

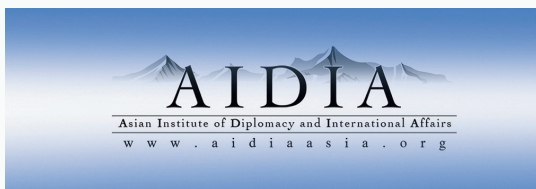


Nepal-India Chamber of Commerce & Industry

Nepal's Fruit Candy (Titaura) Production

Local Skill Transfer, Prospects for Commercialization and Women Empowerment

Knowledge Partner





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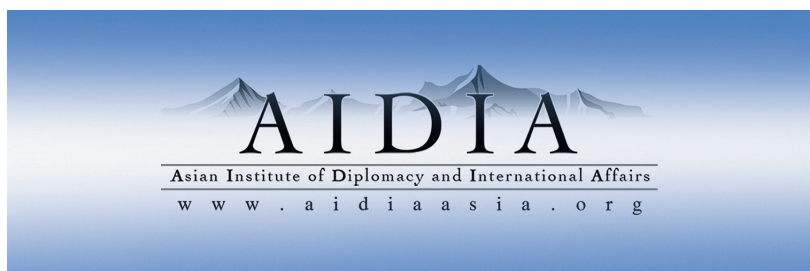


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President's Message



Micro, Small and Medium Enterprises (MSMEs) remain the backbone of Nepal's economy, playing a decisive role in employment generation, local resource utilization, and inclusive growth. Accounting for nearly 22% of national GDP and employing millions predominantly within the informal sector MSMEs are not only economic units but also engines of social transformation. This baseline survey provides timely and valuable insights into one such sector: the Fruit Candy (titaura) industry, a predominantly women-led MSME that reflects both the promise and the persistent challenges of enterprise development in Nepal.

Women entrepreneurs have long been central to Nepal's MSME landscape. Their contribution extends beyond income generation to poverty reduction, improved household wellbeing, and stronger investments in education and health. Studies consistently show that narrowing gender gaps in economic participation could significantly raise national productivity. Rooted in indigenous knowledge and local fruits such as lapsi, mango, and amala, the sector has evolved from home-based activity into a semi-commercial enterprise with growing domestic and export potential, largely driven by women's labor, skills, and entrepreneurship.

The findings of this survey highlight encouraging trends. High levels of skill transfer through on-the-job training, increasing use of machinery, and readiness for commercialization demonstrate a sector that is modernizing organically. Women entrepreneurs are not only producers but also custodians of skills, trainers of new workers, and catalysts for local employment. At the same time, the report clearly identifies structural gaps.

Most concerning is the gap between policy intent and delivery. While support mechanisms exist, few entrepreneurs are able to access them in practice. Addressing this disconnect requires coordinated action; simplified financial access, targeted skills and quality-assurance training, improved market and export linkages, and stronger collaboration between government, private sector, and development partners.

With modest improvements in productivity, quality, and compliance, the Fruit Candy industry could substantially increase output, exports, and employment, while contributing to revenue and women's economic empowerment. On behalf of NICCI, I commend this survey as a critical step toward informed policymaking and inclusive MSME development, and I urge all stakeholders to translate its insights into meaningful, sustained support for women-led enterprises across Nepal. NICCI lobbies for not only the foreign direct investment (FDI) but also promotes domestic MSMEs, and scaling up them for export potential as there is a huge market across the border.



Sunil KC
President, Nepal India Chamber of Commerce & Industry

Indian Business Forum Convener's Forward



Micro, Small and Medium Enterprises (MSMEs) form the backbone of South Asia's economic architecture, and in Nepal they play a particularly critical role in employment generation, value addition, and grassroots-level industrialization. This baseline survey on the Fruit Candy (titaura) industry offers an important window into how indigenous products, women-led enterprises, and local skills can converge to create sustainable and scalable economic opportunities.

The findings clearly demonstrate that the Fruit Candy sector, largely driven by women entrepreneurs, is evolving beyond its traditional

roots. What was once a household-based activity has increasingly become a semi-commercial industry characterized by on-the-job skill transfer, growing adoption of machinery, and strong entrepreneurial intent. These trends reflect a sector that is not only resilient but also ready for deeper market integration, including possibility of export.

From the perspective of the Indian Business Forum (IBF) under NICCI, this study is especially relevant. India and Nepal share deep economic ties, open borders, cultural familiarity, and strong complementarities in agri-based value chains. Products such as Fruit Candy, derived from indigenous fruits like lapsi, mango, and amala, hold clear potential for regional markets, provided that issues of quality standardization, hygiene, packaging, and regulatory compliance are systematically addressed. The survey underscores that even modest improvements in skills, technology, and access to finance could lead to significant gains in productivity, export readiness, and employment.

At the same time, the report highlights persistent constraints that require urgent attention. Limited access to affordable finance, low awareness and uptake of support programs, informality, and gaps in business management and market linkages continue to restrict growth. The IBF sees strong scope for collaboration among Nepali entrepreneurs, Indian businesses, financial institutions, and development partners to address these gaps. Knowledge exchange, market linkages, joint ventures, and support in standards and certification can help women-led MSMEs transition from local success stories to competitive regional players. This survey provides a solid evidence base for such engagement, and therefore Surya Nepal Pvt Ltd is happy to support this initiative, and in future also committed to support domestic MSMEs in ways possible.

A handwritten signature in black ink, appearing to read 'Ravi Kumar Rayavaram'.

Ravi Kumar Rayavaram

Convener, Indian Business Forum

Vice president, Nepal-India Chamber of Commerce and Industry (NICCI)

Preface

This publication, Nepal's Fruit Candy (Titaura) Production: Local Skill Transfer, Prospects for Commercialization and Women Empowerment, presents the findings of a three-month study undertaken by the Nepal-India Chamber of Commerce and Industries (NICCI), with the Asian Institute of Diplomacy and International Affairs (AIDIA) serving as the knowledge partner. Conceived as a baseline study, the survey seeks to capture the prevailing structure, performance, and constraints of the Fruit Candy (titaura) industry, a predominantly women-led MSME subsector rooted in Nepal's indigenous fruit economy. Products derived from lapsi, mango, amala, and other native fruits have long been part of local consumption practices. In recent years, increasing urban demand and emerging export prospects have created opportunities for this traditional activity to evolve into a commercially viable enterprise. The sector thus presents a unique intersection of women's entrepreneurship, local resource utilization, and value chain development.

The research draws primarily on insights gathered from ground and establishes a comprehensive baseline by assessing enterprise characteristics, production capacity, employment patterns, skill acquisition and transfer mechanisms, technology adoption, and commercialization readiness. Particular attention is given to understanding how skills are developed largely through on-the-job training the extent of machinery use, and the prevalence of quality assurance practices. The survey also examines access to government and non-government support programs, highlighting the gap between awareness of available schemes and actual receipt of financial, technical, and institutional assistance.

Methodologically, the report is structured in three broad stages. It begins by outlining the wider economic contribution of MSMEs in Nepal, including its growth trajectory and export potential. This is followed by a focused structured questionnaire and stakeholder including the financial institution, the producer and the women entrepreneurs consultations that explore sector-specific concerns and operational realities faced by the MSMEs in the Fruit Candy industry. Based on these findings, the study concludes with a set of forward-looking observations and recommendations intended to support a more conducive and predictable business environment.

The research was conducted under the guidance of the lead researcher Mr. Kuber Chalise, with research support from Ms. Sajina Rai, Mr. Dilip Bhattarai, Ms. Sarita Gurung, Ms. Sarita Khanal, Ms. Supreksha Joshi, Ms. Shreyasi Rana, Ms. Shweta Karki, Mr. Rajaram Duwal, Mr. Rabin Pandey, the NICCI Secretariat and Surya Nepal Pvt Ltd..

List of Abbreviations

ADB	Asian Development Bank
AIDIA	Asian Institute of Diplomacy and International Affairs
BFI	Banks and Financial Institutions
FDI	Foreign Direct Investment
FNCCI	Federation of Nepalese Chamber of Commerce & Industries
FWEAN	Federation of Women Entrepreneurs' Associations of Nepal
GDP	Gross Domestic Product
IBF	Indian Business Forum
ICT	Information and Communication Technology
MSMEs	Micro, Small and Medium Enterprises
NGO	Non-Governmental Organization
NICCI	Nepal-India Chamber of Commerce and Industry
NPR	Nepalese Rupee
OVOP	One Village One Product
RPL	Recognition of Prior Learning

Executive Summary

The Fruit Candy production, a MSME that has employed mostly the women, not only challenges traditional gender norms and societal expectations that often confine them to domestic roles but also inspire future generations and promote greater gender equality and social justice.

However, despite their key contribution, women entrepreneurs in Nepal face several barriers like limited access to finance, inadequate skills and information, persistent cultural norms, and informal sector concentration. The survey shows that many women entrepreneurs lack access to market information, management skills, and ICT training, which limits their ability to scale up their businesses and access new markets. Likewise, a large percentage of women's businesses are in the informal, micro-enterprise sector, making them 'invisible' to government support schemes, social protection, and formal regulations, despite few initiatives of the local governments in recent days. They lack government and non-governmental organization (NGO) assistance and cooperation, despite the potential to up scale the businesses.

To fully harness the potential of women in MSME development, stakeholders recommend targeted interventions such as simplified access to finance, tailored skill development programs, and community awareness campaigns to challenge existing gender norms.

The Fruit Candy (Titaura) industry operates as a key vocational training ground, primarily transferring skills through on-the-job experience rather than traditional means. While owners show high commercialization readiness, financial constraints (especially access to Capital and Low-Interest Loans) and limited government support remain the biggest barriers. The industry shows strong potential for export, but requires systemic policy interventions to formalize production methods and quality assurance. The high percentage in 'On the Job/Factory' indicates the Fruit Candy industry functions as a practical vocational skills hub, evolving away from purely traditional, family-based transfer. This suggests the industry is modernizing its skill pipeline by integrating new workers directly, as the number of workers is decreasing due to mass migration lately.

The entrepreneurs actively teach or share skills with others, confirming their role as skill custodians and trainers within their communities/workforce. Likewise, the high rate of machinery use also indicates a strong readiness for commercial scaling and a move toward formalized production.

The gap between the high need for training/support and the low reported reception indicates a

policy delivery failure. While training access is moderate, direct financial or institutional support remains minimal, suggesting a need for better policy communication and easier access.

The Fruit Candy industry is a vibrant, predominantly women-led sector with significant potential for commercialization, demonstrated by high rates of skill transfer and technology adoption among leading entrepreneurs. However, this potential is critically undermined by systemic lack of policy support and severe financial constraints affecting both the labor force (staff) and the scaling of businesses (owners).

