IMPROVING VALUE CHAIN THROUGH INCENTIVES FOR PRIVATE SECTORS TO PROCESS AGRICULTURAL PRODUCTS IN NEPAL

A study conducted as a part of the Daayitwa Nepal Public Policy Fellowship (DNPPF) 2023, together with the Ministry of Industry, Commerce and Supplies

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ABSTRACT

This research explores the substantial impact of the country's transformation from agrarian to industrial and urban civilization on Nepal's economy and agriculture sector. The research offers policy recommendations to ease the challenges of urbanization and changing consumer habits, needing higher domestic food production, while emphasizing agriculture's substantial GDP contribution and employment significance. It evaluates agribusiness entrepreneurship as a driver of economic growth and emphasizes the importance of supply chain management.

The study focuses on agro-processing and its potential to increase output, revenue, food security, and employment in Nepal's economic growth. It recognizes that policy limits and insufficient investment are hindering the expansion of the agro-processing sector. The Kathmandu Valley is the focus of this qualitative study. The desk review and Key Informant Interview (KII) were used to collect data.

Employing Thematic Analysis (TA), an inductive coding approach illuminates explicit interview response meanings. Challenges encompass infrastructure gaps, resource limitations, certification discrepancies, and market dynamics, with post-harvest loss management emerging as a critical intervention area. Desk review and primary research underscore contract farming as a private sector support intervention. Benefits and future enhancements are discussed.

The study presents a comprehensive policy set advocating private-sector agro-processing involvement. Recommendations span market support, stakeholder engagement, finance, innovation, infrastructure, and regulatory frameworks. Acknowledging contributions, the study notes limitations like interpretational subjectivity and small KII sample size, affecting broader applicability.

In conclusion, this study thoroughly examines Nepal's agro-processing sector, explaining obstacles and opportunities. It provides insights for policymakers, stakeholders, and researchers navigating Nepal's shifting agribusiness environment by studying policy initiatives, supply chain dynamics, and agro-processing transformative potential.

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LIST OF ABBREVIATIONS

ADS= Agriculture Development Strategy

APP =Agriculture Perspective Plan

CBS = Central Bureau of Statistics

DFTQC= Department of Food Technology and Quality Control

DOI = Department of Industry

FAO= Food and Agriculture Organization

GDP= Gross Domestic Product

KII= Key Informant Interviews

MoALD= Ministry of Agriculture, Livestock and Development

MoF= Ministry of Finance

MoICS= Ministry of Industry, Commerce and Supplies

NPC= Nepal Planning Commission

TA= Thematic Analysis

VC= Value Chain

WTO= World Trade Organization

1. INTRODUCTION

Nepal has a long history of agriculture. It is currently at a pivotal point, addressing the opportunities and difficulties caused by industrialization and urbanization. In Nepal still half of the people depend upon agriculture, it engages around 50.1% of the total population (CBS, 2023), and contributes approximately one-quarter (23.9%) of the nation's GDP (MoF, 2022) reflecting Nepal's entire dependency on agriculture. 3,091,000 ha are cultivated in total, of which 15,12432 ha are irrigated at a rate of 48.93% (MoALD, 2022), underscores the significance of agriculture in the country's fabric.

However, Nepal is a rapidly urbanizing country; 50% of the population (projected to be 30 million) will live in urban areas by 2035 (as compared to 20% currently) and will consume a large amount of high value crops (Asian Development Bank, n.d.).

The changing global food preferences and increased remittance inflow have led to a shift in consumer behavior, with a growing demand for convenience and processed food (Abayaya, 2021). The rising standard of living, fueled by increased income levels, has contributed to increased consumption and a reliance on imported food products. People are demanding high valued and quality products. Imports of processed food in 2020-21 reached 101,391 tonnes, a ten-fold jump over 2019-20 (Doe, 2015). As income increases, food expenditure, in general, will increase. Consumption patterns may shift; people tend to buy high-quality products. In addition, higher-income households tend to buy more processed food and pay more attention to food safety issues and prefer to buy branded, labeled, and packaged products whose quality they can trust (Gulati et al, 2007).

As a country with a strong agricultural background, fertile soil, and favorable climatic conditions, Nepal has great potential for agribusiness entrepreneurship, which can drive economic growth and capitalize on the country's agricultural resources (Daayitwa, 2018). The historical correlation between agricultural development and industrialization resonates deeply in Nepal. With an agro-based economy like Nepal's, increased agricultural output would act as a catalyst for the country's industrialization (Gauchan, 2018). According to estimates from MoALD (2015), 44.7% of Nepal's agricultural units are commercialized, while 55.3% are subsistence farms.

Nepal is characterized by a variety of agro-enterprises, ranging from many micro-enterprises where the employees are mainly the family members to a few very large enterprises that provide employment to hundreds of employees. The development of commercialized agriculture in Nepal will be impossible without the growth of small, medium, and large enterprises that do more than just hire family members. In recent years, a lot of small and medium-sized firms have grown quickly. Nevertheless, despite tremendous expansion in recent years, a number of agro-processors still experience problems.

The challenging transportation and storage concerns in Nepal's rural areas contribute to a number of obstacles in the supply chain for agricultural goods. Although supply chain management relates to every product or service-related economic activity, this research focuses on the perspective of agribusiness, aiming to explore and address these issues comprehensively. By delving into the complexities of the agricultural value chain and identifying strategic interventions, the author endeavors to chart a course toward improved value chain efficiencies and incentivize the private sector's engagement in agricultural processing.

2. LITERATURE REVIEW

The development of the agro-processing industry is emerging as a crucial path for economic transformation in countries like Nepal where agriculture is strongly interconnected in the social and economic fabric. High production yields, attractive benefit-cost ratios, and beneficial socioeconomic effects on employment, income development, and exports make the growth of agro-processing enterprises highly feasible (Grover et al., 1996). Similarly, in India, agro-processing is considered the 'sunrise sector' of the economy, and Nepal is poised to leverage its agro-based resources for economic resurgence.

Agro-processing falls under Agro-enterprises. Agro-enterprises include input providers, producer companies, marketing cooperatives, storage operators, logistic companies, agro-processors, importers and exporters of agricultural and food products, distributors, traders, and agricultural service providers (including financial service providers, insurance providers, business service providers (Gauchan, 2018). However, its significance transcends mere economic growth, extending to sustainable development goals such as poverty alleviation and food security (Admin & Admin, 2022).

The impact of agro-processing in Nepal is unmistakable. Agro-processing creates enhanced agricultural productivity and increased farm household incomes, promotes year-round availability of affordable safe and nutritious food, and creates jobs. One of the most significant benefits is that it reduces import of similar or foreign foods and conserves foreign exchange. The establishment of agro-processing industries can create more job opportunities and enhance income levels for both processors and farmers.

In developed countries, the agro-processing sector directly or indirectly engages up to 14 percent of the total workforce (Thomas et al., 2007). Overall, the agro-processing industry is a catalyst for inclusive growth, driven by its higher demand elasticity, labor-intensive nature, and greater domestic value added compared to traditional agricultural products (Athukorala & Wagle, 2014).

The transformation towards a more commercialized agriculture requires a set of measures that focus not only on farmers but, fundamentally on agro enterprises and supply chains for products and services (Mishra & Paudel, 2023). A favorable policy environment in the areas of

infrastructure, land use, information technology, financing, and following effective policy-implementing institutions are crucial for the development of agribusiness and supply chains. A range of measures, including labor productivity, productivity gaps, trade and competitiveness, poverty and hunger, and infrastructure, show that the sector is still in a low development stage (MoALD, 2015). In this context, it is important to critically examine government policies, challenges agro processors face and identify associated gaps to support them.

Despite the potential of agro-processing in Nepal, the commercial processing sector is not well developed, leading to limited value-addition to agricultural commodities and a lack of linkages with marketing and financial services. The expansion of agro-based enterprises and agriculture should go hand in hand. Many studies, nevertheless, have only examined the farmer and agricultural sectors. This is the most significant factor that our planners and lawmakers have missed. The agro-processing sector in India is beginning to flourish due to incentives and promotional initiatives from the federal and state governments (Sharma, 2006). It underscores the urgency of comprehending the current challenges impeding Nepal's agro-processing sector.

Investment in agriculture and agribusiness is constrained by a lack of suitable policies (such as contract farming), competition with state-owned enterprises and cooperatives, a lack of infrastructure and services to support value chain development (such as agribusiness incubators and agro-industrial parks), low coverage of agricultural insurance, and a transparent and stable tax and incentive system to foster innovation and reduce risk (GON, 2015). The key issue is how to increase sustainable and profitable investment in agriculture and agribusiness that could accelerate the growth and modernization of agriculture (Mishra & Pudel, 2023).

In Nepal, the registration of agricultural enterprises is increasing. Recently, 9752 agricultural companies were registered for the fiscal year 2075–76. Figure 1 demonstrates the registration of agricultural enterprises in Nepal. This rising number each year demonstrates Nepal's significant demand for agro-business. Different policies are required to sustain this business, and there are policies specifically dedicated to it. But despite the existence of more than 24 agribusiness-enabling policies, there is insufficient investment from the private and cooperative sectors to transform the agriculture sector. An important aspect of agribusiness is the supply chain, which is found to be insufficiently focused on existing policies. Therefore, this review calls for the research of the agro-processing industry (Mishra & Poudel, 2023).

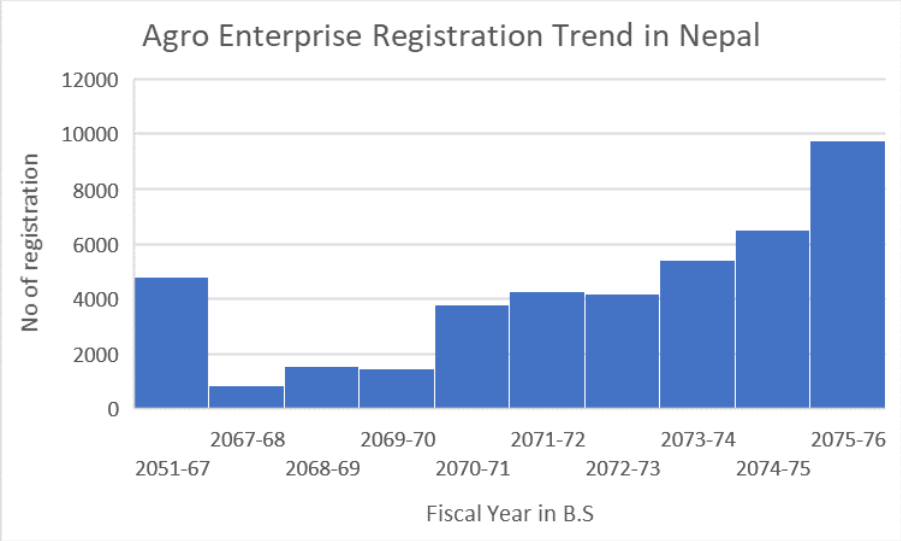


Figure 1: Agro Enterprise Registration Trend in Nepal

Data Source: DOI (2021/22)

2.1 Tracing the Path: Historical Evolution of Policies Driving Private Sector Promotion

Nepal has implemented a number of policy changes and efforts throughout the years with the goal of creating an environment that is favorable for private sector involvement, innovation, and investment in the area of agriculture and value chain development. These regulations have been crucial in changing the agricultural environment in Nepal and promoting the private sector's active involvement. Important policy developments and actions include:

2.1.1 Shift towards Commercialization:

Government policies have helped to improve living standards and overall performance of the agriculture sector since the launch of the Agriculture Perspective Plan (APP) in FY 1995/96. During this period, state-controlled agribusinesses and supply chains were established, which did not incentivize private sector investment, nurture private innovations and innovate support products to promote private agribusiness and supply chains (Mishra & Poudel, 2023). Jute mills, rice mills, sugar mills, spinning mills, and tobacco factories were established during 1965 to 1970 through Third to Seventh Plans. (NPC, 2016). The supply chain linkages were limited to state trading enterprises in and outside the country. Agribusiness systems were dominated by state enterprises. The policy and priorities hardly incentivized the private sector to invest in agribusiness and supply chain development (Mishra & Poudel, 2023). However, this strategic pivot aimed to elevate Nepal's agribusinesses and value chains by integrating private sector initiatives into the core of agricultural development.

