# Enhancing the Value Chain of Gulmeli Coffee by Empowering Coffee Cooperatives of Gulmi

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# INTRODUCTION

The origin of Nepali coffee outside the tropical zone and in the Himalayan setting, social conditions in the production region and its organic certification qualify Nepali coffee as a specialty coffee (Government of Nepal & International Trade Center, 2017). Considering the increasing demand of organic specialty coffee in the global market, upgrading and enhancing value chain of Nepali coffee is an opportunity.

According to Bolwig et al. (2010), upgrading the value chain is the concept of 'moving up the value chain' by shifting to better functional positions, producing higher value-added products and/or providing better returns (Choudhary et al., 2013). By identifying gaps, opportunities and constraints affecting the overall competitiveness of a value chain, the value chain analysis serves as a prerequisite for strategic design that fosters collaborations among actors and enablers of value chain (Correa and Ruth).

One of the strategies for upgrading the value chain of Nepali coffee is by empowering coffee cooperatives and fostering collaboration among stakeholders.

As of 2014/15 there were 683 coffee groups, 124 Primary Coffee Cooperatives (PCC), 11 District Coffee Cooperative Unions (DCCUs) and 15 District Coffee Producers Associations (DCPAs) in Nepal. 32,186 farmers produced approximately 464 metric tons of dry parchment coffee in 2014/15 that were produced in 448 plantation locations, spread across 2,381 ha of plantation space.

Gulmi is home to 280,160 residents (District Cooperative Federation, Gulmi, 2017). It is a mid-hill district spread over an area of 1,149 sq. km. The altitude range of Gulmi ranges from 465m (Ridi) to 2,690m (Thapleko Lekh). It has a strong historical context in the coffee landscape of Nepal. There are 11 PCCs in Gulmi. According to the Statistical Information on Nepalese Agriculture, Gulmi produced 35 metric tons of green bean in a plantation area of 160ha and engaged 1,790 farming households in 2016/17, second only to Syangja.

The exploratory study tries to identify potential gaps, opportunities and constraints affecting the overall competitiveness of the value chain of coffee from Gulmi *(Gulmeli Coffee)*, the role of cooperatives of Gulmi in producing coffee, technical and adaptive challenges hindering the value chain and potential strategies to upgrade it.

# LANDSCAPE OF COFFEE PRODUCTION IN NEPAL

## History

According to available sources, coffee planting in Nepal started in Aapchaur of Gulmi in 1938, courtesy to a hermit, Hira Giri. Considered as a curiosity crop, the coffee industry lacked any other interventions until 1970s. In the late 70s, the Government of Nepal used to import coffee seeds from India for domestic consumption. The first major move to formalize the sector came in 1983 when the Nepal Coffee Company (NeCCo) was established in Manigram, Rupandehi, with an objective to collect dry cherries from farmers and distribute to domestic market.

In the following year, the Coffee Development Center was established in Aanpchaur. In 1990, a group of farmers in Madanpokhara, Palpa formed the Coffee Producer Group, which defined the

beginning of organized groups of coffee producers. In the following year, Nepal Coffee Producers Association (NCPA) was registered in Palpa. Realizing the increasing prospects of production and exports of coffee, the Government of Nepal established the National Tea and Coffee Development Board (NTCDB), under the National Tea and Coffee Development Board Act, in 1993.

A year later, Nepal recorded its first export of green beans (dry processed), which was exported to Japan. During the same year, District Coffee Producers' Association (DCPA) Kavre and District Committee of the Coffee Producers' Association (DCCPA) Gulmi was established. In 1998, NCPA was registered as a central association of Nepali coffee producers.

In 2004, the Coffee Policy was implemented. Organic certification of Nepali coffee started a year later. In 2010, the Government of Nepal approved the logo for Nepal Coffee as an attempt to strengthen the Nepali brand. Four years later the government established the Coffee Research Center in Baletaksar, Gulmi, to research on technical problems associated with coffee production and identify possible interventions to increase productivity. In 2015, Ministry of Agricultural Development initiated the process for insurance of coffee plantation.

*Source: Office record of Coffee Promotion Program, Helvetas Nepal and Nepal Coffee Producers Association, as cited in Government of Nepal, Ministry of Agricultural Development – Project for Agriculture Commercialization and Trade (PACT)'s Report on Coffee Value Chain Round Table (2015)*

## Nepali Coffee

Two types of coffee dominate the world market: Arabica and Robusta. Nepal produces Arabica Coffee (Bourbon, Typica and Yellow Caturra varietals), mostly grown between 800 meters and 1,600 meters altitude. Coffee plants produce cherries in three years and get mature in five years. The yield period for coffee is over 40 years.

The origin of Nepali coffee outside the tropical zone and in the Himalayan setting, social conditions in the production region and its organic certification qualify Nepali coffee as a specialty coffee (Government of Nepal & International Trade Center, 2017). However, maintaining quality of 80 or above as graded by SCAA standards might be an important factor in such qualifications.

## Production Overview

According to National Sector Export Strategy: Coffee, 2017-2021 (Government of Nepal & International Trade Center, 2017), coffee is produced in 2,064 village development committees and 26 municipalities spread across 41 districts (figure 1). Out of the 41 districts, Syangjha, Kavre, Gulmi, Nuwakot, Kaski, Lalitpur, Lamjung, Argakhachi, Palpa and Sindhupalchowk covered 65% of the total planted area and 67% of the total production of 2014/15.

In 2014/15, there were 448 plantation locations, spread in 2,381 ha (hectare) of plantation space where 32,186 farmers produce approximately 464 metric tons of dry parchment coffee. In 1994/95, 135.7 ha of plantation space produced 12.95 tons of dry cherry. Over two decades the country has seen a 17.5 factor growth in plantation space and 35.8 factor growth production quantity. As cited in the Statistical Information on Nepalese Agriculture (Government of Nepal, Ministry of Agriculture, Land Management and Cooperatives, 2018), according to the National Tea and Coffee Development Board, 32,629 farmers produced 466 metric tons of green beans in over 2,646 ha with a yield of 176kg per ha in 2016/17.

