STRENGTHENING LOCAL MARKET SYSTEMS AMONG VEGETABLE FARMERS IN GULLARIYA, BARDIYA, NEPAL

A study conducted as a part of the Daayitwa Nepal Public Policy Fellowship 2025, together with Hon. Abdul Khan

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Executive Summary

This report examines the systemic challenges faced by farmers in Bardiya, with a particular focus on vegetable marketing and broader agricultural practices. Farmers reported that their produce is often undercut by cheaper Indian imports, leading to cross-border price fluctuations and intense competition in local markets. Despite being aware of these disparities, limited bargaining power, weak organization, and dependence on middlemen prevent farmers from securing fair prices. The study set out with three objectives: to identify institutional, policy, and market barriers; to assess farmers' awareness and financial practices; and to provide evidence-based recommendations for improving agricultural resilience. The findings revealed recurring institutional inefficiencies such as delayed seed distribution and misaligned programs like silage schemes in the Terai, highlighting weak coordination between government levels. Farmers showed very limited knowledge of policies including Minimum Support Price (MSP) and subsidy schemes, while 97% did not keep financial records and 75% had never received training. This lack of exposure to improved practices and business skills constrains productivity and market competitiveness. Additionally, logistical hurdles including fertilizer shortages, transport problems, and delays at checkpoints exacerbate losses, particularly for perishable goods. Government support, although frequently announced, rarely translates into practical benefits, further eroding trust. Based on these insights, the report recommends strengthening institutional coordination, enhancing farmer awareness of policies, expanding training and financial literacy, improving rural infrastructure and market access, and ensuring transparent delivery of subsidies. In conclusion, addressing these interconnected gaps is essential for enabling Bardiya's farmers to achieve greater profitability, resilience, and sustainable agricultural growth.

Table of Contents

CHAPTER 1 INTRODUCTION

1.1 Background

An enterprise is a newly established commercial entity that imports, exports, generates jobs, offers goods and services, and, most importantly, promotes sustained economic growth. To put it more succinctly, an enterprise is a commercial undertaking. According to Industrial Policy 2010, enterprises are categorized on the basis of nature and investment of the industry, into five groups: Micro-enterprises, traditional and other cottage enterprises, small scale enterprises, medium scale enterprises and large-scale enterprises (MoI, 2010). According to the 2018 National Economic Census, approximately half of Nepal's 923,356 functioning enterprises were registered. Of the 2.74 million workers in the MSME sector, 69.3% worked for microenterprises, 25.2% for small businesses, and 5.5% for medium-sized businesses.

A micro-enterprise is defined under the Industrial Policy 2010 based on a number of important factors. It necessitates a fixed investment of NRs 200,000 or less, not including land and building costs. These businesses can have up to nine employees, including the owner or owners, and must be directly run by the entrepreneur or entrepreneurs. Furthermore, they must restrict their yearly transactions to NRs 2,000,000 and utilize no more than 10 KW of power or energy. Under industrial policy, Micro enterprise in Nepalese economy contributes from agriculture, forest, tourism, handicrafts. Large-scale investments are not practical at the local and community levels, as acknowledged by the Industrial Enterprise Act of 1992 and the Micro-Enterprise Policy of 2008. Rural businesses are therefore defined as tiny manufacturing facilities that prioritize creating self-employment above encouraging competitive entrepreneurship. The United Nations Development Programme (UNDP) provided financial and technical support for the 1998 launch of the Micro-Enterprises Development Programme (MEDEP). It was started under the government's Ninth Five-Year Plan with the main goal of reducing poverty by encouraging the growth of microenterprises and creating off-farm job options for socially disadvantaged and impoverished rural communities.

Agriculture is one of the key drivers of the Nepali economy, which contributes 23.95% to the Gross Domestic Product (GDP) and provides employment to 57.3% of the total population of the country (AITC, 2081). Agriculture marketing involves a wide range of operations connected to the acquisition, sale, and distribution of agricultural products. The agriculture sector is a key driver of Nepal's economic growth and has been regarded as a high-priority area for national development since the sixth five-year plan (Khanal et al., 2024). Nepal imported vegetables worth Rs. 38.50 billion, showing major gaps in domestic production and weak market integration (CBS, 2021). Vegetables are highly commercialized (30–50%) with a cost-benefit ratio of 1:3 (Ghimire et al., 2023). Marketing constraints such as low prices, frequent fluctuations, high

transport costs, competition with Indian vegetables, and lack of storage facilities further limit farmer benefits (Giri, 2022).

Given Nepal's high production potential and persistent marketing barriers, it is crucial to explore how collective marketing, knowledge empowerment, and supportive policies can strengthen the vegetable value chain, improve farmer incomes, and reduce dependency on imports.

Statement of problem

Due to a lack of sufficient physical infrastructure, human resources, and raw materials, there were only a few prospects for the expansion and development of large-scale enterprises in rural regions. Thus, one of the finest options for Nepal's economic growth is the creation and running of microbusinesses.

Given the challenges facing micro enterprises in several countries, most of them have created a government agency to support growth in this type of company. However, these government agencies' activities are difficult to implement due to the specific microenterprise market needs, the small scale of their businesses, and the diversity of situations that they face (Albaz et al., 2020). Hence, this study fills the gap to address these challenges and know about the status of market innovation for micro and rural enterprises. Microenterprises face significant challenges in global trade due to limited skills, market knowledge, and access to finance; non-tariff barriers, complex regulations, and border procedures further restrict their participation. The smaller the enterprise, the greater the obstacles to international trade involvement (Pedraza, 2021b).

Despite the increasing relevance of market innovation as a tool to overcome these barriers, the integration of market technologies and linkage into rural and micro enterprises remains limited and underexplored in Nepal. This study aims to fill this critical gap by examining the current status, challenges, and opportunities for leveraging technological innovation to enhance market access for micro and rural enterprises in the country.

Research Objectives

Broad Objective

The goal of the research is to strengthen the local market systems among vegetable farmers in Gulariya, Bardiya, Nepal.