2.1.2 Privatization and Dismantling State Enterprises:

After restoration of democracy in 1990, Agriculture policy priorities shifted to promote commercialization, competitiveness, and comparative advantages in the agriculture sector to achieve food security and trade balance (Mishra & Poudel, 2023). In 1992, an industrial policy was announced which encouraged competition. In the same year, a new Industrial Enterprise Act was enacted. State managed supply chains and agribusiness were dismantled through privatization and subsidy cutoff in agro enterprises to promote private sector. After 2000 agribusiness policies were largely guided by the WTO framework reducing subsidies in several sub sectors including credit. Private agribusiness and supply chain enterprises concentrated more on agriculture input supplies; technical services; dairy, poultry, vegetables and seed import and export;, and agro processing. This marked a deliberate effort to reduce state dominance and encourage private sector participation and innovation in agro-product processing.

2.1.3 Promotion of Commercial Farming:

The policies that supported commercial farming were National Agriculture Policy, 2004, Agriculture Extension Strategy, 2006, and Agribusiness Promotion Policy 2006 (MoALD, 2021). Competitive grant system of support was introduced to incentivize private sector investment in agribusiness. The major thrust of these policy and regulatory changes was the emphasis on market driven strategies and the recognition of private initiative and enterprise as a primary driver of the economy. In 2004, the National Agriculture Policy was promulgated. Agribusiness Promotion Policy was formulated in 2006. The Agri Business Promotion Policy highlights the diversification, commercialization and promotion of the agriculture sector with private sector involvement in commercial farming. The policy considers infrastructure development as a cornerstone for commercialization and has envisaged promotion of partnership approach between Government and the private sector. This policy framework highlights the pivotal role of infrastructure development and envisions collaboration between the government and private sector.

2.1.4 Value Chain Development

After the Commercial Agriculture Development Project (CADP) was launched in 2003, Value Chain (VC) development rose to prominence in discussions of agricultural development and commercialization in Nepal. The objective of the project was "to establish a network of innovative and competitive value chains" (ANZDEC 2003a, p.1)

The ADS (2015-2035) focuses on technology innovation, value chain development, food and nutrition security, decentralized education science, and is being implemented accordingly. This strategy explicitly accepted VC development as a vehicle to private sector development in Nepalese agriculture. It outlines the VC Development Programme as one of the four flagship programmes in agriculture to drive commercialization of the sector. It identified and analysed 20 commodities as the potential commodity to develop competitive VCs in the country. The strategy

appreciates the government's important roles in providing a facilitating policy environment, structural set-up to steer/guide VC development, market infrastructure development, capacity building of agriculture extension and development workers and supporting the private sector initiatives in agriculture.

The Nepalese Agriculture Development Strategy (2015–2035) reinforces the commitment of the Government of Nepal to use the approach to developing the private-sector-led agri-food chains. The Agriculture Development Strategy states:

…Differently from other value chain interventions in Nepal, the VADEP [Value Chain Development Program] will have the following innovative features: i) will be looking at and developing all the stages of the value chain, from seeds to final products, from production to processing, from market infrastructure to access roads and connectivity, from postharvest technology to quality assurance and exports; ii) will strengthen linkages among associations of farmers, traders, processors, input providers and other value chain actors in order to ensure effective investment; iii) will aim at replication and linkages beyond the district and achieve national impact; and iv) will work not only with one district or department but across districts and departments (GON, 2015).

2.1.5 Industry Policy and Incentives

The 2010 Industrial Policy seeks to increase exports of industrial products by improving productivity and quality, to increase the industrial sector's contribution to the national economy, to adopt and utilize new technology, and to develop human resources and entrepreneurship skills for industrial development. The Three-Year Interim Plan (2007–2010) which followed the Tenth Plan, without explicitly referring to the VC approach, promoted adoption of VC approach in agricultural programs (NPC 2007):

All stakeholders (producers, processors, and businesspeople) will receive assistance from available resources to meet their demands and needs in order to commercialize agricultural products to increase their quality and competitiveness in response to domestic and global demand.

The Three-Year Plan (2011–13) explicitly acknowledged the adoption of the VC approach in the development of the agri-food industry (NPC 2011). Nepal has taken numerous actions to encourage private investment in the industrial sector. Budget of 2080/81 also showed that the registration process has been simplified, the information required for registration has been drastically reduced. Industries in remote areas receive partial exemption from income tax and excise duty. Businesses that process fruit, make cider, or make wine in designated areas and have a fixed capital of less than 2.5 million Nepalese rupees (NRs) are exempt from excise duty and value-added tax (VAT) (Basnett & Pandey, 2014).

No person (either natural or legal) is permitted to operate its business without establishing industry under the Industrial Enterprise Act 2022. The Act works to regulate the industries in accordance with the three tiers of the federal government that are now in place (the "Registering Authority") and also divides their respective responsibilities and authorities. After municipal, federal, and provincial regulations are passed, the local authorities in each jurisdiction are responsible for regulating microbusiness, cottage industry, and small-scale businesses with fixed capital as specified by the applicable provincial law. All industries will be governed by the Department of Industry (DOI) unless specific local laws are created and adopted. Manufacturing industries producing fruit-based cider, brandy or wine established in any Undeveloped Region provides 25% exemption on the rate of income tax for up to 10 years from the date of commencement of business. Local tea producing and processing industries, dairy industries and clothes producing industries have a 50% exemption on the rate of the income tax levied on the income from the sale of such products. The Government of Nepal may provide incentives, exemptions, benefits or concessions to the production-oriented industries, industries related to agriculture and forest products and minerals industry.

2.1.6 Federal Governance System:

Nepal promulgated federal republic constitution (2015) with three tiers of governance system with allocation authorities, resource, and accountabilities to subnational level. With the establishment of a federal governance system, the responsibility for agricultural extension functions has been transferred to provincial and local governments. This has created significant challenges in terms of horizontal and vertical coordination for technology transfer. Consequently, the primary role of technicians has shifted from technical support to becoming grant-distributing agents.

These policies collectively underscore Nepal's journey toward creating a thriving private sector-driven agribusiness environment. By recognizing the critical role of the private sector, incentivizing innovation, and fostering market-driven strategies, Nepal has taken strides towards achieving a robust, inclusive, and sustainable agribusiness landscape.

2.2 Problem Statement

Nepal boasts the distinction of being the world's third-largest exporter of ginger, yet this achievement is shadowed by a perplexing predicament: Despite being the third-largest ginger exporter in the world, Nepal receives a substantially lower price for their ginger than do other nations (Basnett et al. 2014). This paradox underscores a critical issue that necessitates urgent attention and strategic intervention. To develop the overall agri-food industry value Chain is necessary (Shrestha 2010).

Value Chain is important to achieve broader societal objectives such as poverty reduction (M4P 2008), rural industry development (Collins and Iqbal 2011), promoting economic development

(GTZ 2007), mainly by achieving agricultural industry competitiveness (Ruth 2008). To orchestrate this transformation, the Value Chain development interventions in this approach should be more focused on markets, in general, developing linkages between the horizontally integrated producers and market-actors and enhancing the VC capability of actors in chains to establish those linkages (Adhikari, 2019).

Changes in the food supply chains connecting the two have increased both the production and consumption of high-value agricultural commodities in Asia (Swinnen, 2007). Changing consumption patterns towards perishable high-value products imply changes in the characteristics of the products demanded, in addition to increases in quantities demanded. The new demands require changes in marketing infrastructure such as cold chains, and better management of market information along the chain to deal with the risk of product spoilage before final sale (Gulati et al. 2007).

A central feature of value chain integration is the equitable distribution of knowledge along the marketing channel, fostering a symbiotic relationship between buyers and sellers. This knowledge exchange is marked by mutual benefit, as it empowers both stakeholders to make informed decisions, thereby enhancing the efficiency and efficacy of the value chain (Gulati et al. 2007). South and Southeast Asia have been witnesses to the ascent of vertical coordination arrangements over the past two decades, bridging primary production of high-value commodities with input suppliers and processing/exporting firms (Mamun & Glauber, 2023). This paradigm shift underscores the transformative potential of integrated value chains in reshaping market dynamics and redefining success paradigms.

In this research the author closely looked at how private companies, incentives, and the different steps involved in processing are connected. The author wanted to understand all the detailed reasons why businesses get involved in this and check if offering incentives can make big, positive changes happen.

2.3 Objectives of the Study

This research aims to generate a better understanding of and offer policy suggestions for responding to the existing challenges in the Agro-processing sector in the agriculture value chain. This work also intends to lead Ministry of Industry, Commerce and Supplies (MoICS) to confirm or adjust its policies and program interventions by answering the following research objectives:

1. To identify the challenges for processing agro- products in Nepal.
2. To understand existing policies/regulations that support or hinder private sector involvement in processing.
3. To suggest the types/levels of incentives that encourage private sector investment in agro product processing.

Through the attainment of these objectives, this research aspires to offer a robust foundation for evidence-based policy recommendations and strategic interventions. The aim is to bolster the value chain of agricultural products in Nepal by fostering an enabling environment that encourages private sector participation, enhances market competitiveness, and drives sustainable economic growth.

Research Questions

1. What are the challenges for processing agro products in Nepal?
2. What are the barriers faced by agro-processor to process agro-products in Nepal?
3. What are the types/levels of incentives and supports that encourage private sector investment in agro product processing?