According to the survey, there is a gap between the general awareness of support programs and the actual receipt of assistance. Many have expressed a need for specific types of support. A majority of the respondents are not aware of support programs, only few explicitly stated they were aware. Most of them lack business management, market linkages/export facilitation, followed by lack of machinery/equipment and access to finance support, though the local government has conducted a couple of trainings in the last four years.

This sort of training subsequently contributes to the quality and cleanliness of the factory and factory workers. While a significant portion of producers actively practice quality assurance, an equally large group does not (or at least does not formally identify their practice as such). Even a 10% increase in efficiency through technical training, better equipment, and financial grants would raise total monthly output significantly.

Using a holistic sample baseline of 20,530 kg of monthly production (adding all the productions), a 10% productivity improvement would add more than 2.2 tons each month (26.4 tons annually). If there were to be a more substantial quality push through better packaging, hygiene protocols, and consistent production standards, it could raise exportable output to 20% or even 50%. In that scenario, exports could rise fourfold to fivefold, ranging from around 5.5 tons to over 16.53 tons per month, a whopping 66 tons to 198.4 tons annually.

An increase in skills training, following the food regulations, and quality production opens the door for exports, which will translate into increased government revenue and employment benefiting both the government and employees. The more people develop the skill of Fruit Candy making, the more inclined they will be to work within this industry; likewise, if the cleanliness and hygiene requirements are met, people will be more inclined to purchase the goods. The producers can therefore maintain or improve the quality of the increased output, making it suitable for broader market linkages/export facilitation, which is a key requested support throughout the data. Findings from the survey indicate a sector with significant untapped potential. High levels of skill sharing, growing use of machinery, and strong entrepreneurial intent suggest readiness for

productivity enhancement and market expansion, including export opportunities. This potential is constrained by systemic barriers such as limited access to affordable finance, inadequate business management and ICT skills, weak market linkages, and continued informality. These challenges are compounded for women entrepreneurs by structural and socio-cultural factors.

The backward chain of Fruit Candy (lapsi titaura) in Nepal is anchored in the indigenous production of lapsi (*Choerospondias axillaris*) in the mid-hill regions, where the fruit is traditionally grown and harvested on a seasonal basis. Strengthening backward linkages lies in improving orchard management, promoting quality sapling nurseries, and organizing farmers into cooperatives to ensure consistent supply, better bargaining power, and quality control. Reliable access to complementary inputs such as sugar, spices, packaging materials, and basic storage and transport facilities is equally critical. Enhanced coordination between farmers, input suppliers, and small-scale processors can reduce post-harvest losses, stabilize raw material availability, and increase overall efficiency of the value chain.

The forward chain begins with processing lapsi into titaura through cleaning, pulping, cooking, drying, and flavoring, largely within cottage and small-scale enterprises. Opportunities in this segment include improved hygienic processing practices, product diversification, and upgraded packaging and branding to meet urban and export market standards. Distribution channels extend from local markets to national retail outlets, online platforms, tourism hubs, and selected international markets serving the Nepali diaspora. With quality assurance, certification, and market linkage support, lapsi candy holds strong potential for value addition, rural employment generation particularly for women and increased income compared to raw fruit sales, making it a viable agro-processing enterprise within Nepal's non-timber forest product economy.

I. Introduction to the Study

Framing the Context

MSMEs are vital for Nepal's economic and social development, particularly for job creation at the local level and utilizing local raw materials. A significant portion of the MSME sector, especially micro-enterprises, operates in the informal economy, facing challenges such as limited access to finance and inadequate institutional support.

The Medium, Small and Micro Enterprises (MSMEs) contribute 22% to the gross domestic product (GDP), according to the Asian Development Bank (ADB), employing 2.8 million people, mainly in the informal sector.^[1] Beyond their quantitative contribution, MSMEs play a vital qualitative role by generating local employment, utilizing indigenous raw materials, and fostering grassroots-level economic resilience, empowering women.

According to Industrial Enterprises Act 2076 (1990 as amended),^[2] MSME definitions vary slightly by Act but generally classify them by fixed capital investment, with Micro up to NPR 2 million (excluding land/building) and 9 or fewer workers (including the entrepreneur), Small up to NPR 150 million (including land/building), and Medium from NPR 150 million to NPR 500 million (including land/building), with some definitions also considering turnover and employment.



Likewise, women in Nepal's MSMEs sector play a crucial role in economic growth, job creation, poverty reduction, and social transformation, despite facing significant systemic and cultural barriers. Various studies suggest that closing gender gaps in the workforce could boost Nepal's GDP by up to 16%.^[3] Their businesses contribute to national income and the overall economic power of the country, by not only generating employment but also in poverty alleviation and household being.

Women-led MSMEs create jobs for themselves and others, directly addressing unemployment and underemployment issues in Nepal. They drive female workforce participation, particularly in the formal economy, across local supply chains. And especially in Fruit Candy production, the women workforce has contributed a lot.

As income generated by women entrepreneurs often leads to improved household consumption, better family health, and higher investment in children's education and human capital, it also elevates the status of women within their communities and helps combat poverty. Women entrepreneurs bring new business ideas, products, and services to the market. They are often concentrated in sectors like agriculture, food processing, garments, and handicrafts, helping to diversify the national economy.

Fruit Candy Enterprises within Nepal's MSME Landscape

Nepal's indigenous and native fruits have been considered in the past for the potential they hold in the domestic market, as some are turned into delicacies like titaura, mâda, aachar (pickles), Jams, and powders. Titaura or paun (Fruit Candy) is a well-known Nepali snack that comes in dry and saucy variations of spicy, sweet and tart treats, mostly sourced from fruits like lapsi (Nepali hog plum/*Choerospondias axillaris*), mango, lemon and amala (gooseberry). The potential of turning such fruits, and particularly lapsi into a commercial product charting major gain, has long been a studied topic, as agriculturalists have also attempted to tap into its digestive properties through processes of refinement.^[4] Places like Parbat^[5] have seen lapsi turn into profitable ventures, noting the growth in international demand as well.

Further, the same research has noted that lapsi candies produced in Bhaktapur, particularly, the Changuarayan area and Sanga of Banepa Municipality, Kavre District, have a good market in Kathmandu valley as well as out of the country.^[6] Such MSMEs stand as a women-led business, and women, as such, in the sector have been engaged in various capacities including production, packaging and marketing of such products.

Chiefly women are involved in 'growing, caring and managing orchard[s]', when men charge the harvesting.^[7] So, as the role of women is apparent in the sector, there is a need for a clear assessment of how their skills have adapted to current market demands. Additionally, it also becomes pertinent to understand whether a greater focus on the fruit-based products, with the goal of women empowerment, with skill development, could lead to chances of upgrading and turning the products more profitable.

Institutions like the Federation of Nepalese Chamber of Commerce & Industries (FNCCI), along with development partners, have previously sought to make lapsi a flagship product through its 'One Village One Product initiative' (OVOP) "to encourage the local community which is processing different lapsi products in local as well as international market (...) to generate income

for people.”^[8] While OVOP was phased out due to critical market gaps and procedural hassles,^[9] the Fruit Candy (titaura) market, especially when looking at lapsi, has been a staple of many areas, like Sanga, that boasts of numerous titaura stalls and factories.^[10]

In this broader context, the government through its 15th periodic plan has pressed on the need for women empowerment in its pursuit of gender equality “by ensuring equal and meaningful participation of women.”^[11] The Fruit Candy (titaura) industry presents a compelling case for examining these dynamics in greater depth. As a predominantly women-led MSME sub-sector, Fruit Candy production has emerged as both a livelihood source and a practical vocational training hub. Skill transmission in this industry largely occurs through on-the-job learning rather than formal training institutions, positioning entrepreneurs not only as business owners but also as custodians and disseminators of technical skills within their communities. The increasing use of machinery and the willingness of entrepreneurs to share skills indicate a notable readiness for commercialization and a gradual transition toward more formalized production systems.



Photo : The Kathmandu Post

Despite this evident potential, the Fruit Candy industry remains constrained by systemic challenges. Financial barriers particularly limited access to affordable credit and investment capital in forms of working capital or capital to create fixed assets continue to impede business expansion and technological upgrading. The banks and financial institutions (BFIs), under the Nepal Rastra Bank regulation, can lend upto NPR 20 million under the MSME loan. But the paperworks like balancesheet, regular audit, tax clearance etc are essential to get the loan. However, lack of proper information, procedural and practical problems have made it difficult for the women entrepreneurs to access the loan, despite the central bank's policy arrangement.

Moreover, although awareness of support programs exists to some extent, actual receipt of institutional, financial, and technical assistance remains minimal, pointing to gaps in policy delivery, communication, and implementation. Deficiencies in business management skills, quality assurance practices, market linkages, export facilitation, and compliance with food safety standards further restrict the industry's capacity to access higher-value markets and international trade opportunities.

This study addresses the critical disconnect between the demonstrated economic potential of women-led Fruit Candy MSMEs and the limited support structures available to them. Empirical evidence suggests that even modest improvements in technical efficiency, skills training, and access to finance could significantly enhance production volumes, product quality, and export readiness. Such gains would not only increase enterprise-level profitability but also generate broader economic benefits in terms of employment creation, government revenue, and trade diversification. Furthermore, strengthening women's participation and leadership in this sector challenges traditional gender norms, promotes social inclusion, and contributes to long-term human capital development.

By systematically examining the operational realities, skill ecosystems, and support gaps within the women-led Fruit Candy industry, this study seeks to generate evidence-based insights to inform targeted policy interventions. Understanding how vocational skill development, facilitation in financial access, quality assurance, and institutional support interact at the micro-enterprise level is essential for designing inclusive MSME development strategies. The study aims to contribute to a more enabling environment in which women entrepreneurs can transition from informal survival enterprises to competitive, growth-oriented businesses, thereby maximizing their contribution to Nepal's economic and social development.^[12]

II. Study Method

Rationale of the Study

Micro, Small and Medium Enterprises (MSMEs) constitute a critical pillar of Nepal's economic structure, contributing approximately 22% to the national Gross Domestic Product (GDP) and employing nearly 2.8 million people. Despite this significance, a substantial proportion of MSMEs particularly micro-enterprises remain informal, limiting their access to finance, institutional support, and policy-driven growth opportunities. This structural informality continues to constrain their productivity, sustainability, and potential for scale.

