Strengthening Cardamom and Ginger Value Chains in Eastern Nepal

Authors:  
Sanjay Karki, Mercy Corps Nepal (skarki@np.mercycorps.org)  
Josh DeWald, Mercy Corps Nepal  
Keith Polo, Mercy Corps

Abstract:  
The paper describes the characteristics and results of a pilot approach used by Mercy Corps to strengthen cardamom and ginger value chains in the Mechi Zone of Eastern Nepal, while discussing results of the approach to date. The approach builds upon established agricultural value chain models, while incorporating a focus on ‘high impact’ commodities; using an ‘economic corridor’ lens; emphasizing private and public sector partnerships, even if these partnerships are new to the value chains; and, facilitating expanded access to financial services along the targeted value chains.

The paper focuses on the design and facilitation role played by the implementing organization (Mercy Corps Nepal), and on the role and contributions of partner organizations such as the Large Cardamom Entrepreneurs Association of Nepal, the Nepal Ginger Producer and Traders Association, and Nirdhan Utthan Bank, Ltd. The paper also sets out recommendations for strengthening and scaling up the approach, while discussing strategies, activities, and achievements.

Keywords:  
Agricultural value chains, high-impact commodities, private sector partnerships, economic corridors, agricultural financing

Main Text:

Background  
Mercy Corps implements and supports agricultural livelihoods, financial access, and disaster risk reduction projects in Nepal, incorporating cross-cutting themes related to the facilitation of private, public, and civic sector partnerships; social inclusion; environmental sustainability; community participation; and, youth engagement into its work. In 2007, Mercy Corps began a process of piloting value chain strengthening initiatives for cardamom and ginger in Eastern Nepal. These activities are currently underway, and are being implemented in the context of broader value chain projects in the East and Far West, focused on cardamom, ginger, and potatoes.

Following a discussion of the value chain approach and the ginger and cardamom industries in Nepal, this paper describes the characteristics and results of Mercy Corps’ approach to strengthening cardamom and ginger value chains in the Mechi Zone of Eastern Nepal, while highlighting some specific examples of market-oriented innovations that resulted from the approach. The approach builds upon established agricultural value chain models, while incorporating a focus on ‘high impact’ commodities; using an ‘economic corridor’ lens; emphasizing private and public sector partnerships, even if these partnerships are new to the value chains; and, facilitating expanded access to financial services along the targeted value chains. In addition to discussing the role of Mercy Corps and partners in implementing this pilot project, the paper also describes challenges and results to date, and makes recommendations for strengthening and scaling up the approach in the future.

The Value Chain Approach  
The use of value chain approaches and analyses has been gaining in popularity since 1985, when Michael Porter introduced a generic value chain model in his book, *Competitive Advantage*. Porter defines and maps five broad categories of value chain activities - inbound logistics; operations; outbound logistics; marketing and sales; and, services – and then outlines ways in which the model can be used to define a firm’s competitive advantage in two categories: cost advantage; and, differentiation. Porter further identifies ten ‘cost drivers’ for value chain activities: economies of scale; learning; capacity utilisation; linkages among activities; interrelationships among business units; degree of vertical integration; timing of market entry; firm’s policy of cost or differentiation; geographical location; and, institutional factors (regulation, union activities, taxation).

In the past decade, value chain approaches and analyses have gained traction in the international development field. Value chain definitions and approaches have received significant contributions from
various stakeholders, perhaps most notably USAID’s (United States Agency for International Development) Microenterprise Development office, as supported by SEEP (Small Enterprise Education and Promotion)-Network and Action for Enterprise; and, GTZ’s (German Technical Cooperation) ValueLinks methodology. More recently, Making Markets Work for the Poor Approaches (M4P), an extension of value chain approaches, have been developed, promoted, and applied widely by the Springfield Centre; the UK’s Department for International Development (DFID); and, Swiss Development Cooperation (SDC).