3. RESEARCH METHODOLOGY

3.1 Research Approach: Qualitative Methodology

The utilization of qualitative research methodology serves as a crucial approach in comprehending the challenges encountered by agro-processor entrepreneurs. This is attributed to the capability of qualitative methods to delve into a diverse range of phenomena that might remain unaddressed by quantitative approaches (L. Munhall, 2012). According to Munhall, "Qualitative research involves broadly stated questions about human experiences and realities, studied through sustained contact with the individual in their natural environments and producing rich, descriptive data that will help us in understanding the subject's experiences."

In the context of the current study, qualitative research allows for a more comprehensive examination of the challenges faced by agro-processor entrepreneurs, offering insights that quantitative methods alone may not capture. It enables an in-depth study of all aspects of agro processor development while capturing nuances, viewpoints, and experiences. This method makes it easier to comprehend in depth the challenges experienced by Nepali agro-processor businesses.

3.2 Data Collection Tools and Techniques

3.2.1 Primary Data

The main approach of gathering data was through Key Informant interviews (KIIs). The purpose of key informant interviews is to collect information from a wide range of people—including community leaders, professionals, or residents—who have firsthand knowledge about the community (Renjith et al., 2021). These community experts, with their particular knowledge and understanding, can provide insight on the nature of problems and give recommendations for solutions (Renjith et al., 2021). There is flexibility to explore new ideas and issues that were not anticipated during the research, and it is also inexpensive and simple to conduct (Brown, 2021b)

These interviews were performed using audio recording equipment and a semi-structured format to allow for a detailed examination of viewpoints and thoughts. Audio recordings had ensured accurate capture of responses for later analysis.

3.2.2 Secondary Data

Agro-processing industries-related literature, papers, studies, and policies were gathered and examined. The secondary data had substantiated and contradicted the findings generated from the primary survey.

3.2.3 Sampling procedure and selection of respondents

The location determined for the research was an outcome of preliminary research done by the author. Agro-Processor of Kathmandu were chosen due to the centralized nature of the country. Figure 2 illustrates the study area of the map of Nepal. Eight respondents were selected, which included agro-processor and researchers.

Online interviews were conducted as it may be the most convenient and least time-intensive way to interview busy key informants. Interview tool used was a questionnaire to guide the discussion. (See Questionnaire in the appendix).

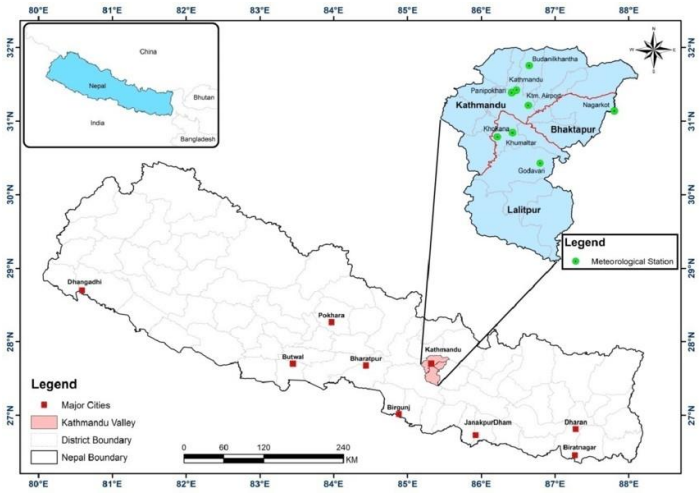


Figure 2:Kathmandu Valley Map: Study Area for research

Source: Baniya et al., 2018

3.3 Ethical Consideration

The entire study method complies with ethical principles. All participants provide their informed consent, and their names are kept private. The study aims to ensure that the study contributes positively to the area and limits any potential harm to participants.

3.4 Methods of Data Analysis

The analysis will focus on identifying critical constraints in the agro-processing industries, understanding the challenges for processing agro products, and evaluating the potential impact of incentives on private sector participation. The findings from the analysis will be used to generate policy recommendations and interventions to enhance private-sector involvement in agro-processing and value addition.

This paper used Thematic Analysis (TA), the approach developed by Virginia Braun and Victoria Clarke (2006) for the data analysis. The analysis is viewed as something the researcher generated, combining the data, their theoretical and conceptual frameworks, their discipline knowledge, and their research expertise (Willig, C., & Rogers, W. S., 2017).

TA is used to analyze data from 'traditional' face-to-face data collection methods such as interviews (e.g., Niland et al., 2014). So, TA is appropriate to analyze data from KII. It also provides flexibility in quantity and is more focused on quality. Braun and Clarke (2013) recommended a sample size of 6-15 for master's or professional doctorate projects. The author adopted a similar sample size of 8 key informant interviews in the study, providing deeper insights into qualitative research. Eight key informants were agro-processors and agro-researchers.

In TA, the data is approached either inductively or deductively. The author used an inductive coding approach. The codes were developed using what is in the data as the starting point. The data provide the bedrock for identifying meaning and interpreting data (Wendy, 2017).

This paper has focused on the semantic style of coding. Coding was built around what interviewers said during the interview. In semantic coding, codes capture explicit meaning; they are identified at the surface level of the data (Wendy, 2017).

After coding, the author found a central organizing principle that is present in all of the codes—a "clear core idea or concept that underpins a theme" (Braun et al., 2015, p. 102). In this research, writing about data in TA was done in both illustrative and analytical ways.

4. FINDINGS AND ANALYSIS

The presentation of the findings in terms of various themes is expected to make the paper more comprehensible for the readers. As a result, the findings described in this section have been classified into several themes based on the study's objectives.

4.1 An Existing Challenges of Agro-processing Sectors in Nepal [Objective no 1]

The study found the four major themes regarding challenges for processing agro-products in Nepal. The following are the themes:

4.1.1 Infrastructure Challenges:

Research finds out the agro processor in Nepal faces significant infrastructure challenges that hinder its growth and efficiency.

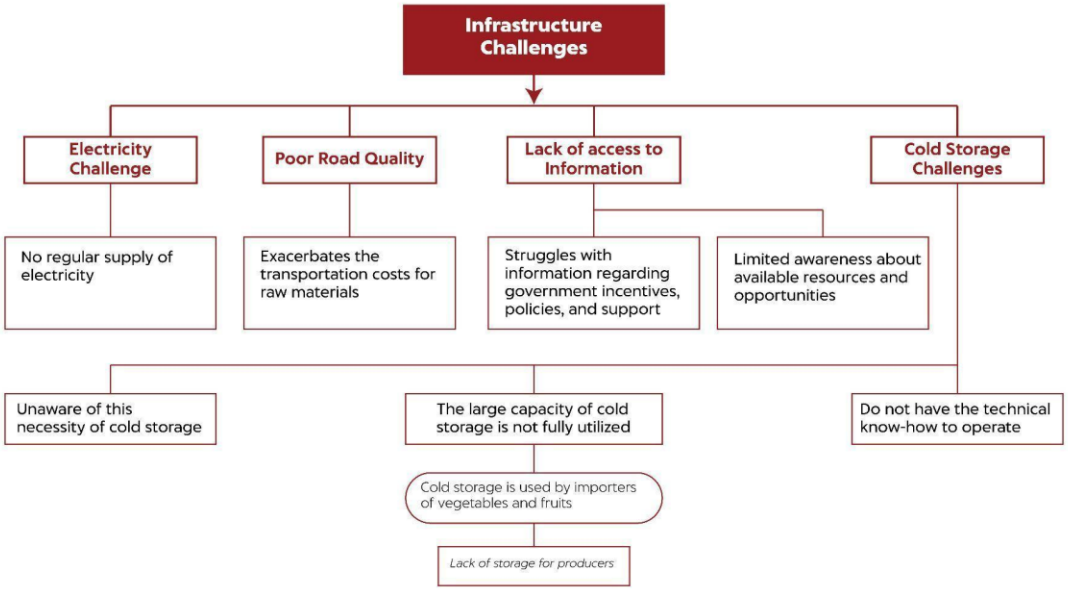


Figure 3:Infrastructure Challenge

A pressing infrastructure challenge for agro processors is the lack of a reliable and consistent electricity supply. Frequent power outages and fluctuations disrupt production processes and reduce overall operational efficiency. The inadequate road infrastructure exacerbates the transportation costs for raw materials needed by the agro-processor.

"The road itself is not good. It takes 6 and a half hours for a 60 km journey. Infrastructure did not exist. If there is a problem with the road, they say it's the work of sadak bibhag, but if there is no road, then how industry and policy work. There is no regular electricity supply."- Female A, agro-processor.

4 of the 8 stakeholders talks about the struggle they face with a lack of information regarding government incentives, policies, and support. Limited awareness about available resources and opportunities prevents them from capitalizing on support systems that could enhance their operations and competitiveness.

"*We tried a few times for government support. But that was also not available. One is the access to information because we don't know about the government policy. It is not widely circulated on the Mainstream market. In some cases, we have to forgo*." - Male A, agro-processor

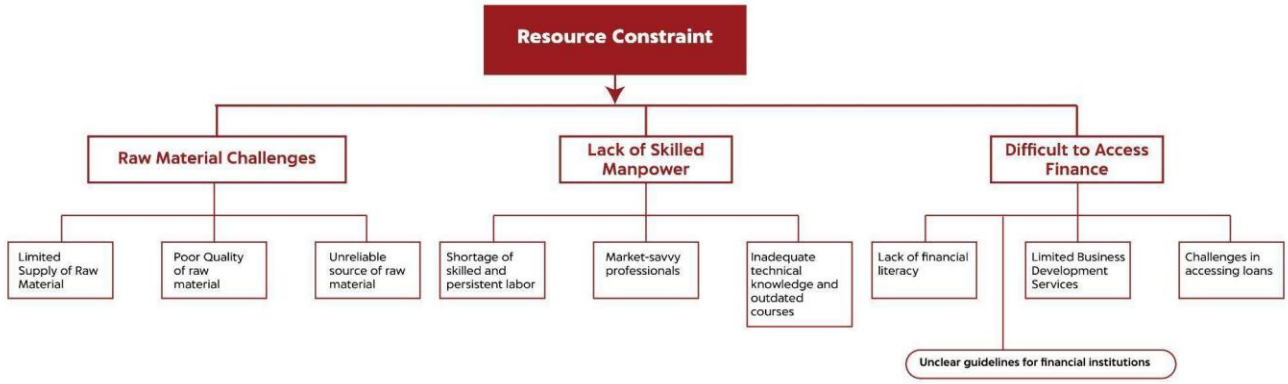
6 of the 8 stakeholders share challenges regarding cold storage. There is a requirement for cold storage since raw materials for most of the agro-processor are perishable. Every municipality offers grants for cold storage construction, but the producers are unaware of this necessity. About 400–500 tonnes capacity of cold storage is available in Nepal. Only 5 to 8 tonnes of storage are required by smallholder growers. Therefore, the importers of fruits and vegetables use all those storage facilities. As a result, our farmers lack cold storage. Those who own cold storage do not have the technical know-how to operate it.

"*We don't have cold storage.*"- Male B, agro processor

"70% of fruits and vegetables are lost in the cold storage because they don't know how to control temperature." - Male C, agro processor

4.1.2 Resource Constraints:

Figure 4:Resource Challenges



Research finds that the successful operation and growth of the agro-processing sector in Nepal face several significant resource constraints that impact various aspects of the industry.