Specific Objectives

Under the broad objectives, the specific objectives are listed as below:

- To analyze the existing management practices (financial management, record-keeping, postharvest handling, aggregation, and marketing) of vegetable farmers and their influence on access to local and regional markets.
- To identify key barriers and gaps in management capacities that limit the ability of rural agro-enterprises to participate in higher-value local and regional markets.

- To recommend and design capacity-building strategies and management interventions among vegetable farmers in Gulariya, Bardiya, Nepal.

Scope and Limitations

SCOPE

- The study examines rural micro and small agro-enterprises in selected districts of Nepal.
- It focuses on management practices such as financial record-keeping, post harvest handling, aggregation, and marketing.
- Both local and regional market access opportunities are assessed.
- The research emphasizes capacity-building strategies to improve competitiveness and linkages.
- Findings aim to guide policymakers, development agencies, and cooperatives in strengthening rural market systems.

LIMITATIONS

- The study excludes large-scale agribusinesses and focuses only on micro and small enterprises.
- It does not cover international export markets, concentrating instead on local and regional levels.
- Infrastructure and policy-level constraints are acknowledged but not deeply analyzed.
- The research relies on selected districts, so findings may not represent all of Nepal.
- Time and resource constraints may limit the depth of longitudinal market impact assessment.

CHAPTER 2 LITERATURE REVIEW

2.1 History and status of Global Micro-enterprise

Due to their modest size and substantial employment contributions, micro-enterprises are vital to the global economy. In many economies, they are the most common sort of business, especially when it comes to Micro, Small, and Medium-Sized Enterprises (MSMEs). Due to their substantial contributions to GDP and job creation, these businesses are vital engines of economic expansion (Evans, 2022; Jahanshahi et al., 2011). Microbusinesses are especially important in developing nations because they boost local economies and offer crucial chances for skill development and entrepreneurship, especially for underrepresented groups like women (Dhaubhadel, 2022; Tambunan, 2019).

Government regulations have a big impact on microbusiness expansion and viability. Strong regulatory frameworks may encourage entrepreneurship in a number of industries, increasing

economic dynamism and allowing these companies to prosper in cutthroat marketplaces (Jahanshahi et al., 2011; Evans, 2022). The micro-enterprise sector has grown significantly in nations like India and Indonesia because of government backing and policies that encourage entrepreneurship, despite ongoing issues with restricted access to capital and adoption of new technologies (I.I. et al., 2019; Tambunan, 2019). According to empirical research, microenterprises' capacity to scale and modernize is hampered by a lack of innovative techniques and limited access to bank financing (Lin et al., 2020; Sharma, 2016).

In the past, the microfinance movement started in the 1980s with the goal of giving economically disadvantaged groups access to financial services. When it became clear that low-income people were frequently denied access to credit by established banking institutions, this movement gained traction. By offering loans, savings accounts, and insurance services to people who couldn't obtain funding through traditional channels, microfinance institutions (MFIs) became a solution and promoted the expansion of microenterprises. Monroy & Huerga, 2012; Siyongwana, 2004). Researchers and practitioners like Muhammad Yunus and the Grameen Bank model have shown that microfinance may help reduce poverty and encourage women and underprivileged populations to start their own businesses (Mariam et al., 2023; Mohiuddin et al., 2020).

2.2 Technological Areas in Micro and Rural Enterprises

A study on China and the European Union's digital infrastructure (Ben et al., 2017) asserts that a 10% increase in broadband penetration can lead to a 1–1.5% increase in GDP and that approximately 90% of employment will require some level of digital skill by 2020. Micro and small businesses are generally thought to be at an advantage over larger firms due to their flexibility and resistance to change because they are likely to face less internal resistance to innovation. However, despite such flexibility, smaller businesses are likely to be poorer innovators due to their relatively weaker access to financial and technological resources (OECD, 2023). Rural communities are faced with quality and availability problems of digital infrastructure and services. Among the issues that need to be considered by policymakers and service providers is the challenge of understanding basic technological infrastructure requirements in rural areas (Velaga et al., 2012).

Through the utilization of smart technologies, entrepreneurs in rural areas are able to transcend geographical limitations, tap into broader markets, and enhance their productivity and business effectiveness. For instance, mobile apps can offer real-time data on weather, market prices, and best crop management practices (Maurya et al., 2023). E-commerce websites enable rural businesses to market and sell their products online, extending their market far beyond the local vicinity. In addition, electronic payment mechanisms make it easier to conduct transactions by

reducing the use of money; thus, business interactions with customers and suppliers are faster and more convenient (Rahardja, 2023).

2.3 Factors Affecting Market Technology in MSE:

The main issues hindering entrepreneurship development in Nepal are social issues, illiteracy, lack of social awareness, existing poverty, environmental and economic (micro and macro) limitations, marketing, finance, human resource management, operations/production issues, and inadequate physical infrastructure. Except for a few, the majority of small and medium enterprises (SMEs) are structured inadequately, technologically behind, and unstable and random in management. Their business operations are unorganized, with little innovation, such that they become less competitive both locally and internationally, especially since the business environment continues to change at an exponential rate (Gregory et al., 2002)

2.4 Vegetable Market

The dynamics of vegetable markets are influenced by a multitude of factors, including supply chain efficiencies and external pressures such as economic changes and pandemics. Recent studies in this area have highlighted various aspects relevant to understanding price volatility, supply chain dynamics, and consumer behavior.

One crucial factor in vegetable pricing is the inherent volatility of these markets. For instance, Yang et al. found that solanaceous vegetables in Beijing's Xinfadi Market displayed significant price fluctuations from 2012 to 2018, highlighting the importance of historical price trends to stabilize these markets (YANG et al., 2023). Similarly, seasonal factors significantly influence price volatility across different vegetable varieties. Liu et al. identified specific weather changes that affect prices, showcasing how vegetable supply is sensitive to environmental factors (Yang et al., 2022). This volatility necessitates adaptive strategies in pricing and replenishment, as outlined in studies that employ ARIMA and other forecasting models to predict price trends (Han et al., 2024).