While approaches and applications vary, most value chain approaches have several common characteristics, including: a market system perspective; a focus on end markets; an emphasis on value chain governance; a recognition of the importance of relationships; a focus on changing firms’ behaviour and transforming value chain relationships; targeting leverage points; and, empowering the private sector. In the international development field, projects utilising the value chain approach generally tend to shift the balance of power within value chains through the formation of associations; branding; alternative financing; support for market systems; market or supply diversification; and, changing the basis of competition (generally from price-based to quality-based).

In Nepal, most value chain projects implemented to date have focused on agricultural commodities or products, which is logical given that 77% of the country’s population depends on the agricultural sector, and that the country’s two poorest occupational categories (agricultural wage labourers; and, smallholder farmers) draw income from the sector. Agricultural value chain approaches applied in Nepal generally focus on high value commodities, as defined by the per unit (kilogram) cost of these commodities. Within these value chains, projects have sought to transform value chain relationships; to shift the balance of power through the formation and empowerment of associations; to empower the private sector; and to improve value chain governance.

Mercy Corps Nepal’s value chain work includes activities at the production, market system, and ‘enabling environment’ levels. It emphasises public and private sector partnerships; and, facilitates access to expanded financial services along value chains. The approach has two variants, depending on the food security context. In relatively food secure communities, activities focus on production; market systems; creating an ‘enabling environment’ for trade; partnerships; and, financial access. In food insecure communities, activities include safety net projects for highly food insecure households while putting a greater emphasis on activities related to production, collective marketing, and financial access. During project design, Mercy Corps Nepal considers ‘economic corridors’ and ‘high-impact’ agricultural commodities (explained below); conducts a value chain analysis of selected commodities to identify upgrading strategies; and, implements pilot projects before applying upgrading strategies on a larger scale.

**Cardamom and Ginger in Nepal**

Cardamom and ginger are both important commodities in Nepal’s economy. Nepal is the world’s top producer of large cardamom, with annual production exceeding 6,600 metric tons and expected to rise annually. Cardamom, which is farmed and processed by over 70,000 households in the East (420,000 people), ranks consistently in the top 12 export commodities of the country, contributing an annual average US$ 20 million to the national economy, including US$ 12 million in export earnings.

Nepal is the fifth largest producer and the 15th largest exporter of ginger in the world. In 2006, Nepal produced 159,000 metric tons of ginger (an equivalent market value of over US$ 55,650,000) and exported 29,800 tons valuing US$ 5.3 million. Ginger is grown by an estimated 200,000 families (1.2 million people) in five zones of the country.

**Project Design and Approach**

**A) Selection of ‘High Impact’ Commodities**

In selecting the value chains of cardamom and ginger for intervention, Mercy Corps applied a set of criteria utilised to identify ‘high impact’ commodities. ‘High impact’ commodities are similar to high value commodities in that they must demonstrate sufficient profit potential in end markets. However, ‘high impact’ commodities must also demonstrate substantial poverty alleviation potential through the following characteristics: a) current production by over 50,000 smallholder farming households (300,000 people); b) significant contributions to the national economy and/ or foreign exchange earnings (over US$ 50 million to the national economy; or, over US$ 10 million in foreign exchange earnings; or, both); c) profit potential of Nepalese Rupees (NPR) 15,000 (US$ 200) per ropani per season for smallholder farmers (30 ropani = 1 hectare) utilising prime agricultural lands, or profit potential of over NPR 4,000 (US$ 50) per ropani per
season for farmers utilising marginalised land; and, d) potential to include high percentages of farmers from traditionally disadvantaged groups (Dalits, Janjatis, women) in value chain activities. Where relevant, the potential to introduce more environmentally sustainable production or processing practices into value chains is also considered when determining ‘high impact’ commodities.

These criteria are applied to ensure that sufficient market potential and scope exist so as to avoid the most common pitfalls of agricultural market development projects implemented by external actors, namely: a) working at the production level without sufficient market consciousness or analysis; and, b) working with commodities that have high end market potential, but do not offer sufficient profit potential for smallholder farmers. Both cardamom and ginger meet the criteria of ‘high impact’ commodities: the cardamom trade generates over US$ 12 million in foreign exchange per year, is grown by over 70,000 families, can generate profits of over NPR 5,000 per ropani per season on marginalised lands, not including supplementary income from *uttis* (*alnus nepalensis*) shade trees required for cardamom cultivation, and is the main agricultural income source in North-Eastern Nepal; the ginger industry contributes over US$ 55 million to the national economy, is grown by over 200,000 families in five regions of the country, and can potentially generate profits of over NPR 20,000 per ropani per season for smallholder farmers.

