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# KNOWLEDGE-BASED INTEGRATED SUSTAINABLE AGRICULTURE AND NUTRITION (KISAN) PROJECT

VEGETABLE MARKET CHAIN ASSESSMENT

CONTRACT NUMBER AID-367-C-13-00004

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## **DISCLAIMER**

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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## ACRONYMS

AEC	Agro Enterprise Center
CC	Collection Center
DADO	District Agriculture Development Office
DCC	District Chambers of Commerce
DDOA	District Department of Agriculture
EIG	Education for Income Generation
FG	Farmer group
FNCCI	Federation of Nepalese Chambers of Commerce and Industry
GON	Government of Nepal
IDE	Integrated Development Environment
NGO	Non-governmental organization
KISAN	Knowledge-based Integrated Sustainable Agriculture and Nutrition
LSP	Local Service Provider
MARD	Market Access and Rural Development Project
MOAD	Ministry of Agriculture Development
MOU	Memorandum of Understanding
MPC	Market Planning Committee
NEAT	Nepal Economic, Agriculture and Trade Activity
NGO	Non-Governmental Organization
NRS	Nepali Rupees
PACT	Project for Agriculture Commercialization and Trade
PP	Production Pocket
PPT	Power point presentation
SIMI	Smallholder Irrigation for Market Initiative
SMS	Short Message Service
SWOT	Strengths, Weaknesses, Opportunities, and Threats
USAID	United States Agency for International Development
VDC	Village Development Committee

## **EXECUTIVE SUMMARY**

Small scale farmers in Nepal have traditionally relied on subsistence and semi-commercial farming, employing conventional production practices and marketing the surplus production at local bazaars. Investments by GON and donor partners, knowledge dissemination, and improved infrastructure and input availability (particularly road and communication networks) are gradually changing the landscape. These advances have opened up new input and output market channels and market opportunities for farmers.

In the late 1990s, farmers in the eastern Terai began small scale production of off-season vegetables for Indian markets. USAID-funded programs, such as Market Access and Rural Development (MARD) and Nepal Smallholder Irrigation for Market Initiative (SIMI), and other aid agencies built on these activities. They developed a structured market-led approach for production and marketing of vegetables in the Western, Mid-Western, and Far-Western development regions. The current USAID food security project, Knowledge-based Integrated Sustainable Agriculture and Nutrition (KISAN), is in the process of expanding smallholder vegetable production in 20 districts in the Western, Mid-Western, and Far-Western regions.

As part of this process, KISAN has conducted an assessment of primary markets in the KISAN working areas with the objective of evaluating the strengths and weaknesses of existing market chains within the project area. The assessment also evaluated farmer's abilities to produce in a market-led environment and assessed market capacities to absorb increased production. The assessment resulted in recommendations for targeted KISAN interventions to strengthen market chain weaknesses in input and output functions, and to gain efficiencies to integrate additional beneficiaries in the market-led systems.

The assessment was carried out through a series of meetings with KISAN staff and partner organizations, representatives from the Ministry of Agriculture Development (MOAD), wholesale and retail markets, Collection Centers (CC), and Market Planning Committees (MPC) along the Kathmandu, Butwal, Nepalgunj, and Surkhet corridor over a 12-day period from November 20 through December 1, 2013.

## **RECOMMENDATIONS**

KISAN should focus on the low-hanging fruit and build on past successes. The team should expand existing farmer groups (FGs), form new FGs where infrastructure exists, and expand CCs sub-centers to increase scale and volume of agriculture produce.

The greatest challenge the project faces is organizational strengthening as it takes so long, but will probably have the most sustainable impact. Given the time required to successfully strengthen MPCs and other organizations, the project should focus on this.

Staff should replicate the approaches and lessons learned from the Bulbule market and the Madan Pokhara cooperatives/CCs. Both are impressive operations. The MPCs are very knowledgeable and

willing to work with farmers. These cooperatives demonstrate the importance of engaging farmers' organizations with MPCs, creating an essential two-way dynamic. For these reasons, these two sites would be good places to host exposure visits that illustrate what market-related strategies that work well.

The assessment also suggests that with a few more resources and time, KISAN can reactivate formerly successful FGs and MPCs with good governance and business practices that are currently dormant. This involves reorganizing the groups and committees, and re-establishing linkages to input suppliers. KISAN needs to institutionalize good governance, strategies, and business practices, and strengthen buyer-supplier relationships.

The organizations should increase membership; establish capital reserves for maintenance and upgrades; ensure farmers have access to quality inputs; and increase CC revenues by lowering the marketing costs through economies of scale and value addition in grading.

KISAN and other projects can reduce losses along market chains by strengthening demand-led production planning. This means developing market calendars to accompany crop calendars. Farmers should be informed about the specifics of the product in demand (variety, size, color, timing, volume, etc.). KISAN should train farmers more about producing as per market specifications. KISAN should introduce cost-effective, appropriate harvesting and post-harvest packing technologies to ensure farmers preserve desirable characteristics as produce is transported to markets. CC managers, transporters, and wholesale market staff also benefit from focused training in everything from harvest practices to handling, sorting, cleaning, storing, and transporting.

The government should set standard grades so that stakeholders (farmers, CCs, traders, etc.) along the value chain can get price premiums for quality products. KISAN can work with the MOAD to institutionalize grades and price premiums on a wider scale. In the short-term, KISAN should clarify existing trader specifications and assist traders in communicating this information to MPCs and FGs.

The assessment indicates that inadequate communication is a problem, and KISAN can improve coordination and communication between FGs and their MPC, as well as with the government and markets (demand-led planning and marketing) by convening buyer-supplier meetings and developing demand-led extension activities.

To ensure that downstream markets can absorb the increased production of KISAN farmers, the assessment suggests that the project assist public/private wholesale markets to be more competitive through business planning and operational improvements. This will reduce operating costs and establish additional revenue-generating activities for investment into market upgrades and maintenance. KISAN can establish more Apex CCs and help them develop strategic and business plans that build relationships and commitments with MPCs, input suppliers, markets, and District Chambers of Commerce (DCCs). These relationships will help to expand market opportunities.

KISAN staff should train MPCs to use simple economic tools to assess the economic costs of meeting market specifications such as improved grades and packaging before promoting these activities to FGs.

## INTRODUCTION

The objective of this assessment was to evaluate the strengths and weaknesses of existing market chains, farmer abilities to produce, and market capacity to absorb produce, and to make recommendations on how KISAN can improve interventions and address market weaknesses. The assessment was conducted in late November 2013 through a series of meetings with KISAN staff, partner organizations, MOAD representatives, wholesale and retail markets, CCs, and MPCs.

This report summarizes the findings from the assignment. The first section of the report summarizes findings from the field and provides an analysis of key factors that influence the market such as the role of government, information and knowledge, and characteristics of the product itself. The second section discusses physical markets, wholesale markets, and collection centers. This section discusses key business concepts, provides a description of KISAN destination (wholesale) and feeder (collection centers) markets; a summary of discussions with key informants; the markets' relationships to key business concepts; and tables of constraints and responses for strengthening markets. The Conclusion summarizes the report's analysis of the existing situation and the identified fundamental constraints in the market chain.

## FINDINGS FROM THE FIELD

### FACTORS THAT INFLUENCE THE MARKET

The following section describes market chain influencers (physical, organizational, and technical factors that impact market chains) identified through field visits and interviews. These influencers are critical to market chain profitability and sustainability. This assessment does not contemplate the entire value chain. The aim is to identify underlying constraints in the value chain system and provide recommendations that the KISAN Project can incorporate into its activities to address the constraints.

#### **Government**

The Government of Nepal's (GON) Ministry of Agriculture Development (MOAD) works to support horticulture market chains through its Agribusiness Promotion and Marketing Development Directorate, Department of Cooperatives, various national, regional, and district research and extension services, and private sector affiliates. For example, MOAD supports the Agro Enterprise Center (AEC) which operates under the Federation of Nepalese Chambers of Commerce and Industry. Interviews with MOAD officials identified the following key indirect and direct interventions the GON is conducting in horticulture market chains.

Indirectly, governments can support market chains in many ways without actually working with them. This includes promoting competition, collecting and publishing market information, and support through investment in market infrastructure and policy promotion. The GON can also establish project standards and specifications which producers and buyers understand.

*Indirect government support to market chains includes:*

- Standardize/establish a single format for price collection at wholesale markets and district feeder markets. Disseminate market information services in all the commercial agricultural production areas and organized agri-markets. This should target the needs of farmers, entrepreneurs, and traders, and could be through a single channel like pricing boards, websites, or dial-up service;
- Fund studies to assess differences between farm gate and retail prices to calculate margins. This would include the production and marketing costs so that farmers and MPCs could develop product marketing strategies for rural enterprises;
- Review agribusiness and export policies and issues to ensure continued promotion of agriculture market-based production;
- Develop and promote policies such as the pending Marketing Act, which includes a series of market rules, regulations, and guidelines for markets under public/private ownership, such as the Butwal wholesale market. Because of ambiguous rules, management issues in public/private-owned markets have reduced efficiencies in market operations. For example, wholesale markets need to be able to raise user rates to cover costs. These market managers are demanding demarcation of distinct rules. The GON should formulate legal guidelines for effective market regulation to avoid collusion in markets;
- Coordinate with donor projects such as the World Bank-funded Project for Agricultural Commercialism and Trade (PACT) on installation of infrastructure for five regional markets and work to leverage government assets with PACT and other projects; and
- Work with PACT and the USAID policy program in discussing the Contract Farming Act to formalize the contract farming now taking place, and make contract farming a more transparent and equitable practice and an instrument to retain a larger labor force in the country.

*Direct government support to market chains includes:*

- Train MOAD agri-marketing officers and assistants on concepts and techniques of collecting and analyzing food production, consumption, market demand, and production costs data, and fund studies on production, marketing cost, and margins to support market-driven planning at the district, regional, and national levels;
- Train farmers, agro-entrepreneurs, and MPCs on concepts and techniques of developing market information, pricing, market-oriented production planning, and establishing and managing markets;
- Provide improved infrastructure for wholesale and collection center markets, especially at the district level, which is a priority; and
- Provide financial assistance for installing cool and cold chain centers. A series of formats for proposal components have been published.

The MOAD plays major indirect and direct roles in support of collection and dissemination of market information, funding studies, coordinating with donor projects, developing rules and regulations for governing public/private markets, developing policy initiatives, and providing training. MOAD has also invested in road infrastructure to facilitate transport, which has a significant impact on marketing costs, and market infrastructure to create and upgrade local markets. These activities are instrumental in providing stability to market chains and reducing marketing costs.