The degree to which weather risk is distributed over space is determined by the geographical integration of markets, which smooths unique differences in pricing. When it comes to marketing expenses, integrated marketplaces have little pricing variations across time, shape, and space. Unintegrated markets may send false pricing signals that might skew producers' marketing choices and result in ineffective product movements(Tomek & Kaiser, 2014). Research on vegetable markets in Nepal has shown that the degree of integration varies depending on perishability, distance, and market level. Highly perishable vegetables were found to be less integrated across both wholesale and retail markets. While most vegetable markets reflected long-run co-movements, the speed of price adjustment in the short run was almost absent (Mishra & Kumar, 2011).

2.5 International practices for market innovation in vegetables

Improving smallholder and small-enterprise access to vegetable markets has been a major focus in agricultural development. International practice clusters around five complementary innovations: (1) contracting and vertical coordination, (2) aggregation through producer organizations, (3) improved post-harvest / cold-chain and value-addition, (4) digital market platforms and market information systems, and (5) quality standards/certification and buyer linkages. Each practice addresses a different bottleneck in the perishable-vegetable value chain; combined they often deliver the largest gains.

- **Contract Farming and Vertical Integration:**

Vertical coordination has gained attention in the food system as a device for providing both cost and product quality advantages (Roy, 1963). This system is widely used in developed countries where it accounts for about 15% of agricultural output (Glover, 1990). For instance, in the U.S., 32% of the total value of agricultural production was produced under contract arrangements (Branch, 1996). For example, in Germany, vertical integration through contract production is already common in dairy, poultry and sugar processing accounting for approximately 38% of the agricultural production (Grosskopf 1994). Grosskopf, W. 1994. Einkommenssteigerung Durch Kooperatives Marketing Und Vertrags-landwirtschaft, Archiv-DLG, Germany, No: 88, p. 39-46.

- **Standards, traceability and value addition:**

Meeting buyer quality and safety standards (including private/retailer standards) enables entry into supermarkets and institutional markets. Traceability, simple on-farm quality control protocols, and light processing/packaging (minimal processing, ready-to-cook packs) add value. International experience highlights progressive steps: begin with basic hygiene and grading, scale to simple traceability (batch codes) and then to formal certification where market returns justify certification costs. Public–private partnerships and cost-sharing (for certification and testing) help overcome initial cost barriers (Cooper et al., 2021).

- **Digital platforms, e-commerce and market information systems:**

Digitizing vegetable market practices in developing countries involves digital tools from farm to fork, such as smart agriculture, digital platforms for buyers and sellers, online payment systems, and blockchain for traceability to improve efficiency, reduce costs, and enhance access to markets for farmers, while also addressing challenges like digital skills and infrastructure. This

transformation supports better resource management, market access, and value addition, but requires supportive regulatory frameworks and accessible internet to succeed (FAO, 2020).

- **Aggregation and producer organizations:**

Aggregation and producer organizations improve vegetable markets by enabling smallholders to pool produce, leading to reduced transaction costs, increased bargaining power, and more consistent supply, which benefits farmers through better prices and market access. This collective action enhances market efficiency by attracting larger buyers, facilitating access to credit and inputs, and improving food safety practices. However, without complementary interventions like cold storage and demand-boosting measures, aggregation can risk diverting supply from smaller rural markets and may not fully address the deficits in infrastructure, particularly in developing countries (Abraham et al., 2022).

CHAPTER 3 RESEARCH METHODOLOGY

Study Area

The study was conducted in Gullariya, Bardiya District, located in the Lumbini Province of Nepal. Bardiya is well-known for its ecological richness, cultural diversity, and the presence of Bardiya National Park. The study was conducted at approximately 28° 48 '59.99 " N latitude and 80° 28' 59.99" E longitude, situated at an elevation of around 215 meters (705 feet) above sea level. The area falls under the Terai ecological zone and experiences a subtropical climate characterized by hot summers, mild winters, and a pronounced monsoon season from June to September.

3.2 Research Approach

The field study employed a qualitative research approach to explore and gain comprehensive insights into the experiences and perceptions of vegetable farmers. This method facilitated an in-depth understanding of their perspectives, challenges, and lived realities, particularly with vegetable production and market access.

3.3 Selection of Respondents

Population Sampling Technique: The study utilized purposive and snowball sampling techniques to identify and select participants.

I. Purposive Sampling: This method was employed to deliberately select respondents who were knowledgeable and actively involved in vegetable farming practices or market delivery of their products. The selection ensured that the participants were well-suited to provide relevant and meaningful insights aligned with the research objectives.

II. Snowball Sampling: To complement purposive sampling, the snowball sampling technique was used to identify additional respondents through recommendations from initial participants. This approach was particularly useful for accessing individuals or groups who were otherwise difficult to reach, ensuring a diverse and comprehensive representation of farmer experiences.

3.4 Exclusion or inclusion of data:

Inclusion of Respondents: The study included a diverse range of respondents to ensure a comprehensive understanding of the experiences and perceptions related to farming practices and value-added activities. Participants were selected from various demographic groups, including Brahmin, Tharu, Chhetri, and Dalit, Muslim as well as both male and female farmers. This diversity allowed the study to capture a broad spectrum of perspectives and address potential variations in challenges and opportunities across different social, cultural, and gender backgrounds. The inclusion of respondents from varied ethnic and social groups enriched the analysis and enhanced the overall credibility of the study findings.

Exclusion of Respondents: While the study aimed to include a diverse range of respondents, certain groups were excluded based on predefined criteria to maintain focus and relevance. Individuals who lacked direct involvement in rice farming practices activities were excluded, as their experiences were not directly aligned with the study objectives. Additionally, participants who were unable or unwilling to provide informed consent or who were inaccessible due to logistical constraints were also excluded. These exclusions ensured that the data collected remained relevant, reliable, and aligned with the research.