Considering the organization of farmers and producer groups, there are 683 coffee groups, 124 Primary Coffee Cooperatives (PCC), 11 District Cooperative Unions (DCCs) and 15 District Coffee Producers Associations. 84 pulping centers support the value chain.

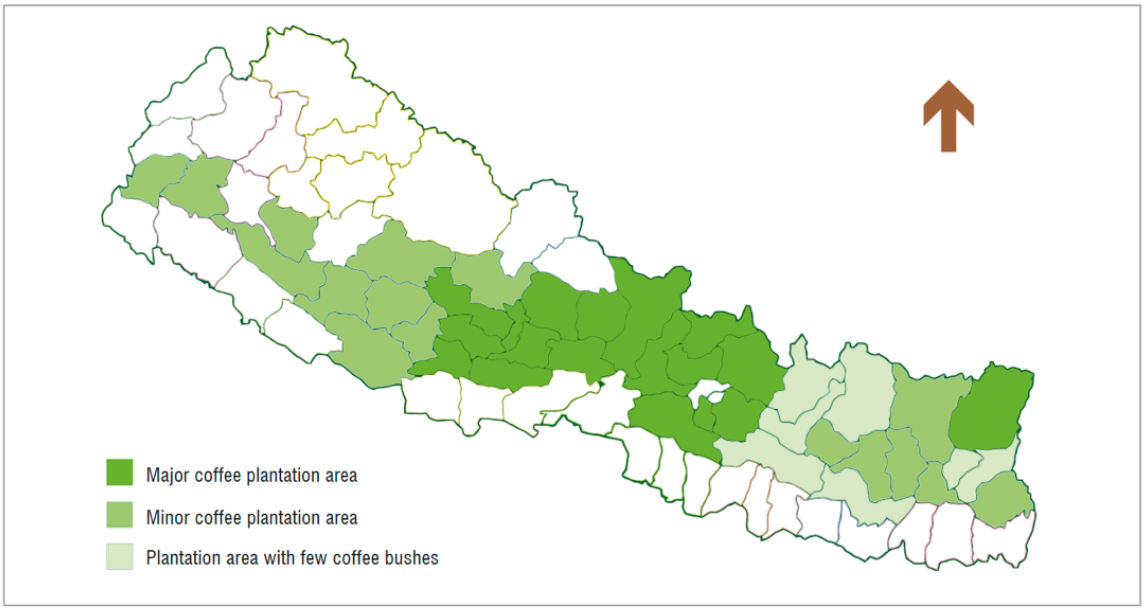


*Figure 1 Coffee production area in Nepal. (Source: Nepal Sector Export Strategy: Coffee, 2017-2021)*

As cited in National Sector Export Strategy: Coffee, 2017-2021, according to a study by the Project for Agricultural Commercialization and Trade, the annual cost of coffee production is NPR 43,833 per ha, yielding a net return of NPR 34,190 per ha. Compared to the productivity of other high potential crops it is 4.3 times greater than maize and 3.3 times greater that millet production.

**Export Overview**

Increase in production has also resulted in an increase in exports. Export of Nepali coffee increased from 14,660 kg that yielded a total value of NPR 1.64 million in 1994/95 to 99,846 kg yielding NPR 99.3 million in 2014/15 (Government of Nepal & International Trade Center, 2017). During the period the export quantity increased by 6.8 times while the total value increased by a factor of 60.50. Similarly, the unit export price increased from US$ 2.26 per kg in 1994/95 to US$10.00 per kg in 2014/15.

According to the National Sector Export Strategy: Coffee, 2017-2021 (Government of Nepal & International Trade Center, 2017), Germany, Japan and Switzerland represent approximately 74% of total export of Nepali coffee. The top 10 countries that imported Nepali coffee (based on the value) were: Germany (NPR 29.6m), Japan (NPR 25.5m), Switzerland (NPR 18.5m), Republic of Korea (NPR 14.4m), Canada (NPR 2.46m), Italy (NPR 2.43m), Netherlands (NPR 2.2m), China (NPR 0.84m), United Kingdom (NPR 0.93m) and Australia (NPR 0.64m). Comparing the data of 2010/11 with the data of 2014/15, despite an increase in export quantity by 22.71%, the total export value of Nepali coffee increased by 1.63% only.

## VALUE CHAIN ANALYSIS APPROACH TO VALUE CHAIN INTERVENTIONS

"The value chain is a concept which can be simply described as the entire range of activities required to bring a product from the initial input-supply stage, through various phases of production, to its final market destination (United Nations Industrial Development Organization, 2009)."

A generic value chain consists of actors defined by their functional processes (pre-production input supply, production, post-production, industrial processing, and distribution and marketing) and value chain facilitators and enablers like government authorities and policy interventions, financial institutions and other stakeholders (United Nations Industrial Development Organization, 2009).

As cited by Chaudhary et al. (2013), the importance of value chain analysis lies in providing insights for policy formulation and implementation (Kaplinsky, 2000; Mitchell et al. 2011). It also allows understanding industrial organization and identify change agents and leverage points for technical and policy interventions (United Nations Industrial Development Organization, 2009).

### Value Chain Competitiveness

Positive interventions in value chain are inspired to enhance value chain competitiveness. A value chain analysis is at the core of such strategic interventions. Michael Porter defined three strategies for creating competitive advantage: efficiency, differentiation and market focus (Correa & Ruth). Based on their practice and research for over ten years, USAID defined value chain competitiveness as the ability of value chain actors to anticipate and meet buyers' demand, identify and take advantage of end-market opportunities and respond to changes in market demand or the competitive landscape (Correa & Ruth).

As identified by USAID's Micro Enterprise Development Office, the Value Chain Project Cycle comprises of five key stages (Correa and Ruth):

- Value Chain Selection
- Value Chain Analysis
- Competitiveness Strategy
- Design and Implementation
- Monitoring and Impact Assessment

By identifying gaps, opportunities and constraints affecting the overall competitiveness of a value chain, the value chain analysis serves as a prerequisite for strategy design that fosters collaborations among actors and enablers of value chain (Correa and Ruth).