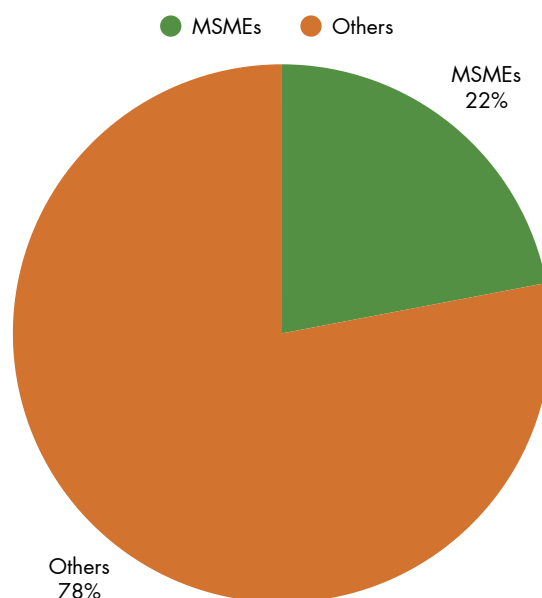
Within this broader MSME landscape, women entrepreneurs represent an especially important yet under-supported segment. Women-led enterprises in Nepal contribute not only to income generation and employment creation but also to poverty reduction, household welfare, and social transformation. Evidence suggests that narrowing gender gaps in economic participation could substantially enhance national economic performance.

Nevertheless, women entrepreneurs continue to face persistent barriers, including restricted access to capital, limited exposure to business and technical training, inadequate market information, and deeply rooted socio-cultural norms. These constraints are further exacerbated by the concentration of women-owned enterprises in the informal micro-enterprise sector, rendering them largely invisible to government support mechanisms and formal financial systems.

Study Design

This study is designed as a mixed-methods inquiry, combining quantitative measurement with qualitative exploration to better understand the realities of women-led MSMEs in Nepal's Fruit Candy (titaura) industry. The choice of this approach stems from the nature of the research problem itself. While production levels, employment numbers, access to finance, and training exposure can be measured numerically, many of the barriers faced by women entrepreneurs like informal learning systems, policy disconnects, and socio-cultural constraints are best understood through lived experiences and personal narratives. Integrating both approaches allows the study to capture not only how much support exists, but also how and why it does or does not reach women entrepreneurs.

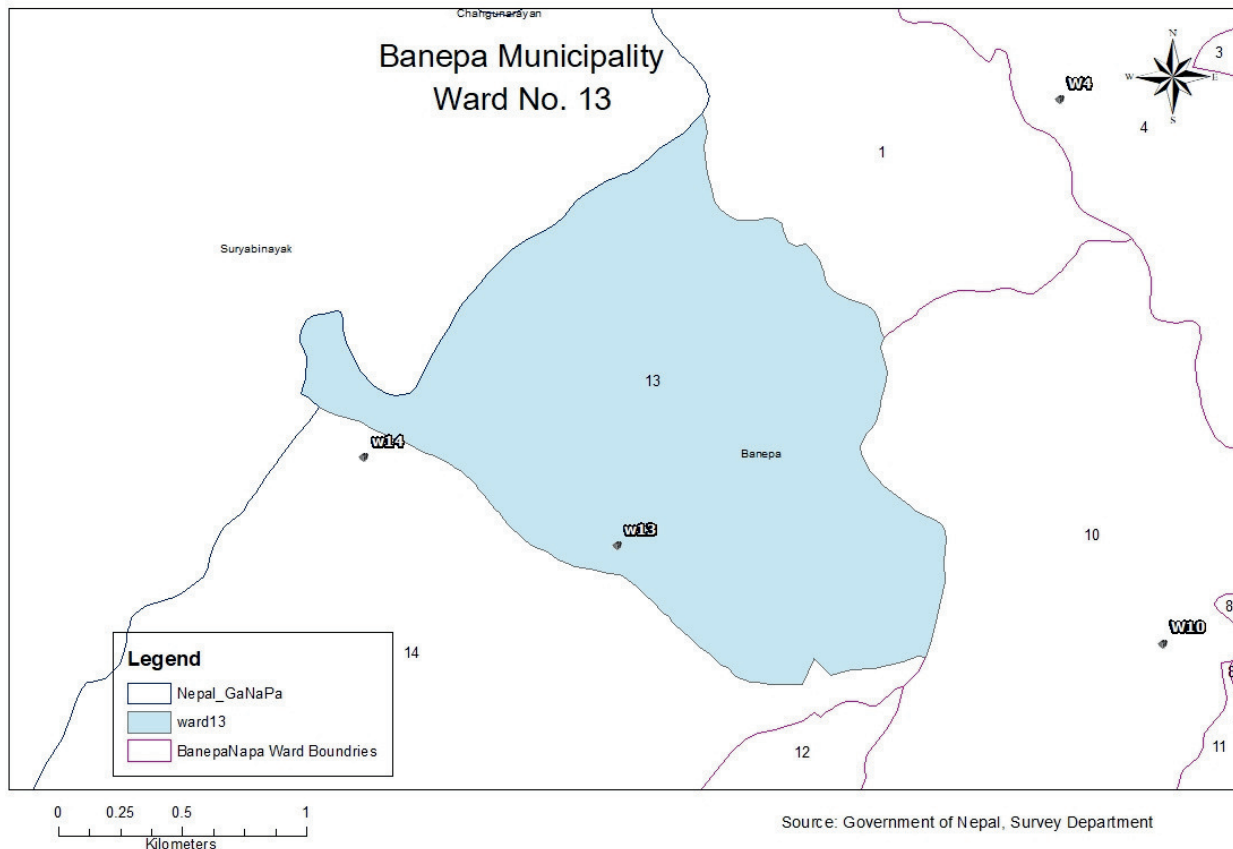
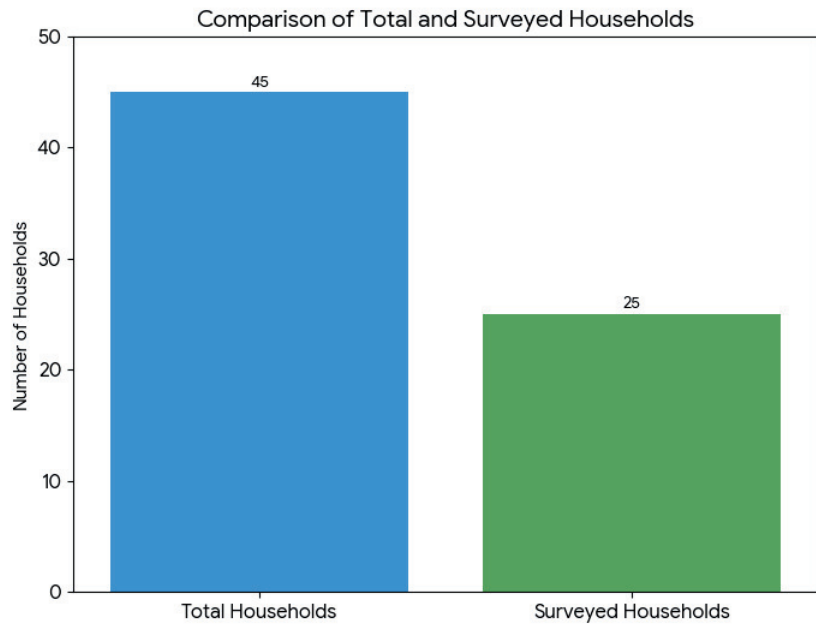
Contribution of MSMEs to Nepal GDP



Study Area and Target Group

The study is conducted in Banepa Municipality-13, Sanga of Kavre district, where Fruit Candy production is commonly practiced and recognized as a livelihood activity for women, in phases. Of the total 45 households involved in the candy production business, the survey has captured the 25 households 55%, apart from some small industries that employ 20 to 25 workers. The primary focus is on women who

own, manage, or are directly and indirectly involved in Fruit Candy MSMEs, as well as women workers employed in these enterprises. To better situate enterprise-level findings within a broader institutional context, the study also engages a limited number of key informants including the owners of Fruit Candy factory, apart from Banks and Financial Institutions (BFIs) representatives, Federation of Women Entrepreneurs' Associations of Nepal (FWEAN) and local government representatives.



Sampling Strategy

Given the informal and scattered nature of the Fruit Candy industry, a purposive sampling approach is adopted. Enterprises are selected based on their active involvement in Fruit Candy production and the presence of women in ownership or leadership roles. Within each enterprise, both owners and workers are included to reflect different perspectives across the value chain. Key informants are selected based on their direct involvement in policy implementation, training provision, or financial services related to MSMEs. The sample size is guided by field feasibility and the need to capture diversity in enterprise size, operational practices, and support exposure rather than statistical representativeness alone.

Methods of Data Collection

Primary data were collected using structured questionnaires administered to women entrepreneurs and Fruit Candy industry workers. These tools gather information on enterprise characteristics, production volumes, skill acquisition methods, use of machinery, access to finance, training opportunities, market linkages, and awareness or receipt of government and non-government support. To complement survey data, semi-structured interviews are conducted with selected entrepreneurs and institutional stakeholders. These interviews allow participants to elaborate on challenges, coping strategies, and perceptions of policy effectiveness in their own words.

In addition, direct field observations are carried out at production sites to understand working conditions, cleanliness and hygiene practices, machinery use, and informal quality assurance processes that may not be fully captured through surveys alone. Secondary information is drawn from policy documents, legal frameworks, sector reports, and previous studies to provide contextual grounding and support comparative analysis.

The study examines enterprise-level factors such as scale of operation, labor composition, production capacity, and commercialization readiness. Particular attention is given to skill transfer mechanisms, especially the role of on-the-job learning and peer training, as well as the extent of mechanization and its implications for productivity. Access to finance, training, and institutional support is analyzed alongside gender-specific dimensions, including women's decision-making roles, income use at the household level, and perceived changes in social status resulting from entrepreneurship.

Ethical Considerations

Ethical considerations are given due priority throughout the study. Participation is entirely voluntary, and informed consent is obtained from all respondents. Confidentiality is maintained, particularly for enterprises operating informally, to ensure that participation does not expose individuals to financial, social, or regulatory risks. The research process is conducted with sensitivity to time, workload, and cultural context, especially when engaging women workers and entrepreneurs.

Study Limitations

While the study offers in-depth insights into the Fruit Candy industry, its findings are based on a selected location and purposefully chosen enterprises, which may limit broader generalization. In addition, reliance on self-reported information may introduce recall or response bias. These limitations are addressed by triangulating survey responses with interviews, observations, and secondary sources.

Overall, this study design provides a practical and grounded framework for examining the economic potential and institutional challenges of women-led Fruit Candy MSMEs, with the aim of generating evidence that can inform more responsive policies and inclusive enterprise development strategies in Nepal.