3.5 Sample Size:

The total sample size for the study comprised 100 participants, representing Gullariya Municipalities, of which total 9 wards were Data was collected through six FGDs with farmers & groups, with an equal distribution of three FGDs from each municipality. Additionally, eight stakeholders were interviewed, four from each of the two municipalities. This diverse sample ensured a balanced representation of both farmers and key stakeholders, providing a comprehensive understanding of their perspectives on vegetable farming practices and market integration in the region.

3.6 Data Collection Methods

Both the primary and secondary data were used in the study, which are elaborated as follows:

1. Primary Data Collection: This method was obtained through Focus Group Discussion and Key Informant Interviews.

- **Focus Group Discussion (FGD):** As part of a qualitative data approach, FGDs were conducted with farmers engaged in vegetable farming with diverse groups, including marginalized people and women groups, to facilitate discussion about common challenges and shared experiences.

- **Key Informant Interview (KII):** The KIIs with key stakeholders, included government officials, and community leaders, to gather comprehensive insights into the broader context and support systems in the market practices of vegetable farmers

2. Secondary Data Collection:
Secondary data for this study was obtained through an extensive review of respective publications and policy documents. Most prominent sources were Ministry of Agriculture and Cooperatives (MoAC), Department of Agriculture, Central Bureau of Statistics (CBS), and Ministry of Agricultural and Livestock Development (MoALD) reports. Further, research also involved observation from Microenterprise Development Policy reports, which provide guidelines and approaches for stimulating small-scale agribusinesses in Nepal.

Reports, published books, and peer-reviewed journals, along with conference proceedings, were also consulted, highlighting journals and reports that described the state of vegetable production in Nepal. These sources provided rich background information to comprehend production trends, challenges, and opportunities in the vegetable value chain.

3.7 Data Analysis

This study analyzed vegetable farming and marketing practices, adoption challenges, and opportunities using thematic, content, and narrative analyses with a holistic approach. Thematic analysis identified key themes such as resource constraints and socio-economic barriers, while content analysis quantified recurring concepts like knowledge gaps and market access issues. Narrative analysis captured farmers & lived experiences, highlighting their perceptions and coping strategies.

Thematic Analysis
In the Bardiya study, interview transcripts and field notes were subjected to open coding, where recurring words, ideas, and local expressions were identified line by line. These initial codes

were then grouped into broader categories such as policy awareness gaps, resource and capacity constraints, weak coordination among agencies, farmers' ownership and participation, and accountability in program delivery. Through iterative comparison, these categories were refined into core themes that reflected the systemic challenges facing agricultural policy implementation in Bardiya.

To enhance reliability, the coding process was revisited multiple times to check for consistency and minimize researcher bias. Extracts from Key Informant Interviews (KIIs) were systematically compared with government policy documents, budget allocations, and field-level observations to either validate or challenge the emerging interpretations. This triangulation enabled the research to move beyond individual perceptions and capture patterns that cut across respondents, institutions, and evidence sources, thereby grounding the findings in both community experiences and documentary review.

Coding Framework Analysis

Themes	**Sub-Themes**	**Illustrative Sources**
Policy Awareness Gaps	-Limited knowledge of policies among farmers -Weak dissemination of information - Lack of record-keeping practices	KIIs with farmers, FGD discussions, field notes, government circulars
Resource & Capacity Constraints	- Inadequate technical staff - Insufficient training for farmers - Shortage of agricultural inputs (fertilizer, seeds)	KIIs with local officials, farmers, policy documents (budget reports)
Coordination Challenges	- Poor alignment between local and provincial programs - Overlapping roles of agencies - Weak farmer–extension linkage	KIIs with local officials, farmers, policy documents (budget reports)
Ownership & Participation	-Limited farmer participation in planning - Dependence on external projects - Lack of motivation for record-keeping	FGDs, KIIs with farmers' groups, observations during field visits
Accountability Mechanisms	- Weak monitoring and evaluation - Budget leakages - Lack of transparency in subsidy distribution	Government budget reports, KIIs with officials, farmers' narratives
Systemic Barriers to Reform	- Political influence in program selection - Bureaucratic delays - Short-term project focus vs. long-term vision	KIIs with policy actors, document review (laws, programs), field observations

3.8 Ethical Considerations

Ethical considerations in the study included informed consent from all participants, ensuring them confidentiality and anonymity, and safeguarding their personal information. The research adhered to ethical standards by being sensitive to cultural norms and practices during data collection. Participants were informed about the study's purpose, ensuring voluntary participation. Efforts were made to avoid any form of harm or discomfort to the participants. All data was handled responsibly to maintain trust and integrity.

CHAPTER 4 RESULT AND FINDINGS

This study explored how current management practices among rural micro and small agro-enterprises in Nepal influence their access to local and regional markets, with a focus on identifying potential interventions to enhance market opportunities. The qualitative data, gathered through interviews and field observations in Gulariya, Bardiya, revealed several key findings:

1. Cross-Border Price Fluctuations and Market Competition

A major challenge faced by farmers in Bardiya, particularly in Gulariya, is the impact of cross-border trade with India on local agricultural markets. Agricultural products imported from India, often sold at lower prices due to economies of scale or government subsidies, dominate local markets. This creates intense competition for local farmers, who find it difficult to sell their produce at fair prices.

The price fluctuations caused by cross-border trade are unpredictable and can discourage farmers from investing in higher-value crops or expanding production. Many farmers reported that even when they harvest a good yield, the influx of cheaper Indian products drives down local prices, sometimes below the cost of production. This not only reduces profitability but also undermines the long-term sustainability of farming as a livelihood.

> I grow tomatoes and onions every year, but most of the time we cannot sell them at a reasonable price. Indian traders bring the same vegetables at much lower prices, and buyers prefer them. Last season, I had to sell my tomatoes at half the cost of production. It feels like all our hard work is wasted." – Farmer, Gulariya

2. Financial Record Keeping

A critical challenge identified during the study is the lack of financial and production record-keeping among farmers in Bardiya. Approximately 97% of respondents reported that they do not maintain any formal records of their farm expenditures, incomes, or production activities.