### Information and Knowledge

An increase in price has a significant effect on improving profit because production and marketing costs are often fixed. The opposite is also true where a small decrease in price can result in a significant decrease in profitability. Market prices vary per crop, season, quality, and location and are mostly influenced by supply and demand but there are other factors that influence prices. For instance, the amount of competition between buyers as prices paid to farmers tends to be higher when buyers compete with each other. A lack of access to market information negatively impacts MPCs who can be poorly informed of market prices and market demand making them less able to negotiate with traders or compare prices offered by different market outlets. Likewise, price premiums resulting from improved product quality and grading are offered by traders, but quality standards are not consistent making investment into improved packaging a difficult decision for farmers.

**Table I. Constraints and Responses: Information and Knowledge**

Constraints	Responses
<p>Farmers and MPC members lack knowledge about market chain factors (such as sorting, reducing losses, categorical market specifications, etc.) that influence price and profitability, so they don't know how to control costs and increase revenues.</p> <p>MPCs and farmers don't keep records, they are not using accounting practices, and they don't have an understanding of the operating costs so they cannot enact managerial, technical or operational improvements that lower costs and increase profitability.</p>	<p>Carry out exercises, running through different scenarios, with wholesale market managers, FGs, MPCs, and CC management to explore factors affecting profitability and to identify strategies to address them in strategic and business planning exercises and documents.</p> <p>Carry out wholesale market business assessments and incorporate findings in strategic and business planning exercises to achieve efficiencies and maximize profits.</p> <p>Provide training on record keeping.</p> <p>Convene buyers-suppliers so that traders share their marketing costs (transportation, losses, etc.) and how they impact prices to CCs and FGs. Identify what steps can be taken at the MPC/CC level to reduce the costs.</p>

Transport costs are another aspect that increases with small volumes, long distances, and poor roads. Other such aspects include expected losses that are often a penalty built into trader price offerings, and competition with imports and collusion between buyers.

It is important that market chain participants be informed about price, profitability, and the influencing factors. Increased yields benefit farmers, but other market-related factors in a market-led system are equally important. For example, reducing costs through efficiencies and scale can have a major positive impact on profitability, as can controlling losses which has an impact on both price and costs.

In short, the more knowledge suppliers have on price and profitability drivers, the better equipped they are to manage them.

### **Quality, Grade, and Standards**

The importance of quality and grading was a discussion point with all participants in vegetable market chains. The principle issue is that there are no sub-sector-wide fixed price premium percentages or quality standards. For example, discussions with traders in the Nepalgunj wholesale market indicated price differences for graded products of 10-15% for tomato and 25% for cauliflower and cabbage. At the Bulbule Agri-market Wholesale in Surkhet the difference between graded and ungraded was a mere 2 Nepali Rupees (NRS) per kilogram for all crops. In Kohalpur wholesalers reported there are three grades of tomatoes each at a different price but the differences were difficult for the trader to articulate.

It was also reported that traders will often not pay a higher price for product quality if there are only small volumes available. In such instances, traders prefer to compete for ungraded products as it is difficult for them to sell small volumes of perishable products which must be sold quickly and often separately. Furthermore, discussions with the Agro Enterprise Center (AEC), MOAD, and larger traders indicate there are no documented consumer preference studies that confirm a specified demand for quality products (aside from small higher-end markets in Kathmandu, Pokhara, and Biratnagar). It is acknowledged that better quality results in longer shelf-life and reduced losses for wholesale and retail markets, but at this point almost all value addition is done at wholesale markets, not at farms or CCs. These uncertainties make it difficult for MPCs to convince farmers to improve produce quality and negotiate for graded or quality premiums.

**Table II. Constraints and Responses: Quality, Grade and Standards**

Constraints	Responses
<p>There are no sub-sector-wide fixed price premium percentages for grades or physical quality standards, each trader has their own criteria, making it difficult for MPCs to pass accurate information on to FGs and calculate the technical feasibility and economic viability related to quality.</p>	<p>Work with government to institutionalize grades and standards (and packing weights) to help reduce risk and market uncertainties. (Perhaps in line with Indian standards)</p> <p>Educate buyers on giving farmers and MPCs a premium price for high quality products. The premium could be for fewer blemishes, uniform or larger fruit, uniform color, longer shelf-life, etc.</p>
<p>Lack of market information on consumer preferences makes it difficult for FGs to target production for high end niche markets.</p>	<p>Build buyer-supplier relationships through exchange visits that allow MPCs to understand individual trader standards and develop trader specific fact sheets (that identify the specific qualities and quantities of the product they seek to buy) in the absence of sub-sector-wide, government set standards.</p>
<p>Lack of standardized grades and standards and price premiums create uncertainties among FGs and MPCs resulting in lower quality produce, forgone premiums, and increased losses.</p>	<p>Train CC managers on differentiating grades and standards as per trader preferences for value addition at CCs.</p> <p>Incorporate knowledge of grades and standards and estimating cost of compliance into production planning and technical assistance at farm level.</p> <p>Work with traders, government, and AEC to publish up-to-date and historic prices for grades and quality.</p> <p>Train MPCs to reduce risk of investing in better quality by employing simple cost/benefit analysis.</p> <p>Work with government to disseminate market research findings on margins and consumer preferences to better prepare MPCs to negotiate with traders and develop strategies to supply high-end niche markets.</p>

**Marketing and Transaction Costs**

Marketing and transaction costs can influence the success and profitability of farmers’ produce, and produce/vegetable markets. Marketing costs include: field level collection, packing, and transport to CCs;

CC logistics costs such as storage, weighing, and handling; and cost of transport, loading, unloading, repacking, losses, and fees paid to traders. Marketing transaction costs and returns to farmers are often a function of the length (number of intermediaries) of the market chain. Longer chains generally indicate farmers' inability to sell products directly to markets, making them price takers at farm gates or through middlemen.

Many marketing costs are built into trader price offerings to CCs. An example of this is Bulbule Agri-market Wholesale, Surkhet. The price difference for cucumber, bitter gourd, sweet pepper, green chili, and eggplant between the CC and wholesale market is approximately 8 NRS per kilogram. The breakdown, per kilogram, from CC to wholesale market is as follows: collection/logistics including loading and off-loading – NRS 1; transportation – NRS 3; packaging – 0.5 NRS; and a commission fee of 3-4 NRS. Additional costs may be assessed at the wholesale market depending on quality, losses, or the need to sort and repackage. Obviously transport costs vary depending on size of load (full trucks cost less per unit), mode (transport by bus costs less per unit than contracted trucks, but there is reportedly more loss due to damage), and distance traveled. Marketing costs can be reduced by achieving economies of scale (the larger the volume the lower the per-unit transaction costs), and operational and managerial efficiencies by accessing more efficient markets with lower operational costs.

**Note:** The PPT presentation appended includes a table illustrating the economic benefit of reducing marketing costs.

**Table III. Constraints and Responses: Marketing and Transaction Costs**

Constraints	Responses
<p>Farmers perceive prices paid by traders to be too low and arbitrarily set resulting in a distrust of traders, farmers selling independently of CCs, an increase in the number of market chain transactions, and all parties forgoing the benefits of economies of scale and efficiencies.</p>	<p>Increase economics of scale, e.g. transport volumes, by convincing farmers to sell through CCs thereby increasing volume and traders may lower commissions for larger quantities.</p> <p>Carry out wholesale market business assessments. Convene meetings with traders and MPCs where traders can explain their marketing costs and how they can be lowered through efficiencies and scale by the farmers selling through CCs.</p>
<p>Improved market infrastructure, addressed under Section Two, also lowers marketing costs through more efficient transactions.</p>	<p>Explore sales based on a fixed fee paid to trader as part of a transparent marketing cost breakdown. Such an arrangement will take time to develop and will ultimately be based on improved buyer-supplier relationships, resulting in mutual trust.</p>

## Packaging

Packaging and losses due to poor packaging is a topic that was highlighted in every interview. In terms of marketing, good packaging design enhances the attractiveness of produce and enables it to be handled and marketed in convenient units. Proper packaging also helps to prevent physical damage, for example cuts, compression bruises, impact damage, and vibration rubbing. However, in Nepal most packaging is done in plastic or loosely woven jute sacks, dokos, and, to a lesser extent, plastic containers.

Discussions with traders indicated that expensive packaging was not needed for less perishable crops such as onions, cabbage, garlic, and potatoes that can be packed in sacks. However, these hardier products often arrive in plastic crates, which is less efficient and more costly. Proper handling and transport is required for all products but proper packaging and transport of more perishable vegetables such as tomatoes has a greater impact on price. If economically viable, tomatoes should be in plastic crates or boxes. Fruits, such as oranges that are transported long distances in dokos, should be packaged with low-cost bubble wrap or other liner to preserve the quality of the fruit at the bottom of the basket. Cost-effective plastic crates can be bought from Indian vegetable importers who would prefer to sell used crates rather than bear the costs for their return to India. The benefits of packaging must clearly justify the investment. For example, packaging in containers made of wood or plastic crates, which are rarely available at the farm gate and have to be returned to the farms for refilling, can be costly. Instead, farmers should explore local sources of packaging that does not need to be returned. CCs should price products sold in containers, such as plastic crates, at premium rates with traders and first conduct cost/benefit assessments to confirm its economic viability.

**Note:** The PPT file attached includes a slide on a very simple cost/benefit approach to determine if improved packaging is justified. Extension agents can use this example as a tool in discussing packaging options with FGs and CCs.

**Table IV. Constraints and Responses: Packaging**

Constraints	Responses
<p>Losses resulting from poor packaging are significant and negatively affect all market chain participants.</p> <p>Adequate packaging is expensive and not readily available at farm gates.</p>	<p>Coordinate with wholesale markets and others to identify cost-effective packaging best practices and investigate appropriate technologies using local materials for packaging.</p> <p>Utilize price information from traders to carry out cost/benefit analysis to justify investment into improved packaging.</p> <p>Simple examples of economic decision making can help extension agents and MPC members analyze cost/benefit of investment into improved packaging.</p> <p>Incorporate crop-specific packaging requirements into post-harvest trainings.</p>

## Losses

Losses impact all participants in market chains, from farmers to retailers, and some degree of loss is unavoidable during marketing. It is difficult to assess a universally applied percentage to loss or what percent of loss is directly attributed to handling, packaging, and transport but the impact is significant.

The AEC has calculated losses of a variety of vegetable crops, and estimates losses between farm gate and wholesale markets can be up to 40%. This is mainly due to water loss during storage, transportation, and marketing; loss of value over time as bruises and pest damage become more apparent; and physical losses that simply must be thrown away which incurs an additional cost at wholesale markets. These costs are often invisible to sellers but can result in significantly lower prices to CC members as traders build these costs into prices offered or spread such costs over all their procurement transactions.