According to Correa and Ruth, a value chain competitiveness strategy consists of three components:

- **Assessing end-market competitiveness** allows value chain actors to choose their competitiveness strategy of either being efficient (producing at a lower price), different (producing a better product and branding) or market focused (selecting and targeting a narrower segment).
- After identifying the end-market competitiveness firms need to strategically assess possible areas to **upgrade requirements** for better products, functions or processes.
- **Planning for sustaining competitiveness** demands regular appraisal and assessment of change in end market, systemic constraints and opportunities and environment (and its

enabling role) to spearhead value chain adaptation, thereby influencing its long-term endurance. A dynamic and adaptive value chain caters changing circumstances.

## Upgrading the Value Chain

According to Bolwig et al. (2010), upgrading the value chain is the concept of 'moving up the value chain' by shifting to better functional positions, producing higher value-added products and/or providing better returns (Choudhary et al., 2013). Ponte (2008), as cited in (Choudhary et al., 2013) identifies four major types of upgrading strategies for value chain upgrades:

- **Process upgrading** focuses on making transformation of inputs into outputs more efficient. Restructuring of production activities forms a major part of this upgrading strategy.
- **Product upgrading** aims at producing better products with higher value. It involves creating byproducts, moving closer to the final customers and other strategies that induce higher unit value.
- **Functional upgrading** involves developing new functions and/or getting rid of old functions. The objective here is to enhance the skill content of value chain activities.
- **Interchain upgrading** relates to learning from acquired competencies from one function of a chain and applying it to a different sector or chain.

Ponte (2008) also suggests other forms of upgrading like supplying in greater volumes, acquiring certifications and matching standards, reducing lead times and adopting better practices like fair trade. Apart from these upgrades, Choudhary et al. (2012) suggest **coordination upgrading** as an approach to benefit small farmers by fostering collaboration between stakeholders, enabling better access to markets, resources and enabling policy readjustments.

As cited by Choudhary et al. (2013), Riisgaard et al. (2010) extended the definition of value chain upgrading to consider both horizontal and vertical contractualization (figure 2). Horizontal contractualization, between same actors and functions in the value chain, would eventually foster better coordination among producers in improving bargaining powers. On the other hand, vertical contractualization between two actors in different functions would lead to better integration with buyers.

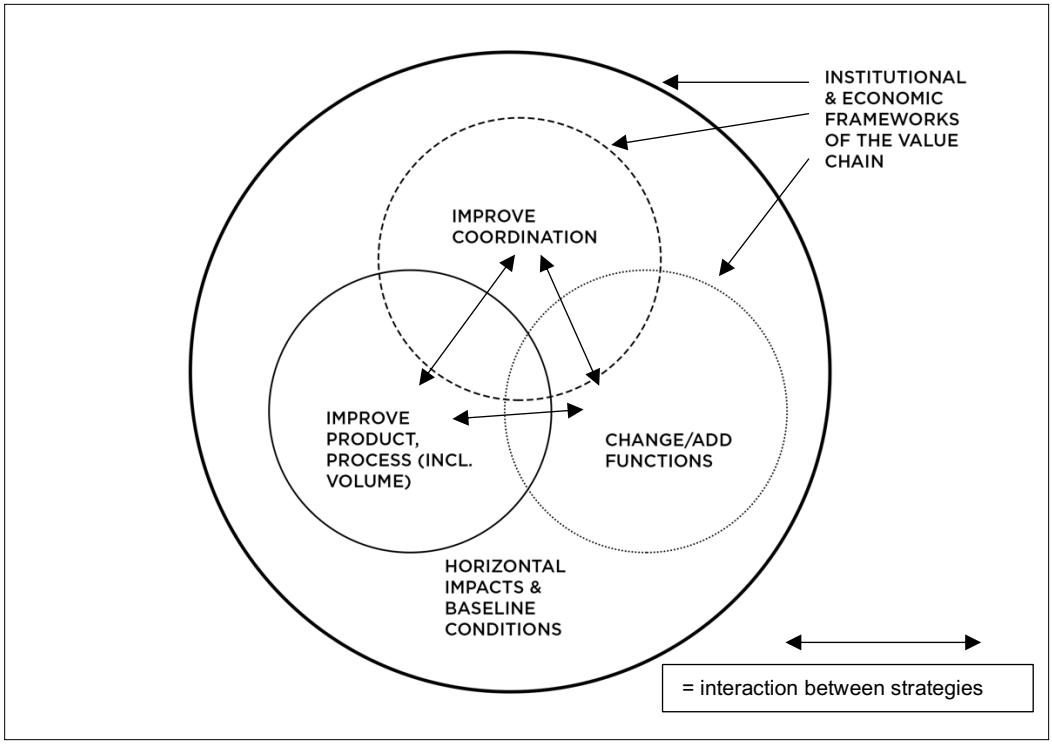


*Figure 2 Types of upgrading strategies for small producers. Source: Riisgaard et al. (2010) as cited by Choudhary et al. (2013)*

## VALUE CHAIN MAPPING OF NEPALI COFFEE

### Production Process and Value Chain

Nepali coffee is harvested between January and March. Harvested cherries are processed in six steps (Government of Nepal & International Trade Center, 2017):

- Washed: beans are dipped in a bucket of water to reject floating beans.
- Pulped to get fresh parchments
- Pulped beans are fermented by keeping in plastic bags for 24-48 hours.
- Washed and the mucilage is removed
- In order to reduce moisture, beans are dried in shade between 24 degrees Celsius and 48 degrees Celsius.
- Dried green beans are hulled, cleaned and sorted for the market.

The final process is roasting and packaging. On an average, 100 kg of fresh cherry that could be sold at NPR 85 per kg can be converted to 16.5 kg of export quality green bean and 14.3 kg of roasted beans with the latter yielding NPR 1,300 per kg, thereby increasing the value by NPR 10,090 from NPR 8,500 to 18,590 (Government of Nepal & International Trade Center, 2017).

