

Lettuce Supply Chains and Marketing Margins in Benguet, Philippines

Maria Luz D. Fang-asan^{1,*}, Marie Klondy T. Dagupen¹, and Larry N. Digal²

1 Benguet State University, La Trinidad, Benguet, Philippines.

2 University of the Philippines Mindanao, School of Management, Rizal and Inigo St., Davao City 8000, Philippines.

* Corresponding author. E-mail: maluzdf40@yahoo.com.

Abstract

Understanding value chains requires knowledge of the needs of customers and how these needs are met by different suppliers of marketing or value-adding services. The need for these marketing services and costs of supplying these are reflected in marketing margins or the difference in the prices of the various marketing levels in the chain. This study analyzed lettuce supply chains in Benguet and mapped 3 chains, including the value-adding activities and the governance mechanisms such as contracts and payment terms that exist in the chain. Some new roles have emerged due to recent developments in the market. Some wholesalers became “commissioners” and “disposers,” and some individuals played dual roles along the chain. A few farmers became “disposers,” and a few “disposers” eventually became farmers. Marketing margins were also computed for a sample chain including the cost of value-adding activities to show a more accurate distribution of benefits across key actors in the chain. Higher gross margins were due to higher costs of providing marketing services, which indicates a competitive market. There are opportunities in the lettuce chains to respond to increasing demand for salad vegetables. While lettuce producers and other actors in the chain respond to these market requirements such as producing new lettuce varieties, there are issues that need to be addressed to improve efficiency and performance of the chain.

Keywords: Benguet; lettuce; marketing margins; supply chain

Abbreviations:

BAR – Bureau of Agricultural Research

DA – Department of Agriculture

ECLOF – Ecumenical Church Loan Foundation

HORECA – Hotels, Restaurants, Caterer

HM – Hangar Market (Baguio City)

LTVTP – La Trinidad Vegetable Trading Post

NIRDEAP – National Integrated Research, Development and Extension
Agenda and Program
PhP – Philippine peso

Introduction

Poor efficiency of marketing channels results in very high and erratically fluctuating prices of vegetables in the market. In spite of this, only a small portion of the consumers' money actually goes to the farmers (Vasant and Namboodiri, n.d.). This situation aggravates the lot of farmers who are mired in the vicious cycle of borrowing capital every cropping season.

To help address this particular problem of the marginalized farmers, the National Integrated Research, Development and Extension Agenda and Program (NIRDEAP) was formulated by the Bureau of Agricultural Research (BAR) of the Department of Agriculture (DA) “to equip vegetable growers and traders with necessary know-how so they can become more competitive players in local and global market” (Briones, 2001). The program aims to make the vegetable industry capable of supplying the needs of local and export markets through equitable, sustainable, globally competitive, and environment-friendly systems of production, post-production, and marketing technologies.

For production technologies, efforts will be directed towards (1) developing varieties that are pest resistant, (2) promoting Integrated Pest Management on major pest and diseases, (3) improving cultural management of some vegetable for off-season production, and (4) encouraging farmers to use organic vegetable production technologies. For improving postharvest handling practices, partnership with growers and traders will be forged to come up with better handling, packaging, and storage practices. Among the strategies to enhance the competitiveness of the vegetable industry are establishing a quality-assurance system for the vegetable produce and developing new and better products, both fresh and processed, for export.

Maghirang (1999) assessed the situation of the vegetable industry as having low per capita consumption at 14kg/36kg, unstable supply and price (too low or too high), high pesticide usage/residue, high costs of inputs/production, low quality of produce, and high postharvest losses (30%–50%). However, he identified growth areas for vegetable production to include organic vegetable production, peri-urban agriculture, protected cultivation, contract growing for the institutional local and export markets, minimally processed vegetable for local and export markets, and seed production.

One of the vegetables that have high market potential is lettuce due to increasing demand for salad vegetables. In fact, lettuce is one of the few branded vegetables available in supermarkets, and some of these brands are owned by large producers, which include Dole Philippines, a multinational company.

With salad vegetables, branding adds value as consumers, particularly those who have high income, want to ensure that the vegetables they eat are safe. In terms of lettuce production, Benguet Province accounts for a major share of the country's production, particularly the iceberg variety.

This study aims to (1) examine the lettuce value chain in Benguet as well as the marketing margins distributed across actors in the chain and (2) discuss the previous value chain studies on vegetables in Benguet.

Framework of Analysis

Understanding the nature, evolution, and determinants of lettuce value chains requires the analysis of the various nodes or elements of the chain. These include the functions of actors in the chain, the mechanisms that govern transactions of these actors such as standards and contracts, structure of each node in the chain, technology used, and the changes of these elements over time.