Most farmers explained that expenditures are made as income arrives, often driven by immediate needs rather than systematic planning or budgeting.

This absence of record-keeping has far-reaching consequences. Without accurate records, farmers cannot assess the profitability of their operations, identify areas for cost reduction, or evaluate which crops are most productive. It also limits their ability to access formal financial services, such as loans or credit schemes, which often require documented evidence of income, expenses, or land use. Furthermore, the lack of records prevents farmers from participating in formal market mechanisms, including contract farming or cooperative-led initiatives, which rely on transparent and verifiable data.

> When I sell vegetables at the haatbazar, I usually spend the money on food, fuel, and school fees while coming back home. By the time I reach, there is nothing left to record, and I don't have time to write anything down. That is why I never keep a financial record, even though I know it could help me manage my farm better." – Farmer, Bardiya

3. Training and Capacity Building

Approximately 75% of farmers in Bardiya have never received any form of formal agricultural or enterprise-related training. This lack of exposure significantly constrains their ability to adopt improved farming techniques, respond to changing market trends, or develop essential business and marketing skills.

Without proper training, farmers often rely on traditional practices, which may be less productive, less resilient to pests and climate variability, and less profitable. They may also lack the knowledge needed to negotiate fair prices, diversify their crop portfolio, or explore value addition opportunities. Consequently, the absence of training not only affects individual farm performance but also limits the overall competitiveness of local agriculture in broader markets.

> I have been farming all my life, but I have never attended any training on new farming techniques or market management. I rely on what my parents taught me and my own experience. Sometimes I hear about better methods or technologies, but I don't know how to apply them or where to access them." –Farmer, Bardiya

4. Government Support

Another critical constraint identified in Bardiya is the limited availability of government subsidies and financial support for smallholder farmers. While government authorities frequently announce agricultural schemes, such as input subsidies, low-interest loans, or support for farm mechanization, the benefits rarely reach the farmers on the ground.

Many respondents explained that, despite official communication or program announcements, practical implementation is weak, and farmers often do not receive seeds, fertilizers, or financial assistance in time, or at all. This disconnects between policy and practice severely restricts farmers' ability to adopt improved technologies, expand their production, or diversify their enterprises. The absence of tangible support often leaves farmers dependent on their own limited resources, which constrains both short-term productivity and long-term growth.

> Farmers often complain that government programs do not reach them effectively. Even when schemes are implemented, distribution is delayed or uneven, and many farmers are left out. Strengthening implementation and ensuring that benefits reach the intended beneficiaries is crucial for improving agriculture here." –Cooperative President, Bardiya

5. Agriculture as a Traditional and Sole Livelihood Option

Agriculture remains a deeply rooted traditional profession in the study area, and for most rural households, it is not just an occupation but a means of survival. The majority of respondents indicated that they continue farming not out of choice, but due to a lack of alternative livelihood opportunities. This dependency often leaves farmers vulnerable to external shocks, such as market price fluctuations and climatic uncertainties, with limited ability to adapt or shift strategies.

> A farmer of ward no.10 explained that "I encounter so many hurdles in this profession but there is no way to escape it because it is the sole occupation that our livelihood exist.

6. Awareness of Market Price Disparities

Despite limited resources and access to formal market channels, most farmers in Bardiya are keenly aware of the significant gap between the prices they receive for their produce and the prices consumers pay in the market. Many farmers recognize that middlemen, traders, or wholesalers often capture the majority of profits, while producers earn only a fraction of the final consumer price. This awareness reflects farmers' practical understanding of market dynamics and the challenges they face in value capture.

However, this knowledge has not yet translated into collective action or structural change. Farmers often lack the bargaining power to negotiate better prices and are constrained by limited market literacy, inadequate access to information on demand trends, and the absence of organized farmer groups or cooperatives capable of securing fair deals. As a result, while farmers are aware of the disparity, they remain vulnerable to exploitation and dependent on existing market structures.

> I know that when I sell my vegetables at the haatbazar, they are sold to traders for much lower prices than what consumers eventually pay in the town. We work hard, but middlemen get

most of the profit. I wish we could sell directly or organize together, but we don't have the knowledge or power to do that.

7. Minimal Use of Technology in Farming and Market Transactions

There is virtually no use of modern technology among the farmers for either farming practices or market transactions. None of the participants reported using mobile phones, digital platforms, or other technological tools for accessing market information, setting prices, or selling produce. Farming activities continue to rely entirely on traditional methods, and market dealings are conducted in-person, often through middlemen. This technological gap limits farmers' ability to make informed decisions, compare market prices, connect directly with buyers, or access weather and advisory services that could improve production and profitability.

In most wards, the primary reasons for this technological gap were reported to be a lack of digital literacy, limited access to proper mobile phones, and the absence of reliable internet connectivity in their homes. As a result, farmers remain disconnected from digital innovations that could support informed decision-making, real-time market comparisons, direct buyer communication, and access to agricultural advisories. This digital divide poses a serious constraint to modernizing farm management and enhancing market access.

Farmers from Ward No. 9 reported that they do not use mobile phones for agricultural purposes due to a lack of digital literacy and awareness. Many of them do not have internet access at home, and the high cost of connectivity makes it unaffordable. As a result, we do not engage in any form of digital transactions related to the sale or delivery of agricultural products.

In contrast, farmers from Ward No. 1 have comparatively higher levels of literacy and digital awareness. They are able to conduct mobile banking transactions, though primarily for personal use. Only a limited number of these farmers use such services for agricultural market transactions, such as payments or deliveries.

Meanwhile, collection centers located in the main market areas operate largely on online transaction systems. Since these centers handle bulk buying and selling of agricultural produce, digital payment methods are more commonly used there, facilitating faster and more secure transactions between buyers, sellers, and intermediaries.

8. Informal Farm-to-Market Practices and Dependence on Middlemen

Most farmers use informal and traditional methods to transport and sell their produce. The majority sell their products at local haat bazaars, using autos, bicycles, or manual labor to carry goods to the market. However, this approach involves challenges such as physical exhaustion, market unpredictability, and wastage of unsold goods.