### Actors and Enablers of the Value Chain of Nepali Coffee (PACT, 2012)

The simplified value chain map of Nepalese coffee by PACT (2012) identified the following value chain actors based on their functions:

| Functions | Value Chain Actors |
|---|---|
| Input Supply | - Inputs, machinery and equipment suppliers<br>- Nursery owners |
| Cherry Production | - Coffee growers (includes independent growers from private sector, independent farmers and their Primary Coffee Cooperatives (PCCs)). |
| Primary Processing | - Pulping center |
| Hulling/Roasting | - District Cooperative Unions (DCUs)<br>- Processors and traders from the private sector |
| Traders | - Domestic Traders<br>- Exporters (mostly green beans) |
| Retailing | - Domestic Retailers<br>- Domestic Consumers (mostly purchasing ground beans)<br>- International Industrial Consumers (mostly green beans, international vendors roast coffee beans by their convenience). |

*Figure 3 Actors of the simplified value chain of Nepali Coffee (PACT, 2012)*

Apart from the actors, who are directly involved in the value chain, enablers make the process efficient and contribute in value chain upgrades. Some of the enablers as identified by PACT are: Nepal Agriculture Research Council, Tea and Coffee Development Section and District Agriculture Development Offices, Agricultural Development Bank and other micro-credit organizations, Nepal Coffee Producers Association, National Tea and Coffee Development Board and International/National Non-Governmental Organizations.

The National Sector Export Strategy: Coffee, 2017-2021 ( (Government of Nepal & International Trade Center, 2017) identified a comprehensive value chain map (figure 4) and a support system map (figure 5).

**Value Chain Map: Coffee in Nepal**

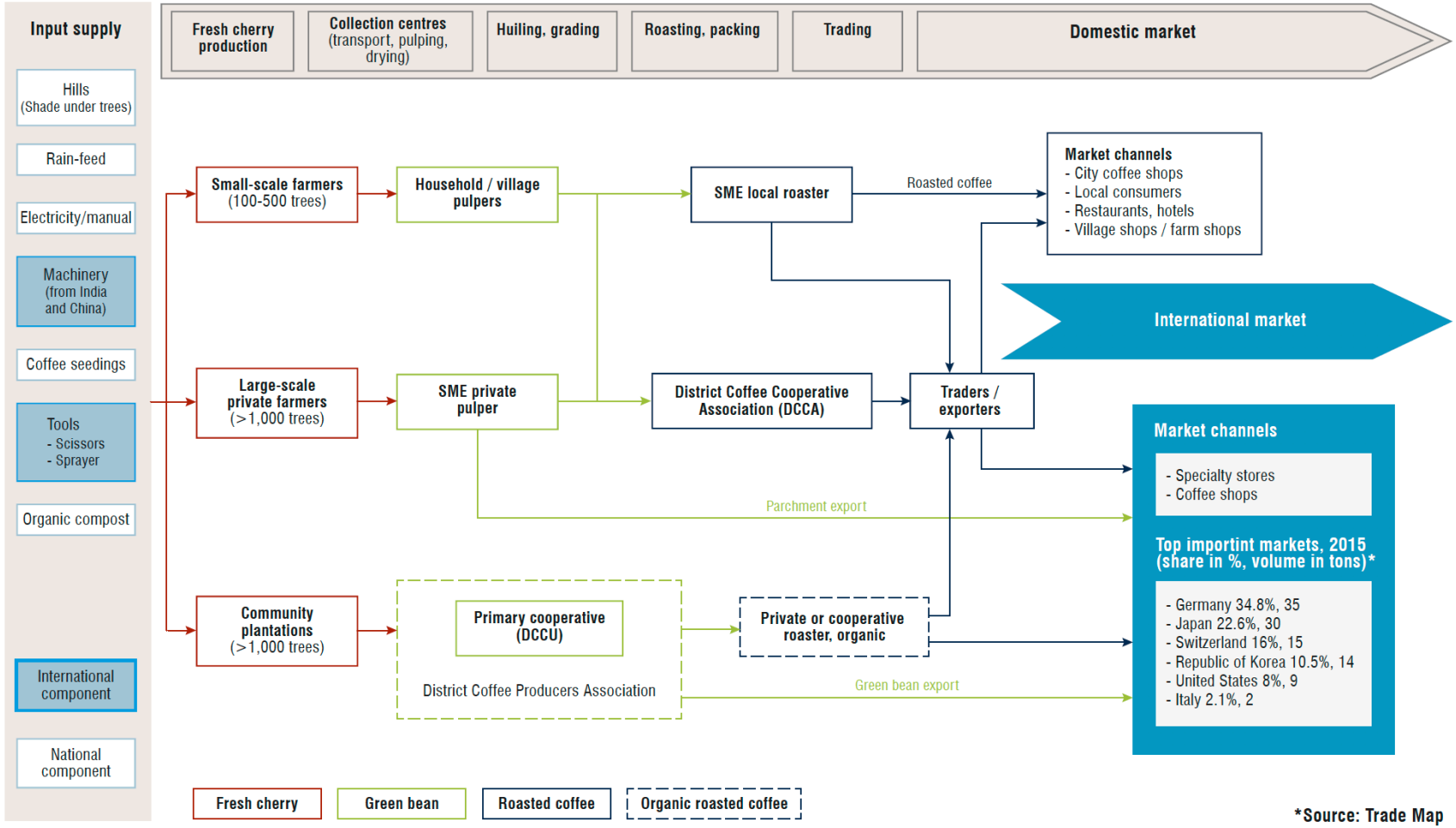


*Figure 4 Value Chain Mapping of Nepali Coffee (Source: Nepal Sector Export Strategy: Coffee, 2017-2021)*