Losses vary per organization. The Madan Pokhara Multi-purpose Agri Market Cooperative Ltd. in Palpa experiences a 1.5% loss on tomatoes; in other vegetables this varies from less than 1% to 4%. This is partly due to the strong relationship between the MPC, farmers, and traders. Traders educate farmers on what the market wants, the cooperative sells inputs, and there are lower transportation costs since the wholesale market is 34 km away. The Butwal Agri Products Wholesale Market estimates a 15% loss for products entering its market; the Integrated Development Environment (IDE) estimates collection sub-centers experience losses of up to 40%. There are many factors that impact losses and reduce product physical damage, such as market and road infrastructure. Harvest and post-harvest practices that select properly mature, or cull rotten or pest-infested vegetables that could ruin entire lots, is another factor. Proximity to markets can also affect losses where lower transport costs per unit or large volumes allow for contracting a truck rather than transportation by bus. Another influencing factor is price premiums for quality which offer suppliers the incentives to take better overall care of products.

Storage is another factor that affects losses. CCs that lack proper storage may expose products to the weather or require additional handling. In the Terai, there is a need to investigate the technical feasibility and economic viability of cool storage options, especially the lower cost technologies such as the CoolBot, to prolong potato and onion shelf life and reduce product damage during the hot season.

The important point is to be aware of typical marketing costs and work with MPCs and FGs to reduce those costs and increase profits through direct and indirect project assistance, for example through economies of scale and post-harvest training.

**Note:** *The attached PPT contains a spreadsheet example mobilizers and extension agents can use to demonstrate to farmers the positive financial impact of selling 100% of their production through use of improved post-harvest practices versus 80% which may occur due to loss.*

**Table V. Constraints and Responses: Losses**

Constraints	Responses
<p>Poor quality products can result in traders being unable to sell products that they have purchased and pass low price onto CC members.</p>	<p>Communicate with traders to identify why products could not sell, the impact of losses on sales, and what the MPC could do to reduce the impact of losses on prices.</p>
<p>Benefits, in terms of reduced transport costs (such as putting a <i>doko</i> of tomatoes on the bus), are usually outweighed by losses in terms of damaged produce.</p>	<p>Invite traders to CCs to carry out a field audit of produce brought to the centers and use the occasion to discuss how to reduce losses, and the economic benefits for CCs and farmers.</p> <p>Harvest, post-harvest, and handling training should be provided to all market chain actors – farmers through retail vendors.</p> <p>Hands-on successful harvest and post-harvest practices including cost-effective packaging and transport such as those found at Madan Pokhara Multi-purpose Agri Market Cooperative should be considered as host locations for farmer study tours.</p> <p>Investigate innovations in cool room technologies such as those made in Afghanistan; lessons learned may be applicable to Nepal’s hill regions (see the following link:  <a href="http://www.youtube.com/watch?v=4DxSIvQlvU">http://www.youtube.com/watch?v=4DxSIvQlvU</a>).</p> <p>Utilize basic extension illustrations such as the PPT example to demonstrate to farmers the financial result of selling 100% of their production through use of improved packaging practices versus 80% due to loss.</p>

**Production**

The objective of ongoing and previous donor horticulture projects in many regions of Nepal has been to strengthen production-market chains, thereby increasing farmers’ incomes and improving profitability. This objective has been successfully met and market-led production is well understood by all market chain participants. Furthermore, interviews with traders and retail market vendors indicate that project-related increases in volumes of vegetable production can be absorbed through existing market infrastructure and unmet domestic demand without price declines. Nevertheless, the overriding comment from traders and MPC members interviewed is that there should be a continued project

emphasis on market-led production activities. This means understanding not just which product, but the quality standards for the specific commodity and quantity.

From the demand or trader side, this means MPCs and FGs must place a greater emphasis on meeting product specifications (variety, color, size, grading, packaging, etc.), volume, prices, and timing. Traders are willing to work to improve communication and marketing services with MPCs to achieve this. From the supply or FG/MPC side, this means incorporating market demand information in production practices into KISAN trainings. Farmers need to access requisite physical inputs such as seeds, credit, and irrigation and support inputs such as extension and marketing services, to meet market demand requirements. This should be mutually beneficial for farmers and traders. However, ensuring profitability for all parties (and to avoid over-saturating the market with too much supply) requires systematic coordination and effective communication between farmers, MPCs, LSPs, government, and traders at the regional and national levels.

From the production perspective, when new or different market demand parameters and opportunities (such as new varieties of tomatoes) are made available, market chain participants feel more comfortable accepting the risks involved and institutionalizing these activities within the project.

**Table VI. Constraints and Responses: Production**

Constraints	Responses
<p>Production not based on market information leads to market over-saturation, products not meeting trader and market specifications, and products sold at reduced prices and increased risk to farmers.</p>	<p>Work with traders to develop calendars forecasting volumes, timing, crop-specific standards, and approximate prices.</p>
<p>Farmers do not have adequate knowledge of production and harvest technologies and practices, especially for new or changing crops and new market specifications to risk investment into meeting these specifications.</p>	<p>Work with farmer groups identifying agro-zone production potential and linking technical and physical requirements with market demand.</p>
<p>Farmers lack access to requisite inputs to increase production and comply with trader specifications such as those for new varieties.</p>	<p>Assess FGs, government, and private extension providers' planning and production capacities and ability to respond to diversification, intensification, and technology requirements for meeting market demand and provide required training.</p> <p>Include LSPs and local government in trainings for farmers on market demands, standards, and innovative technologies and production practices to meet the demand.</p>

**Table VI. Constraints and Responses: Production**

Constraints	Responses
	Coordinate with input suppliers and credit providers to work through MPCs to ensure timely access to requisite inputs.  Analyze crop budgets to estimate what activities are economically viable and what changes can be made to increase prices and/or lower costs.

### **Market Information**

Market information is utilized by all market chain participants. For KISAN beneficiaries, the MPC is the market chain link that interfaces with traders and FGs and is the key to facilitating the dissemination of information in the market chain. The most effective method of information dissemination is via cell phone to a network of markets, traders, and suppliers. The greater the network and range of buyers the more accurate the information. Where cell phone networks are not available, it is difficult for FGs to obtain current market information. Traders and MPCs understand the utility of SMS and are interested in expanding its use for market information as well as organizing collection, aggregation, and transport.

For most sellers, last week's information is of more value than last year's as it provides a real time and ongoing stream of feedback to farmers on the state of the market. This short-term or recent information keeps producers in touch with the changing supply and demand fluctuations of markets and enables MPCs to be confident in negotiations. This information also provides insight on how the quality and prices of their produce compares with the competition, as well as which market outlets offer the best prices. It is also essential to avoid market gluts from increases in production. Longer term, historic market information and periodic price reports can be used to make crop planting and scheduling decisions and plan marketing strategies. Collecting and disseminating historical information is primarily a government responsibility, and data must be captured from a number of sources. Subsequently, it is not easy to collect, compile, and distribute. Good communication and long-term relationships with traders can often fill this information gap.

All traders and market managers understand their clients' needs and requirements and can articulate market volume, price, quality, and seasonal trends. Larger wholesale markets maintain databases of average prices, and more recently, they reportedly advertise price differences for graded products. But the specifications are market-specific and prices could change on a daily basis depending on supply, demand, and product quality. This creates uncertainty as to what exact prices will be paid. This uncertainty highlights the need for MPCs to build relationships with buyers and develop fact sheets about specifications for specific products for each trader or market.

In larger markets, the AEC collects price information that has been posted on the notice board by the marketing offices. This and other relevant information is disseminated on FM radios and by telephone

dial-up services. The AEC also collects market information from 24 wholesale markets in Nepal as well as some Indian border markets, DCCs, and retail markets. AEC presents this information via the internet, and has a mobile phone dial-up service that provides prices of many agriculture products. AEC information can be helpful in developing a long-term database of information for market-led planning needs. The AEC also provides valuable technical information and contacts through its network of members and affiliates including DCCs. These district offices also provide a venue for buyers and suppliers to meet and use these good offices to negotiate MOUs on volumes and qualities. AEC staff function as witnesses to these agreements, keeping both sides honest. Prices are set at harvest time.

Market studies and information on consumer preferences and retail market segmentation is not seen as a priority but is gaining interest at the wholesale level. Such information will be helpful in targeting niche market opportunities.

**Note:** The attached PPT presentation includes examples of a trader fact sheet and supply-and-demand-side information that should be captured and incorporated into planning decisions.

**Table VII. Constraints and Responses: Market Information**

Constraints	Responses
<p>Cell phones are essential to communicate market information but not all farmers have cell phones. Market information is not widely disseminated making it difficult for suppliers to maximize the value of information.</p> <p>SMS is seen as effective on all levels and warrants further development.</p>	<p>In the absence of telephones, encourage farmers to circulate news on prices, demand specifications, and opportunities to other FG members; post information on notice boards at collection points, DCCs, and VDC offices.</p> <p>Coordinate with traders, government, AEC, and donor agencies to expand information made available via SMS and other electronic media.</p> <p>Work with the government, traders, and others to broaden its sources of long- and short-term market information and improve its dissemination.</p> <p>Assess MPC information quality, timeliness, and use to ensure they maximize negotiating positions and avoid market gluts.</p> <p>Replicate the Apex CC body formed in Surkhet in other districts for better dissemination and use of market information, coordinated production planning, and reduction in transaction costs through economies of scale in product aggregation and transport.</p> <p>Convene buyer-supplier meetings at CCs before planting season to discuss market requirements.</p>

**Table VII. Constraints and Responses: Market Information**

Constraints	Responses
	Develop product and trader fact sheets and use them for demand-led production strategies and extension training development.  Utilize knowledge of short- and long-term price trends to smooth out supply through crop scheduling and trader information.

## **MARKETS: WHOLESALE AND COLLECTION CENTERS**

Buyers and suppliers have mutual interests in improving the two-way flow of information and strengthening buyer-supplier relationships. Wholesale markets rely on volumes of throughput to meet client needs, reduce operational costs through scale, establish reserves for upgrades and expansion, and maintain competitiveness with other markets. MPCs rely on wholesale markets to provide competitive market outlets for their members' products. Such mutually beneficial relationships reduce marketing costs for both buyers and sellers, lead to greater volumes being sold at competitive prices, improve trust, and result in win-win long-term buyer-supplier relationships.