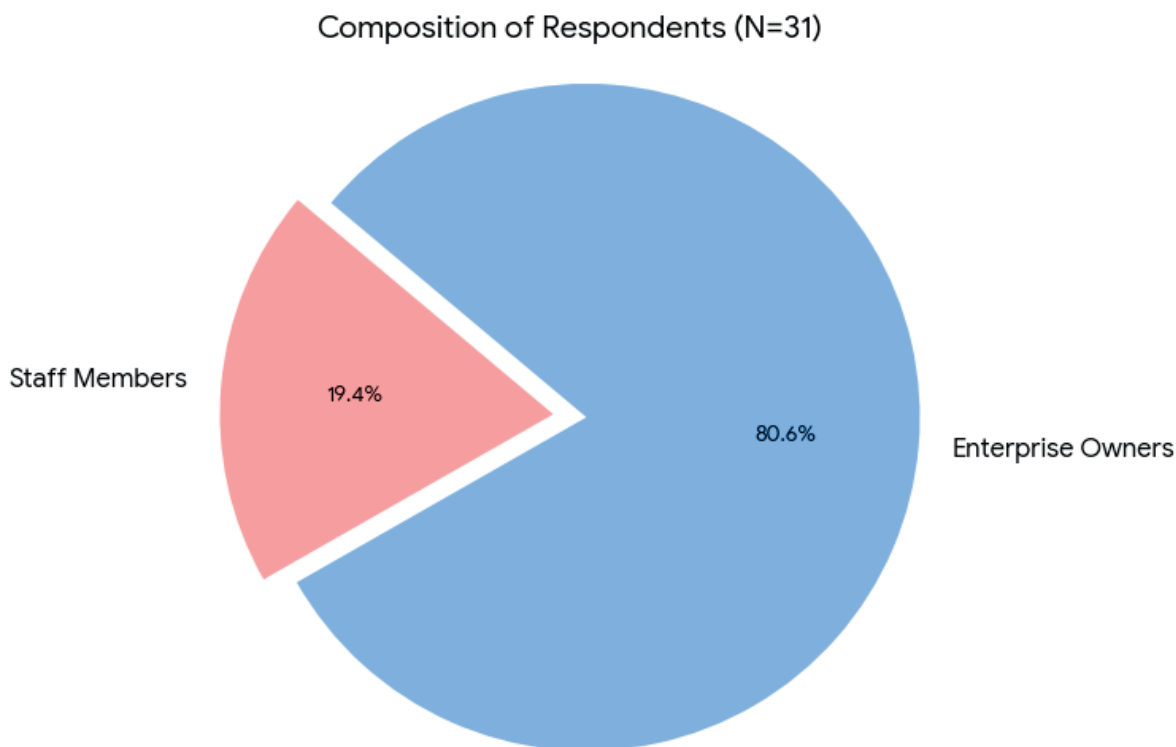


Photo : Jyoti Pathak

III. General Overview

Survey Results

The analysis is based on primary data collected from 31 respondents, comprising 6 staff members of the Fruit Candy industry and 25 enterprise owners (Households) engaged in the Fruit Candy (titaura) industry in Sanga, Banepa Municipality-13, Kavre District, where some 45 Household is involved in the candy production.



The findings reveal that the industry functions not only as a livelihood source but also as an informal vocational ecosystem, particularly for women. Skill acquisition, production practices, commercialization readiness, and access to institutional support emerged as the central themes shaping enterprise performance and labor outcomes.

Overall, the results demonstrate a sector with strong internal capacity for skill transfer and modernization, yet one that remains constrained by limited financial access, weak policy outreach, and uneven institutional support.

Sample Profile and Demographic Characteristics

The demographic profile highlights clear distinctions between staff and owners while reinforcing the women-led nature of the sector. Staff members are relatively young, with an average age of 31.5 years, and exhibit

Demographic Profile Summary

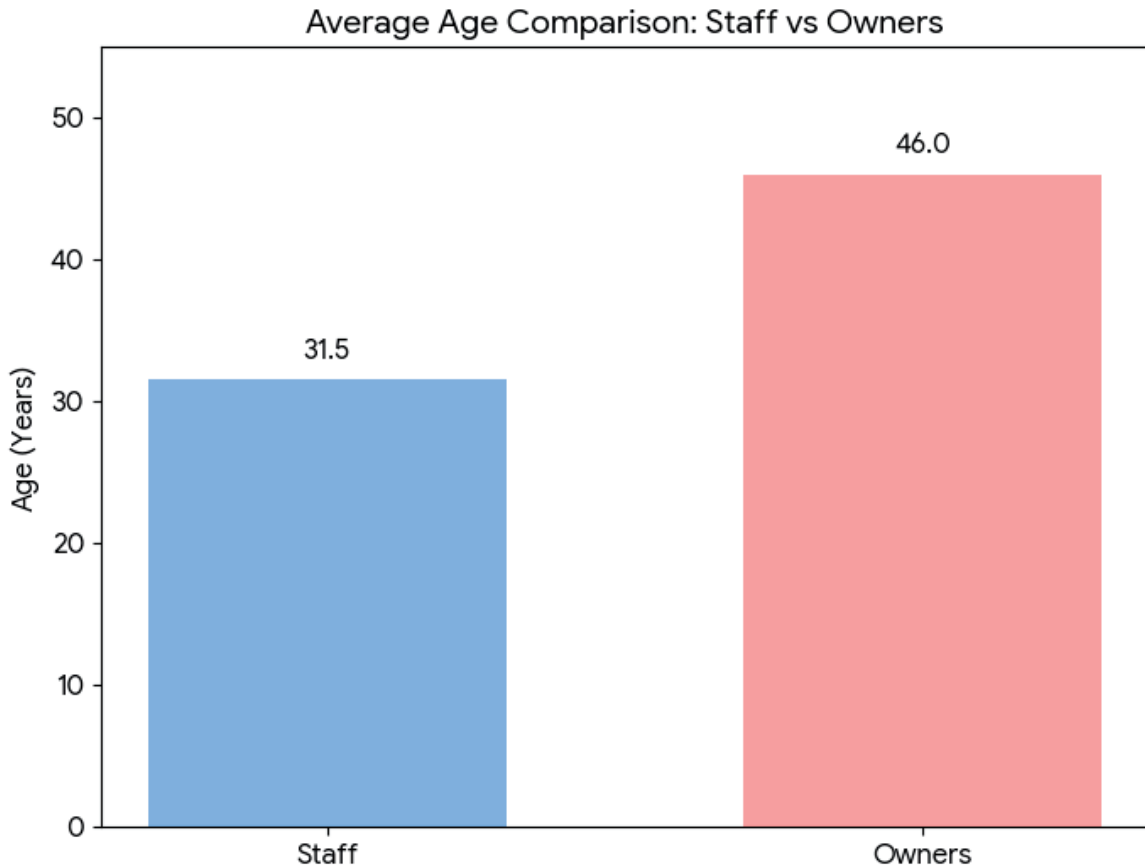
STAFF

Avg Age: 31.5 Years
Education: Primary / Secondary

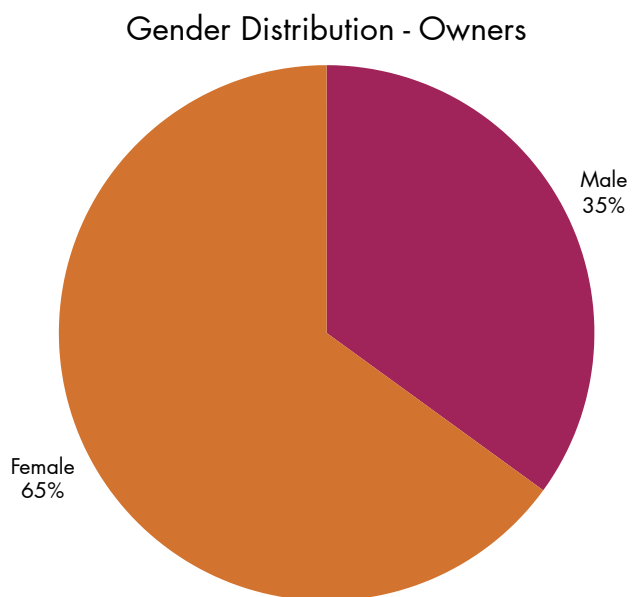
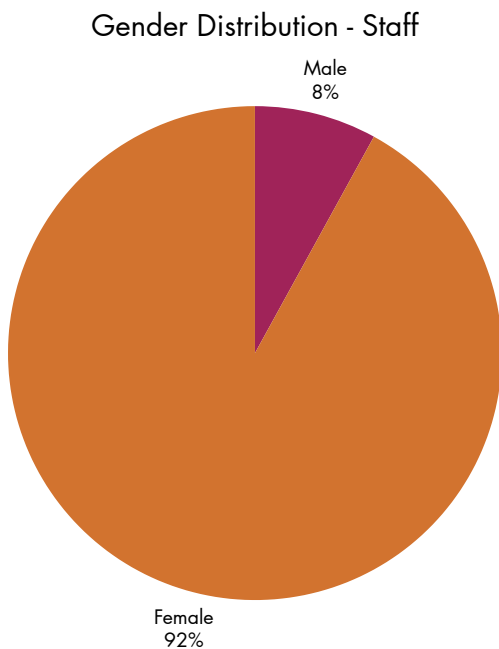
OWNERS

Avg Age: 46.0 Years
Education: Higher Secondary

lower levels of formal education, typically at the primary or secondary level. In contrast, owners are older, averaging 46 years, and possess comparatively higher educational attainment, generally up to higher secondary level.



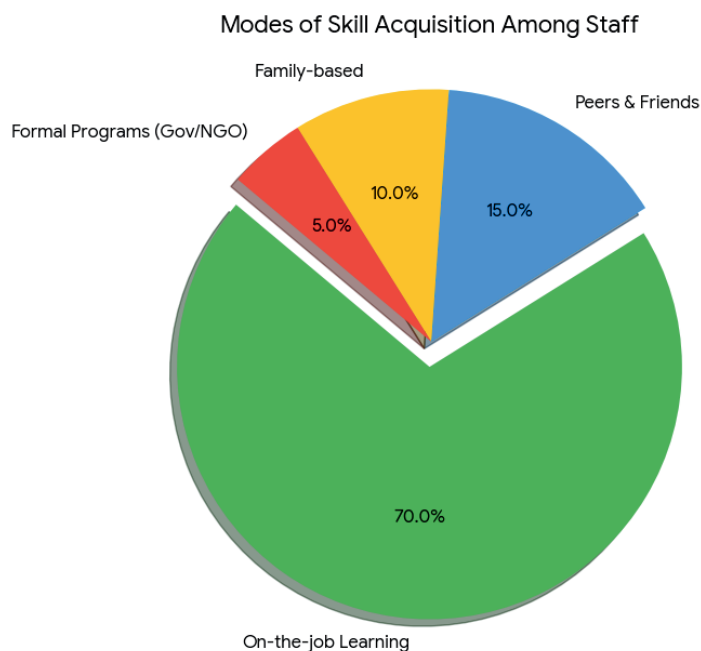
Women constitute the overwhelming majority of the workforce (92% of staff) and a significant share of enterprise ownership (65% of owners). This distribution strongly supports the characterization of this industry as a predominantly women-driven economic activity, both at the labor and leadership levels.