### B) Use of Economic Corridor Lens

In designing interventions to strengthen cardamom and ginger value chains in Eastern Nepal, Mercy Corps used an ‘economic corridor’ lens. Here an ‘economic corridor lens’ refers simply to understanding the way in which production, processing and trade flows of a certain commodity move along trade routes in a given geography, as defined generally by road networks and administrative boundaries. Supported by a GIS mapping exercise of key production, processing, and marketing points in the cardamom and ginger value chains of Eastern Nepal, this lens allowed interventions to be targeted geographically based on key locations in the value chains (as opposed to key production areas only). When charting the flow of cardamom and ginger through the Mechi Zone in Eastern Nepal, the district of Jhapa was identified as the key marketing centre in the corridor, despite the fact that neither cardamom nor ginger are produced in Jhapa. For this reason, project interventions were designed to include both production areas (Panchthar, Ilam) and the district of Jhapa in the Mechi corridor. Although other key production areas in the Mechi corridor were identified (such as the district of Taplejung), the interventions were restricted to Jhapa, Ilam and Panchthar due to the pilot nature of the projects to be supported.

### C) Intervention Points and Partnerships

Once the target corridor and commodities had been identified, Mercy Corps conducted sub-sector and value chain analyses for cardamom and ginger, resulting in the identification of intervention points at four levels: inputs; production; processing; and, market/ policy. All interventions were designed with the goal of increasing the production and marketing of two premium products: “pink” cardamom (a grade of large cardamom that results from improved production and drying practices); and, “low fibre Nepali ginger” (a variety of large, low-fibre ginger as produced in Central (Hetuda) and Mid-Western (Salyan) Nepal. These premium products were selected based on the results of end market research in India, which suggested that low fibre Nepali ginger demanded a differentiated price (an INR - Indian Rupees - 14 increment per kilogram) as compared to other varieties of ginger marketed in Delhi and Agra; and, that pink cardamom, if it could be produced in sufficient volume, demanded a higher price among traders and wholesalers in Siliguri and Calcutta.

At the **input level**, interventions worked to improve access to financial services through a Micro-Finance Institution partner, Nirdhan Utthan Bank, Ltd. (NUBL), while supporting seed bank arrangements for premium quality seed inputs between farmers groups and seed suppliers. Perhaps most noteworthy among these intervention points is the role of NUBL in expanding access to financial services in the target districts, since this necessitated the entry of a new, external actor into districts as opposed to working through existing financial service providers. Mercy Corps’ initial cardamom activities in late 2007 did not incorporate financial services, but implementation experience from those activities quickly revealed that a lack of appropriate financial services was a major barrier to increased smallholder profitability, particularly for those farmers utilising the *dadani* system of informal loans from traders. The decision to facilitate the entry of a new firm was made after an analysis of existing financial service providers in the target districts, which concluded that existing financial institutions in the Zone provided insufficient outreach to and support for client groups, and that there was a general lack of professional-quality financial services in the Eastern hills. As a result, Mercy Corps supported the expansion of NUBL into the area by covering the operational losses of seven new branches for a three year period (at a cost of US$ 270,000), while NUBL contributed personnel and loan capital worth US$ 3,500,000 for the new branches. To date, this partnership has introduced modified lending
models for farmers groups, and has allowed clients throughout the project area to access lower interest loans while introducing compulsory savings.

At the production level, interventions worked to strengthen business and technical practices. Activities to strengthen business practices included business planning training; cash flow analysis; cooperative formation and strengthening; and, facilitation of collective marketing. Activities to strengthen technical practices included techniques to improve disease management; low cost storage; seed quality; cultivation practices; and, harvesting techniques. These efforts were supported by cross-visits between farmers groups in the target districts and farmers groups in Sikkim, India (for cardamom) and Palpa, Nepal (for ginger).