One of the most pressing challenges faced by stakeholders in my study is the scarcity and inconsistency of raw materials. The availability of quality raw materials is often limited, leading to concerns about the overall production process. Instances of poor raw material quality, such as iron and wood residuals in khuwa used for gudpak processing, further exacerbate the issue. The unreliability of raw material sources adds complexity, forcing processors to repeatedly search for suitable supplies.

"*Agencies requested that we install ginger machinery and invest in capital. They stated they'd offer us money. But why will I? My present raw material source is not reliable*" - Female B, agro processor.

All the stakeholders contended with a shortage of skilled and persistent labor. This scarcity extends to both technical experts and market-savvy professionals. A lack of skilled labor hinders market understanding and consumer demand assessment. Moreover, inadequate technical knowledge and outdated courses contribute to the challenge. Instances of private enterprises having to seek expertise from abroad, such as the case of importing a food technician from New Zealand, underscore the gravity of the issue. Technicians in Nepal even don't know how to use machinery. Nepal lacks technicians to use the machinery brought by the Government from foreign.

"*There is difficulty in finding skilled manpower and persistent labor."* - Male B, agro-processor

"*There are few human resources in processing industries. Because of that during the end line the product is of poor quality*" - Male A, agro-processor.

Access to finance remains a critical resource constraint according to stakeholders. A lack of financial literacy and clear guidelines make it difficult for entrepreneurs to secure loans from financial institutions. Even those with financial knowledge often encounter challenges in accessing loans due to unclear protocols. The limited Business Development Services also hinder growth of private sectors.

"*There are different clauses for who wants to work by taking out a loan. Those who haven't worked earlier may face problems accessing loans. This makes it tough for those SMEs that are just getting started. There is a need for clarity and there should be clear guidelines for financial institutions."* - Male B, agro-processors

4.1.3 Certification and Knowledge Gap:

The research finds that agro-processor face significant challenges related to quality standards and knowledge gaps, which impact product quality, international market access, and value addition.

A critical constraint is the absence of qualified laboratories in Nepal for testing and certification of agro-processed products. Obtaining permits for product exports requires rigorous testing to meet international standards, and the existing labs, particularly those under the Department of Food Technology and Quality Control (DFTQC), may not meet these standards. As a result, private sector agro-processors often resort to sending their products to qualified labs in India for testing, incurring substantial costs and time delays. The process of obtaining permits from DFTQC for exporting agro-processed products is also lengthy, lasting more than six months. This extended timeline adds to operational delays, increases costs, and hampers the agility of agro-processors in responding to market demands.

"*Our government lab is not qualified. Even those labs that are in operation could test small quantities. Do we have to pay 40-50k every time when testing? My FDA registration form had arrived. But permit letters take 7 months. There is no system in Nepal."* - Female B, agro-processor

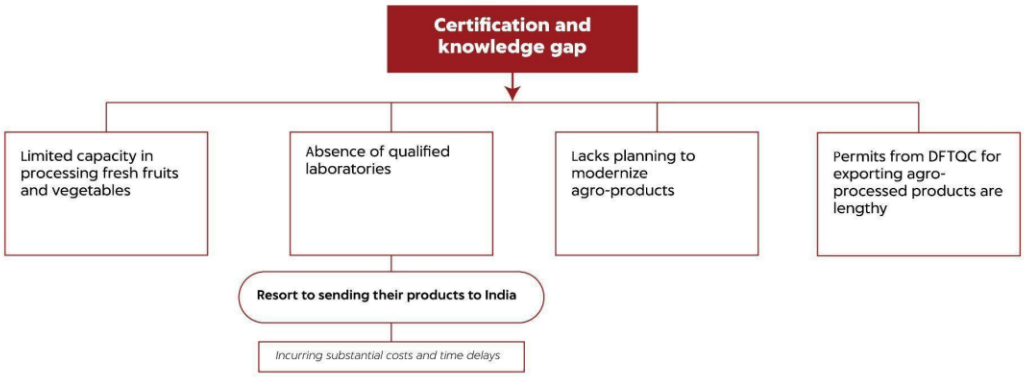


Figure 5: Certification and knowledge gap

The agro-processing industry in Nepal has limited capacity in processing fresh fruits and vegetables, which have a short shelf life. Existing processing facilities are often small-scale and struggle to meet international quality standards. People from Nepal who are ignorant of processing. Despite the fact that raw materials for these processed goods are abundant locally, people nevertheless import them. Nepal lacks planning to modernize our products. Ginger and cardamom are exported to India, India processes it through branding and again exports it to Nepal. The addition of value will only occur once we can sell a product after processing it.

"*There is no creation of a value chain. Tomatoes that were thrown out are now selling for Rs 60-70 kg. Because there is no knowledge of value addition. It would have been better if we could process it into tomato sauce, powdered tomatoes, or dried tomatoes. There is no technical knowledge of processing. When there is technical knowledge, there is value addition, and a value chain is formed."* - Male C, agro processor

4.1.4 Market and Economic Factors:

The stakeholders encounter significant challenges related to price instability and post-harvest losses, affecting both the financial viability of businesses and the overall agricultural value chain.

Post-harvest losses are the main concern for agro-processor, not for the farmers. Nepal lacks post-harvest loss management in between. It is important to handle the process in between (by aggregators, transporters, wholesalers, and purchasing). Therefore, post-harvest loss control is primarily a method of managing producers' products. The concept of post-harvest loss management is not widely known. Agriculture supply chain participants associate losses with quality but they are ignorant of losses sustained after harvest. Price rises as a result of post-harvest losses from poor handling.

"I *brought 2000 to 2100 kg of oranges from Syangja. We have cold storage and technology but also we faced 300 kg losses in oranges. Because there was no post-harvest loss management in between. Post-harvest loss management is so much about handling producers' goods. There is no reefer van. According to international standards there should be no temperature shock more than 5 degrees for perishable goods. But in Illam there is 4 degree, temperature rise in Jhapa to 30 degree within hour and when it comes to Siraha Saptari temperature again rose and when it comes to Kathmandu again temperature declines"* - Female B, agro-processors

Farmers should be trained in harvesting their produce. Post-harvest loss management starts from farmers. Due to the post-harvest losses, raw materials for agro-processor is increasing and the quantity of raw material needed for processing is also reducing.

"*.. For example, oranges should be harvested with the stem. They do not harvest with the stem, later on it oxidizes and there is fungal growth"*. - Female B, agro-processors

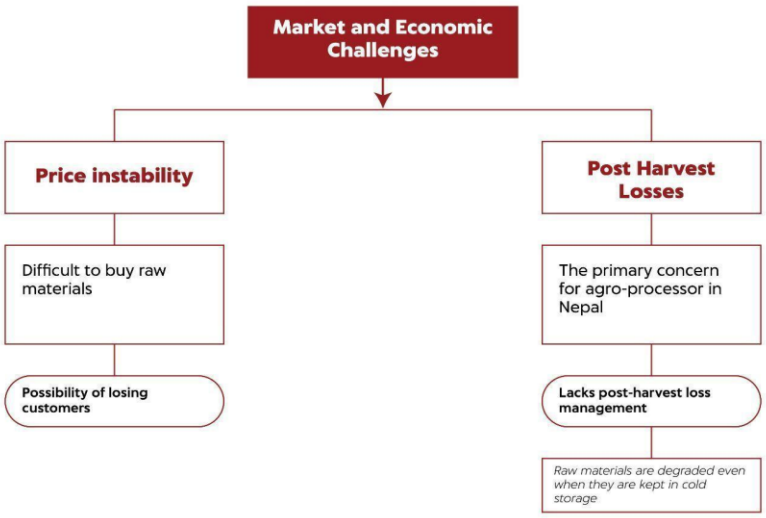


Figure 6:Market and Economic Challenges

The fluctuating cost of raw materials presents significant challenges for stakeholders. For example, ginger cost Rs 40 per kilogram last year. The price of ginger spiked to Rs 150 per kg this year. Profit margins for the agro processor using ginger this year are quite low due to the increase in raw material prices. If the private sector raises the price of its processed products, there is also a possibility of losing customers.

Case Study: Mandala Agrifresh Pvt. Ltd - Reducing Post Harvest Loss through Agriculture Supply Chain Innovation

Mandala Agritech Pvt. Ltd is a pioneering player in Nepal's agriculture industry, which is committed to reduce the post-harvest loss in Nepali agriculture. The company is playing a vital role in providing innovative solutions to the agriculture supply chain which has been critical in avoiding food loss.

The CEO of the company mentioned that post harvest loss of agriculture and fruits is around 40% in Nepal. Even though the issue is critical in ensuring food safety in the nation, there has been less effort towards its solution. This not only impacts farmers' livelihoods but also contributes to environmental concerns, such emission of greenhouse gas and loss of valuable resources in form of water, fertilizers, energy and human resources. The loss also contributes to the increased price of fruits and vegetables which is ultimately passed on to consumers.

To solve this problem, the company works mainly on two areas: Providing innovative technologies to supply chain actors and providing consulting services to agro entrepreneurs. To extend the shelf life of agricultural goods they provide Modified atmospheric packaging bags(MAP) to farmers' ethylene absorber sachets. Due to such products, the farmers have been able to sell their goods to other cities, thus ensuring better prices. One such success story was that of Broad leaf mustard, known locally as rayo ko saag farmers of Upper Bokkim, Bhojpur who were able to sell their products in Kathmandu without any spoilage and the quantity of the

products was maintained. They also provide consulting services to agro-businesses in use of innovative technology.

The major challenge lies in the fact that farmers are not technology friendly. It takes time to build trust. Usually we contact the local government and they send farmers to our training and orientation classes. Even though the MAP bags come under agriculture technology, they have to pay 48% of the custom duty. There is no data on distribution of agro-goods. Last year the company sold around 500 kgs of kiwi. However, when they tried to find data of their sold agro-goods, it was just 3500 kgs.

Figure: MAP bags

To understand the demand of products it is imperative to have proper data, which is unfortunately flawed or missing most of the time.Mandala Agritech Pvt. Ltd's relentless dedication of tackling food loss and building a sustainable agriculture industry in Nepal is commendable. Their innovative post-harvest management technologies and consulting services have not only improved the livelihoods of farmers but have also contributed to a more resilient and efficient supply chain.

4.2 Voices of Stakeholders: Evaluating Current Policies [Objective no 2]

One noticeable strength of the existing regulations is the significant government-backed financial support recognized by stakeholders, which includes incentives such as cold storage grants and expedited import facilitation, as well as the advantageous exemption of customs duties. The proactive engagement of the local government, which demonstrates an enthusiastic commitment to assisting agro-processors, is a critical component commended by stakeholders, providing a favorable environment for growth and development in the industry.