Market systems are competitive and involve continuous change and upgrading. Markets will be successful and sustainable if they work to lower costs; improve efficiency; utilize new technologies; deliver products and services that meet client and members' requirements; and invest in staff training. Markets that have high costs, fail to adapt to changes in market demand, recover only operational costs, and do not meet clients' requirements often become insolvent. Market management authorities must develop strategic, business, and operational plans as well as improved governance to ensure that the income generated is sufficient to meet all operational costs. Management authorities must also provide funds (in reserve) for long-term maintenance, asset upgrades, and expansion. Efficient marketing infrastructure, such as wholesale, retail, and assembly markets and storage facilities, is essential for cost-effective marketing and minimal post-harvest losses. Fundamental to achieving this is organization capacity to operate in this dynamic environment.

### **KEY CONCEPTS**

#### **Strategic Planning**

Strategic planning is a well-known tool that will lead organizational stakeholders through a business environment and organizational assessment to help them develop a clear understanding of their business, its strengths and weaknesses, and identify goals, objectives, and resources available and those that must be obtained to meet the goals. Strategic Planning is also critical to the development of the business plan.

The result of strategic planning is an agreed upon clear vision statement of how the organization wants to develop and interact with buyers, suppliers, and stakeholders from its present state into the future. The

assessment includes a profile of the strengths, weaknesses, opportunities, and threats generated by means of a SWOT analysis. The assessment also includes a mission statement of selected key information concerning the market's business (customers who are served, products that are produced, key business capabilities, and unique aspects or accomplishments). This information is documented in an action plan detailing a clear set of short-, medium-, and long-term goals and objectives, risk and contingency plans, and identification of resources needed to provide organizations a clear direction for management to meet their goals.

**Note:** *An example of SWOT analysis and discussion of business planning is included in the appended Power Point file.*

### **Business Planning**

A business plan is a written internal document that describes in detail how a business is going to achieve its goals from managerial, financial, marketing, and operational viewpoints. These plans include a description of a company, management structure, services, and/or products, overall budget, cash flow, current and projected financing, a market analysis, and its marketing strategy approach. The idea behind a business plan is to enable owners and managers to have a defined understanding of business viability by tracking expected sales, revenues, and expenditures and comparing them to actual events. Knowing potential costs and problems that result from business decisions or events beyond their control help them determine a better course of action before carrying out new initiatives or when to enact contingency plans if problems arise.

The level of a plan's sophistication will depend on the organization. Wholesale market business plans will be much more complex and detailed than those of CCs. If plans are too complex they are difficult to understand and will not be utilized.

Business and organizational capacity will take time, months, to develop but at the same time FGs, CCs, and MPCs need to begin rebuilding or strengthening organizational capacity. To this end, the market information being collected will be the main input for the coming season's MPC and CC business and marketing plans and will also facilitate KISAN's training and technical assistance inputs.

**Note:** *A discussion of business planning is included in the appended Power Point file.*

### **Governance**

Governance, as defined by the Center for International Enterprise, is a set of policies, institutions, mechanisms, and practices by which an organization is directed and controlled. These policies and practices are carried out under a transparent decision making process in which the leadership, in an effective and accountable way, directs resources and exercises power on a basis of shared values and goals under organizational bylaws or other constituting documents. Effective leadership is the central part of good governance and is representative of its membership, treats all members fairly, acts in the best interests of the organization's members, and is built on communication with, and participation and trust of, members.

When elements of good governance are missing, organization member involvement, trust, and support often dissolve. This is often the case when organizational capacity is weak and lacks the time and business skills needed to ensure the business viability of the organization.

## **DESCRIPTION OF KISAN DESTINATION AND FEEDER MARKETS**

### **Overview of Wholesale Markets**

Wholesale markets improve efficiency in food distribution by promoting competition that creates a cost-effective means for transparent price discovery (determining the *price* for a specific commodity through basic supply and demand factors related to the market). Wholesale markets also enhance access to market information for various market chain participants. This reduces transaction (per unit marketing) costs, increases market stability for local produce, and encourages increased output and productivity. Handling and storage are also improved in this environment resulting in reduced post-harvest losses.

These markets are dynamic, operating almost 24 hours per day every day and their economic impact is substantial. The Butwal market alone has more than 31,000 people working directly or indirectly for it as transporters, market laborers, wholesale and retail traders, and farmers. These markets can also be quite lucrative for traders seeking opportunities. Kalimati has 550 registered wholesale traders and some 3,000 on the waiting list to register. The Balku market is expanding at 40% per year, has its own fleet of transport trucks, and is investing in grading and retail packaging modern technology “clean rooms” to ensure wholesome products are available to consumers. The market sees itself as serious competition to other wholesale markets. The need to increase market share is a goal of all markets.

The market assessment included visits to three large volume and two smaller volume wholesale markets : Kalimati, Kathmandu, mixed public/private management, average throughput to 500 MT per day; Balkhu, Kathmandu, private management, average throughput of 400 MT per day; Butwal, Rupandehi District, mixed public/private ownership and management, average throughput 340 MT per day; Bulbule Agri-market Wholesale operated by a MPC, Surkhet District, average throughput 10 MT per day; and Nepalgunj vegetables retail market, operated by a MPC, Banke District, average throughput 15-20 MT per day. All wholesale markets have knowledgeable management, well-established supply and distribution chains, and trade in domestic (Nepal Hill and Terai districts based on season) and imported products, primarily from India, based on seasonal supply and demand, quality, and price.

Kalimati and Butwal markets have local and national management board representation from the government and work in close coordination with GON, Market Development Division (MDD), and the Federation of Nepalese Chambers of Commerce and Industry (FNCCI). The Bulbule market, which is a good example of a successful market, is supported by FNCCI and the District Agriculture Development Office (DADO) in Surkhet, and operated by an MPC. The USAID SIMI and EIG projects trained the MPC members and built linkages between wholesale market managers and MPCs. The Nepalgunj market, also operated by an MPC, is supported by the DADO of Banke, who constructed of the market infrastructure and has benefited from the USAID/Nepal EIG Project. The EIG Project trained MPC

members on post-harvest practices and assisted with the development of a “collection fund” earmarked for market upgrading.

### **Wholesale Markets: Strengthening Strategic and Business Planning for Kalimati and Butwal Markets**

Kalimati and Butwal are under mixed public/private management with boards comprised of public officials, market traders, farmers, and market employees. The two markets have requested assistance in improving general market administration, operations and competitiveness including strategic and business planning, and capacity training for financial management. Other requests pertain to building skills to conduct cost-benefit assessments for investing in additional services for revenue generation, such as input sales and sales of packaging. Additional requests were to help develop financial reserves for maintenance, upgrades, and expansion, and gaining efficiencies in operations through managing the flow of goods, services, and traders. The markets also expressed interest in investigating price control mechanisms in the formation of equilibrium prices for produce.

Initial discussions indicated the following needs:

#### *Managerial Needs of Kalimati and Butwal Wholesale Markets:*

- Strategic vision, mission statements, and goals and objectives;
- Appropriate control of assets;
- Necessary powers and authority for market management;
- Effective decision-making structure;
- Effective agreements with market users;
- Improved market user compliance with market rules, contracts, and agreements;
- Effective relationships with market users, service providers, government agencies, and other markets;
- Managerial efficiency and human resource training;
- Financial planning and management;
- Improved integrity of wholesalers; and
- Administrative staff training needs.

#### *Operational Needs of Kalimati and Butwal Wholesale Markets:*

- Efficient management of throughput including collection, transport, unloading, loading, handling and storage;
- Reduction of losses and maintaining quality through sorting, grading, packaging, and transport;

- Organization in the markets' internal movement of transport, wholesalers and retailers, storage, and display of produce and how to achieve needs through enforceable tenancy agreements and market regulations/rules;
- Traffic control and vehicle parking;
- Food safety;
- Cleanliness, waste control, and hygiene;
- Effective provision of services, such as loading and unloading services, produce movement, electricity, garbage collection, warehousing, and cold storage; and
- Improved communications: market information, telephone, fax, e-mail, and internal communications.

#### *Recommendation: Wholesale Markets*

Communicate with markets to conduct more focused discussions of the markets' needs (such as the standards for all vegetables) and expectations of strengthening governance capacity, business planning exercises, and operational assessments.

Utilize KISAN staff, or other qualified experts, to meet with wholesale management boards and discuss what they feel are the key areas in business management and planning and operational deficiencies. Examples of key areas include improving the flow of produce through the market to enable greater volume at a lower price, training of staff on handling, and investment in additional revenue generating activities. Hire a team composed of Nepali and/or Indian business planning experts with wholesale produce experience, a produce wholesale operations expert (one who understands wholesale markets and can recommend operational efficiencies), and a post-harvest expert to reduce losses and train market staff. This team must be selected in coordination with market management. Discussions of planning needs should determine if business feasibility studies for cool/cold store and other revenue generating activities such as retail packaging or input sales should be included in the strategic and business plans.

#### *Governance*

In terms of governance, privately owned markets have more management flexibility and agility than public/private markets as decisions are made by a few key people. Public/private owned markets and cooperatives with mixed management are less agile as a greater and more diverse number of stakeholders must arrive at a consensus to enact managerial changes. The current management of the two public/private markets suggests that a review of, and recommendations to improve, general board powers, bylaws, rules, and regulations. These reviews and recommendations would help facilitate changes to improve managerial efficiencies, provide better services to members, and make the markets more competitive in the face of increasing private-managed competition.

*Recommendation: Governance*

Utilize local government cooperative development experts or consultants to review public/private wholesale market governance structures with the aim of upgrading market (governance structures) rules, regulations, and guidelines. This can be done with assistance of the Market Development Division of MOAD which is developing a Marketing Act to address some of these issues.

Improved governance will increase market efficiencies and reduce the managerial burden resulting from increased throughput volumes related to KISAN project efforts within existing market infrastructure as well as expand services to market users.

These wholesale markets demonstrate the positive impact of cooperation between government, development organizations, and rural enterprises. These markets have good linkages with MPCs/CCs and FGs and an in-depth knowledge of the wholesale fruit and vegetable business which needs to be capitalized on. With business and technical assistance, these markets will be able to handle project-related increases in volumes without a reduction in prices to sellers.

**Table VIII. Constraints and Responses: Wholesale Markets**

Constraints	Responses
Insufficient revenue generation and cash flow constraints have prevented public/private markets from investing in market infrastructure upgrades, value adding services for revenue generation, and maintenance to maximize operational efficiencies.	Strengthen capacity of wholesale markets through assistance with strategic and business planning.  Carry out market operations assessments to identify where efficiencies can be gained.  Incorporate economic viability and technical feasibility of multi-chamber cool/cold chain in strategic planning assessment.  Assess economic benefits of investing in value adding services, input sales, and sales of improved packaging materials to generate additional revenue streams.  Strengthen marketing capacity of MPCs and CCs to encourage farmers to bring products to and work cooperatively through CCs and wholesale markets to increase product volumes, reduce marketing costs, and make it attractive for traders to trade with CCs, especially those located away from main corridors.