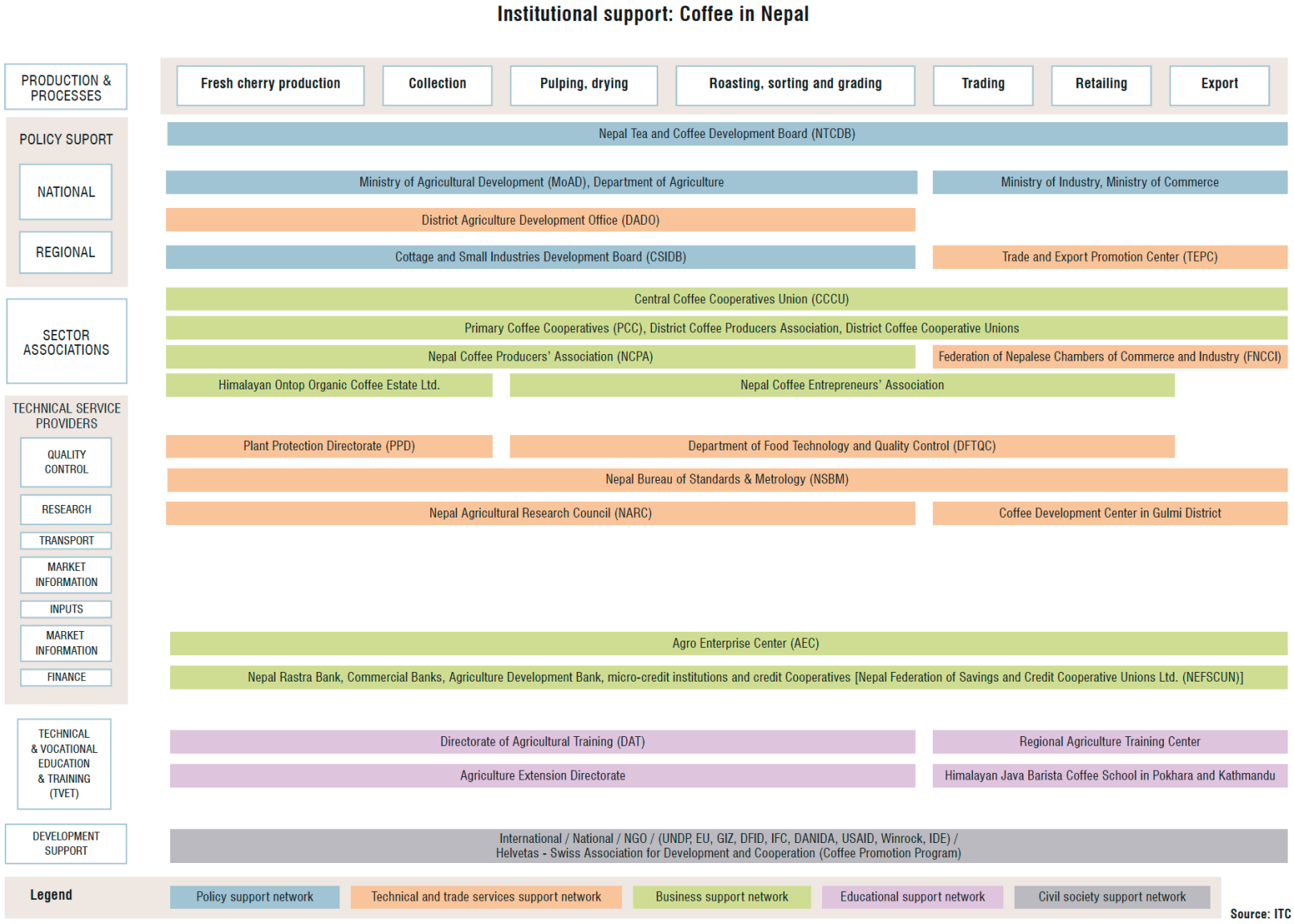


*Figure 5 Institutional Support for Coffee in Nepal (Source: Nepal Sector Export Strategy: Coffee, 2017-2021)*

## COOPERATIVE LANDSCAPE OF NEPAL

Nepal has relied on community-based approach for development for long. Whether it is through highly successful models like the community forests, other social advocacy campaigns or historical and cultural associations like *Guthi* and *Dharma Bhakari*, the community-based model has been at the center of development and empowerment efforts. One of such models influences agricultural production in Nepal is the cooperative model.

With the objective of promoting cooperatives in Nepal, the Department of Cooperative (DOC) was established under the Ministry of Agriculture in 1954. Realizing the potentials of a cooperative based intervention in development, the cooperative development program was integrated into the rural development program in the first Five-Year-Plan of the Government of Nepal (1956/7 – 1960/1). 378 cooperatives were organized under the plan (International Cooperative Alliance, 1998).

Nepal's first cooperative act was enacted in 1960, followed by the Agricultural Cooperative Act (*Sajha Sahakari)* (NEFSCUN, 2017). The Land Reform Act of 1964, made it mandatory for farmers to save a portion of their crop, thereby leading to the integration of the co-operative program into the land reform program (International Cooperative Alliance, 1998). With an objective to cooperatives and community-based productions, a Cooperative Bank was established under the Cooperative Bank Act of 1963. In 1968 the bank was converted into Agricultural Development Bank/Nepal (ADB/N) to provide specific services like credit to agricultural cooperatives and individual farmers. In 1973, ADB/N handed over its management to the government thereby leading to the amendment of the Cooperative Act in 1975 (NEFSCUN, 2017).

The 1980s introduced community-based savings and credit groups in the Nepali economy, forcing the government to amend the Cooperative Act for the third time (NEFSCUN, 2017). The Cooperative Act and the Cooperative Regulations was enacted in 1990, upon the restoration of the democratic government in a multi-party democratic system. The Government of Nepal considered cooperatives as one of the three pillars for national development in the Interim Constitution of Nepal, 2007. According the NEFSCUN (2017): "major types of cooperative societies operating in Nepal are Saving and Credit, Multipurpose, Dairy, Agriculture, Fruits and Vegetables, Bee Keeping, Tea, Coffee, Consumers, Science and Technology, and Energy". The Cooperative Act was revised under the new federal structure in 2017.

In 2017, 32,512 cooperatives were operating in Nepal (Department of Co-operative, 2018). These cooperatives represented more than 6.3 million beneficiaries and employed over 60,000 people. The total share capital of these cooperatives was valued at NPR 73 million. According to the Department of Co-operatives (2018), 155 cooperatives, employing 122 staff and benefiting 7,593 members were operating as coffee cooperatives in the year 2017.