However, the results of this study highlight some policies that hinder Nepal's agro-processors' development. They receive subsidies and incentives from the government, but they are unaware of whose department is providing them those funds. Although stakeholders applied for the challenge fund that the government established, it was shut down this year. They face access to information problems as a result.

"We need grants but which department is giving us grants. Who receives grants? There is no information" - Female B, agro-processor

Agro-tech firms that contribute to tourism and food loss. These businesses are left unrecognized and unsupported by grants. Stakeholders emphasize that while grants are accessible for ventures like goat farming, those working in agro-tech face disparities in policy attention.

"If I opened a goat farm then I can get grants but not for agro tech companies" - Female B, agro-processor

Stakeholders are dissatisfied with customs policies. The customs duty on repair and maintenance is substantial. Agro-processors must also pay import duty when replacing their own machinery.

"*Suppose I import a machine worth Rs 1 crore which is damaged but it is under warranty period. I will send it to the company, they will repair it and send it back to me or I will send it and they will replace the damaged parts. But I have to pay custom duty for that repair. But if the company replaces and sends new parts I have to pay import duty. So if I bring agriculture related goods then I should pay 1% VAT and 1% tax. But when I send my 1 crore worth machinery for the replacement I have to pay 45% duty, like how is it fair*."

Stakeholders are also unhappy with the E-commerce Bill. It meets international requirements but is impractical for Nepal. According to it, the E-commerce platform should bear the entire risk. This has demotivated those who desire to sell their things online. The E-commerce bill has also mandated SMEs to start on website business but that is massive investment for SMEs. It raises the initial costs, further discouraging agro-processors.

According to one respondent, present policies are also not being applied. Respondents stated that policies are developed not for ethical reasons, but for political reasons. There is no participation in policymaking. Stakeholders also stated that the mainstream media may have misled us into believing that policies do not work. The mainstream media only emphasizes the bad aspects while ignoring success stories. There is a PMAMP program, but the benefits are reaped by those in power. There is no startup policy in place. There is no such thing as a startup definition.

Modified Atmosphere Packaging (MAP) plastic bags are a technique used by one of the study's stakeholders. However, because it is plastic, they have to pay a 48% customs fee. Hemp is used as a raw material for clothing by another stakeholder. However, hemp is not allowed in Nepal. Government is not recognizing the intention of the agro-processor. It is making it difficult for them to work in Nepal.

One of the stakeholders wanted to know how many Kiwis were sold this year so she could organize her business accordingly, but Nepal does not have access to distribution data.

"*You can find data about the production but there is no data about distribution"* - Female C, agro-processor.

4.3 Stakeholder-Driven Incentive Suggestion: Fostering Positive Change [Objective no 3]

The author had asked stakeholders what incentives they needed from the government or what policies could be improved. As a result, the following themes are established for the policy that they recommended.

4.3.1 Price and Market Support

One respondent suggested that the government establish a Minimum Sell Price for all agricultural commodities in order to stabilize prices. The implementation of an MSP would guarantee that farmers get paid fairly for their produce and stop abrupt price changes brought on by external factors. It would eventually help to reduce the price fluctuation problem for agro-processors.

The policy should also provide clear procedures for obtaining permits and certifications.

For the agro-processing industry, the Department of Food Technology and Quality Control (DFTQC) should create a transparent and thorough food policy that includes rules, regulations, and standards. This policy should include issues including quality control, labeling, processing standards, and market access. It should be written in simple English that is understandable to all stakeholders. The policy should also outline the steps to follow in order to obtain licenses and certifications.

"*I need to go to the DFTQC library to find out what the requirements are for Khuwa.*" - Female A, agro-processor

To address issues of market access and distribution, the government should formulate a robust distribution and market access policy. This policy should establish guidelines for fair distribution practices, pricing mechanisms, and market entry for both domestic and international markets. The policy can reduce post-harvest losses and enhance market efficiency by ensuring transparent and equitable distribution channels.

"*The distribution side of policy should be focused. India's agriculture started to develop when their policy shifted from production to distribution.*" - Female C, agro processor

4.3.2 Stakeholder Engagement

One of my main stakeholders has expressed a need for a dialogue session between the government, farmers, and processors. This platform would facilitate an open exchange of insights, challenges, and perspectives, which helps to gain a comprehensive understanding of the practical realities faced by stakeholders in the agro-processing sector. The direct input from stakeholders would help in reformulation or introduction of policies that genuinely address the needs and concerns of the private sector.

4.3.3 Financial and Investment Support

More than half of the stakeholders are not happy with the agriculture budget. Government should increase the budget for agriculture. Stakeholders said the government should increase sahuliyat krishi karja. Subsidized agricultural loans should be readily accessible. Concurrently, the implementation of a comprehensive financial literacy program is imperative. This program should encompass simplified guidelines on the loan application process, collateral requirements, eligibility criteria, and pertinent information accessible through financial institutions' websites. Additionally, each financial institution should designate knowledgeable personnel proficient in local languages to offer tailored assistance and information to loan seekers, fostering accessibility and understanding throughout the lending process.

4.3.4. Technology and Innovation

To propel agricultural advancement, the government should establish a comprehensive policy framework that fosters the growth of Agri Tech Companies, acknowledging their pivotal role in assisting farmers and processors. Four stakeholders stated that innovative agro-tech enterprises that help to improve agriculture are not recognized. This policy should encompass provisions for the dissemination of technical knowledge and expertise. All stakeholders are worried about Nepal's education system.

"*It appears that agriculture campus work is only done to provide a certificate. Students do not even know how to operate machinery.*" - Male C, agro processor

Additionally, the government should mandate an agriculture university to revamp its syllabus, emphasizing practical knowledge over theoretical concepts. To foster innovation, the government should allocate resources towards research and development initiatives. Furthermore, the government should enforce the involvement of Business Development Specialists in every enterprise In this vein, the government should initially provide its own specialists to guide enterprises during the initial stages of implementation, ensuring optimal business growth and development.

4.3.5 Infrastructure

3 stakeholders desire for good infrastructure in Nepal. Therefore, the government should prioritize the consistent supply of electricity to mitigate frequent power disruptions and fluctuations that hinder production processes and operational efficiency. Improving road infrastructure should be a key focus, as it directly impacts transportation costs and accessibility for agro-processing industries. To address the technical knowledge gap, the government should establish technical education programs aimed at imparting the skills needed to operate cold storage facilities effectively. Raising awareness about the significance of cold storage and post-harvest loss management is crucial, and the government should facilitate this through targeted awareness programs. Additionally, the establishment of collection centers for agricultural commodities could

be supported by the government, further enhancing the efficiency of supply chains and reducing post-harvest losses.

"*At least there should be collection center for vegetables*" - Male D, agro-processor

4.3.6 Institutional and Organizational Support

One of the respondents demanded for a dedicated institution that focuses on supporting and promoting the sector. This institution should include a department dedicated to facilitating the collection of raw materials, streamlining the supply chain, and ensuring a consistent and reliable flow of inputs for processors. Additionally, the researcher stakeholder also said that the government should set up a specialized Business Incubation Center that nurtures innovative ideas from both producers and processors, providing them with resources, mentorship, and a conducive environment to develop and scale their ventures. The Agribusiness Promotion and Support Center introduced by the Ministry of Agriculture and Livestock Development (MoALD) should be effectively implemented to provide targeted assistance to agro-processing enterprises. Furthermore, the establishment of Business Enabling Associations can play a crucial role in creating a supportive ecosystem for agro-processing industries, facilitating collaboration, knowledge sharing, and advocacy to address common challenges and promote sustainable growth in the sector.

4.3.7 Government Programs and Support

To foster innovation and entrepreneurship, stakeholder wished for the establishment of an accelerator program specifically tailored to agro-processing businesses should be considered. This program could provide mentoring, funding, and access to resources, helping agro-processing enterprises to thrive and contribute to the agricultural value chain.

4.3.8 Awareness and Training

Six out of eight stakeholders stated that having access to information would make it extremely easy for them to manage an industry. So, the government should enhance transparency and accessibility by ensuring that all policies, subsidies, and support mechanisms are readily available on user-friendly websites. Simple language should be used to present these resources. The development and implementation of an effective post-harvest loss management system should be the government's top priority in order to solve the pressing problem of post-harvest losses. Campaigns should be launched to raise stakeholders' awareness of the value of post-harvest loss control and reduction techniques, promoting a culture of effective resource usage across the whole agricultural value chain.

4.3.9 Legal and Regulatory Framework

The government should introduce and enforce policies mandating Corporate Social Responsibility (CSR) investments in agriculture research and development.

"*Private Companies CSR funds should be invested in agro-processing industries.*" - Male A, agro-processor

These regulations would compel companies, particularly those engaged in the agricultural industry, to set aside a specific portion of their earnings to support research projects that boost agricultural production, sustainability, and innovation.

4.4 Contract Farming: Fueling Agro-Processor Incentives

The desk review and primary data has indicated that linking farmers with agribusinesses through incentives, such as contract farming, can increase agricultural production, improve market access for farmers, and reduce production costs for agri-processing industries.

In agricultural commodity chains, contract farming is a type of vertical integration that gives the business more control over the production process, as well as the quantity, quality, features, and timing of what is produced (Prowse, M. 2012). Private sector is doing good in contract farming in developing countries. For example in 2008 Nestle had contracts with more than half a million farmers in over 80 developing and transitional economies (UNCTAD, 2009). The need for a reliable supply of high-quality raw materials has stimulated efforts to contract farmers; for example, many small-scale farmers in Africa grow cotton for ginning or supply milk to dairies under contract.

4.4.1 Benefits of Contract Farming

Stakeholders' state there is benefit for the agro-processor when involved in contract farming. Benefits are described through the following sub heading.

a. Efficient Planning and Resource Management:

Contract farming offers substantial benefits to private sectors engaged in the agricultural industry. By participating in contract farming agreements, these enterprises can strategically and efficiently plan their processing operations. This is particularly advantageous because contract farming ensures a reliable and consistent supply of raw materials, alleviating the significant challenge of raw material procurement that often plagues agro enterprises in Nepal.

b. Mutual Gains and Cooperation:

Involving in contract farming has multiple advantages, particularly for agro-processors. By engaging in contractual agreements, agro-processors are relieved of concerns surrounding raw

material availability, quality assurance, pricing fluctuations, and sourcing challenges. Concurrently, contract farming proves highly advantageous for farmers, granting them access to established markets and fair prices for their produce. Beyond these direct stakeholders, the positive impact ripples through the entire value chain. Seed and fertilizer sales thrive as contract farming requires these inputs, fostering economic growth. Consumers reap the rewards by getting superior quality products at reasonable prices. This symbiotic arrangement creates a "win-win" scenario, fostering mutual benefits for all actors within the value chain and contributing to the overall advancement of Nepal's agricultural ecosystem.