**Table VIII. Constraints and Responses: Wholesale Markets**

Constraints	Responses
<p>Weak buyer-supplier relationships and poor two-way communication between wholesale market management and traders and MPCs and FGs limits dissemination of market information, reduces market chain efficiencies, increases transaction costs, and increases produce losses.</p> <p>Prices are often volatile and set in a manner that creates distrust between farmers and traders and produce suppliers experience price collusion at wholesale markets.</p>	<p>Convene meetings between traders and MPCs and utilize the good offices of FNCCI's District Chambers of Commerce to improve buyer-supplier long-term relationships and sharing of information</p> <p>Strengthen the flow of market-led trader information (using cell phones, trader profiles, share the standards, etc.) to CCs and FGs based on seasonal demand and crop scheduling, quality, volume, color, size, varieties, and packing; and flow of CC/MPC estimated harvest information including crop, timing, grades, and volumes to wholesale market traders and management.</p> <p>Promote more transparent breakdown of marketing costs and train farmers to understand wholesale markets' marketing cost structures and pricing to improve confidence and trust between farmers and traders and investigate the wider use of fixed commission fees.</p> <p>Support MOAD initiatives to pass a Market Act to improve transparency for wholesale price discovery at wholesale markets.</p> <p>Coordinate discussions between government, donor agencies, and market chain participants to establish standardized grades and standards.</p> <p>Provide training for market staff for handling, storage, and waste management.</p>
<p>High rates of losses reduce profits of wholesale markets, CCs, and farmers.</p>	<p>Convene meetings with traders and MPC/CC managers to share knowledge on handling, transport, and packaging.</p> <p>Conduct national meeting to discuss standards, and conduct training on specific areas.</p>

**Description of MPCs and Collection Centers**

Market Planning Committees and Collection Centers facilitate more direct linkages between farmers and wholesale markets, reducing the number of intermediaries in the market chain. Through scale, they

can provide a wider range of marketing outlets/opportunities, reduce input and marketing costs, and institutionalize value adding strategies. Below is a brief description of the relationship between Farmers Groups, Market Planning Committees, and Collection Centers. An in-depth description of the formation, roles, responsibilities, and operations of each entity can be found in the document ***Marketing and Planning Committee Guidelines*** developed by the USAID/Nepal SIMI Project, 2009.

*Farmer groups* consist of farmers with shared interests who interact with each other to fulfill similar objectives. They are the basic unit of farmer organizations and support the shared interests of farmers. Farmer groups facilitate communication between the MPCs and the farmers in every community represented by farmer groups. Farmer groups typically have 15-20 members.

*Marketing and Planning Committees* are organizations that provide a wide range of services to farmers to help them access markets and increase their productivity. A single MPC consists of 5-12 farmer groups. Each farmer group elects a representative to be part of the MPC executive committee that is responsible for MPC management. Traders and agricultural input providers can also be part of MPCs. As an MPC becomes mature and successful, they can consider registering as a cooperative.

Illustrative key functions of MPCs:

- Management of CCs where produce is aggregated to marketable volumes;
- Identification of markets and traders, communicating trader requirements, relationship building, and negotiation;
- Collection and dissemination of market information to help their members plan market-led production;
- Provide members with loans for productivity investments, savings funds to insure against hardships, agricultural inputs, and production trainings and information; and
- Lobbying the government, as well as non-government organizations (NGOs) – MPCs are able to influence policy and resource allocation in favor of smallholder agriculture.

*Collection centers* are locations where farmers can bring their produce to sell. Collection centers are usually simple and relatively inexpensive buildings that protect produce from the weather, allowing it to be stored until a buyer arrives. The centers are managed by their affiliated MPC and typically generate revenue through charging for services, most often for weighing produce. Centers make transactions easier and cheaper for traders and other buyers who only need to travel to one location to purchase produce. As a result, collection centers increase the competitiveness of smallholder producers by decreasing transaction costs. By aggregating produce, they also increase the bargaining power of producers, allowing them to negotiate better prices with buyers.

*Collection sub-centers* are developed in case of an overflow of products in the larger centralized CCs. When the CC is at full capacity, rooms of farmers and other locals can be rented out in order to store the extra crops. Production groups organize committees to manage each sub-collection center.

*Apex MPCs* are located in district centers and represent 5-12 local MPCs. Apex MPCs provide leadership and coordination at the district level on behalf of their constituent MPCs and the farmer groups that make up those MPCs. Apex MPCs are designed to maximize benefit to farmers by providing a variety of information and services from the district level. They can also lobby at the district level and serve as an outlet for produce that cannot be sold by local MPCs.

#### *MPC and Collection Market Visits*

The assessment involved interactions at the following Collection Centers, Market Planning Committees, and Haat Bazaars:

- Kohalpur market committee and Haat Bazaar, Banke District;
- Madan Pokhara Cooperative MPC and Cooperative wholesale market stall, Butwal, Rupendehi District;
- Ranitalau MPC and Haat bazaar, Nepalgunj, Banke District;
- Harre Collection Center and MPC, Surkhet District;
- Kunathari MPC and CC, Baddichaur, Kunathari VDC, Surkhet District; and
- Khajura MPC and Haat Bazaar, Bagshwari VDC, Banke District.

#### **MPC/CC Examples**

Market Planning Committees vary in their capacities to develop input and output markets and provide services to their members. Collection Centers vary in their asset base and locations. The following are four examples that characterize the wide range of these market intermediaries.

##### *Madan Pokhara Cooperative Stall No. 36, New Bus park, Butwal, Rupendehi District*

This cooperative is very well organized and managed. It started with 35 share members and now has 198, and facilitates trade for another 300 farmers. Executive leadership is elected and changes every two years. The cooperative sells inputs to its members as well as marketing services. Producers bring their products to a central collection point each day where they are weighed and prepared for transport to the wholesale market. Products that are of extremely low quality are sold locally. Farmers pay a 0.25 Rupees per kilogram service charge to help manage the cooperative.

Cooperative managers call wholesale market traders to obtain current purchasing prices at wholesale markets. Traders will also call the cooperative looking for produce, demonstrating that a mature buyer-supplier relationship between the two parties has developed. Market information is posted on a notice board at the collection point as an approximate selling price. The percentage of loss is considered in price setting as well as any recent price trends. The actual selling price is not established until the product arrives at the market. The actual price could be higher or lower than the expected price depending upon supply and demand at the market. However, there is only a small difference, if any, between the expected price and the actual price.

Grading is done at the collection center with lesser quality produce sold on local markets. The cooperative has some 3,000 plastic crates it uses for packaging and losses are kept to a minimum. Post-harvest loss is 1.5% for tomatoes; for other vegetables this varies from less than 1% to 4% due to good packing, transport, and handling. Transport is via hired trucks and costs vary from 1.5 to 4 NRS per kilogram. Much of the cost depends on the size of the load: large loads have lower per unit transport costs. If there is a shortage of a product at the market, the cooperative will conduct an auction to obtain a higher price. One or two producers usually accompany the shipment to the wholesale market to negotiate price. Payment is received in one to two days.

The source of most of the cooperative's market information comes from traders by telephone, but the MPC is interested in obtaining information by SMS text messaging. They would also like to obtain information from other collection points similar to theirs to evaluate how competitive they are compared to other cooperatives and wholesale markets. This would allow them to calculate additional marketing costs to trade at these markets and determine the most profitable outlet for their products.

#### *Kunathari, Baddichaur, Kunathari VDC, Surkhet District*

Kunathari is a CC that also retails to the local community. It receives products from some 100-150 local farmers. Its basic market infrastructure, storefront, scales, and storage space was provided by the government and the SIMI Project. Packaging consists of dokos, plastic, and burlap bags. Losses range from 1 NRS per kilogram for carrot to 7 NRS per kilogram for more perishable crops such as tomatoes. Product grading is very limited due to the uncertainty of value it will bring. The CC averages 3.5 MT per month from October through June from local crops and operates on an ad hoc basis the rest of the year with products from India and Nepalgunj. This strategy underutilizes its potential year-round capacity and incurs costs during periods it does not generate sufficient revenues to cover operational costs. The CC could trade in onions, potatoes, and a greater volume of imports year-round but it does not have sufficient cash flow for this type of trading. It is not associated with a cooperative either, making finance difficult to access. Additional funds would allow it to expand its local procurement. Small volumes make contract transport too expensive, so products are often transported in available space in mini jeeps, resulting in increased losses. To increase volumes, the MPC seeks to open two sub-collection centers in neighboring VDCs. The MPC indicated that expanding its efforts would require better recordkeeping and two-way communication between the MPC and traders to keep farmers engaged.

The MPC believes it can upgrade its market infrastructure and expand, with assistance, establishing sub-collection centers for certain periods of the year. The MPC also believes it needs a strengthened administrative structure and a paid staff, or incentives (commission) to dedicate staff fully since volunteer staff do not have sufficient time to devote to the MPC and CC. It also wants to provide more services to increase farmer affiliation and revenue generation. The MPC has given these issues serious thought and can articulate its needs and strategic development plans quite well, but this is at the conceptual stage and no written proposal or plan has been developed. Having strategic, business, and operational plans in hand would be the next step to clearly define their future, increase the confidence of traders to expand market opportunities, and attract additional public and/or private development assistance.

### *Kalika Collection Center, Harre, Surkhet District*

Harre FGs were initiated with a mini-kit input program nine years ago. One year later the MPC was formed and the CC constructed with USAID project and government funds. Over that time the 12 farmers supplying the CC expanded to more than 100 as part of five FGs, farming 270 ropanis (one ropani is equivalent to approximately 500 square meters or 0.05 hectares). At its peak the CC had a throughput of 130,000,000 NRS; however, last year the estimated throughput was 1,600,000 NRS with products supplied by one FG. The MPC reports that the decline was due to the construction of another CC several kilometers away by the DADO, and growing dissatisfaction of FG members with the MPC. Member dissatisfaction was due to a perceived lack of FG representation in the MPC. MPC representatives report that they have served four or five years and have requested others to take over the volunteer responsibilities but there was no interest. Given FG dissatisfaction and the opening of the new CC, FGs are operating independently. This has led to the new CC closing down, the original MPC also in serious decline, and an overall decrease in production due to frustration. Farmers are now selling by the roadside or directly to middlemen.

Packaging is done with dokos and plastic sacks. Transport, which previously allowed for contracted trucks, is now via buses or mini jeeps. Losses are reportedly 15% for more perishable crops such as tomatoes, and 3% for less perishable produce such as cabbage. MPC representatives report traders offered a 5 NRS premium for graded products which was taken advantage of in the past but not now.