District level organization of cooperatives in the value chain of Nepali coffee exists in three forms:

- Primary Coffee Cooperative (PCC): A minimum of 25 farmers can form a PCC. Objectives of PCCs are to organize and support coffee farmers in plantation, processing and production. In 2014/15, there were 124 PCCs operating in Nepal (Government of Nepal & International Trade Center, 2017).
- District Coffee Cooperative Union (DCCU): DCCUs are larger organizations that provide technical support to farmers and PCCs offering them a range of services like growing and distributing saplings, coordinating with the District Agricultural Development Office (DADO), District Coffee Producers Association (DCPA) and National Coffee Producers

Association (NCPA), selling beans on behalf of the farmers and policy lobbying. There were 11 DCCUs operating in the year 2014/15 (Government of Nepal & International Trade Center, 2017).

- District Cooperative Federation (DCF): DCFs are organizations of all cooperatives in a district, regardless of their sectors. They form a coalition to promote the overall landscape of cooperatives in a district.

## KEY FINDINGS AND DISCUSSIONS

### The Value Chain of Gulmeli Coffee and the Role of Cooperatives

In 2016/17, Gulmi produced 35 metric tons of green beans in a plantation area of 160ha and engaged 1,790 farming households (Ministry of Agriculture, Land Management and Cooperatives, 2018). It is the second largest green beans producing district of Nepal only behind Syangja, which produced 44 metric ton of green beans.

Most of the coffee production in Gulmi are carried out through coffee cooperatives. Out of the 124 PCCs spread across the country, 11 are operating in Gulmi. The DCCU, also known as Coffee Cooperative Union (CCU) in Baletakshar and District Cooperative Federation (DCF) form the district organization of coffee cooperatives, with the latter also acting as an organization for other multi-objective cooperatives of Gulmi.

The value chain of Gulmeli coffee is similar to the value chain of coffee in other districts. Based on the conversation with the authorities of CCU-Baletakshar and DCF-Gulmi, the value chain of Gulmeli coffee can be summarized as follows:

- A farmer or a PCC produces red cherries and sells them to the pulping center for NPR 90 per kg. The pulping center is responsible for processing red cherries into parchment coffee. Most of the pulping centers are operated by then PCCs. In the case of CCU-Baletakshar, they pay NPR 50 to the pulping center for processing 1 kg of parchment coffee. On an average, 4-5 kg of red cherries yields 1 kg of parchment coffee.
- The parchment coffee is then collected by CCU-Baletakshar and DCF-Gulmi for hauling and grading, thereby processing them into green beans.
- The green beans are graded and exported for approximately $8 per kg. CCU-Baletakshar exports coffee to Korean market by collaborating with an NGO (Beautiful Coffee) and the Beautiful Coffee Company (Korea). Prices for Beautiful Coffee is negotiated every winter. Similarly, DCF-Gulmi exports to the Japanese market collaborating with the Nepali Bajaroo (a company selling Nepali coffee in Japan). Some of the green beans are sold in the domestic market through different vendors like Highland Coffee Company and Organic Coffee Company (in the case of CCU-Baletakshar) for approximately NPR 800-850 per kg.
- The next step in the value chain is roasting green beans, grinding them and packaging. According to Yubaraj Acharya of DCF-Gulmi, the DCF has its own roasting facility. The roasted beans are exported to the Korean market by collaborating with Green Nepal. DCF also supplies powdered coffee to the domestic market. The CCU however, does not have proper roasting facility.

It is important to rethink about the idea of “intermediaries in the value chain taking away the benefits from farmers”. The total cost for CCU and DCF to produce 1 kg of green beans approximates to NPR 460 – 550 (NPR 360 to 450 as payments for farmers, NPR 50 for pulping and NPR 50 for hauling and grading them as green beans). Comparing it with the selling price of

$8 in the international market and NPR 800-850 in the domestic market, the intermediaries have less than NPR 350 to share between them for each kg of green beans sold. Considering their administrative costs and other programs they invest in, they do not have much profit margin to share. The value chain can be upgraded by adding proper roasting facilities, promoting the brand of Gulmeli coffee and adding certification which would support in negotiating better prices; thereby securing more returns for all stakeholders involved in the value chain.

**Challenges for Coffee Cooperatives**

DCF–Gulmi has been benefiting out of its relationship with different stakeholders of the coffee ecosystem. According to Yubaraj Acharya, Manager of DCF-Gulmi, DCF has recorded consistent revenue and has been benefiting coffee farmers with technical trainings, processing facilities and other social interventions like educational scholarships for the children of coffee farmers. As Yubaraj Acharya explains, the cooperative based coffee production system and DCF-Gulmi has been facing the following challenges:

- Acharya believes that the farmers are not aware and concerned about the benefits of "their" cooperative. According to him, cooperatives in the recent years have been registered mostly to secure grants. His argument based on the number of beneficiaries is evident in the data of PCCs of Gulmi. Out of the 11 PCCs of Gulmi, only 5 had more than 30 beneficiaries in 2016/17 (District Cooperative Federation, Gulmi, 2017). Considering the minimum number of beneficiaries required to register a PCC, Yubaraj's claims had some grounds. According to him, coffee cooperatives of Gulmi need to influence their farmers and members about the role of their cooperatives in improving their livelihood conditions through coffee production.

- *Seto Gabaro* (White Rust) and its outbreak in the recent years has discouraged farmers. As a result, they have been struggling to keep their plants alive and are reluctant to plant more saplings. While the government has been trying interventions to mitigate and control the disease, the research center in Baletakshar is still waiting for results from their research before moving on to outreach with the farmers (based on the conversation with the representatives of the research center). In the meanwhile, volunteers from Japan International Cooperation Agency (JICA) have been working with the DCF to train farmers on ways to combat Seto Gabaro. Acharya believes that financial incentives like insurance policy for coffee farming might motivate farmers to continue producing coffee. A collaborative intervention by stakeholders involved and financial institutions of Gulmi could foster this initiative, as suggested by "coordination upgrading" theory on value chain upgrading (Riisgaard et al., 2010).