A number of steps were considered in implementing the mapping of the value chain that covered 3 cases. The first was identifying the sequences of segments and subsegments by interviewing key informants composed of lettuce producers, wholesalers (in the production and consumption zones), retailers at the LTVTP and HM, municipal agriculturists and extension agents, and officers of DA based in the production region and in the central office in Quezon City, Metro Manila. The second step was identifying the value added at each segment or subsegment. This was also done with selected lettuce producers, wholesalers, and retailers. The third step was identifying the governance mechanisms specific to each segment's relations to other segments. These include standards, implicit or explicit contracts, payment conditions, and credit for intersegment relations. The fourth involved understanding the recent historical aspect of the value chain. Finally, margins were estimated using primary and secondary data.

Previous Vegetable Value Chain Studies in Benguet

Maslan (2004) estimated that 66.24% of the vegetables from Benguet and Mountain Province are sold in the La Trinidad Vegetable Trading Post (LTVTP), 31.76% in the Baguio City Hangar Market, 3.50% to the consumers and other local markets in the Cordillera Administrative Region (CAR), and 2% in the markets in the neighboring Region II (Figure 1). From the LTVTP, 25.53% goes to Manila markets, 22.64% to the Baguio City Hangar Market, 8.64% to high-end outlets (institutional buyers like supermarkets, hotels, and restaurants), 5.28% to Regions I and III markets, 4.95% to other markets, and 0.20% to local markets within CAR. From the Baguio City Hangar Market,

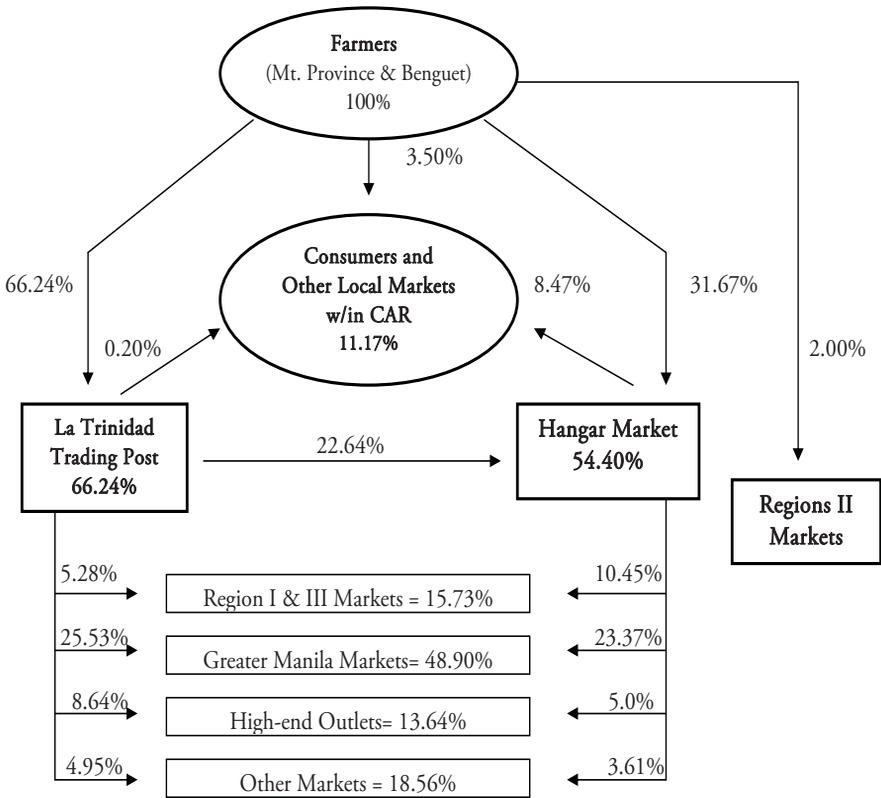


Figure 1. Distribution of highland vegetables from the farm to consumers (Maslan, 2004)

23.37% goes to Manila markets, 10.45% to Regions I and III markets, 5% to high-end outlets, and 3.61% to other markets.

Figure 1 gives a fair idea of the farm-to-consumer trail of highland vegetables. Milagrosa (2007) noted that vegetable marketing in Benguet used to be conducted solely by wholesaler-retailers who purchased the vegetables from farmers and sold them within the province and nearby markets. Other local wholesalers bought vegetables along the Mountain Trail and transported it to Baguio using trucks in an 8-hour drive to sell to Chinese agents (Lewis, 1992; cited in Milagrosa, 2007).