“There is mutual understanding between processors and farmers. And they have seen a bad and good harvest season. On other days in the good harvest season, the prices are really low for farmers. Bad harvest season means the prices are very high for the farmers. For industry ,good harvest means we will get the best price and bad harvest means bad price. So the author think that contract farming is beneficial for both for a long period of time.” - Female B, Agro-processor

c. Synergy and Familiarity:

Engaging in contract farming presents a distinct advantage for private sectors, as they cultivate a consistent relationship with the same farmers year after year. This continuity eliminates the need for perennially seeking new sources of raw materials, sparing valuable time and resources. Furthermore, the ongoing collaboration ensures a steady supply of high-quality and specified quantities of raw materials, reducing uncertainty reinforcing the stability and sustainability of the entire supply chain.

4.4.2 Challenges with Contract Farming

Stakeholders found and observed following challenges with contract farming in Nepal.

a. Lack of Trust and Reliability:

A significant challenge that stakeholders face and observed when engaging in contract farming is the absence of sanctity in terms of commitments from farmers. This is evident when, during the harvest period, farmers often choose to sell their produce to random buyers offering higher prices than those stipulated in the contract.

“But again having said that, there is no sanctity in virtue of contracts at least in terms of farmers.” - Female B, agro-processor

On the other hand, farmers do not have trust in private sectors as there are cases where private sectors didn't show up during harvest season.Therefore, there is no sanctity in terms of agro-processors also. Farmers predominantly rely on informal word-of-mouth interactions and remain hesitant to formalize agreements through mechanisms like Minimum Order Quantities (MOQs). The persistence of cash-based transactions further highlights their reservations towards

transitioning to contractual relationships, impeding the establishment of a reliable and secure contract farming ecosystem.

“Here nobody wants to sign the MOQ. This is a big problem. Even small industries demand 600-700 kg of khuwa monthly. When told to take RS 200 more per kilogram but provide good quality, they don’t do it. Heavily dependent upon word of mouth.” - Female A, agro-processor

b. Price and Policy Uncertainty:

The volatility of prices is the major challenge in contract farming. This instability can lead to situations where the agreed-upon contract price no longer aligns with the prevailing market rates. This price fluctuation is often exacerbated by external factors, such as demand from neighboring countries like India, which can drive up prices unexpectedly.

“*There is no difficulty in contracting. Finding a client is very difficult. Suppose I sell my products for 40$ this year, if I have to quote higher than 40$ next year I will lose the buyer. So I contract with farmers in whatever the prevailing contract but there is no longevity Because when I contract at that price I have to buy it and I will buy it. But if tomorrow India opens its import then farmers would be dubious. Traders go to the farm with Rs 120 and we go with Rs 30 contracts. Farmers won't give it to us. I cannot run a manufacturing company by buying at Rs 150.*” - Female B. agro-processors

A robust trade policy is necessary. It ensures consistency through bilateral agreements with importing countries, like India, and can provide stability by establishing clear and predictable terms for trade. Strengthening trade policies and fostering long-term contracts with importing nations can help shield contract farming participants from the adverse effects of price instability and create a more secure and conducive environment for sustainable contract farming practices.

c. Land Issues:

A critical challenge impeding contract farming in Nepal stated by stakeholders is the land management issues. The ownership and registration of land play a pivotal role, often excluding those whose lands are not officially registered in their own name from participating in contract farming initiatives. Within Nepal's contract farming framework, there are two distinct approaches. The first involves a contractual agreement between two parties to produce agricultural commodities. The second entails the land itself being subjected to a contract, enabling contract farming directly on that land. However, this second approach faces significant hurdles. Many individuals are unable to place their land under contract due to complexities arising from land ownership and registration. For instance, lands inherited from grandparents cannot be easily included in contracts as the legal ownership is often not in the name of the individual seeking to engage in contract farming.

d. Technological Integration:

Government should arrange a program of digital literacy for farmers. By equipping farmers with digital skills, they can actively participate in digital contract negotiations and engagements, thereby fostering transparency and accountability in the process. When contracts are done digitally there will be transparency.

5. DISCUSSION

The discussion highlights the various challenges faced by the agro-processing industry in Nepal and offers insights into potential direction for improvement and policy enhancement. The cost of production and transportation is greatly impacted by poor road networks and an unstable electrical supply, which are the main infrastructure challenges. Post-harvest losses get worse when there are no cold storage facilities. These difficulties highlight the critical need for reliable electricity, better roads, education about cold storage, and communication about government incentives. Infrastructure challenges like road, electricity and lack of information is consistent with the study done by Admin.C, (2022).

Industry expansion is severely hampered by resource restrictions, which include a lack of skilled workers, inconsistent access to finances, and a scarcity of high-quality raw materials. The Basnett & Pandey (2014) publication made the same conclusion. Uncertain loan terms and a lack of financial literacy make it harder for business owners to operate their businesses to their full potential. It is necessary to alleviate labor shortages, stabilize the supply of raw materials, and provide accessible financial resources through increased financial literacy initiatives in order to overcome these restrictions.

Due to a lack of accredited testing facilities, it is difficult to meet international quality requirements, which results in extra expenses and delays when transferring items to laboratories in nearby nations. This restricts access to global markets and value creation. This gap can be filled using a comprehensive strategy that includes the construction of qualified laboratories, financial investment in technical education, and use of modern processing methods.

The sustainability of the sector is jeopardized by price volatility and post-harvest losses. Losses and increasing expenses for raw materials are a result of ineffective harvesting techniques. For stable profit margins, it's critical to implement efficient post-harvest loss management procedures and train farmers in suitable harvesting methods. In Admin.C, (2022), post-harvest loss management is likewise constant.

The benefits of current regulations, such as funding for cold storage and imports and involvement from local governments, show that the government is committed to the expansion of the industrial sector. However, issues including policy ambiguity, information shortages, discontinued funds, and contradictory policies continue to exist, which causes uncertainties and growth hindrances. Price and market support, stakeholder involvement, financial and investment assistance, promotion of technology and innovation, infrastructure development, and institutional and organizational support are all recommendations for improving policy.

It is underlined that contract farming offers the possibility of mutually beneficial relationships between farmers and agro-processors. It provides strategic planning, effective operations, and a consistent supply of raw materials. However, for successful implementation, concerns with trust,

price volatility, and land management restrictions must be resolved. Solutions include fostering trust through adaptable formal contracts, regulating trade through trade rules, streamlining land ownership, and ensuring farmers are digitally literate.

6. LIMITATIONS OF THE STUDY

The time restriction imposed on this investigation is a significant drawback. The entire research process had to be finished in a relatively brief period of time—three months—starting with the topic choice, followed by the development of the research technique and the execution of the analysis.

Although effective at directing the analysis process, the thematic analysis (TA) method lays more emphasis on promoting reflection, methodical rigor, and a holistic approach than it does on achieving coding "accuracy" (Braun and Clarke, 2006). While encouraging greater interaction, this focus on quality assurance may also bring some interpretational subjectivity that could affect the ultimate theme consequences.

This paper uses an inductive approach so, the researcher's social position and theoretical viewpoint would inevitably influence the analytical process, possibly introducing minor biases that could affect how the data are interpreted and the themes that emerge.

While the qualitative detail gained through the study of Key Informant Interviews is invaluable, the smaller sample size inherent to KIIs limits the generalizability of results to a larger population.

Therefore, it is important to analyze the study's findings and conclusions while keeping in mind that the time constraint may have had an impact on the general quality and accuracy of the research.

7. CONCLUSION

Nepal's population is rapidly moving into metropolitan areas. By 2035, it's anticipated that 50% of the world's population will live in cities and consume a significant amount of crops with a high market value. Because of urbanization, consumer behavior has changed. They desire processed foods, convenience, and name-brand goods. It is essential for Nepal to grow its agro-processing industry in order to meet customer demand. Growing agribusinesses might be a driving force behind satisfying the need for high-quality food.

A strong agro-processing sector has several potential advantages. It can not only enhance agricultural productivity and increase farm household incomes but also ensure year-round availability of safe and nutritious food, create employment opportunities, and contribute to the conservation of foreign exchange by reducing the reliance on imported goods. However, despite the unmistakable impact of agro-processing, Nepal's current situation reveals significant underdevelopment in this sector, resulting in limited value addition, weak marketing and financial linkages, and an imbalance between agro-based enterprises and overall agricultural growth.

In this study, the qualitative research methodology is used. Thematic analysis is used to examine the information gathered from the KII and Desk review. Infrastructure issues, resource limitations, certification and knowledge gaps, and market issues are among their greatest challenges. The paper also explores the ways in which current policies have encouraged and deterred stakeholders. The desk review and primary data has indicated that linking farmers with agribusinesses through incentives, such as contract farming, can increase agricultural production, improve market access for farmers, and reduce production costs for agri-processing industries.This paper also develops the strategy for developing contract farming in Nepal.

In essence, the research's title, "IMPROVING VALUE CHAIN THROUGH INCENTIVES FOR PRIVATE SECTOR TO PROCESS AGRICULTURAL PRODUCT IN NEPAL," summarizes the central role of incentives and policy measures in encouraging private sector engagement and propelling Nepal's agro-processing sector to unprecedented heights. Nepal has the potential to unlock its full agro-processing potential by resolving highlighted problems and building a supporting ecosystem, fostering economic growth, industrialization, and sustainable development.

8. POLICY RECOMMENDATION

8.1 Fostering Successful Contract Farming: Strategies for Transparent Partnerships

The author presents a comprehensive strategy for contract farming that aligns with our country's context. This model is informed by an in-depth review of relevant literature and insights gathered from stakeholders. The proposed model aims to establish transparent and mutually beneficial relationships between farmers and agro-processors, fostering agricultural productivity, economic growth, and food security.

Contractual Agreement: The foundation of this model rests on a clear and concise contractual agreement that promotes transparency and accountability. Both parties, namely farmers and agro-processors, should be fully aware of their respective obligations. This clarity minimizes misunderstandings and forms the basis for a successful partnership.

Role of Producer Organizations: Producer organizations play a pivotal role as intermediaries between smallholder farmers and agro-processors. These organizations provide a centralized platform where smallholder farmers can collectively sell their produce. The agro-processors communicate their quality and quantity requirements to the producer organizations, which then relay the message to their farmer members. This structured approach simplifies the contracting process, reducing the need for parties to search for partners independently. For dairy products in India, where a selected villager supplies dairy products from small farmers to the firm, in this case Nestle (Birthal et al. 2008).

Financial Support and Access to Loans: Financial institutions should receive clear guidelines from the National Regulatory Body (NRB) regarding contract farming. Farmers engaged in contract farming should have streamlined access to loans, with reduced interest rates. However, loan eligibility should be contingent upon presenting valid contractual agreement documents. This financial support mechanism enables farmers to invest in their operations and adhere to contractual commitments. For example, an Indian firm’s collaboration with the State Bank of India and Union Bank of India allows farmers to receive one-year and longer-term loans for irrigation systems. In this model, the firm was liable for loan repayment, the amount of which was later deducted from farmers’ payments (Prowse, M. 2012).