At the processing level, interventions worked to support improved drying, grading and sorting associated with the premium products described above. Working with small manufacturing companies, Mercy Corps co-designed a grading sieve for cardamom (highlighted as a market innovation in the following section); and, promoted the dissemination of improved ‘double drum’ cardamom dryers developed by the Cardamom Development Centre with inputs from SNV (Netherlands Development Organisation) and the Ministry of Agriculture and Cooperatives. Mercy Corps also promoted the usage of plastic crates for ginger packing and marketing to reduce breakage, which resulted in immediate price increments for farmers groups.

At the market and policy level, Mercy Corps facilitated the formation of the Large Cardamom Entrepreneurs Association of Nepal (LCEAN) and provided capacity building support to the Nepali Ginger Producers and Traders Association (NGPTA). Working through these Associations, quality standards for premium products were developed and promulgated; and, forward contracts were brokered between farmers groups meeting quality standards and buyers. As groups bringing together diverse private sector actors with a common interest, the Associations provided a key link between the public and private sectors (eg., between LCEAN and the Cardamom Development Centre). The Associations also facilitated industry-level working groups to address common problems (eg., a multi-stakeholder group was established to address the issue of rhizome diseases in cardamom plants) and worked to improve regulatory hurdles (for example, abolishing the Fawa system in cardamom; and, negotiating for reductions in informal taxation for the ginger trade). Finally, Mercy Corps supported cross-visits between the Associations and end markets in Pakistan, India, and China to build a common understanding of product requirements and market dynamics.

These intervention points and strategies are depicted in the diagram below:
**Sample Market System Innovation: Cardamom Grading**

The introduction of cardamom grading processes serves as an illustrative example of a market system innovation fostered by the approach described above. In mid-2007, no cardamom grading practices existed in Eastern Nepal, which meant that wholesalers bulked all cardamom received from traders prior to sale or export. The only differentiation practice, which was not systematized, was to group cardamom together by its place of origin, which disadvantaged some origins while often bearing no direct correlation to the quality of cardamom produced. As a result, Nepali cardamom rarely— if ever— received a differentiated price in Indian markets, and was often mixed with lower grade cardamom from other origins before reaching end markets.

To address this situation, Mercy Corps worked with LCEAN to develop standard grading cards that divided cardamom pods into two simple grades based on size. These cards were then disseminated to farmers and traders. At the same time, Mercy Corps worked with local manufacturing businesses to design a sieve that allowed producers to separate larger pods from smaller pods; this sieve went through several iterations,
each improving its weight and functionality. These sieves where then disseminated to farmers groups, initially through subsidized distributions until sufficient farmer demand could encourage sales of the graders through market channels. As a result, by late 2008, wholesalers had begun to bulk cardamom according to these standardized grades, and had begun to market both grades at a differentiated price. In the September – December 2008 sales season, exporters earned an additional 5 – 25 NPR per kilogram for the higher standardized grade. A portion of this differentiated sales price for improved quality cardamom was also passed to farmers, since farmers groups sold to traders according to agreed upon grades.

In the future, LCEAN and partners intend to introduce a third grade to the system – premium pink cardamom, which results from improved drying practices that are also more environmentally sustainable. To date, market research in India suggests that there is a clear willingness to pay for pink cardamom as a premium grade; however, the same demand for pink cardamom does not exist in Pakistan.

Challenges
As with any undertaking, a range of challenges were faced during the first 18 months of cardamom and ginger interventions in Eastern Nepal. Two of these are discussed below.

A) **Building trust among value chain actors in the early stages of the intervention:** Value chains are often characterised by a lack of trust between stakeholders. This is particularly true in post-conflict environments. In Eastern Nepal this lack of trust is evidenced by institutions such as the *fawa* system that are essentially based on mistrust between farmers and traders. Furthermore, higher level value chain actors are often sceptical of development agency’s interventions, believing that these agencies intend to intervene on behalf of farmers only. It therefore takes a considerable amount of time to build trust among value chain actors and encourage collaborative working arrangements. Mercy Corps overcame these challenges by facilitating the formation of Associations; by introducing new disease management techniques that helped the organisation to gain technical credibility; by conducting market assessments that helped the organisation to gain market and policy level credibility; and, by serving as a broker for initial forward contracts signed between producers and wholesalers.