Skill Transfer and Employment Model

Modes of Skill Acquisition Among Staff

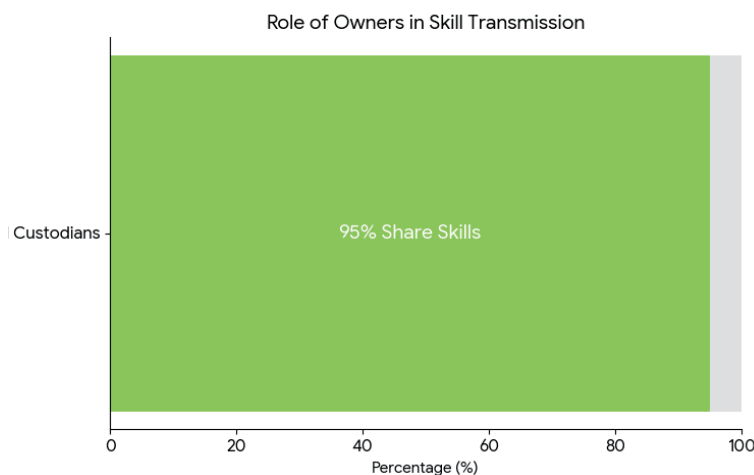
The findings indicate that skill transmission in the Fruit Candy industry occurs primarily through on-the-job learning, reported by 70% of staff respondents. Traditional family-based skill transfer plays a relatively minor role (10%), while self-learning through peers and friends accounts for 15%. Formal skill acquisition through government, NGO, or community programs is minimal, reported by only 5% of staff.



This pattern suggests that the industry has evolved beyond a purely traditional, household-based craft and now functions as a practical vocational training ground, where skills are absorbed directly within factory or production environments. Such a shift reflects gradual modernization and the integration of new entrants into the workforce through experiential learning rather than inheritance alone.

Role of Owners as Skill Custodians

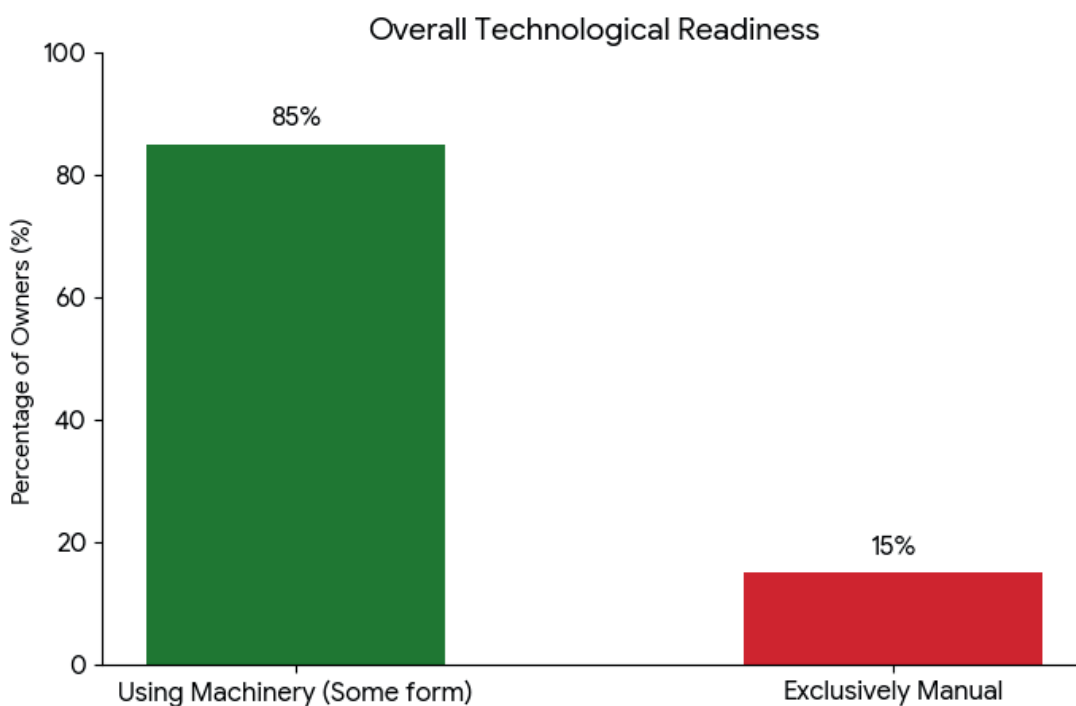
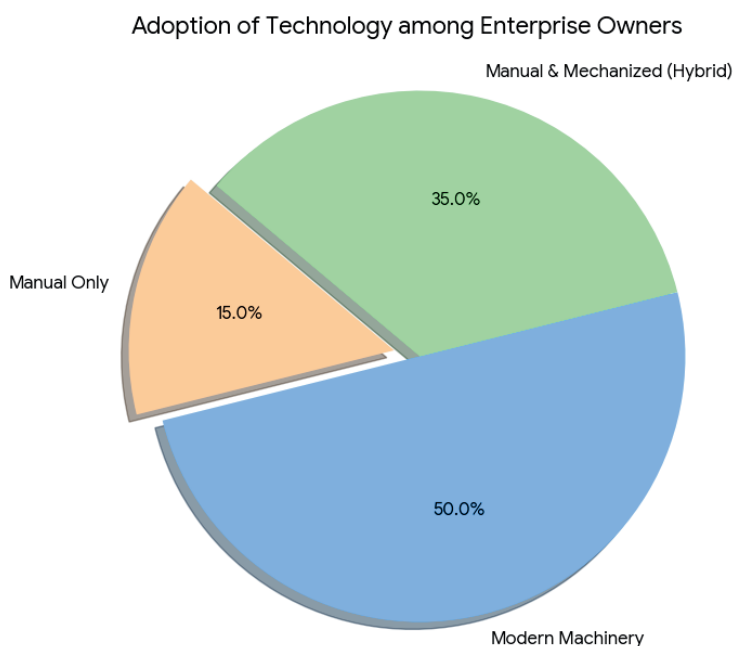
Skill transmission is further reinforced at the ownership level. An overwhelming 95% of owners reported that they actively teach or share production skills with others, either within their enterprises or in the broader community. This finding underscores the dual role of women entrepreneurs as both economic actors and informal trainers, sustaining the industry's human capital base.



Commercialization and Upgrading Potential

Adoption of Technology

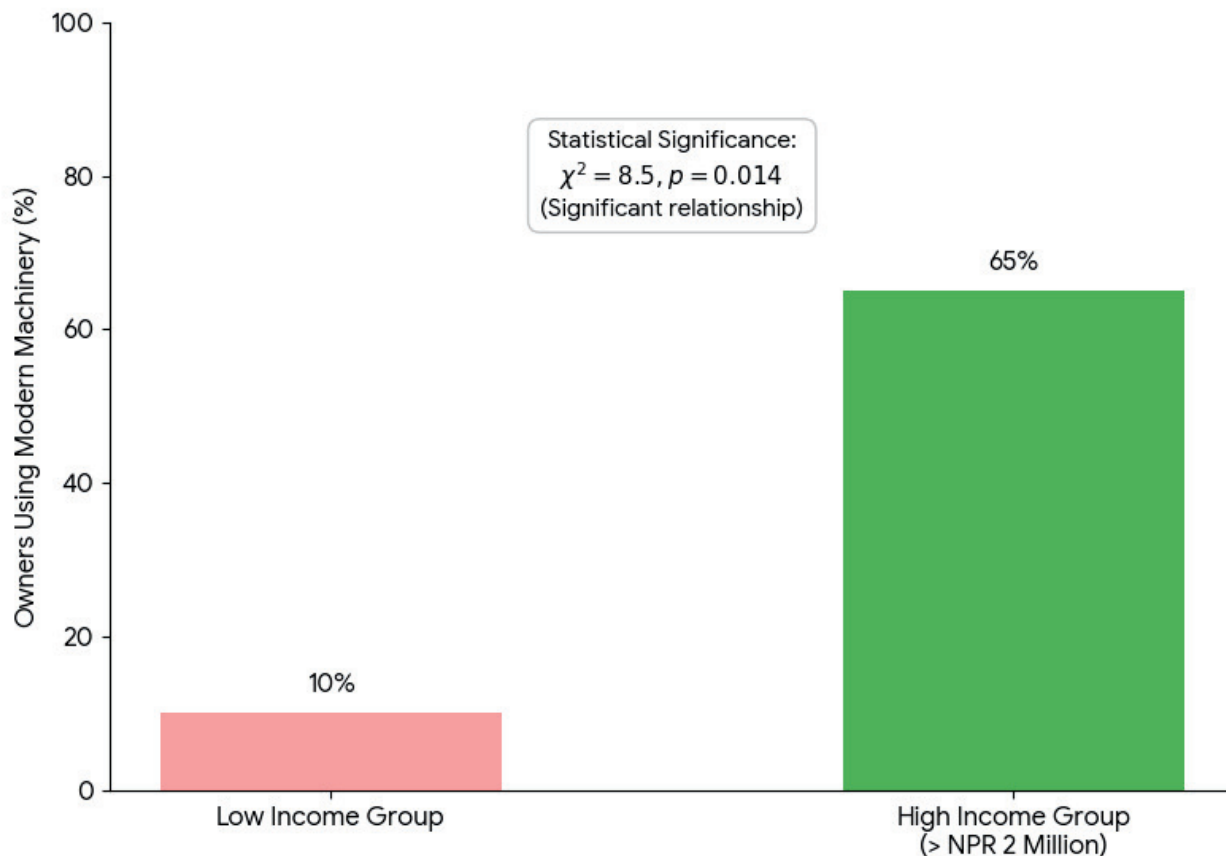
The data reveal a high degree of technological readiness among enterprise owners. While 15% of owners rely exclusively on manual production methods, 50% use modern machinery, and an additional 35% employ a combination of manual and mechanized processes. Taken together, 85% of owners use some form of machinery, indicating a clear orientation toward productivity enhancement and commercial scaling.



Relationship Between Modernization and Income

Statistical analysis confirms a significant association between production methods and income levels. The chi-square test – a statistical method to see, if the actual (observed) data significantly differs from what to be expected, if there were no relationship or pattern – indicates a statistically significant relationship ($\chi^2 = 8.5$, $p = 0.014$), demonstrating that owners, who adopt modern machinery are substantially more likely to fall into higher income categories. Specifically, 65% of owners in the high-income group (above NPR 2 million) reported using modern machinery, compared to only 10% in the low-income group. This finding empirically establishes modernization as a key driver of income growth and commercial success in the sector.