Provision of Resources by Agro-Processors: Agro-processors should proactively supply essential resources such as tools, seeds, medicines, and fertilizers to contracted farmers. This approach empowers farmers to overcome pre-harvest challenges and adopt improved agricultural practices. By fostering timely and high-quality raw material supply, agro-processors bolster their operations and ensure a steady supply chain. The agro-processor registration process should be simple and rapid. The government can simplify corporate registration procedures, restrict license requirements, and simplify tax and trade regulations (Minot, 2007).

Transparency and Accountability: Private sector entities should actively engage in monitoring agricultural activities at various stages. This commitment to transparency builds trust among farmers and encourages accountability among all stakeholders. Private sectors can strategically plan and execute projects while optimizing outcomes for everyone involved.

Government Support:The government plays a crucial role in fortifying the contract farming ecosystem. Clear contract laws should be established, including mechanisms to penalize breaches of contractual obligations. Dispute resolution agencies should be set up to address conflicts. As an example of how contract farming might be controlled, Rehber (2007) describes the fundamental elements of the United States' 2006 Competitive and Fair Agricultural Markets Act. The law requires the firm to create contracts that are honest and accurate, easy to read and understand, and clearly describe the responsibilities of both parties. Contracts must provide a period of time after signing for the farmer to cancel the arrangement without penalty. Confidential provisions are not permitted. Contracts must specify how much compensation farmers will receive if the firm breaches the contract.To instill trust, the government can act as a guarantor, mitigating risks for all parties.

Price Stability and Training: In countries facing price instability, the government can set maximum selling prices for agricultural commodities. A comprehensive training program should be established to educate farmers and agro-processors on contract farming best practices. This equips them to navigate the partnership effectively.

Land Management and Regulatory Oversight: Land-related challenges can hinder contract farming participation. Streamlined land registration procedures, accommodating historical land ownership, encourage wider engagement. Government agencies responsible for food safety and standards(DFTQC) should provide clear directives to ensure product quality. Certification processes should be efficient once all necessary documentation is submitted.

Incentives for Contract Farming: To stimulate contract farming, the government can offer incentives. Contractual agreements should be registered with government authorities in the presence of both parties to qualify for these incentives. Agro-processors should be registered under relevant industrial acts, with additional rewards for those contracting with smallholders. This is especially beneficial for highly perishable products, reducing post-harvest losses. According to the study by Prowse, M. (2012) the size of the farms contracted in the successful cases, 54% (19 total) of the contracts were with small farms, crops that exhibit a high degree of variation in quality, perish easily, are hard to grow, or command a higher price per kg are more likely to be grown through contract farming.

This contract farming strategy is suited to our country's situation, incorporating transparency, responsibility, and support measures. This approach fosters strong connections between farmers, agro-processors, and governmental bodies, laying the foundation for long-term value chain development, economic growth, and food security.

8.2 Empowering Nepal's Agro-Processing with a Mega Food Parks Scheme: Drawing Inspiration from India

India's Mega Food Parks Scheme (MFPS) has proven to be a transformative initiative, and Nepal can take a page from its success story to empower its own agro-processing sector. By implementing a similar incentive structure, Nepal can bridge the gap between agricultural production and the market, maximizing value addition, minimizing wastage, increasing farmers' income, and creating much-needed employment opportunities, especially in rural areas. Here's how India has done it and how Nepal can follow suit:

India's Mega Food Parks Scheme - A Source of Inspiration:

An innovative program called the Mega Food Parks Scheme (MFPS), which was introduced in India in 2008, has been created to address a number of issues facing the agricultural and food processing industries. This plan brings together farmers, processors, and retailers in an effort to close the gap between agricultural production and the market. The main objectives are to boost farmers' income, decrease waste, maximize value addition, and create jobs, especially in rural regions (TSFPS, 2021).

Mega Food Park Model: An Illustration

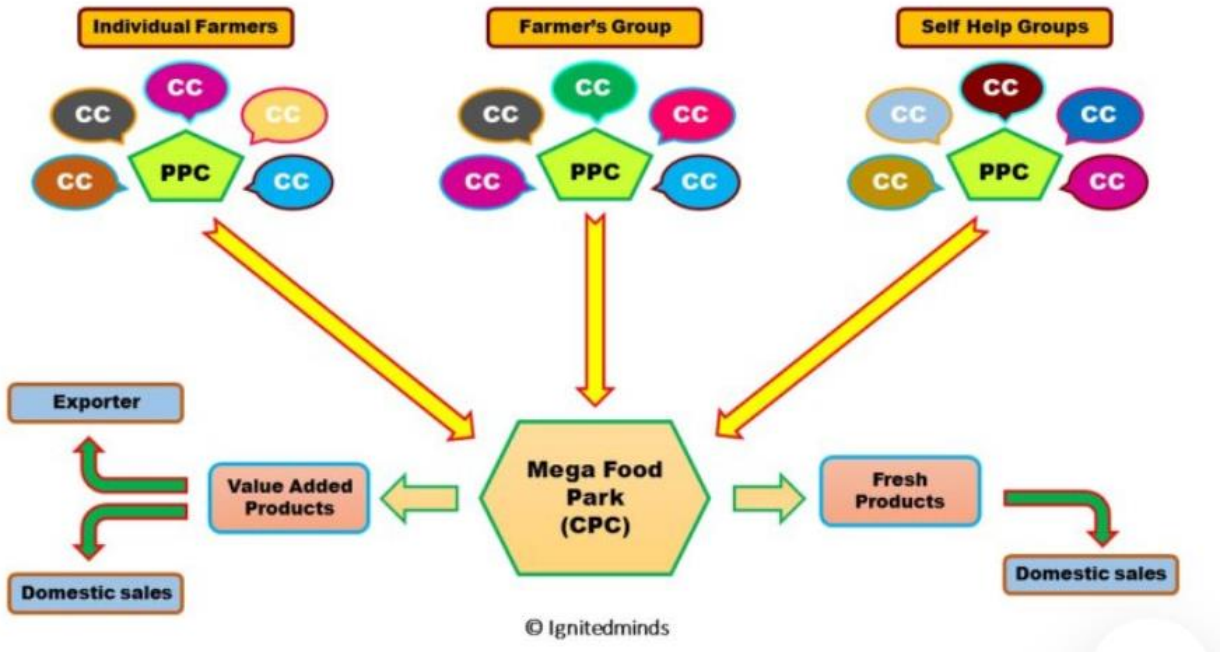


Figure 7: Mega Food Park Model

Source: (TSFPS, 2021).

The Mega Food Park model involves the following key components (MoFPI, 2012):

1. **Collection Centers:** These centers are strategically located near farmers, ensuring easy accessibility. Here, various facilities are available, including grading, sorting, and initial-level processing of agricultural products. Farmers, self-help groups, and individual farmers send their produce to these collection centers.
2. **Primary Processing Centers (PPC):** After initial processing at the collection centers, agricultural products are transported to the PPCs. At PPCs, products undergo further processing, such as pre-cooling, grading, pulping, sorting, waxing, packing, and temporary storage.
3. **Mega Food Park (Central Processing Center):** The PPC-processed products are then sent to the Mega Food Park, also known as the Central Processing Center. Here, the agro-products undergo more advanced processing, including pulping, aseptic packing, controlled atmosphere chambers, cold storage, quality control labs, and logistic centers. This central processing area is equipped with all the necessary infrastructure and facilities.
4. **Market Distribution:** After fulfilling all the basic requirements and undergoing processing, the products are either sold in domestic markets or exported.

Why was this step taken in India?

The initiation of the Mega Food Parks Scheme in India was prompted by the need to address post-harvest losses. A study conducted by the Central Institute of Post Harvest Engineering and Technology (CIPHET) in 106 randomly selected districts revealed that post-harvest losses ranged from 2% to 18%. This wastage led to significant economic losses, estimated at around 44,000 crores (440 billion INR). Consequently, the Mega Food Parks concept was established to reduce food wastage, enhance processing efficiency, and create a more organized and efficient value chain.

How is the scheme implemented?

The implementation of the Mega Food Park scheme is carried out through a Special Purpose Vehicle (SPV) mechanism. Key aspects of implementation include (MoFPI, 2012):

- **Formation of SPVs:** SPVs are created, which are companies registered under the Companies Act. These SPVs consist of equity holders, including financial institutions/banks, organized retailers, processors, service providers, producers, farmers' organizations, and other stakeholders. Each SPV must have a minimum of three independent entrepreneurs or business units, with no common directors.

- **Financial Requirements:** The combined net worth of the SPV shareholders should be a minimum of 50 crores, with food processors holding at least 10 crores of net worth. In earlier guidelines, government agencies could hold a maximum of 26% share capital to maintain the private sector character of SPVs. However, recent modifications allow central government agencies to become shareholders without equity restrictions.
- **Role of State Government:** State governments play a crucial role in supporting the Mega Food Park initiative. Their responsibilities include assisting SPVs in procuring suitable land, providing clearances for project setup, offering infrastructure support (power, water, roads), creating a conducive labor environment, and considering tax exemptions to facilitate the establishment of food parks and related units.

Special Purpose and Objectives of SPVs:

The primary objective of SPVs is to develop Mega Food Park-like infrastructure, focusing on infrastructure development, value addition, and minimizing wastage in the food processing sector.

Empowering Nepal's Agriculture - A Blueprint:

Collaborative Framework: Nepal can establish a collaborative platform involving the Government of Nepal (GoN), financial institutions, agricultural processors, farmers' organizations, and other relevant stakeholders. This collaborative approach will ensure comprehensive coverage and support for the agricultural sector.

Clear Objectives: Nepal should define clear objectives for its Mega Food Parks Scheme, emphasizing the reduction of post-harvest losses, the enhancement of value addition, the increase in farmers' income, and the creation of employment opportunities, particularly in rural areas.

Strategic Infrastructure: Implement a model that includes Collection Centers, Primary Processing Centers, and a Central Processing Center, strategically located for easy accessibility and efficient processing.

Addressing Post-Harvest Losses: Nepal's initiative can be driven by a similar need to minimize post-harvest losses, improve processing efficiency, and enhance the agricultural value chain's organization and efficiency.

SPV Mechanism: Adopt the SPV mechanism for implementation, ensuring the involvement of diverse stakeholders and fulfilling financial requirements for sustainability.

Government Support: Ensure that the government contributes significantly to the initiative, making it accessible and affordable for farmers and agro-processors.

Private Sector Participation: Collaborate with private financial institutions and organizations to encourage private sector participation in agricultural infrastructure development.

In conclusion, Nepal has the opportunity to revolutionize its agro-processing sector by emulating India's Mega Food Parks Scheme. This initiative can significantly reduce post-harvest losses, empower farmers, and drive economic growth. By adopting a collaborative framework, setting clear objectives, and involving diverse stakeholders, Nepal can pave the way for a more efficient and prosperous agricultural ecosystem.