Many farmers reported that they first attempt to sell in the local market; if some produce remains unsold, they then rely on middlemen, who come directly to their homes and purchase in bulk. While some farmers expressed concern about lower prices offered by middlemen, others appreciated that this method helped reduce post-harvest losses. A few noted that when they attempt to sell themselves, they often experience higher wastage, and unsold items are either discarded or distributed for free to others while returning home.

These practices highlight the lack of structured supply chains and storage facilities, leading to inefficient market participation and income losses, especially for perishable products. The absence of market coordination mechanisms forces farmers to accept quick sales over better pricing or planning.

A farmer from Ward No. 12 of Bardiya shared, "As a registered member of the local agricultural cooperative, I find it more convenient to sell my farm produce to businesspersons who act as middlemen rather than going to the local haat bazar every day. This arrangement reduces my stress of daily bargaining and the uncertainty of selling all my products in the open market. Even though I am well aware of the price differences and know that middlemen offer lower prices compared to the retail market, I feel assured that my produce will not go to waste. At the very least, I can sell at a minimal but guaranteed price, ensuring my products are safely transported and reach the 'byapari' (traders) without the risk of spoilage or loss.

Meanwhile, the same ward also has small-scale cultivators who continue to follow the traditional practice of selling their produce at the local haat bazar, often transporting goods by bicycle.

A farmer from Ward No. 3 explained, "I face considerable wastage when carrying my products by cycle or small auto. During loading and unloading, the produce often gets bruised or damaged, and much of the post-harvest loss occurs at this stage

9. Distance and Accessibility to Marketplaces

Accessing markets remains a logistical challenge for many farmers in the study area. The time required to reach the nearest market varies significantly depending on the ward in which the farmers reside, ranging from approximately 45 minutes to as much as 1 hour and 30 minutes. The main marketplaces identified by participants include Chitla Bazar and Gulariya Haat Bazar, which serve as key selling points for agricultural produce in the region.

Farmers typically travel to these markets using bicycles, autorickshaws, or other basic means of transportation. For those living in more remote wards, the longer travel time increases the burden of transporting perishable goods, especially during peak harvest periods. This not only adds to post-harvest stress but also limits the frequency and volume of market participation, particularly for smallholders without reliable transport options.

10. Institutional delays with resources

Farmers in many rural areas of Nepal often face significant challenges due to delays in the provision of essential agricultural resources. Although cooperatives and municipalities intend to support local farmers by providing seeds and other inputs, bureaucratic inefficiencies frequently result in these resources arriving too late to be effective. Seeds, which are crucial for timely planting, are sometimes distributed after the optimal sowing period, forcing farmers to either postpone planting or resort to purchasing seeds at higher market prices. This delay not only affects crop yields but also jeopardizes the income and livelihoods of smallholder farmers.

> Every year, we rely on the municipality and our cooperative for quality seeds. But most of the time, the seeds arrive after the planting season is over. Last year, we received maize seeds only in July, while the ideal sowing time was in May. Because of this, our harvest was much lower than expected, and we had to spend extra money to buy seeds from the market. We hope that the authorities can ensure timely distribution so that we can plan and grow our crops properly." - Farmer of ward no 9, Bardiya

11. Lack of coordination among institutions and three tiers of government

During my study in Bardiya, it became evident that one of the major challenges affecting the effectiveness of agricultural programs was the lack of coordination among key institutions. Various stakeholders; including municipal offices, cooperatives, provincial authorities, and agricultural extension agencies often operate in silos, without proper communication or alignment of activities.

This disconnect manifests in multiple ways: programs are duplicated in some areas while other critical needs remain unaddressed; resources such as seeds, training, or equipment are delivered inconsistently or delayed; and information about best practices, market opportunities, or program updates fails to reach farmers in a timely manner. For instance, municipalities might plan seed distribution without coordinating with cooperatives that manage local farmer groups, resulting in delayed or mismatched supply.

> When the silage program was introduced here, we immediately realized that it was not fully suited to the local farming context. Farmers here have easy access to fresh fodder and rarely require silage for their pigs. We tried to communicate these concerns to the provincial authorities, but the program continued as planned. This situation highlighted the importance of tailoring agricultural programs to local conditions and involving local stakeholders in planning and decision-making." - Municipal Officer, Bardiya

12. Limited knowledge of policies among farmers

During my fieldwork in Bardiya, it was observed that a significant proportion of farmers have limited awareness and understanding of key agricultural policies that directly impact their livelihoods. Policies such as the Minimum Support Price (MSP), land holding regulations, crop insurance schemes, and subsidy programs are either unknown or poorly understood by most farmers in the region.

This lack of knowledge creates several challenges: farmers are unable to fully utilize available government support, often miss opportunities for income stabilization, and sometimes make decisions that are not legally or economically optimal. For example, many farmers are unaware of the MSP system for high-volume crops such as rice, maize, and vegetables. As a result, they sell their produce at local market prices that are often lower than the MSP, reducing potential income. Similarly, limited understanding of land holding policies can prevent farmers from accessing formal credit or government support programs tied to land tenure.

The root of this problem lies in insufficient outreach, weak extension services, and limited engagement by local authorities. Even when information is available, it is rarely communicated in a form that is accessible, understandable, and actionable for smallholder farmers, many of whom have low literacy levels.

> I have been farming for over 15 years, but I didn't know that the government sets a minimum support price for maize. Last year, I sold my maize at the local market, and only later did I learn I could have received a higher guaranteed price. If we had proper information, we could plan better and earn more." - Farmer, Bardiya

13. Checking at border cause delays in marketing

One of the significant challenges for farmers in Bardiya arises from delays in transporting produce to local haatbazars. Nepali agricultural products, particularly perishable goods such as vegetables, fruits, and dairy items, are often stopped for inspection or checked at multiple points on the way to the market. While these inspections are intended to ensure quality, safety, or compliance, they frequently cause time delays, resulting in perishable items losing freshness and quality before reaching consumers.