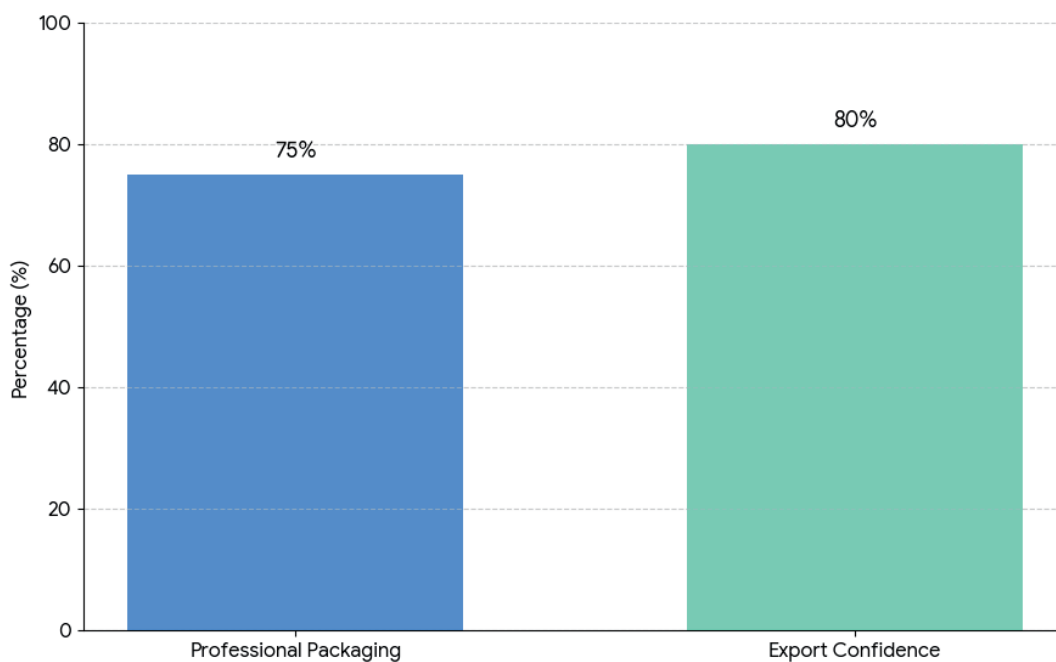
Usage of Modern Machinery by Income Level



Export Readiness

Commercial potential is further reflected in owners' perceptions of market expansion. 75% of owners reported using professional packaging, and 80% expressed confidence that their products possess export potential. However, this readiness remains largely aspirational due to structural and policy-related constraints discussed below.

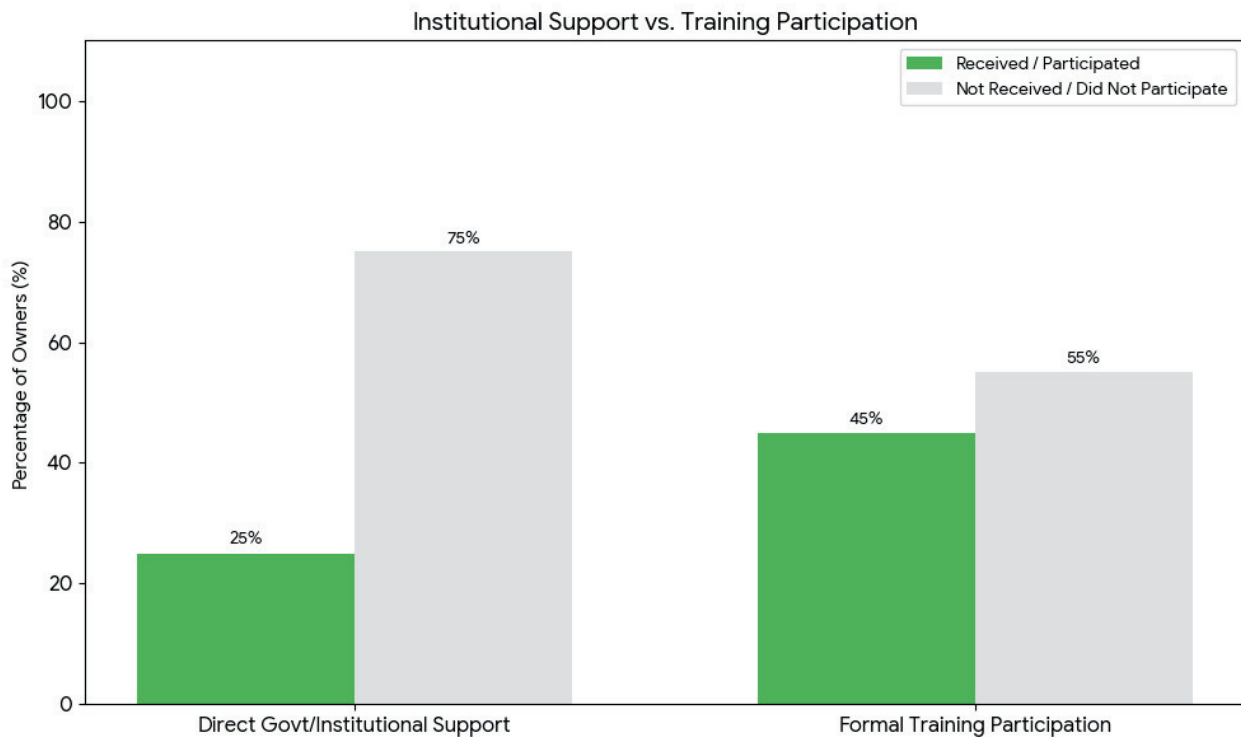
Commercial & Export Readiness Among Owners



Access to Policy Support and Training

Despite evident commercialization readiness, access to institutional support remains limited. Only 25% of owners reported receiving any form of government or institutional assistance, while 45% indicated participation in formal training programs. This disparity highlights a significant policy delivery gap, wherein training opportunities are moderately available, but direct financial and institutional support – particularly in the form of capital access and subsidized loans remains scarce.

Further analysis reveals a disconnect between awareness and utilization of support programs. A majority of respondents were either unaware of existing programs or had never received assistance, despite expressing clear demand for support in areas such as business management, market linkages, export facilitation, machinery, and finance. This pattern points to weak outreach mechanisms and limited coordination between enterprises, government bodies, and non-governmental organizations.



Top Areas for Demanded Support

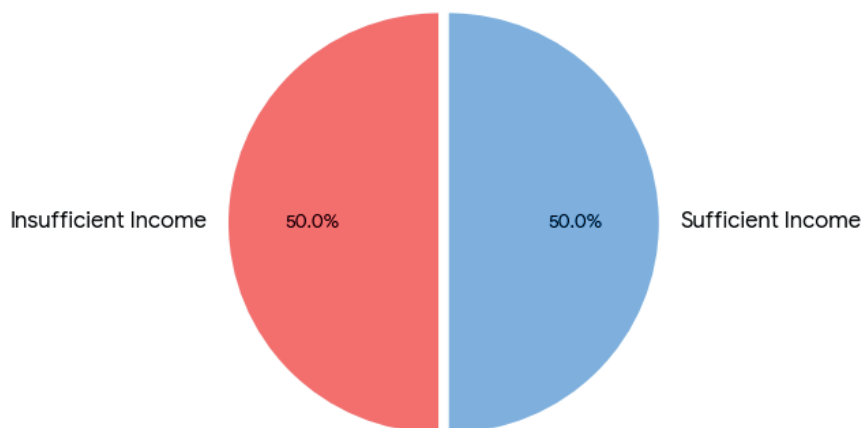
- Business Management
- Market Linkages
- Export Facilitation
- Modern Machinery
- Finance & Capital

Constraints and Challenges

Financial Vulnerability at the Labor Level

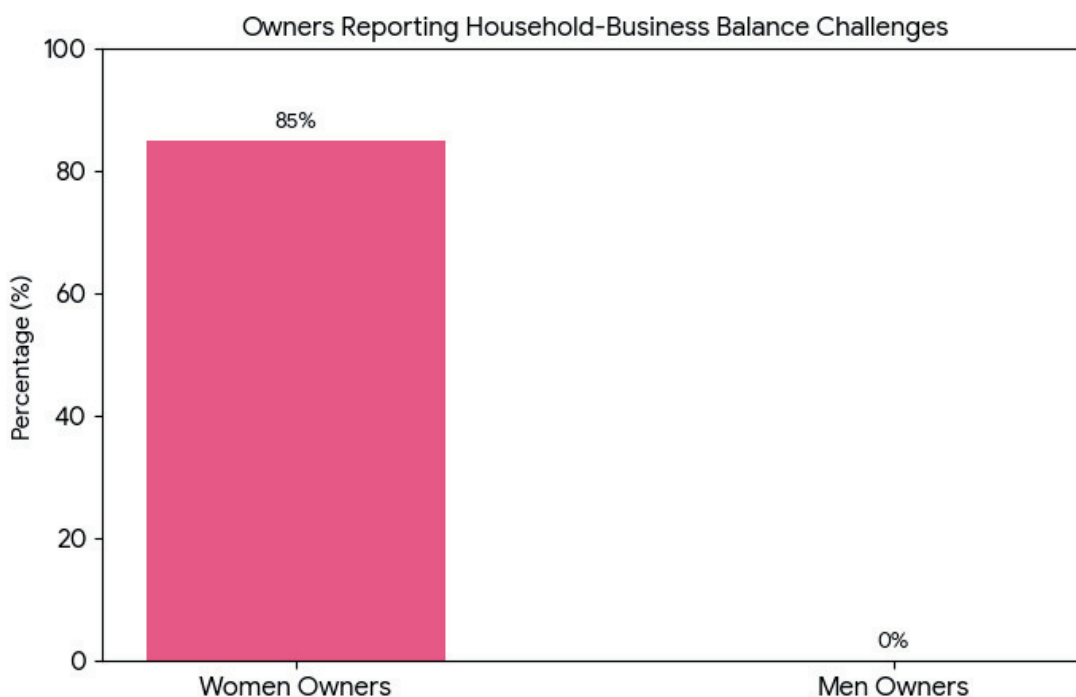
At the workforce level, financial insecurity remains pronounced. Half of the staff respondents reported that their income is insufficient to manage household expenses, indicating persistent economic precarity despite employment in the sector. This finding highlights the need to consider labor welfare alongside enterprise growth.

Staff Income vs. Household Expenses



Gender-Specific Challenges

While statistical testing did not yield a significant association between gender and reported challenges ($\chi^2 = 0.9$, $p = 0.35$), descriptive findings reveal an important qualitative pattern. 85% of female owners reported facing gender-specific challenges, particularly in balancing household responsibilities with business management, whereas no male owners reported similar constraints. This suggests that gender-based barriers persist in practice, even if not fully captured through statistical significance in a limited sample.