8.3 Incentive to Encourage Private Sector Participation in Agriculture: Learning from Uganda for Nepal

Uganda's successful initiative, the Agriculture Credit Facility (ACF), serves as an inspiring model for Nepal to encourage private sector involvement in its agro-processing sector. By adopting similar incentives, Nepal can address key challenges, bridge financial gaps, enhance agricultural productivity, and stimulate economic growth. Here's how Uganda implemented the ACF and how Nepal can follow suit:

Uganda's Agriculture Credit Facility (ACF) - A Blueprint for Nepal:
The Government of Uganda (GoU), Commercial Banks, Microfinance Deposit Institutions (MDIs), Credit Institutions, and the Uganda Development Bank Ltd. (PFIs) are all working together to implement the ACF in Uganda.
The ACF was founded in 2009 to close the funding gap in the agricultural sector, boost agricultural output, and promote economic growth in Uganda.

Conditions of the Loan:
The following terms and conditions apply to loans provided by the ACF to qualified borrowers: Loans have a maximum amount of UGX 2.1 billion, with the potential to reach as high as UGX 5 billion on an individual basis.

Loan Period: Borrowers have access to loans with a maximum 8-year repayment term and a minimum 6-month grace period. The maximum credit term for grain trade activities is two years, and the maximum loan amount per person or business is UGX ten billion.

Grace Period: Before beginning to repay the debt, borrowers may have a grace period of up to three years.

Interest Rate: The maximum annual interest rate for ACF loans is 12%, but it may be as high as 15% for working capital tied to the grain trade.

Primary Security: The primary security required for ACF loans is machinery and equipment.

Eligible Activities under ACF:
The ACF supports a wide range of activities along the agricultural value chain, including:

Acquisition of agricultural machinery and equipment

- Post-harvest handling equipment
- Storage facilities
- Agricultural inputs
- Irrigation facilities
- Agro-processing activities

Sources of Funds:
The funds for the Agriculture Credit Facility are contributed by various stakeholders, including:

- Government of Uganda (GoU): GoU contributes 70% of any loan given to a farmer or agro-processor.
- Participating Financial Institutions (PFIs): These include Commercial Banks, MDIs, and Credit Institutions, which contribute the remaining 30% of loans to borrowers.
- Total Capital Base: The current capital base of the ACF stands at UGX 238.14 billion, with GoU contributing UGX 119.1 billion.

Nepal's Opportunity - Emulating the ACF Model:
Collaborative Framework: Nepal can establish a collaborative platform involving the Government of Nepal (GoN), commercial banks, microfinance institutions (MFIs), credit institutions, and relevant stakeholders. This collaborative approach will ensure comprehensive coverage and support for the agro-processing sector.

Clearly Defined Objectives: Nepal should clearly define the objectives of its agricultural financing initiative, focusing on bridging financial gaps, enhancing productivity, and promoting economic growth within the sector.

Flexible Loan Terms: Customize loan terms and conditions to meet the specific needs of Nepal's farmers and agro-processors, considering factors such as loan amounts, repayment periods, grace periods, and competitive interest rates.

Diverse Eligible Activities: Encourage a wide range of activities along the agricultural value chain, including machinery acquisition, post-harvest handling, storage, irrigation, and agro-processing. This diversity will attract private sector involvement.

Government Commitment: Ensure that the government plays a pivotal role by contributing a significant portion of each loan, making agricultural financing accessible and affordable to farmers and agro-entrepreneurs.

Private Sector Participation: Collaborate with private financial institutions, including commercial banks, MFIs, and credit institutions, to contribute to the financing pool. This will promote private sector participation in agricultural financing in Nepal.

Capital Base: Build a robust capital base for the initiative by leveraging contributions from the government and private financial institutions, ensuring the program's sustainability.

In conclusion, by drawing inspiration from Uganda's Agriculture Credit Facility (ACF), Nepal has the opportunity to revolutionize its agro-processing sector, empower local farmers and entrepreneurs, and drive economic development. A well-structured and collaborative initiative with tailored loan terms, government support, and private sector involvement can pave the way for a thriving agricultural ecosystem in Nepal.

8.4 Other recommendations

Table 1: Plan of action for implementing recommendations

Recommendations	**Action Required**	**Responsible Authority**
Development of specific infrastructure initiatives on roads, electricity supply, and construction of cold storage	Identify key areas for road improvement, electricity supply enhancement, and cold storage construction by collaborating with relevant ministries and agencies to outline specific initiatives. Assess budgetary requirements for the infrastructure initiatives by allocating necessary funds in the national budget. Regularly review progress and make adjustments as necessary to ensure effectiveness.	Nepal Electricity Authority (NEA), MoALD, MoICS, Ministry of Physical Infrastructure and Transport (MoPIT), MoF
Bridged the agro-processing skills gap, collaborate with technical institutions for balanced training programs, and support Agri Tech innovation through a favorable legal framework	Form a task force consisting of representatives from government, technical institutions, and industry experts to define the scope of the skills development program and identify priority areas and specific skills needed for the agro-processing industry. Conduct a comprehensive needs assessment to determine the current skills gap by developing training curricula that emphasize both technical proficiency and market	MoALD, MoICS, Education, Business Incubators

	knowledge and ensure that the curricula are aligned with industry needs and standards. Establish incubation programs and funding opportunities for Agro Tech startups by providing mentorship and guidance to help startups navigate the regulatory landscape and also create platforms for collaboration between Agro Tech firms, farmers, and processors.	
Invest in modernizing and accreditation testing facilities	Conduct a thorough assessment of the existing testing facilities in Nepal and identify gaps in terms of equipment, technology, and accreditation standards. Procure and install modern testing equipment that meets international standards Implement advanced technology for more accurate and efficient testing processes. Ensure facilities are equipped to handle a wide range of agricultural products.	MoALD, MoICS
Post-Harvest Loss Management Training Programs	Create a dedicated office responsible for coordinating post-harvest loss management training programs. Appoint a director or coordinator to oversee program development and implementation Conduct a needs assessment to identify the specific training requirements of farmers, transporters, wholesalers, and processors. Collaborate with agricultural research institutions to develop comprehensive training curricula. Ensure that the curricula address both theoretical and practical aspects of post-harvest loss management. Offer incentives such as certificates and recognition to participants who successfully complete the training. Promote the importance of training and certification within the industry to encourage participation.	MoALD, Agriculture Research Institutions
Create a user-friendly online platform with clear information on government grants and incentives for agro-processors, including department contacts, eligibility criteria, application procedures, and deadlines.	Set up a dedicated online portal that provides comprehensive information on available government grants and incentives for agro-processors. Design the portal to be user-friendly and easily accessible to all stakeholders, including agro-tech companies. Each department responsible for administering grants should compile detailed information about their respective grant programs, including eligibility criteria, application procedures, and deadlines.	MoALD, MoCIT

	Regularly update this information to reflect any changes in grant programs. Conduct periodic reviews of the grant allocation framework and make adjustments as necessary to address changing industry dynamics and priorities.	
Establish dialogue session by engaging stakeholders for inclusive policy-making procedures	Establish a dedicated committee responsible for overseeing stakeholder engagement in policy formulation. Appoint a chairperson and members representing government, agro-processors, industry professionals, and relevant associations. Organize regular stakeholder engagement forums, including meetings, workshops, and online discussions, to facilitate dialogue between government representatives, agro-processors, and industry professionals. Develop a schedule for these forums and ensure they are well-publicized. Ensure transparency in the decision-making process by sharing information on how stakeholder input influenced policy decisions.	MoALD, MoICS

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10. ANNEX

10.1 Consent Language

This language was shared verbally at the beginning of conversation.

नमस्ते, मेरो नाम श्रेया पाठक हो र म Daayitwa **मा** research fellow **को रुपमा काम गर्छु। यस** interview **मा सहभागी हुन सहमत भएकोमा धेरै धन्यवाद। म नेपालको कृषि प्रशोधन उद्योग बारे जान्नको लागि काम गरिरहेको छु। मैले आज सोध्ने प्रश्नहरू कृषि प्रशोधन उद्योगका चुनौतीहरू, अवसरहरू, प्रोसेसरहरूको लागि आवश्यक समर्थन र थप कुराहरू पर्छन। मैले** Interview **करिब एक घण्टा लाग्ने आशा गर्दछु।**

तपाईले मलाई जे भन्नुहुन्छ त्यो पूर्ण रूपमा गोप्य छ। म संग तपाईको अन्तर्वार्ता पूर्णतया voluntary **छ। यदि अन्तर्वार्तामा सोधिएका प्रश्न वा उत्तरहरूले तपाईंको लागि अप्रिय अनुभवहरू ल्याए र तिनीहरूलाई समावेश नगर्नु राम्रो हो जस्तो लाग्छ भने, तपाईंले मलाई तुरुन्तै रोक्न सक्नुहुन्छ। यी सबै जानकारी र रेकर्डिङहरू मेटिने छन्।**

अन्तमा, तपाईंले साझेदारी गर्नुभएको जानकारी सही रूपमा capture **गर्न मलाई मद्दत गर्न, म यो** interview **रेकर्ड गर्न चाहान्छु। रेकर्डिङ मेरो नोटहरूको लागि ब्याक-अप मात्र हो। मैले यसलाई ट्रान्सक्राइब गर्ने बित्तिकै रेकर्डिङ मेटिनेछ।**

तपाईंको प्रतिक्रिया र विचारहरूले कृषि प्रशोधन उद्योगका बारे राम्रो बुझाइ निर्माण गर्न मद्दत गर्नेछ।

के तपाइँसँग यी कुराकानीहरू बारे कुनै प्रश्नहरू छन्? **के तपाइँ** interview **दिन सहमत हुनुहुन्छ**?
[GET CONSENT PAPER sign]

के म interview **सुरु गर्न सक्छु**?
[BEGIN INTERVIEW IF CONSENT GRANTED]

अब recording on **गर्ने अनुमति चाहन्छु**?
[BEGIN RECORDING IF CONSENT GRANTED]

10.2 Questionnaire

1. Can you provide an overview of the current agri-processing industry in Nepal? What are the main activities involved in the processing of agro products?
2. What are the significant challenges faced by agri processors in Nepal?
3. As an agri-processor, how would you describe the current policy environment in Nepal regarding private sector involvement in agri- processing?
4. Are there any government policies or regulations that impact the agri-processing sector in Nepal? How do these policies support or hinder the growth and development of the industry?
5. As an agri processor, have you come across any incentives or support programs provided by the government or other entities to encourage private sector investment in agri product processing? If yes, please provide examples.
6. In your opinion, what additional types of incentives or support mechanisms could be introduced to further encourage private-sector investment in agri-product processing?
7. Do you know about contract farming?
8. What could be the significant challenges or advantages that agri processors may face when implementing contract farming in the agri value chain in Nepal?
9. Based on your expertise and experience, what do you foresee as the future prospects and challenges for the agro-processing industry in Nepal? Are there any emerging opportunities?

In this interview, I was interested in …. Is there anything you didn't tell me that you wish you did?"

Thank you for your participation and valuable insights. Your input will greatly contribute to our understanding of the dynamics and future prospects of the agro-processing industry in Nepal.