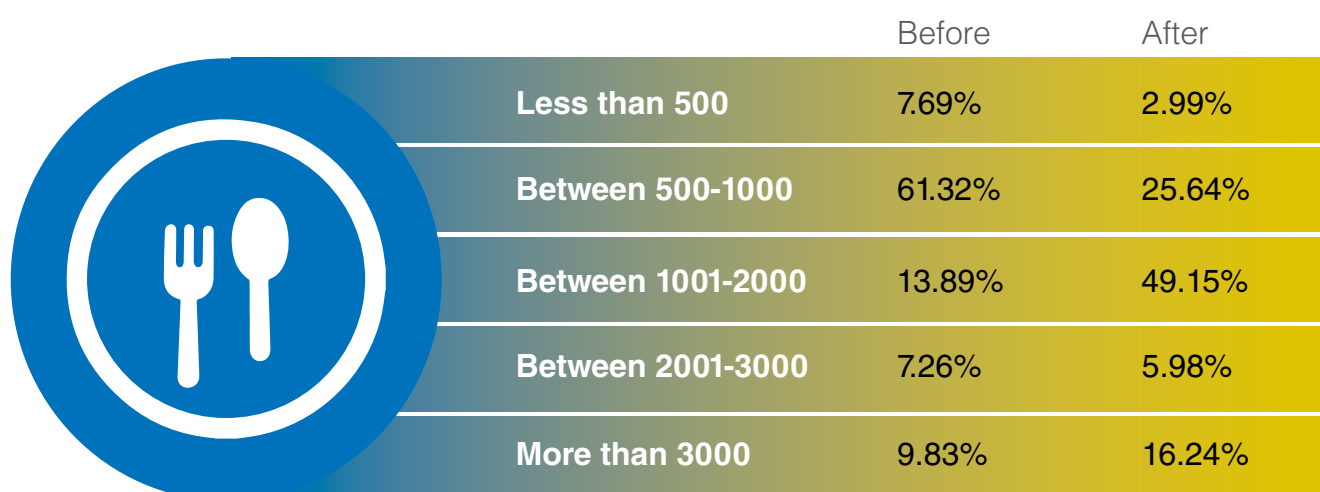


The before-and-after comparison reveals a dramatic improvement in insurance coverage and risk protection among beneficiaries. At baseline, access to life, accidental, and health insurance was almost non-existent, with over 99% of respondents either uninsured or unaware of insurance products across all three categories. At endline, coverage increased to over 99% for life, accidental, and health insurance, indicating near-universal inclusion in formal risk protection mechanisms. This sharp shift reflects a significant change in financial awareness, institutional linkage, and risk management behaviour among women participants.

Overall, the findings indicate a substantial reduction in household vulnerability to health shocks, accidents, and life-cycle risks.

Expenditure

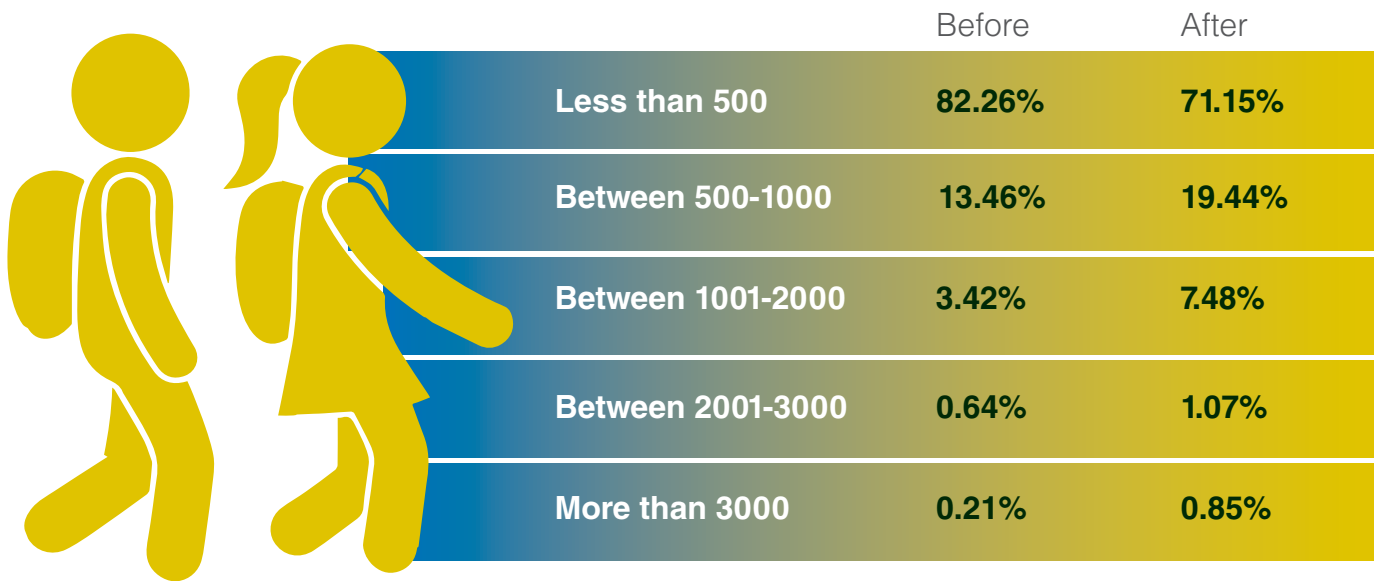
Food: *How much did you spend monthly on food, ration, groceries, and eatables before joining the enterprise? (Specify amount in INR)*