Such delays directly impact the profitability of farmers, as even a few minutes can lead to spoilage in highly perishable crops. Reduced quality forces farmers to sell at lower prices or discard damaged goods entirely, creating unnecessary economic losses. The situation is exacerbated by poor road conditions, limited transport facilities, and lack of cold-chain infrastructure, which further compound delays and reduce market competitiveness.

When I take my vegetables to the haatbazar, officials often stop the truck or cart for checks on the way. By the time I reach the market, some of the tomatoes and leafy vegetables have already started to spoil. I lose both quantity and value, and sometimes I have to sell at a very low price just to avoid complete loss.

14. Fertilizer Shortages and Distribution Challenges

The study found that farmers in Bardiya face frequent shortages of chemical fertilizers, which are often not available locally in sufficient quantities or on time. Due to this scarcity, farmers sometimes have no choice but to purchase fertilizers from across the border in India, which is costly and logistically challenging. Even when fertilizers are available, farmers encounter additional hurdles during transportation and inspection, including delays at checkpoints and bureaucratic procedures.

Another critical issue is the lack of transport cycles or vehicles to carry fertilizers efficiently from distribution points to farms. Farmers reported that without reliable transport, fertilizers often arrive late, disrupting the planting or crop-nourishing schedule, which directly affects yields. Delays in receiving fertilizers also increase the risk of reduced crop productivity and force farmers to make difficult decisions about whether to delay planting, use insufficient fertilizer, or rely on less effective alternatives.

Fertilizer is hard to get here. Sometimes we have to bring it from India because local supply is insufficient. Even then, officials stop the vehicle for checks, and there is no proper transport cycle to deliver it on time. If fertilizer comes late, we cannot apply it when crops need it most, and production suffers- Farmer, Bardiya

CHAPTER 5 CONCLUSION

The findings from Bardiya highlight a deeply rooted set of challenges faced by farmers, spanning from limited policy awareness to systemic market and institutional barriers. Farmers in the district continue to operate under significant constraints, such as inadequate access to fertilizers, lack of financial record-keeping, and minimal exposure to agricultural or enterprise-related training. These gaps not only restrict productivity but also weaken their capacity to engage effectively with markets and government programs.

Despite their resilience and awareness of issues such as market price disparities and the influence of cross-border trade, farmers remain disadvantaged due to weak bargaining power, logistical delays, and lack of coordinated institutional support. Policies and programs designed at the provincial or federal level often fail to reflect the actual needs of local farmers, as seen in the misaligned implementation of projects and the absence of subsidies reaching the ground.

Meanwhile, practices such as purchasing daily goods immediately after market sales, without structured planning, further limit the potential for financial growth and enterprise development.

Overall, the evidence underscores a pressing need for stronger coordination among institutions, more targeted policy interventions, and meaningful government support that bridges the gap between announcement and implementation. Empowering farmers through training, capacity building, and improved market literacy can create pathways for fairer competition, greater adoption of technology, and sustainable agricultural livelihoods in Bardiya. The conclusion is clear: without addressing these systemic gaps, farmers will continue to face hurdles that undermine both their profitability and their long-term resilience.

Recommendations

1. **Strengthen Institutional Coordination and Timely Delivery of Inputs**
    - Establish clear coordination mechanisms between municipalities, cooperatives, and provincial agencies to ensure that seeds, fertilizers, and other inputs are distributed before the cropping season.
    - Introduce monitoring systems to reduce delays and improve accountability in program implementation.

2. **Enhance Farmer Awareness and Access to Policy Information**
    - Launch localized awareness campaigns through Agricultural Knowledge Centers, cooperatives, and farmer groups to disseminate information about MSP, subsidies, insurance, and landholding policies.
    - Use simple communication tools, radio, local FM stations, and mobile-based alerts, to bridge the policy knowledge gap.

3. **Invest in Capacity Building and Financial Literacy**
    - Provide regular, practical training on improved farming techniques, market trends, and enterprise management.
    - Introduce financial literacy programs focusing on record-keeping, basic accounting, and credit access, supported by cooperatives or local NGOs.

4. **Improve Market Access and Infrastructure**
    - Develop storage facilities, aggregation centers, and rural transport solutions to reduce post-harvest losses.
    - Facilitate farmer cooperatives or producer groups to strengthen bargaining power and reduce dependence on middlemen.

5. **Ensure Effective Government Support and Subsidy Delivery**
    - Simplify the procedures for accessing subsidies and financial support, ensuring transparency and inclusion of smallholders.
    - Create feedback and grievance mechanisms so farmers can report issues of non-delivery or misuse of programs.

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ANNEXES

CONSENT FORM

daayitwa

a shared journey for progress

DAO Reg. No.: 3766/069/70
PAN No.: 601129232
SWC Affiliation No.: 37320

असार २८, २०८२

विषय: सार्वजनिक नीती फेलोसिप कार्यक्रम कार्यान्वयन सहयोगको लागि अनुरोध

daayitwa

महोदय,

नेपालको आर्थिक वृद्धि सुनिश्चित गर्न तथ्यमा आधारित नीति निर्माण महत्वपूर्ण भएकोले दायित्व नेपाल सार्वजनिक नीती फेलोसिप (Daayitwa Nepal Public Policy Fellowship) कार्यक्रम अन्तर्गत **माननीय अब्दुल खानज्यु** सँग सहकार्य गरिरहनुभएकी **आस्था पोखरेल** लाई तथ्यांक सकंलनमा हजुरहरुको सहयोगको लागि अनुरोध गर्दछौँ । यसैपत्रमा फेलोको फोटो सलंग्न गरिएको छ । दायित्व फेलोसिप प्रक्रियामा सहयोग तथा सहजीकरणको लागि धन्यवाद ।

दायित्व नेपाल सार्वजनिक नीती फेलो २०२५ (माननीय अब्दुल खान ज्यु)

भवदीय,

सुसित ढकाल
कार्यकारी निर्देशक
दायित्व

QUESTIONNAIRES

A. Market Awareness

1. Are you aware of the market price that end consumers pay for your products?

Probe: How do you feel about the price difference between what you receive and what consumers pay?