Based on their experience of how successful the CC was, the MPC wants to reactivate the CC and associated farmer groups. They have requested assistance in MPC governance, organizational capacity development (strategic and business planning), rekindling linkages with government and markets, and overall guidance from KISAN for this process. The MPC also requests assistance with crop and input planning tied to market demand and reactivating relationships with traders that have lost confidence in them.

### *Multi-purpose Agri-Cooperative, Haat Bazaar and MPC Khajura, Banke District*

Khajura Cooperative, formed ten years ago and located approximately 9 km west of Nepalgunj, is composed of 30 FGs with a total of 450-500 farmer members. The cooperative has received haat bazaar infrastructure (covered platforms, office, and small storage) from the government and development organizations and operates three days per week on property owned by the nearby school. The cooperative must pay the school 60% of its net revenues as rent. The majority of the members are subsistence farmers producing on less than 0.1 hectares, selling small amounts of surplus production at the haat bazaar on an ad hoc basis and paying a small fee for market use. Approximately 100 farmers with larger land holdings produce wholly or partially for market purposes. The market hosts 20-22 retailers, two to three wholesalers, and eight farmers cum traders. The CC facilitates approximately 3-3.5 MT per day of wholesale vegetables, much of which is incoming produce from India.

The MPC reports that market throughput volume is declining and attributes this to competition with the Nepalgunj market; farmers acting as traders and not working through the CC; and declining production resulting from smaller land holdings as land is divided among expanding families. Other factors cited are

farmers not using improved inputs; lack of storage space at the market; and a labor shortage due to migration of male family members and day laborers to India. Lower throughput and accompanying reduced revenues has required the CC to take a loan from the cooperative to cover operation expenses, which it has difficulty paying back. Furthermore, farmers often work independently of the MPC and CC as market outlets are relatively close in proximity to farms, transport infrastructure is readily available, and there are few barriers to individuals who want to sell to traders or directly to wholesale markets.

MPC representatives identified its principle constraints as revenue generation which could be helped by developing local input traders to provide embedded services to farmers to increase production and assisting the CC obtain licensing to sell agro-vet products that require a license. Other constraints are a need to improve linkages between farmers and the MPC and provide market infrastructure such as increased storage space and stalls with shutter doors. CC management also reports that many projects have come and offered assistance, but there have been few long-term results.

#### *MPC/CC Strategic and Business Planning Governance*

Discussions indicate that some of the MPCs/CCs have weak governance structures, especially those that rely on volunteer MPC directors and CC managers who often have other jobs and responsibilities. This makes it difficult for board members to attend to all input and output activities required for sustaining membership trust and engagement; developing buyer-supplier relationships; and leading the organizations to self-sustainability. Poor recordkeeping, insufficient cash reserves to provide for capital upgrades, and weak linkages between farmers groups make it difficult for MPCs/CCs to carry out market-led production planning. This also limits MPCs from fully utilizing market information upgrading CC infrastructure to improve efficiencies. Additionally, this inhibits member farmers' ability to access quality inputs such as seeds or cost-effective packing material.

Consequently, not all CCs will be in a position to operate sustainably into the future, given the challenges some of them face. The strategic and business planning process should identify CCs that have the above stated weaknesses, and begin capacity strengthening immediately as capacity building takes years and/or consistent support. Organizational assessment should also identify which CCs are not associated with local agriculture cooperatives and develop plans to merge them into existing agriculture cooperatives. As such, these organizations will have access to input/output marketing scale, finance, and technical services from Local Service Providers (LSPs), linkages to government services, and the like. Another option would be to introduce the CC to an LSP that can commit to work with the CC over the long-term to achieve self-sustainability.

Alternatively there are some CCs with competent management, appropriate business structure, and financial capacity that might be able to operate more effectively by paying commissions or other fee based compensation to dedicated CC employees as opposed to volunteer workers. Paid employee options should be investigated when business plans are being developed, and should develop a set of future options for these organizations based on the management and operating capacities.

To further understand the dynamics of this essential market chain link, mobilizers should speak with supply chain participants (farmers, MPCs, CCs, etc.) who have previously participated in production/marketing projects (e.g. MARD, SIMI, EIG, NEAT, etc.) to understand why some CCs, cooperatives, and the like have operated successfully over time while others have dissolved. This would also provide a better understanding of difficulties and challenges these organizations face and what resources may be available through VDC resources to support them.

**Note:** *Funding from VDCs for FG, CC, and MPC activities has been discussed and its actual availability is dependent on many issues from the diversity of the seven member decision making panel, to the timeliness of disbursements. Subsequently, until better planning and needs assessments are complete, initial project activities should not depend on VDC funding.*

Regardless of what course of action is decided on, the above mentioned planning documents are also useful in approaching local service providers/NGOs, VDCs, and INGOs to demonstrate that issues have been thought through, there is general consensus as to the future of the enterprise, and that it can indeed be technically feasible and economically viable. Improved governance, planning, and operations will be an effective tool in lobbying for assistance and will demonstrate to traders that they have a reliable and professional partner.

Initial discussions indicated the following needs:

*Managerial Needs of MPC/CC Markets:*

- Strategic vision, mission statements, and defined goals and objectives;
- Business and financial planning and management – budget, cash flow, and balance sheet for financial tracking and economic sustainability;
- Strengthened governance – understanding of roles and responsibilities, decision-making structure, transparency, communication with membership, and use of paid staff;
- Managerial efficiency and human resource training;
- Effective agreements with wholesale markets, transporters, and input suppliers;
- Effective relationships with CC users, service providers, government agencies, and a wider range of markets; and
- Administrative staff training needs.

*Operational Needs of MPC/CC Markets:*

- Efficient operational coordination and management of collection, throughput, handling, storage, and transport;
- Reducing losses and maintaining quality through training on sorting, grading, and packaging of produce at farms and CCs;

- Effective provision of services to membership including credit, market information, and input access;
- Improved external communications with traders for market information and internal communications with membership;
- Improved market infrastructure; and
- Increased production and productivity of vegetable crops in CC command area.

### Summary

A review of KISAN’s district assessments indicates that the majority of CCs are functional (meaning they continue to provide market services to their supplying FGs), a few are semi-functional, and a few non-functional. Given the well-documented challenges to developing small-scale rural enterprises to achieve sustainable levels, the percent of functional CCs is impressive. Madan Pokhara is an example of how the market chain system can be successful. The cooperative has received support from public and private development agencies for some years. The cooperative has institutionalized demand-led production and business practices resulting in solid management, administrative processes and procedures, and buyer-supplier relationships with traders. However, there are still areas in which the cooperative believes it could improve such as market information and production planning for crop diversification and intensification based on market demand.

There are many factors that influence the success or failure of these organizations. Market chain participants have an excellent understanding of what their strengths and weaknesses are. Central themes that KISAN should focus on as the project moves forward are: strengthening the market-led approach through improved communication and buyer-supplier relationships between FGs, MPCs, traders, and local government; reactivating FG interest in working through CCs by strengthening organizational governance and managerial capacity; and developing strategic, operational, and business plans to build collective agreement on future goals and objectives with the aim of self-sufficiency.

**Table IX. Constraints and Responses: MPC/ CC**

Constraints	Responses
Lack of formalized agreements or MOUs with wholesale markets result in unsold product, lower prices, and increased losses.	Work through DCCs to help negotiate deals, and/or convene buyer-supplier meetings to facilitate contractual relationships.
Linkages between MPCs, FGs, and input vendors need to be improved to ensure farmers have timely, quality cost-effective inputs to meet buyer specifications.  MPCs, CCs, and related cooperatives should investigate input sales training and license requirements as a revenue generating activity.	Build capacity of MPCs to mobilize individuals and groups at the production level, identify requisite input demand, and link them with agrovets, micro irrigation technology dealers.  Coordinate training for CCs and smaller wholesale and haat markets to obtain licenses to sell agro-chemicals as an additional source

**Table IX. Constraints and Responses: MPC/ CC**

Constraints	Responses
	<p>of revenue, and make market-led specific inputs more readily available to farmers.</p> <p>Train MPCs and/or LSPs to use crop budget information to calculate the marginal benefit of required inputs to justify input investment and assist in negotiating prices.</p>
<p>MPC members often have other jobs and commitments and cannot dedicate sufficient time to MPC responsibilities.</p> <p>Weak MPC management and governance results in MPC representatives having a poor understanding of their roles and responsibilities resulting in a lack of coordination between MPCs and wholesale markets and difficulty in retaining active membership.</p>	<p>Convene meetings with MPCs and FGs to discuss hiring paid staff and assess costs and benefits in planning exercises.</p> <p>Evaluate governance and managerial capacity of MPCs, FGs, and CCs and provide requisite training.</p> <p>Request MOAD assistance in governance and cooperative capacity building.</p> <p>Promote the formation of Apex MPCs in districts where they are not formed to mentor MPCs.</p> <p>Employ a “circuit rider” to attend MPC meetings to follow up on and monitor capacity strengthening progress.</p>
<p>MPCs do not have or lack appropriate strategic and business plans which weaken their ability to manage costs, generate revenues for operating costs, and build capital reserves for member services, capital improvements, efficiency upgrades, and transition to a more sustainable legal cooperative status.</p> <p>CC market infrastructure needs upgrade investment such as sheds, which are currently too small, water taps, toilets, graveling, and drainage but do not have adequate financial reserves to invest.</p> <p>Some CCs are not associated with local agriculture cooperatives constraining their sustainability and preventing them from cooperative membership benefits.</p>	<p>Employ KISAN staff or LSPs to assess existing strategic and business plans and upgrade or develop new appropriately sophisticated (practical) plans.</p> <p>Incorporate revenue generating activities such as input or packaging sales and infrastructure upgrades, costs, and funding strategies in business plan development and use calculated return on investment and local economic impact to lobby government and donors for grants or cost-share funding.</p> <p>Incorporate MPC transition to a cooperative or other sustaining entity in strategic planning documents to help guide the MPC through the process and provide them the benefits and</p>

**Table IX. Constraints and Responses: MPC/ CC**

Constraints	Responses
<p>Business planning exercises take months to complete.</p> <p>MPCs/CCs have weak recordkeeping systems negatively affecting their production planning, transparency, and reporting to membership.</p>	<p>business advantages of being a registered cooperative.</p> <p>Utilize market information being collected as the main input for the coming season’s MPC and CC production, business and marketing plans, and as a training and technical assistance input while plans are being developed.</p> <p>Develop and integrate simple recordkeeping systems into MPC and CC activities until a more comprehensive system linked to business plans is institutionalized.</p>
<p>Some CCs are too remote and not economically viable for traders to do business with and others are too close together creating unsustainable competition for both centers.</p> <p>Collection sub-centers can be easily constructed to collect seasonal volumes that may be too far from other centers.</p>	<p>Coordinate with government and donor projects in district on CC construction.</p>
<p>Dissemination of market information does not reach all FGs in a timely manner.</p> <p>MPCs trading in larger wholesale markets may, outside of market management knowledge, experience price collusion between buyers.</p>	<p>Encourage MPC representatives to accompany produce to wholesale markets to build relationships with traders calculating the cost of visitor time, meals, and accommodation in the gross return to ensure such visits make economic sense over time.</p> <p>Work with government to promote Market Act.</p>
<p>Losses at CCs, especially sub-CCs, are high, resulting in reduced prices.</p>	<p>Improve communication with CCs and traders to ensure transport from CCs is done without the need for additional handling and storage.</p> <p>Assess the need for CC infrastructure upgrades for storage and handling to reduce losses.</p>

## CONCLUSION

This assessment identified critical inter-related market chain influencers that impact the technical, economic, and organizational viability of market chains and, by extension, market chain sustainability and

financial access to food security within the KISAN project area. Main influencers of market chains are: collection, dissemination, and use of market information; organizational governance policies, mechanisms, and practices; strategic, business, and operational planning and implementation; organizational administrative, technical, and governance capacities; and the impact of market chain scale economies and efficiencies

The following summarizes the report's analysis of the existing situation and the identified fundamental constraints in market chain. This section talks about how a project like KISAN can address these constraints.