B) **Suspicion of new actors in the value chain:** Mercy Corps’ approach often incorporates the introduction of new actors into the value chain in addition strengthening existing actors. In the cardamom and ginger value chains, these new actors included LCEAN and NUBL, but also included several smaller service providers such as dryer/ grader manufacturers and organic pesticide suppliers. Initially, these new actors were greeted with suspicion, since value chain actors are naturally more comfortable working with familiar counterparts, processes, and institutions. However, over time, the performance and contributions of these new actors spoke for themselves, resulting in high levels of collaboration between the new actors and pre-existing value chain stakeholders.

Results and Recommendations
In the past 18 months, the pilot interventions described above have reached 620 cardamom farming households (3,720 people) and 200 ginger farming households (1,200 people). The results, challenges, and recommendations from the pilot stage are discussed below.

A) **Results**
In calculating the impacts of value chain interventions, Mercy Corps Nepal endeavours to measure impact at four levels: household; market; social; and, environmental. Generally, this includes: a) measures of profit at the household level; b) measures of sales, and in some cases of job creation, at the market level; c) measures of inclusion of disadvantaged groups in value chain and/ or project activities at the social level; and, d) measures of the adoption of more environmentally sustainable production or processing practices at the environmental level. Selected results from these measurements to date as discussed below.

Among 120 cardamom farmers surveyed to date, results indicate a 60% increase in profit per kilogram (from US$ 0.67 to $ 1.07 per kg.), due to a combination of reduced costs (for example, a reduction in fuel wood usage due to improved cardamom drying practices) and increased market prices for improved quality cardamom. While the production of pink cardamom has not yet reached sufficient volume to receive a differentiated price in Indian markets, quality improvements in large cardamom, and improved terms of trade through collective marketing and standardised grading, earned farmers an increment of NPR 15 per kilogram. At the environmental level, results to date have included a 48% reduction in fuel wood usage due to more efficient processing practices; while, at the social level, over 85% of project beneficiaries have been members of traditionally disadvantaged groups in the Nepali context.
While it is still too early to report profit increases per kilogram for ginger farmers, it is certain that collective marketing, forward contracts, and improved post-handling practices have resulted in an increment of at least NPR 4 per kilogram (a 15 – 20% price increase per kg.) for high fibre ginger; these increases are expected to increase considerably once premium low fibre ginger promoted by the project reaches markets.

At the market and policy level, the results to date indicate the strong role played by trade associations in created an enabling environment for the cardamom and ginger industries in Eastern Nepal, ranging in impact far beyond the scope of Mercy Corps’ own direct project participants. In the cardamom industry, results to date show an increase in export sales of 15.5%; while it is difficult to attribute this directly to project activities, it is certain that the introduction of grading systems and the establishing of LCEAN have contributed to this increase. The tawa system – in which cardamom farmers received the cash equivalent of 40 kilograms for every 41 kilograms sold to traders – was abolished through negotiations among value chain stakeholders, resulting in profit increases of over NPR 625 per household per season; a cardamom grading system was agreed among farmers, wholesalers, and exporters; and, a range of informal taxes from pressure groups on ginger traders have been abolished.

While it is still too early to report on the results of improved access to finance along the cardamom and ginger value chains, it has been interesting to note that farmers groups supported by the pilot projects have already linked into NUBL lending channels, and have begun to receive loans following a Self-Reliance Group model that features both group lending and compulsory savings.

**B) Recommendations**

While the results to date have been promising, a number of recommendations can be gleaned from implementation experience during the pilot stage. Mercy Corps intends to integrate these recommendations into future agricultural value chain interventions supported in Nepal.