2. Do you keep records of your customers when selling your products? (Yes/No

If yes: What benefits do you get keeping records?

If no: What are the reasons or challenges that stop you from doing it? Or financial limitations)?

3. Do you use a mobile phone or the internet to access information about:

a. **Market prices?**
b. **Weather forecasts?**
c. **Farming advice?**
d. **Book keeping records**

Probe: If not, what are the reasons (e.g., lack of training, digital literacy, internet access,)

B. Market Access (Micro-management of Sales and Logistics)

4. What practices are commonly used in your community to sell your produce from the farm to the market?

Probe: Do you rely on middlemen, use contract farming, sell at haat-bazaar, or through cooperatives?

5. In your opinion, do middlemen play a positive or negative role in your community's agricultural market?

Probe: Do you work with them by choice, or is it a necessity due to lack of alternatives?

6. In your community, what challenges do you face in getting your produce from the farm to the market?

Probing Points:

- Are the roads in your area suitable for transporting produce, especially during the rainy season?
- How far is the nearest market from your farm, and how do you usually travel there?
- Is transportation expensive for you? Does it reduce your profit margin?
- Have you experienced losses due to transportation delays or spoilage?

- How do you manage perishable items to avoid post-harvest losses?
- Is there any storage facility in your community? If not, how do you store your produce before selling?
- Are there enough buyers or reliable market centers near your community?
- How do local market policies (e.g., taxes, permits) impact your sales?

7. To tackle such challenges, who supports you and what kind of support do you receive?

- *Probe:* Is the support from government, cooperatives, NGOs, or other farmers? What kind of help (transportation, pricing, training, etc.) do you get?

C. Technology Use and Adoption (Micro-management of Resources and Knowledge)

8. Have you received any training or awareness about new farming or post-harvest technologies?

Probe: Who provided it?

9. Are you a member of any farmer group or cooperative?

Probe: How has it helped you in managing production or selling your products?

D. Recommendations and Policy Support (Future Micro-management Improvements)

10. Do you know about any market policies (like Minimum support price or any other policy) regarding market access?

What suggestions do you have to improve:

Market access in your area?
The use of agricultural technologies and information services?

What additional support do you expect from the government or other organizations to help you transport your products and reduce loss?

E. FGD (Agriculture Market i.e. Collection Centre)

Can you describe your role and how often you engage with this collection center?

What types of products are usually brought to this collection center?

How long has the collection center been in operation, and who manages it?

What facilities are available at the collection center? (e.g., weighing scale, cold storage, packaging or technology) Are these current infrastructures adequate for your needs? Why or why not?

What are the peak collection times, and how are logistics managed?

F. Market Linkage and Value Chain

How are products from this center marketed or sold? Who are the main buyers?

Is there any contract farming or advance price negotiation involved?

How transparent is the pricing system here? Who determines the prices?

G. Institutional Support & Services

- Are there any government, NGO, or cooperative programs supporting this center? How do you think government or other stakeholders better support this initiative?
- What kind of technical or market-related training/support have you received, if any?
- Is there an established system for record-keeping and communication with farmers?

H. Challenges

- What are the major challenges you face in operating or using the collection center? (Probe: Quality control, low prices, lack of cold storage, inadequate transport.)

- Are there any conflicts or coordination issues among stakeholders?

- In your community, what challenges do you face in getting your produce from the farm to the market? Probing Points:
    - → Are the roads in your area suitable for transporting produce, especially during the rainy season?

→ How far is the nearest market from your farm, and how do you usually travel there?
→ Is transportation expensive for you? Does it reduce your profit margin?
→ Have you experienced losses due to transportation delays or spoilage?
→ How much are you familiar with post-harvest losses?
→ Is there any storage facility in your community? If not, how do you manage your harvest before selling?
→ Are there enough buyers or reliable market centers near your community?
→ Do you face difficulties in selling perishable items quickly?

KII Questions

Position:

Department:

Organization:

→ In your opinion, what has changed the most in farmers' ability to market vegetables in the last 5 years?

→ How familiar are you and the local unit with the market problems faced by farmers? Probing question: What specific changes in market pattern or agricultural market challenges have you observed in recent years that you believe may be linked to market management? Can you give examples, such as mindset problem, lack of training, lack of access?

→ How has your office or organization attempted to support farmers in coping with these market challenges posed by middlemen?

→ Considering the major issues related to market access, how do you perceive the strategies employed by farmers to sell their produce? In your view, are these practices effective in addressing market challenges?

→ What types of support or incentives does your agency provide to encourage market management among farmers? Probing question: Are there specific policies, subsidies, or training programs you find particularly effective to manage market of your community? How do you ensure that these resources reach smallholder farmers?

→ In your opinion, What key challenges do you believe prevent farmers from receiving fair farm-gate prices and hinder the adoption of effective market management practices in your region?

→ What kind of feedback or complaints do you receive from farmers/ collection Centre regarding the support provided for adopting market management practices?

→ How do border checkpoints affect the transport of farm products from this area to markets? Are there any delays, and what challenges do farmers or traders face during these checks?

→ In your view, What measures or improvements could reduce delays at border checkpoints and help farmers sell their produce more easily?

→ How do NGOs, community bodies, and local cooperatives contribute to the promotion of management practices and value chain development in your community?
Probing question: Are there specific bodies that have made a noticeable impact? How does the government collaborate with these organizations to strengthen market awareness and accessibility?

→ Have you observed any specific cases where farmers had to sell their vegetables at a loss or throw them away? What do you think the cause behind this, and what could prevent it?

→ What additional actions do you believe central and provincial governments can take to support local governments to improve the market accessibility and strengthen the agricultural value chain in their area? Probing question: Can you suggest specific policy changes, infrastructure improvements, or community programs that could facilitate these objectives?