The before-and-after comparison of monthly household expenditure on food, ration, groceries, and eatables indicates a notable upward shift in consumption capacity following participation in the enterprise. At baseline, a majority of households (61.32%) reported spending between INR 500–1,000, reflecting constrained food budgets and limited purchasing power. At endline, this proportion reduced substantially, alongside a marked increase in households spending INR 1,001–2,000, which rose to 49.15%, indicating improved ability to meet regular food needs.

At the higher end, the share of households spending more than INR 3,000 increased from 9.83% to 16.24%, suggesting enhanced dietary diversity and discretionary food spending among a segment of participants. Simultaneously, the proportion of households in the lowest expenditure bracket (below INR 500) declined from 7.69% to 2.99%, pointing to reduced extreme vulnerability. Overall, the shift in food expenditure patterns reflects improved income stability and household consumption security.

Children’s Education: *How much did you spend monthly on other education-related expenses for your children before joining the enterprise? (Specify amount in INR)*



The before-and-after comparison of monthly education-related expenditure for children indicates a gradual but meaningful shift in household investment in education following participation in the enterprise. At baseline, a large majority of households (82.26%) spent less than INR 500 per month on education-related expenses, reflecting constrained financial capacity. At endline, while this remains the largest category, the proportion declined to 71.15%, alongside an increase in households spending INR 500–1,000 and INR 1,001–2,000.

The upward movement across higher expenditure brackets suggests that improved income regularity has enabled families to allocate greater resources toward children’s education. Although spending levels remain modest, the shift reflects an important behavioural change, education beginning to receive higher priority within household budgets.

Workplace safety and environment

Safe workplace: *Did you feel safe at your workplace?*

Improved considerably

Not applicable

Remained more or less same



The before-and-after comparison shows a significant improvement in perceived workplace safety among women participants. At baseline, the majority of respondents (92.52%) marked the question as not applicable, reflecting the absence of a defined or structured workplace, while 7.48% reported that safety conditions had remained more or less the same. At endline, an overwhelming 99.79% of women reported that workplace safety had improved considerably, indicating a major shift in the nature and quality of work environments.

This change reflects the project’s success in transitioning women from informal, unstructured, or home-based activities to organised, safer, and more dignified work settings, particularly within enterprise-linked production units. Improved perceptions of safety are a critical dimension of women’s economic empowerment, as they influence work participation, retention, and confidence. Overall, the findings highlight that the project has contributed not only to income and employment outcomes, but also to improved working conditions and a stronger sense of security and dignity at the workplace, which are essential elements of sustainable livelihoods.

Comfortable workplace: *Is your previous and current workplace comfortable?*



The above illustration shows a marked improvement in perceptions of workplace comfort among women participants. At baseline, the majority of respondents (94.66%) reported the question as not applicable, reflecting the absence of a defined or formal workplace, while only a very small proportion perceived any improvement. At endline, an overwhelming 99.79% of women reported that their workplace comfort had improved considerably, indicating a substantial enhancement in the quality of working conditions.

This shift reflects the project’s role in enabling women to transition from informal, ad hoc, or home-based work environments to organised, better-equipped, and more comfortable production spaces. Improved workplace comfort contributes directly to women’s wellbeing, productivity, and willingness to sustain engagement in economic activities. Overall, the findings underscore that the project has strengthened not only income and employment outcomes but also the qualitative dimensions of work, which are central to women’s economic empowerment and long-term retention in the value chain.