- According to Acharya, organic certification of Gulmeli coffee would help them negotiate better prices and move towards being price setters, thereby upgrading the value chain. However, higher costs and limitations in data collection because of diverse sources of coffee beans makes organic certification a challenge. A certification process costs between 8-10 lakhs NPR. A government or non-governmental grant for organic certification might support the DCF in negotiating better prices for the coffee of Gulmi.

- Working capital management is another serious concern for DCF-Gulmi. Between collection of the first batch of red cherries and receiving the first payments from the buyers, the DCF requires a working capital base of NPR 30-40 lakhs. Lack of working capital results in DCF's inability to pay the farmers in cash. As a result, they are discouraged. A

government scheme to provide loan or grant equivalent to their working capital needs might help them add value to the coffee value chain.

- As Yubaraj Acharya explains, although DCF has been working on to promote the coffee sector of Gulmi ever since its establishment, it does lack technical skills in producing high quality coffee consistently. Empowering programs to equip DCF (and PCCs and CCU) with technical skills required better production and organization of the cooperative structure would add to the coffee ecosystem.

Krishna Prasad Pantha, Technical Assistant for Beautiful Coffee Nepal, Chairperson of Baletakshar Coffee Cooperative (PCC) and Secretary of the Coffee Cooperative Union (CCU) – Baletakshar, shared about technical challenges like *Seto Gabaro.* Similarly, he pointed out the importance of better roasting facilities and irrigation systems for coffee growers in adding value to Gulmeli coffee. While most of his thoughts was similar to that of Yubaraj Acharya, Pantha was vocal about the farmers seriousness towards their cooperative. According to him, coffee growers are excited of the recent surge in the market, which contradicted Acharya's thought. However, he agreed on the prospects of empowering coffee growers and farmers of Gulmi for more consistent high-quality production and professional delivery of coffee beans.

**Fostering collaboration and intervening through policies: the Musikot Model**

Musikot Municipality of Gulmi and its governance priorities is a model in itself. Home to the historical heritage of Nepali coffee – Aanpchaur, the newly elected local government is aware of Musikot's potentials and wants to build an economy around coffee. The municipality has formed a committee with representatives from the Coffee Development Center (Aanpchaur), National Coffee Research Center (Baletakshar), District Cooperative Federation (DCF-Gulmi), Coffee Cooperative Union (CCU-Baletakshar) and the municipality, that informs and guides their policy.

Based on the interactions with the mayor, deputy mayor and administrative head of Musikot Municipality, some of the major policy interventions driving their surge towards a self-sustaining local government are as follows:

- The municipality is restructuring its policy around the irrigation canal in Aanpchaur, Musikot-5. The canal was initially developed to promote coffee production. According to the new policy, farmers are obliged to plant coffee in at least least 5% of their irrigated land, if they are to continue using it for other crops.
- With an ambition of planting 500,000 coffee saplings in 5 years, the government is introducing a grant scheme, whereby farmers get a NPR 10,000 grant if they maintain a minimum of 100 saplings for 3 years. The grant is distributed over three years: NPR 5,000, NPR 3,000 and NPR 2,000 in the first, second and third years respectively. According to Somnath Sapkota, the elected mayor, the three-year scheme was designed considering the harvesting time of coffee. The municipality has been collaborating with the Coffee Development Center, DCF-Gulmi and CCU-Baletakshar to source saplings. Under the scheme, the government has already planted 25,000 saplings in the first year.
- The municipality is also leasing 32 ropanies of land to develop its own coffee farm. The objective of the farm is to produce high quality coffee and provide coffee saplings for the government's policy to distribute coffee saplings to farmers.
- It is also coming up with a local level cooperative policy to facilitate high quality coffee production. Allocating budget of extensive training programs for the coffee cooperatives is their priority.

- Collaborating with financial institution, the municipality is providing low interest loans to farmers and cooperatives. Under the policy, Musikot municipality is paying 50% of the total interest on agricultural loans.
- The municipality is also working very closely with the locals to identify unused and underused lands to boost agricultural production. In one of its recent experiments, the municipality identified a local who had a large property of unused land and distributed pomegranate saplings to create a pomegranate farm. The local is currently supplying pomegranate saplings to the municipality so that it could distribute it to other farmers.

Based on stakeholder anecdotes from Gulmi, lack of coordination among stakeholders like government organizations influencing policies and non-governmental organizations advocating for value chain upgrades, has resulted in duplication of benefit for some farmers while isolation for some. A coordinated approach as implemented by the Musikot Municipality, backed by a strong belief in agriculture based economic resurgence could be a way forward in upgrading the value chain through coordination upgrading as identified by Riisgaard et al. (2010).

## CONCLUSION AND RECOMMENDATIONS

The demand for organic specialty coffee is increasing in the global market. As a result, upgrading the value chain of Nepali coffee is an opportunity. As with other development interventions after the democracy, cooperative and community-based initiatives have been shaping agricultural value chains in Nepal. Value chain interventions that work on empowering cooperatives could lead to better valued agricultural products and its impact thereof.

Cooperatives in Gulmi are at the core of the value chain map. Out of the 124 PCCs in Nepal, 11 PCCs operate in Gulmi. Gulmi produced 35 metric tons of green beans in 2017, only second to Syangja. The research explored some technical and adaptive challenges that adversely affect the value chain of Gulmeli coffee and cooperative based coffee production.

The research identified the following technical challenges in the cooperative based coffee production ecosystem of Gulmi: i. *Seto Gabaro* has discouraged farmers from continuing production. ii. Lack of proper roasting, grinding, packaging and branding infrastructures has taken away the prospects of increasing the value of Gulmeli coffee. iii. Lack of working capital for cooperative unions has hindered direct payments for farmers and the certification process.

The study recommends the following interventions towards mitigating these technical challenges: providing insurance for coffee growers, significant investment in roasting and grinding facilities, providing grant and loans for cooperative unions/DCFs and other direct interventions to avoid the crisis of Seto Gabaro.