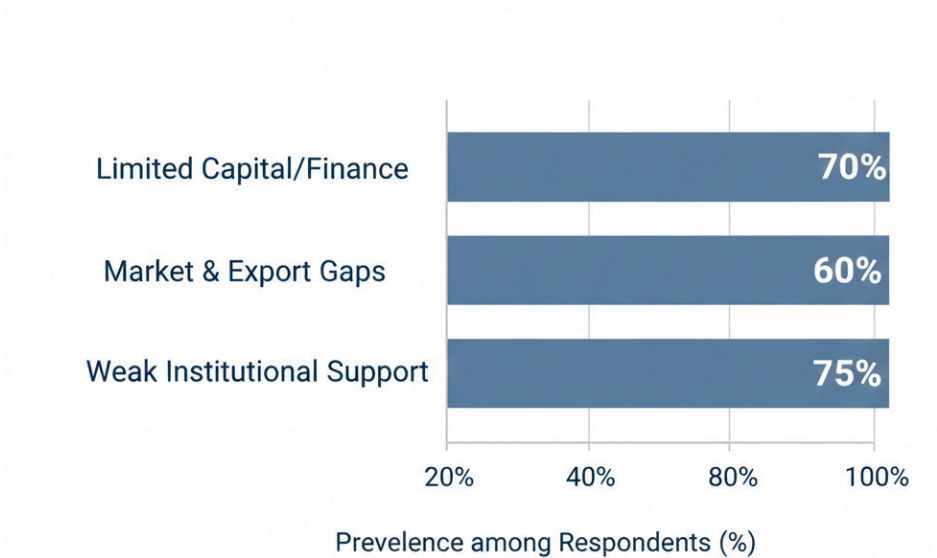
Structural and Institutional Barriers

A qualitative review of open-ended responses identified three dominant constraints:

1. Limited access to capital and finance, reported by approximately 70% of owners;
2. Lack of consistent market linkages and export facilitation;
3. Inadequate government and institutional support.

These challenges collectively restrict both day-to-day operations and long-term scaling prospects.

Dominant Structural & Institutional Barriers



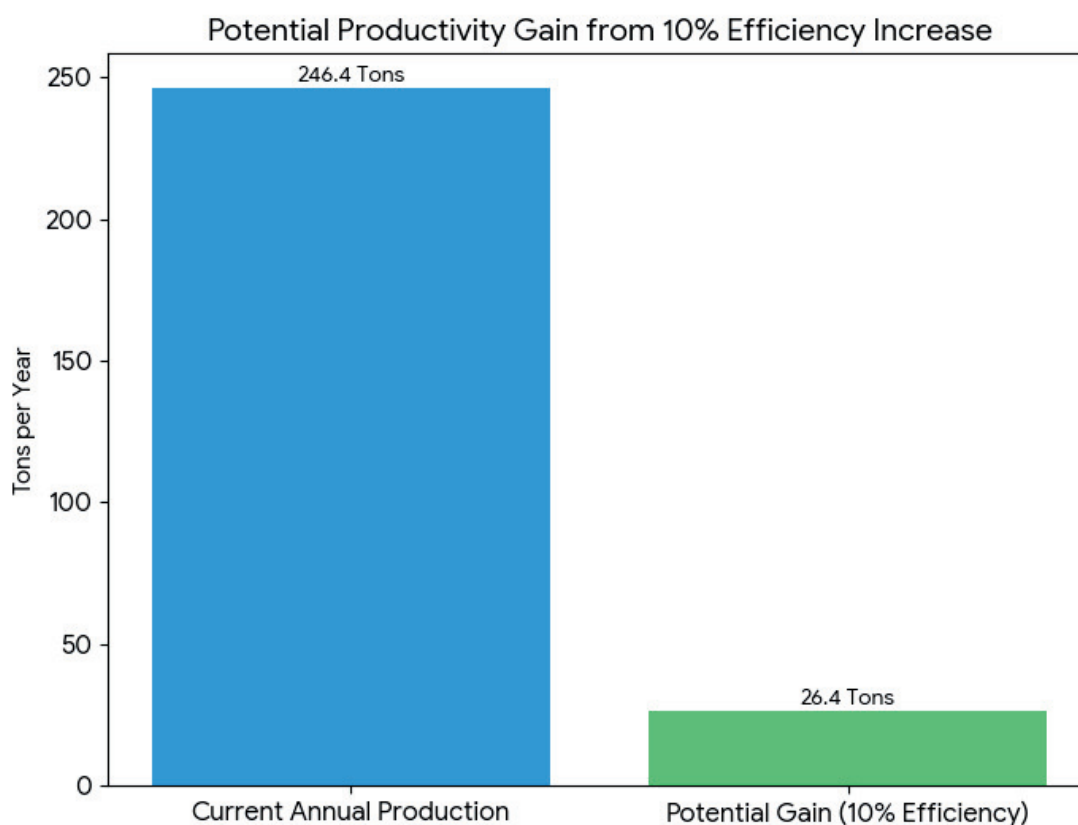
Hindered Business Growth due to Multiple Constraints



Quality Assurance, Productivity, and Export Potential

Findings related to quality assurance reveal a divided landscape. While some producers actively practice hygiene and quality control measures, others either do not apply them consistently or do not formally recognize their practices as quality assurance. Equal numbers of respondents reported practicing and not practicing quality assurance, with only a small minority holding formal certifications. Cleanliness and hygiene were repeatedly emphasized as critical skills, reinforcing their central role in product quality and market acceptance.

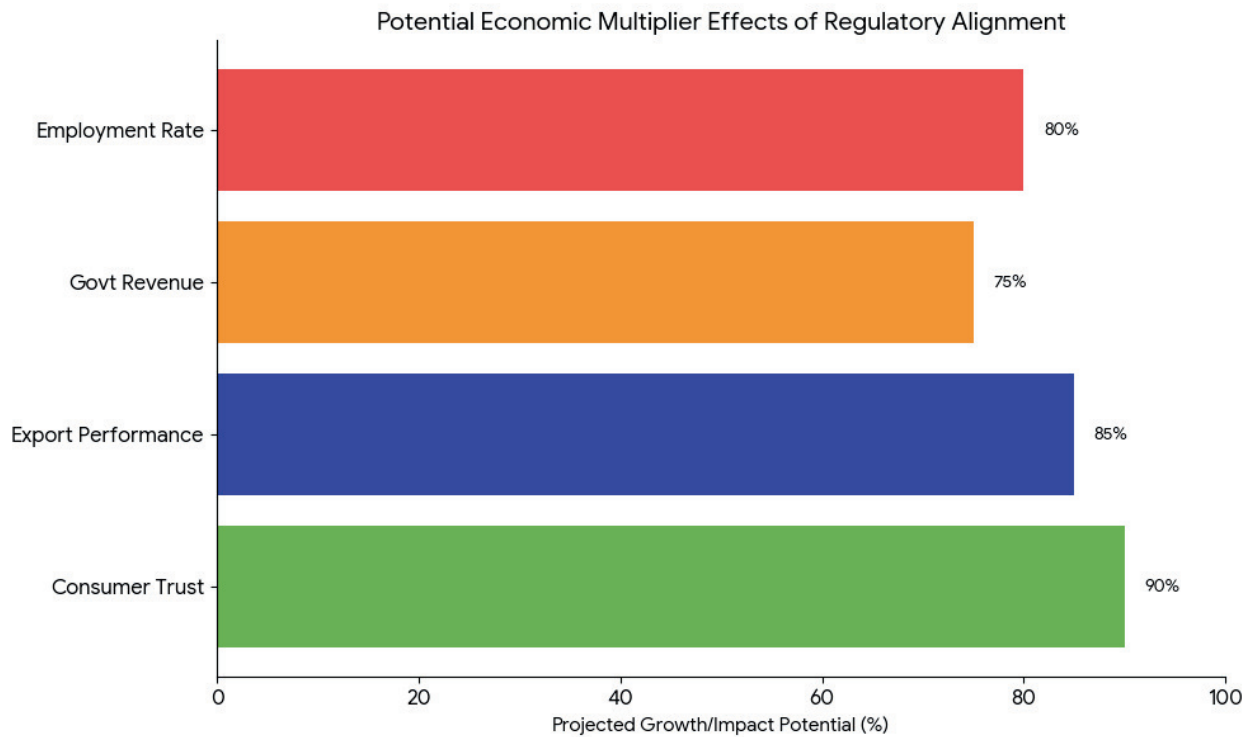
Productivity simulations based on current production data (20,530 kg per month) indicate that even modest interventions could yield substantial gains. A 10% increase in efficiency, achievable through targeted training, improved equipment, and financial support, would result in an additional 26.4 tons annually. More comprehensive quality upgrades such as improved packaging, hygiene protocols, and standardized production could increase exportable output to 20–50%, potentially raising exports four- to fivefold.



Regulatory Alignment and Economic Implications

The findings align closely with Nepal’s Food Regulation Act (2081), which emphasizes hygiene, labeling, and production standards to ensure food safety and product integrity. Compliance with these regulations, combined with enhanced skills training and institutional support, would not only improve consumer trust but also expand market access domestically and internationally.

Improved skills, regulatory compliance, and quality production have the potential to generate multiplier effects, including increased government revenue, expanded employment, and stronger export performance. As more individuals acquire Fruit Candy production skills and enterprises meet hygiene and quality standards, the industry becomes more attractive both to workers and consumers, reinforcing its sustainability and growth trajectory.