**Market information** increases the efficiency of market chains through reduction of marketing and transaction costs and risk. Up-to-date and historical market information can have positive benefits for market planning committees and traders through coordination of demand and supply. Farmers are able to negotiate from a position of greater strength, make planning decisions in line with market demand, timing, and quality. This will enable traders to make better decisions on moving products from surplus to deficit markets to avoid market gluts and according to viability of storage options. This is especially true in more volatile markets such as horticulture.

Dissemination and use of market information can be improved through: expanding the dissemination and use of timely government and private market information; standardized collection and reporting format for information consistency; convening buyer-supplier round table discussions and exchange visits to share information; and communication of local collection center information through apex collection centers, use of trader product specification fact sheets, and other media such as notice boards, mobile phone and SMS, radio broadcasts, and developing strategies to pay for market information.

**Organizational governance** is central to earning the trust and confidence of members, improving an organization's reputation as a good business partner with credit providers and traders, and reducing internal conflicts of interest. Strengthening organizational governance policies, mechanisms, and practices promotes more effective leadership, managerial efficiencies, and greater transparency and accountability in decision making processes resulting in improved communication, participation, and trust among leadership and membership.

Governance can be strengthened through training and education on the rights and responsibilities of members and board directors, and institutionalizing criteria for performance evaluation. Improved record and bookkeeping, audit procedures, and timely elections will demonstrate accountability and professionalism to stakeholders and market chain participants such as traders and input suppliers. This will result in wider participation in cooperative federations and agri-business networks including APEX collection centers, LSPs, and MOAD extension services. Organizational assessments will identify strategies to provide for compensation to employ staff for Market Planning Committees and Collection Centers in contrast to existing voluntary staff that cannot dedicate sufficient time to required duties and responsibilities.

**Strategic, business, and operational planning** and good business practices are fundamental to successful enterprises. Improved business planning and management enables owners and managers to

have a more defined vision and understanding of the organization's strengths and weaknesses and how to address them. It also facilitates their ability to identify and capitalize on revenue generating and market opportunities. Additionally, it helps them better manage budget and cash flows to lower costs and develop efficiencies; attract financing for needed infrastructure and maintenance upgrades; implement contingency plans to counteract unforeseen events; and present themselves as competent business partners to traders and other suppliers resulting in long-term buyer-supplier relationships.

Business capacities can be strengthened through assessing administrative and technical capacities of Market Planning Committees, Collection Centers, and wholesale markets. This will enable them to identify strengths and weaknesses and develop practical strategic and business training plans to improve business practices; estimate the financial costs and benefits of integrating market-led production and demand side market information; facilitate input procurement; increase revenues through reduced costs and improved operational efficiencies; ensure absorption of increased supply; and determine a viable course of action for organizational sustainability.

**Market-led production** increases market opportunities and access for farmers, collection centers, and traders through better use of market information and coordinating the timely supply of product volumes and qualities. Coordinated production and harvest of perishable products that are sold more efficiently maintain product quality, reduce marketing costs such as investment in handling and storage, and generate increased returns to market chain participants. Improved horizontal chain linkages more easily coordinate product aggregation and communication, reducing market gluts by smoothing out supply. Market-led production also facilitates cost-effective input access through coordinated planning and procurement to meet crop-specific trader specifications.

Market-led production practices will be reinforced through strengthening vertical linkages that facilitate the flow of information, technologies, and business services. Examples of such linkages include demand-led training and extension up and down the chain to incorporate input requirements, product volumes, grades, and specifications for value addition. Improving horizontal linkages will help better coordinate harvest planning and create aggregate volumes for scale. Production diversification, intensification, and utilization of agro-zones' comparative advantages and seasonality will maximize farmer revenues. Use of simple marginal analysis to estimate costs of compliance with trader specifications will ensure activities are profitable.

**Intra-market chain relationships** are often characterized by a lack of trust between participants and suspicion of new relationships along the chain. Weak understanding of how the inter-firm relationships of organizations within chains function can negatively impact chain competitiveness by constraining investment, creating technical and cost inefficiencies, power grabbing, and collusion. This results in short-term transaction-focused thinking of buyers and suppliers forced into unprofitable transactions. Value must be captured through vertical linkages to ensure input supplies and information adds value. Horizontal linkages will create economies of scale to increase production, ensure quality, access inputs, and achieve greater market power.

It is critical to success that all chain participants understand that business-to-business relationships within the chain are mechanisms for increasing efficiency, productivity, and value addition. Facilitating coordination

among stakeholders will identify areas of mutual benefit such as two-way communication, establishment of grades and specifications, and use of contracts or MOUs to minimize chain price volatility. Once these parameters are clear buyers and suppliers can develop a mutual strategy to better define the costs and benefits of quality, consistency, and reliability of supply. Mutual coordination can be established to achieve economies of scale and efficiencies and develop innovative market strategies that result in win-win positions for buyers and suppliers.

**Losses** due to poor harvest and post-harvest practices result in a significant loss of revenues for buyers and suppliers, and negatively impacts physical and financial access to support food security. Quality products reaching buyers through improved post-harvest handling and processing are critical to maintaining buyer/vendor relationships, increasing product shelf-life and earning acceptable return on investment.

Reducing losses can be addressed through identification of primary causes of loss at different marketing chain nodes, and provision of training on harvest, post-harvest, packaging, handling, and storage to farmers, collection center staff, transporters, and wholesale market staff. The strategic location of collection centers and upgrades in market infrastructure will reduce handling and transport damage and maintain quality. Improved access to cost-effective packaging technologies and availability of material at farm gates and CCs will allow farmers to sell a greater percentage of harvested products. Technical and economic assessment of the viability of investment into cool and cold storage will determine locations where these units can be installed to prolong shelf-life, and smooth out product distribution to mitigate market gluts.

The theory, design, and application of the KISAN market-led model is based on proven best practices and, importantly, collective entrepreneurship. There are various factors that influence the success of one or all elements of the system from access and use of market information to extreme post-harvest losses.

As improvements are made and efficiencies gained, market chains will strengthen agricultural productive activities, resulting in increased incomes and chain organizations becoming more profitable and sustainable. It will also further develop market information, transportation, input supply, market infrastructure, and other services industries. This will help create economies of scale and efficiencies providing additional opportunities and food security benefits to more and more Nepali farmers.

## ANNEX A. TRAVEL ITINERARY

Table 1. Travel Itinerary of Mr. Tom Green, STC, Marketing

Day	Date	Activities	Night Stay
<b>1-Wed</b>	Nov 20	Arrival in Kathmandu/Lalitpur	Lalitpur
<b>2-Thu</b>	Nov 21		Lalitpur
	9:00am	Briefing/meeting in KISAN office with central and regional staff	
	10:45am	Meeting with the Chief of the Market Development Division, DOA, Kathmandu	
	11:00am	Meeting with DOA senior officers (DG, DDG Planning). Seek information regarding government program for wholesale market	
	12:00pm	Visit MOAD Joint Secretary BJ Millik	
	2:30pm	Meeting with officials and wholesalers of Kalimati/Wholesale Market & Committee	
	4:00pm	Meeting with Balkhu Agri Wholesale Market	
<b>3-Fri</b>	Nov 22		
	9:00am	Meeting at IDE	
	11-12:30	Meeting at SMARTH (DFID-funded project)	
	4:15pm	Travel to Bhairahawa; travel to Butwal	Butwal (Sindur hotel)
<b>4-Sat</b>	Nov 23	Observe and interact with wholesale market and committee at Butwal – Bhanja Babu vegetable wholesaler, mobile no. 9857022460, Shop No. 50, New Bus park  Visited the Madan Pokhara Cooperative Stall No. 36, New Bus park, Tansen District	Butwal (Sindur hotel)
<b>5-Sun</b>	Nov 24	Travel to Nepalgunj – Kohalpur (7 hours) Observe Haat Bazaars Operation and interact with Kohalpur market committee	Nepalgunj (travelers village)
<b>6-Mon</b>	Nov 25	Visit and interact with Ranitalau MPC Move to Birendranagar, Surkhet. Observe Harre CC/MPC on the way and interact	Nepalgunj, Birendranagar
<b>7-Tue</b>	Nov 26	Visit Kunathari and observe and interact with MPC at Kunathari  Interaction with Regional Director	Birendranagar

<b>8-Wed</b>	Nov 27	Observe Birendranagar wholesale market Travel to Nepalgunj	Birendranagar
<b>9-Thu</b>	Nov 28	Observe and interact with MPC of Khajura Meeting with Regional plant quarantine staffs	Nepalgunj
<b>10-Fri</b>	Nov 29	Sharing and training to KISAN staffs Report preparation	Nepalgunj
<b>11-Sat</b>	Nov 30	Travel to Kathmandu from Nepalgunj	Lalitpur
<b>12-14 Sun-Mon</b>	Dec 1-3	Kathmandu meetings Meeting with AFSP Meeting with Helvetas, CEAPRED, IDE, AEC, and others Report preparation	Lalitpur
<b>15-Tue</b>	Dec 4	Presentation to KISAN staff	Lalitpur
<b>16-Wed</b>	Dec 5	Debriefing to USAID, Kathmandu	Lalitpur
<b>17-Thu</b>	Dec 6	Report revision and submission, Kathmandu	Lalitpur
<b>18-Fri</b>	Dec 7	Departure	