Adaptive challenges identified by the research include: i. Lack of coordination among stakeholders. ii. Opportunities to empower cooperatives through trainings and motivating them to consider their cooperatives as a positive addition to their livelihood.

The research recommends policy makers to take inspiration from the model implemented by Musikot Municipality that involves a multi-stakeholder participative collaboration and coordination in designing policy interventions that specifically address the issues of cooperatives and farmers. The theory of “coordination upgrading” in value chain upgrading (Riisgaard et al., 2010) and the role of local government’s coordination center supports the recommendation.

While the research explored some challenges in the cooperative based value chain of Gulmeli coffee and recommended interventions, further research on these recommendations would validate its impacts. As an exploratory research, the study aims at opening new directions for future researchers.

## RESEARCH METHODOLOGY

### Overview

Lack of available literatures and research that specifically address the themes and constructs of this research makes it an exploratory research. Qualitative methods are at the core of the research. Major primary data collection methods used was semi-structured interviews.

The objective of the research was to analyze and identify pain points affecting cooperatives in the coffee ecosystem of Gulmi, thereby identifying possible opportunities for interventions to enhance and upgrade the value chain of Gulmeli coffee.

The study lasted for approximately three months from June to August 2018. Scope of the research was limited to coffee cooperatives of Gulmi district and the value chain of Gulmeli coffee because of the following reasons:

- With 35 metric ton of green beans in 2016/17, Gulmi is the third largest coffee producing district of Nepal.
- Gulmi has one of the strongest historical context of coffee production in Nepal. According to available sources, Nepal's first coffee plantation started in Aanpchaur of Gulmi in 1938. It has also witnessed major policy interventions for coffee promotion like irrigation canal for coffee and establishment of government research centers in Aanpchaur and Baletakshar, Gulmi.
- The Ministry of Agriculture and Livestock Development has identified Gulmi as one of four districts in the proposed Coffee Super Zone program aimed at promoting organic coffee production in the region.
- Various local, national and international non-governmental organizations have been carrying out programs to promote coffee cooperatives of Gulmi.
- Coffee is the major source of revenue for the District Cooperative Federation (DCF) of Gulmi, which in itself is a unique setting for researchers evaluating the role of cooperatives. DCF is the umbrella body of all other cooperatives of a district, including financial cooperatives and multi-objective agricultural cooperatives.

### Data Collection

Data collection methods included both primary and secondary research methods, carried out in two phases: Research Design and Data Collection.

Conversations with important stakeholders – researchers from the Ministry of Agriculture and Livestock Development, Nepal Tea and Coffee Development Board (NTCDB) and the coffee industry, academicians and consultants who are experts on cooperatives and community-based initiatives, private equity investors with investments in coffee, coffee sellers and cafeteria owners – defined the research design. Components of the research were informed by literatures on value chain including publications from ICIMOD and USAID. This helped in identifying important constructs for the research.

The research tried of explore the following constructs around coffee production and cooperatives of Gulmi:

- The ecosystem of coffee production in Gulmi, the value chain map and the role of cooperatives, pain points of the stakeholders of the ecosystem and existing policy interventions.
- Strengths, weaknesses, opportunities and threats (SWOT) analysis of coffee cooperatives of Gulmi: Primary Coffee Cooperative (PCC), District Coffee Cooperative Union (DCCU) and District Coffee Federation (DCF).
- Coffee cooperatives and their relationship with their beneficiaries in four key areas: representation, decision making, participation and benefit sharing.
- Coffee cooperatives and their effectiveness in securing finance, increasing production and reaching out to better markets.

To explore about the constructs identified through preliminary research, the study conducted semi-structured interviews with three PCCs, DCCU and District Coffee Federation (DCF) of Gulmi, and the authorities of Resunga Municipality, District Agriculture Development Office (DADO), Isma Rural Municipality and Musikot Municipality. A volunteer from JICA, who is currently working with DCF Gulmi, provided an independent and neutral perspective on the overall effectiveness of cooperatives working in the value chain. While the research focuses mostly on coffee cooperatives, buyers who buy coffee from the cooperatives were also interviewed.

**Limitations of the research and recommendations for future researchers**

The study was controlled by the following limitations:

- Lack of available literatures and research that specifically address the themes and constructs of this research – role of coffee cooperatives in upgrading the value chain of Nepali coffee – was a limitation.

- Exploring the landscape of coffee production in Nepal and identifying potential research questions was challenging in the beginning. The study has traversed through three broad themes: branding of Nepali coffee, challenges towards certification and prospects of implementing the community based “care trade” approach of producing coffee as implemented by Bean Voyage (a coffee producing firm in Costa Rica); before settling in for the current theme. Considering time limitations, the study would have been better if clarity in the theme had been achieved earlier into the research.

- Evaluating the role of cooperatives through SWOT analysis is incomplete if the beneficiaries are not involved in the study. Although the research tried to explore technical and adaptive challenges for beneficiaries through telephone interviews, a detailed study about them would have added value to the research.

- The research was limited to Gulmi. Considering the government’s proposed Coffee Super Zone program, the research would have been more valuable if it had considered coffee cooperatives of other districts as well.
- Lack of good local transportation in Gulmi proved to be a major limitation for the study. The monsoon rainfall and resulting landslides adversely affected the efficiency of the research.

An exploratory research paves way to future studies. The study has the following recommendations for future researchers seeking to research about the value chain of Nepali coffee and the role of cooperatives in upgrading the value chain:

- Nepal is experimenting its executive systems at local, provincial and federal levels. As a result, a lot of structures are being redefined. Changes in the structure might be an issue for future researchers. For example, when the study commenced, Nepal government's cooperative policy was defined by the Ministry of Agriculture Development and Cooperatives. By the time the research ended, cooperatives were transferred to another ministry. Future researchers are recommended to be contingent to these changes.

- Some of the pertinent issues yet to be explored in the value chain of Nepali coffee include both technical and adaptive challenges like combating with diseases like *Seto Gabaro,* increasing the efficiency of processing plants, consistency in production, the role of certification in branding Nepali coffee and the impact of cooperatives-based production system. These issues are important for value chain upgrades of Nepali coffee.

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