Hygiene at the workplace: *How clean and hygienic were/is your previous and current workplaces?*



	Before	After
Improved considerably	0.43%	94.44%
Reduced considerably	0.64%	0.43%
Remained more or less the same	52.35%	4.91%
Not applicable	46.58%	0.21%

The substantial improvement in cleanliness and hygiene of workplaces experienced by women participants. At baseline, responses were largely split between not applicable (46.58%) and remained more or less the same (52.35%), reflecting the informal, home-based, or unstructured nature of prior work environments where hygiene standards were either inconsistent or not clearly defined. At endline, 94.44% of women reported that workplace cleanliness and hygiene had improved considerably, demonstrating a significant shift in the quality of work settings.

This improvement reflects the project’s success in integrating women into organised production environments with defined hygiene practices, infrastructure, and standards—particularly important in value chains involving processing and manufacturing. Enhanced cleanliness and hygiene contribute directly to women’s health, comfort, and productivity, while also supporting product quality and market compliance. Overall, the findings highlight that the project has strengthened not only economic outcomes but also the conditions and dignity of work, reinforcing the sustainability and credibility of the women-led enterprise model.

Social standing

How was your social standing in your neighborhood?




The before-and-after comparison shows a significant positive shift in women’s perceived social standing within their neighbourhoods. At baseline, the vast majority of respondents (95.94%) marked this indicator as not applicable, reflecting limited visibility, recognition, or formal economic identity prior to project participation. At endline, an overwhelming 98.29% of women reported that their social standing had improved considerably, indicating a transformative change in how they are perceived within their communities.

This shift is closely linked to women’s engagement in organised, income-generating work, increased economic contribution to household income, and visible association with a recognised enterprise. Improved social standing is a critical dimension of women’s empowerment, as it influences confidence, decision-making power, and participation in community life. Overall, the findings demonstrate that the project has generated strong social returns, extending beyond economic gains to positively reshape women’s roles, recognition, and status within their local social structures.

Skill improvement

How skilled were you for your work before joining?



	Before	After
Improved considerably	1.07%	98.08%
Reduced considerably	0.64%	0.64%
Remained more or less the same	0.21%	0.00%
Not applicable	98.08%	1.28%

A substantial improvement in women’s perceived skill levels following participation in the enterprise has been seen. At baseline, the overwhelming majority of respondents (98.08%) marked this indicator as not applicable, indicating limited access to formal or structured skill-based work prior to joining. At endline, 98.08% of women reported that their skills had improved considerably, demonstrating a near-universal perception of skill enhancement.

This shift highlights the effectiveness of the project’s focused investment in technical and on-the-job training, enabling women to transition from unskilled or informal activities to market-relevant, value chain-specific roles such as collection, stitching, pressing, and related processes. Overall, the findings underscore skills development as a core driver of both social and economic impact achieved through the project.

Conclusion

The endline assessment confirms that the NTFFP Value Chain Development Project has successfully moved from a capacity-building phase to a functioning, market-aligned enterprise ecosystem with measurable social returns.

Over the three-year implementation period, women have transitioned into structured, skill-based roles within the Sal and Siali value chain, resulting in improved income regularity, increased workdays, higher household savings, and upward movement in asset ownership. Financial inclusion indicators, bank access, savings behaviour, and near-universal insurance coverage reflect strengthened institutional integration and reduced household vulnerability. These shifts indicate not only improved earning capacity, but also enhanced financial discipline and resilience.

Crucially, the project has improved the quality of employment. Women report significant gains in workplace safety, hygiene, comfort, and overall working conditions. These improvements are directly linked to organised production systems and standardised processes introduced under the enterprise model. Perceived social standing within communities has improved considerably, signalling increased recognition of women as economic contributors rather than informal labour participants.

From a value-chain perspective, the project has established key building blocks for commercial viability: skilled human capital, operational discipline, quality control mechanisms, and consistent market engagement. The strong participation of Scheduled Tribe and Scheduled Caste communities confirms that the enterprise model is successfully embedded within its intended beneficiary base, ensuring both relevance and inclusivity.

While full financial profitability remains in the consolidation phase, the foundational elements required for sustainable growth are firmly in place. The data demonstrates that the project has delivered robust social and livelihood outcomes and has successfully de-risked the enterprise model. The next phase represents an opportunity to convert these established social gains and operational systems into sustained financial performance, productivity enhancement, and long-term return on investment.

In summary, the project has achieved strong social impact, stabilised its value chain, and positioned the women-led enterprise system for scalable and commercially resilient growth.



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