IV. Major Observation and Way Forward

Survey Results

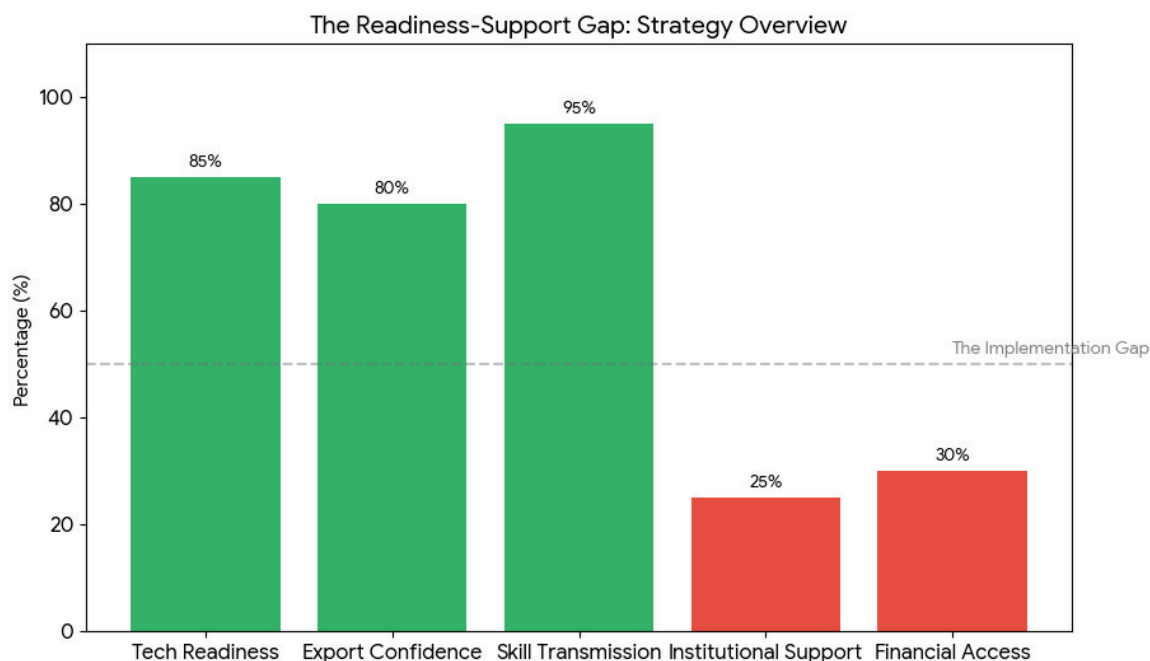
The study results depict the Fruit Candy (titaura) industry as a dynamic, women-led MSME sector with strong internal mechanisms for skill transfer and a clear orientation toward commercialization. However, this potential remains under-realized due to financial constraints, weak policy outreach, limited institutional support, and lately lack of manpower. Addressing these gaps is critical for transforming the industry from an informal livelihood activity into a competitive and export-oriented value chain.

Nepal's 15th Periodic Plan places strong emphasis on gender equality, women's economic empowerment, employment-oriented growth, MSME promotion, value-chain development, export diversification, and inclusive industrialization. The findings of this baseline survey closely align with these priorities and offer concrete entry points for operationalizing the 15th Periodic Plan commitments at the local and sectoral levels.

Thus, the women-led Fruit Candy industry reflects the core ambitions of the 15th Period Plan: inclusive growth, productive employment, women's empowerment, and value-based commercialization of local resources. Despite aligning with the periodic plan, the study demonstrates that the principal challenge lies not in entrepreneurial capacity but in the translation of policy commitments into accessible, localized, and coordinated support. Aligning implementation mechanisms with the ground realities of women-led MSMEs can transform the Fruit Candy sector from an informal livelihood activity into a scalable contributor to national growth, exports, and social inclusion.

15th Plan Priority	Evidence from Sanga Study
Gender Equality	92% female workforce and 65% female ownership.
Inclusive Growth	Informal vocational ecosystem providing livelihoods to 45+ households.
MSME Promotion	85% technology adoption rate showing clear commercial orientation.
Value-Chain Development	75% use of professional packaging and high export confidence.

The Fruit Candy (titaura) industry represents a high-impact, low-cost opportunity to operationalize 15th Periodic Plan commitments on women's empowerment, MSME growth, and value-chain development. The sector already demonstrates strong entrepreneurial capacity, skill transfer, and commercialization readiness. Strategic, localized, and gender-responsive policy implementation – particularly in finance, skills certification, quality assurance, and market linkage – can rapidly convert this informal women-led industry into a scalable contributor to employment, exports, and inclusive economic growth.



Thus, the following recommendations translate the Plan's strategic intent into actionable measures tailored to the women-led Fruit Candy (titaura) industry:

- Recognize women-led Fruit Candy enterprises as priority beneficiaries under women entrepreneurship and livelihood programs implemented by federal, provincial, and local governments.
- Integrate Fruit Candy producers into women-focused enterprise development schemes, including entrepreneurship incubation, mentorship, and leadership training.
- Promote joint ownership recognition and simplified enterprise registration to enhance women's legal and economic agency.
- Introduce simplified, low-cost MSME registration and renewal mechanisms at the local level, tailored to micro and home-based enterprises.
- Link formal registration directly to incentives such as access to finance, machinery grants, training, and market support.
- Encourage local governments to establish MSME facilitation desks to guide women entrepreneurs through formalization processes.
- Align on-the-job learning systems with the national vocational qualifications framework through Recognition of Prior Learning (RPL) and modular certification.

- Empower municipalities to design location-specific MSME support programs, including training and hand-holding, aligned with local economic strengths.
- Allocate local budgets for women-led enterprise upgrading, training, and market linkage initiatives.
- Use local governments as coordination platforms linking entrepreneurs with financial institutions, training providers, and regulatory bodies.
- Develop short, practical training modules on hygiene, food safety, packaging, machinery use, and basic business management, delivered locally.
- Officially recognize experienced women entrepreneurs as community-based trainers, reinforcing peer-to-peer learning while improving skill quality.
- Operationalize collateral-free loan products, credit guarantees, and concessional lending windows specifically for women-led agro-processing MSMEs.
- Strengthen coordination between Nepal Rastra Bank policy provisions and local financial institutions to improve outreach and uptake.
- Combine financial products with business development services to ensure effective use of credit and reduce default risk.
- Position Fruit Candy as a priority agro-processing subsector within local and provincial value-chain development strategies.
- Support backward linkages with fruit growers and forward linkages with traders, retailers, and exporters.
- Promote cluster-based development (common facilities for processing, storage, testing, and packaging) to reduce individual enterprise costs.
- Provide subsidized support for hygiene upgrading, packaging improvement, labeling, and certification aligned with national food regulations.
- Establish shared testing and inspection facilities at the local or cluster level to reduce compliance costs for micro-enterprises.
- Frame food safety compliance as a market-access enabler rather than a regulatory burden through practical, hands-on training.
- Integrate Fruit Candy MSMEs into export promotion programs, including branding support, market intelligence, and trade fair participation.
- Facilitate compliance with cross-border standards and documentation requirements, particularly for regional markets.
- Encourage partnerships between women-led MSMEs and established exporters or distributors to reduce entry barriers.

Apart from these recommendations, the government must use the Fruit Candy industry as a pilot for women-led MSME upgrading and integrate labor welfare into enterprise development strategies by facilitating market linkages and export preparation for the growth of this sector. However, the migration of youth in recent years is going to hit the sector hard, as the small Fruit Candy Industries have started facing worker shortage, which may result in a major barrier in capacity enhancement in quantity and quality both, the government should act sooner than later.

Endnotes

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<https://theannapurnaexpress.com/story/17593/>.

[11] “The Fifteenth Periodic Plan (Fiscal Year 2019/20 – 2023/24),” Food and Agriculture Organization of the UN, 01 March 2020, <https://www.fao.org/faolex/results/details/en/c/LEX-FAOC220780/#:~:text=planning%20and%20development.,3.,and%20minimizing%20its%20adverse%20effects>.

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Annex

Baseline Survey Questionnaire Women in Titaura (Lapsi Candy) Production

Section A: Respondent Profile

1. Name (For Records Only): _____
2. Age: _____
3. Gender: _____
4. Address/Location: _____
5. Education Level:
 - No formal education
 - Primary
 - Secondary
 - Higher Secondary
 - University
6. Occupation: _____
7. Years involved in Fruit Candy (titaura/lapsi) production: _____

Section B: Skill Development and Transfer

8. How did you learn the skills to make titaura?
 - From family (mother/grandmother)
 - Community training
 - NGO/government program
 - Self-taught
 - Other (specify): _____
9. Do you currently teach or share these skills with others (e.g., daughters, neighbors)?
 - Yes
 - No
10. Have you received any formal or informal training in lapsi/titaura production?
 - Yes (if yes, by whom?): _____
 - No
11. What are the most important skills in producing high-quality titaura?

Section C: Production and Commercialization

12. What fruits do you mainly use for candy production? (tick all that apply)

- Lapsi
- Mango
- Amala
- Lemon
- Others: _____

13. What is your average monthly production volume/income? (approximate): _____

14. How do you produce your products:

- Manually
- Use modern machinery
- Both

15. Do you assure your quality?

- Yes (please specify): _____
- No

16. Where do you sell your products?

- Local market
- Wholesale shops
- Online/social media
- Export agents
- Not sold – home use only

17. Are your products branded or packaged professionally?

- Yes
- No

18. Do you think your product has export potential?

- Yes
- No
- Not sure

Section D: Challenges and Barriers

19. What are the biggest challenges you face in this business? (tick all that apply)

- Lack of training
- Limited access to capital
- Market linkages

- Packaging/branding issues
- Lack of government support
- Transportation/logistics
- Other: _____

20. Do you face any gender-specific challenges as a woman in this business?

- Yes (please specify): _____
- No

Section E: Policy Support and Institutional Help

21. Are you aware of any government or NGO programs that support women in Fruit Candy production?

- Yes (please specify): _____
- No

22. Have you received any financial, technical, or marketing support?

- Yes
- No
- If yes, from whom? _____
-

23. What kind of support would help you grow your business the most?

- Skills training
- Machinery/equipment
- Business management support
- Market linkages/export facilitation
- Access to finance
- Others

Section F: Women Empowerment Perception

24. Has your involvement in this business improved your confidence or decision-making power at home?

- Yes
- No
- To some extent

25. Do you participate in any women's groups or cooperatives related to this work?

- Yes
- No

26. What are your aspirations for the future in this business?

.....

27. Do you think that the next generation will take over this business?

.....

.....

.....

Section G: Factory Workers

28. How long have you been employed in the candy factory?

.....

.....

29. What did you use to do before joining candy factory?

.....

.....

30. How did you learn the process of making candy?

- I already knew
- I learnt after joining the factory

31. Are you thinking of starting your own business of candy in future

- Yes
- No

32. Is your income enough for managing house?

- Yes
- No

Declaration by the Researcher

I, the undersigned, hereby declare that the data and information collected during the course of this research project are accurate and truthful to the best of my knowledge and ability. I affirm that all responses were gathered ethically and in accordance with the principles and guidelines set forth for this study. Furthermore, I commit to using the collected data solely for the purposes of this research project. I understand and agree that I will not disclose, share, or distribute any part of the information to unauthorized individuals or entities, and I will maintain the confidentiality and privacy of all participants involved.

Signature: _____

Name: _____

Date: _____

Researcher's Bio

Kuber Chalise

Kuber Chalise is associated with NICCI as a Program Consultant, and Research Director at the Asian Institute of Diplomacy and International Affairs (AIDIA). Holding a three-decade long journalism experience in both print and electronic media, he has previously worked as an Editor at Karobar National Economic Daily, and is currently the Consulting Editor at nepalkhabar.com. MA in Political Science from Tribhuvan University, Mr. Chalise has been engaged in various investigative reporting and research works at home and abroad.



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