## ANNEX B. SELECT SLIDES FROM PPT PRESENTATION

### Impact of Reducing Losses

	1	2	3	4	5	6	7	
	Base scenario	Production cost (minus 10%)	Yield (plus 10% no increase in cost)	One half marketed	Price (minus 10%)	Price (plus 10%)	100% Sold	Marketing costs (minus 10%)
Yield (ton)	1.8	1.8	1.98	1.8	1.8	1.8	1.8	1.8
Quantity sold (%)	80%	80%	80%	50%	80%	80%	100%	80%
Quantity sold (ton)	1.44	1.44	1.584	0.9	1.44	1.44	1.8	1.44
Price per ton (USD)	1002	1002	1002	1002	901.8	1102	1002	1002
Sales (USD)	1443	1443	1587	902	1299	1587	1804	1443
Production costs	924	831	924	924	924	924	924	924
Marketing costs	333	333	333	333	333	333	333	300
Total	1257	1164	1257	1257	1257	1257	1257	1224
Margin	\$ 186	\$ 279	330	-355	41	330	546	219
% change of base scenario		50%	77%	-290%	-78%	77%	194%	18%
Positive changes over base scenario		\$ 93	\$ 144			\$ 144	\$ 361	\$ 33
Total change for 20 leebna	100%		\$ 322					
	50%		\$ 161					

### Simple Cost-Benefit Analysis of Packaging

	A	B	C	D
Net revenue — packaged sales (\$0.20 per kg x 6 000 kg)	1,200	1,200	1,200	1,200
Net revenue — unpackaged sales				
Losses 10% Market price \$0.26	1,104			
Losses 10% Market price \$0.27		1,158		
Losses 5% Market price \$0.26			1,182	
Losses 5% Market price \$0.27				1,242
Use Packaging	Yes	Yes	Yes	No

## Develop trader fact sheets for each trader

Below is a trader fact sheet.

Trader Fact Sheet			
Company name	XX	Telephone	1234
Contact	XX - owner and chief salesman	Fax	41 65 58 44/35 21 65...
Address	Market Place	E mail	XX@XX
		Other	mobile phone 123
<p>Company history. Started as a trader in onions, it has expanded its business to act as agent (commission sales) and wholesaler of a wide range of fresh vegetables. It supplies some supermarkets but mainly small retail stores. It has a Government contract to supply vegetables to the local army barracks and is starting to store and process onions. Its turnover is around \$1 million. The company employs 20 staff at three locations.</p> <p>Company activities. Buys 500 tons of onions per year of which 200 tons are for processing. This demand is expected to increase. Potatoes (600 tons) and garlic (20 tons per year) are now sold as well as onions. In order to supply the Army with its total requirements of vegetables, the company started buying tomatoes, cabbages and leafy salads. This business has expanded.</p> <p>Products demanded. The company is looking to have farmers grow 200 tons of onions with high dry-matter content for drying. Garlic is mainly imported. It is interested in local supplies if they are cheaper than imports. The company is seeking further supplies of cabbage in the summer and tomatoes in the winter. It wants to have guaranteed year-round supply of fresh leafy salads from local sources.</p> <p>Procedure for doing business. Will contract at minimum fixed prices with onion growers prepared to grow specialist onions for drying. Potatoes, onions, tomatoes and cabbage are sold on a consignment basis (commission at 10% of sale price). It is interested in a profit-sharing venture with growers who want to develop a business producing fresh leafy salads all-year-round.</p> <p>Include Specifics</p> <ul style="list-style-type: none"> <li>• varieties, appearance, taste;</li> <li>• grading and quality standards;</li> <li>• seasonality and supply patterns;</li> <li>• typical prices and price patterns;</li> <li>• packaging;</li> <li>• sales trends.</li> </ul>			

## Supply-Side Market Information

- Crop calendars to show seasonality/timing, volume, varieties, etc.
- Identification of production weaknesses and where technical assistance can be interjected to reduce risk, improve productivity, and lower costs
- Identification of input needs and processes to access inputs in a timely manner
- Updated crop budgets (as accurate as possible)
- Maps showing location of production in relation to CCs and plans for making adjustments to physical siting if needed
- Diagrams to describe the marketing channels
- Crop-specific information about trader demand, prices, premiums for quality, etc.
- Price trends over the year(s) and up-to-date market information
- Farmers better understanding their marketing problems and benefits of participating in a production pocket and collection center (collective entrepreneurialism)
- Farmers' perception of role farmer groups, MPCs and CCs play in market-led production.

## Demand-Side Market Information

- Calendar of products procured; volumes, timing, sources, price per kg
- Chart on individual buyer specifics and differentials paid for quality with specifics such as:
  - Varieties, appearance, taste
  - Grading and quality standards
  - Seasonality and supply patterns
  - Typical prices and price patterns
  - Packaging
- Sales trends
- Breakdown of marketing costs such as collection, field level sorting/grading, packing, loading/unloading, transport, and losses
- Price discovery (the process by which buyers and sellers arrive at a specific price for a given lot of produce at a given location for a specific time period)
- Trader input on developing MOU between farmers and traders and procedures for doing business

## SWOT

<b>Strengths</b> <ol style="list-style-type: none"> <li>1. Suppliers are experienced farmers</li> <li>2. Location (transport route, near potential new markets)</li> <li>3. Modern facilities</li> <li>4. Training center, dormitory, security</li> <li>5. Irrigation</li> <li>6. Alliance with GOI and USG</li> <li>7. Responsive board of directors</li> <li>8. Ethnic composition</li> <li>9. Bylaws, contractual mechanisms for tenants</li> <li>10. labor availability (?)</li> <li>11. Committees</li> <li>12. Improved security</li> </ol>	<b>Weaknesses</b> <ol style="list-style-type: none"> <li>1. New to operating a wholesale market (everyone)</li> <li>2. Cash flow uncertain (unforeseen expenses)</li> <li>3. Meet once per week (management experience)</li> <li>4. Suppliers level of technology (in terms of imports)</li> <li>5. Lack of business, operational, etc. plans; lack of accounting system</li> <li>6. No cold storage</li> <li>7. Market information (to base planting decisions, etc.)</li> <li>8. CEFM not registered – can't open</li> <li>9. Lack of pricing mechanisms</li> <li>10.</li> </ol>
<b>Opportunities</b> <ol style="list-style-type: none"> <li>1. Other markets nearby (market growth)</li> <li>2. Opportunity to provide differentiated products services (imports,</li> <li>3. Linkages with GOI extension services (technologies and inputs)</li> <li>4. Niche markets</li> <li>5. Use facilities for revenue generation</li> <li>6. Value added processing (packaging, quality standards, ((innovations))</li> <li>7.</li> <li>8.</li> <li>9.</li> <li>10.</li> </ol>	<b>Threats</b> <ol style="list-style-type: none"> <li>1. Competition (other markets, collusion)</li> <li>2. High cost of operation (utilities)</li> <li>3. Climate</li> <li>4. Corruption</li> <li>5. pests and diseases</li> <li>6. Imports</li> <li>7. No cash base or line of credit (how to invest in capital improvements?)</li> <li>8. Changing policies (e.g. association law changing, government intervention in prices, laws e.g. assn)</li> <li>9. Changing prices (economy) consumer preferences</li> <li>10. Members selling outside of CEFM</li> </ol>

# Business Planning

## Elements of a Business Plan

1. Cover sheet

2. Statement of purpose

3. Table of contents

### I. The Business

A. Description of business

B. Marketing

C. Competition

D. Operating procedures

E. Personnel

F. Business insurance

G. Financial data

### II. Financial Data

A. Loan applications

B. Capital equipment and supply list

C. Balance sheet

D. Breakeven analysis

E. Pro-forma income projections (profit & loss statements)

Three-year summary

Detail by month, first year

Detail by quarters, second and third years

Assumptions upon which projections were based

Pro-forma cash flow

Follow guidelines for letter.

### III. Supporting Documents

Tax returns of principals for last three years

Personal financial statement (all banks have these forms)

In the case of a franchised business, a copy of franchise contract and all supporting documents provided by the franchisor

Copy of proposed lease or purchase agreement for building space

Copy of licenses and other legal documents

Copy of resumes of all principals

Copies of letters of intent from suppliers, etc.

## Business Plans

There are many levels of business plan sophistication – need something that is understandable, useful, and will work.

On the MPC level good recordkeeping, understanding buyers needs, and lowering operational costs will be beneficial.

In all instances it is important to evaluate all sources of revenue and the integration of new revenue streams.

For a larger wholesale market more sophistication is required.

Evaluating operational aspects of markets may be included in business plan e.g. economic feasibility of cold storage for larger markets and integrating additional services such as input sales or buying and renting out mechanized farm implements and fees such as renting space, commissions, etc. for MPCs. Watch competitors prices and be ready to respond.

All activities have costs associated with them and need to be included in the analysis

## Record Keeping May be Best for MPCs

The following criteria are essential to a good record-keeping system:

- Simplicity
- Accuracy
- Timeliness
- Consistency
- Understandability

### THE NEED FOR GOOD RECORDS

- Monitor Inventory – keep track of crop inputs – too large – slow turnover
- Control Expenses – know costs and debts
- Fulfill Payroll Requirements – usually biggest expense
- Determine Profit Margin – what activities are profitable and which are not
- Improve Cash Flow – report on cash availability
- Use Supplier Discounts – take advantage of credit terms
- Measure Performance – compare actual figures with those in budget and make required adjustments

## MPC Criteria for Cooperative Registration

The MPC guidelines developed by SIMI indicate that as MPCs become mature and successful it can consider registering as a cooperative and lists several criteria that can be used to assess the maturity of an MPC:

- At least three years old in most cases
- A minimum of 25 members
- Expanding membership
- Holds regular meetings
- Owns a collection center
- Has regular and reliable sources of income
- Has strong linkages with the public and private sectors as well as with local NGOs

### **RREQUIREMENTS OF A GOOD SYSTEM**

Commercial Record-Keeping Systems  
Computerized Record Keeping

### **THE ACCOUNTING CYCLE**

Journals  
General Ledgers  
Trial Balance  
Financial Statements  
Percentages

### **HOW TO ANALYZE YOUR RECORDS**

Analyzing Payroll Expenses  
Ratios

### **METHOD OF ACCOUNTING**

Cash Basis Method  
Accrual Basis Method

### **OTHER IMPORTANT RECORDS**

Accounts Receivable  
Payroll and Taxes  
Petty Cash  
Insurance  
Business Equipment

### **ACCOUNTING SERVICES**

Selecting the Accounting Service  
Advice and Assistance  
Cash Flow Requirements  
Business Borrowing  
Legal Structure  
Tax Considerations