First, activities to date have demonstrated the importance of structuring project implementation in a manner that increases the likelihood of project impact. In the context of Mercy Corps’ work with cardamom and ginger in Eastern Nepal, this was done in two ways: first, pilot projects were implemented to test upgrading strategies before larger scale projects were designed; and, second, strategies to upgrade the value chains of high impact’ commodities were designed to range beyond the timeframe or scope of any single donor-funded intervention.

Second, direct negotiations with a set of individual firms in each value chain proved effective in the pilot stage, often allowing individual stakeholders in value chains to overcome initial feelings of mistrust. However, to broaden the reach interventions, it will be important for Mercy Corps to move away from events that focus on a set of individual firms and towards industry-level events such as trade fairs and auctions that allow for broader participation and systemic reach.

Third, the pilot interventions have demonstrated the power of Indian markets for Nepali agricultural commodities, suggesting that future activities must be informed by an in-depth understanding of market dynamics in key Indian trade hubs for agricultural commodities. These markets – more so than local markets or markets in third countries – have the greatest influence over market orientation choices made by Nepali farmers and firms. Taken a step further, this implies that future value chain analyses of Nepali agricultural commodities marketed in India should also include analyses of the corresponding value chain in India.

Fourth, while Mercy Corps often supported the supply of key inputs (such as cardamom dryers, ginger crates, or cardamom graders) directly during the pilot stage, it will be important to promote the provision of these inputs through market channels as projects are scaled up. This will require additional business development services to input suppliers, and may necessitate linking input manufacturers and suppliers to commercial banks.

Fifth, while direct contact with value chain stakeholders has been invaluable during the pilot stage, it will not be possible to provide the same level of direct support to farmers and firms as projects are scaled up. For this reason, it will be important to identify and strengthen strategic leverage points at the production level (such as federated cooperatives or unions) that function much in the same way at the production level as trade association such as NGPTA and LCEAN function at the market and policy levels.

**Conclusion**
The paper describes the characteristics and results of a pilot approach used by Mercy Corps to strengthen cardamom and ginger value chains in the Mechi Zone of Eastern Nepal, while discussing results of the approach to date. The approach builds upon established agricultural value chain models, while incorporating a focus on ‘high impact’ commodities; using an ‘economic corridor’ lens; emphasising private and public sector partnerships; and, facilitating expanded access to financial services along the targeted value chains.

While it is still too early to discuss results and impacts comprehensively, results to date indicate the importance of considering expanded financial access when designing agricultural value chain projects; and, the key role played by pilot projects before additional investments are made. The paper demonstrates the utility and promise of an ‘economic corridor’ lens; the determination of ‘high impact’ commodities; and, the use of four levels of impact indicators for value chain interventions (household, market, social, and environmental). Furthermore, the paper demonstrates that activities designed to create an enabling environment for trade can result in impacts far beyond direct project beneficiaries.

As interventions piloted for the cardamom and ginger value chains in Eastern Nepal increase in scale, the paper suggests that it will be important to shift market level activities away from individual firms and towards overall, commodity-specific market systems; that value chain analyses in Nepal must often incorporate analyses of the Indian market as well; that projects must increasingly work with higher-level farmers networks; and, that additional business development support will be required for input suppliers.

References


---

1 The authors would like to acknowledge the contributions of Tej Thapa and Mahendra Shahi to this paper. Tej Thapa is the Program Manager for Mercy Corps Nepal’s Cardamom and Ginger Program, while Mahendra Shahi is the Project Manager for Mercy Corps’ Expanding Access to Finance in the Eastern Hills project. Their work on those initiatives made this paper possible.

2 Mercy Corps is an international non-governmental humanitarian relief and development agency with headquarters in the US and UK. Since 1979, the agency has worked in over 100 countries, focused
primarily on: emergency relief, economic development, and initiatives that strengthen civil society. The agency has worked in Nepal since 2005.

\textsuperscript{ii} For details, see USAID Briefing Paper, “Key Elements of the Value Chain Approach”; GTZ’s ValueLink’s Manual; or, SEEP Network’s “Value Chain Approach to Poverty Reduction” paper.

\textsuperscript{iv} For details, see FAOSTAT and data produced by the Government of Nepal’s Trade and Export Promotion Centre.