As vegetable production increased, more wholesalers entered the market, and a new breed of traders, known as “commissioners,” emerged. These “commissioners” were agents who earns a commission per kilogram of vegetable

sold in behalf of the seller. They were, for some time, the most efficient and effective modes of vegetable marketing, sourcing out vegetables from remote production areas. With more farmers served by “commissioners,” vegetable production increased. Poor transport infrastructure and facilities and lack of local market made dealing with “commissioners” the most popular marketing arrangement. This situation must have intimidated the wholesalers, who thought of venturing into the *pakyaw* system, i.e., the advance purchase of unharvested crops.

According to Milagrosa (2007), the growers eagerly took in this new trading method, which enabled them to recoup their production costs as early as possible. But contractual arrangements of this kind soon developed problems (Maslan, 2004; Milagrosa, 2007). In some instances, farmers who received early payments sold their crops to other “commissioners” and wholesalers. Wholesalers turned contractors, on the other hand, paid lesser money to farmers than what was agreed upon, using spoilage or reduced retail price as excuse.

These studies show the need to examine further changes in the vegetable industry not only in terms of margins or incentives among actors in the chain but also the changes that have taken place in the lettuce chains that affect the distribution of these margins among key chain actors.

Lettuce Supply Chains in Benguet

Lettuce, as a salad vegetable, is more vulnerable to problems characterizing the vegetable industry in the country. Compared to other vegetables, it is more perishable and is usually eaten raw; thus, it must reach the consumer quickly, and it must be very clean. Furthermore, lettuce rarely finds its place in the regular Filipino diet, and the quality of lettuce harvest depends so much on facilities that are not readily available to the ordinary farmer. With all these factors, the commodity also stands to benefit more from the growth areas identified for vegetable production.

The general picture shows an erratic fluctuation of the farm gate and wholesale prices of lettuce from 2002 to 2007 (Table 1). However, from 2005 to 2007, the prices have increased. Farm gate price increased by 15% in 2006 and by 25% in 2007, and wholesale price in Benguet increased by 1.05% in 2007.

The supply chain of lettuce in Benguet generally follows the traditional vegetable chain in the Philippines as a system where farmers sell their produce on the spot market to traders, consolidators, vegetable processors, and wholesalers in the wet markets. Wholesalers usually sell their vegetables in wet markets while some traders or consolidators sell to institutional markets.

Table 1. Annual farmgate and wholesale prices of lettuce in Benguet (2002–2007), PhP•kg⁻¹

	2002	2003	2004	2005	2006	2007
Farmgate (Benguet)	-	-	-	14.16	16.27	20.30
Wholesale (Benguet)	37.03	30.95	18.08	-	22.92	23.16
Wholesale (Philippines)	44.31	43.41	34.42	39.32	45.32	46.06

Source: BAS (n.d.)

Three lettuce supply chain cases in Benguet are described as follows:

The first case (Figure 2) is the direct chain from the (a) farmers to (b1) wholesalers at the LTVTP and HM and/or to (b2) institutional buyers; then from (b1) to (b2) and/or (c1) wholesalers/retailers in Metro Manila and other provinces. The farmers who belong to this chain usually finance their production by obtaining loans from lending institutions such as Quendancor and ECLOF-Philippines. These lending institutions do not require collateral and give loans at lesser interest rates. Farmers who sold directly to the LTVTP, HM, and institutional buyers usually have personal contacts in the market.

The second case (Figure 3) is a chain from the (a) farmers to (b) suppliers, also called “disposers”; then from (b) to (c1) wholesalers in Metro Manila and other provinces; (c2) supermarkets and hotels, restaurants, and caterers (HORECA); and (c3) retailers/peddlers. The suppliers usually provide the farmers with production inputs and sometimes cash for immediate household needs. In turn, the farmers are obligated to sell their produce to the suppliers on a contract basis (*pakyaw*) at the prevailing market price. The suppliers/“disposers” acts as a go-between for the farmers and the wholesalers.

The third case (Figure 4) is a long chain from the (a) farmers to (b) suppliers/“disposers”; from (b) to (c) wholesalers/retailers at the LTVTP and HM; and from (c) to (d1) wholesalers/retailers in Metro Manila and the provinces; (d2) consolidators; (d3) supermarkets and HORECA; and (d4) retailers, peddlers, and small restaurants.

Changing Roles in the Supply Chain

From the traditional arrangement where wholesaler-retailers bring vegetables from the farmers to consumers, recent developments have led to the emergence of new roles in the supply chain. Wholesalers became “commissioners” and, more recently, “disposers.” A “commissioner” sources out vegetable supply from remote production areas. A “disposer” also does the same, but there is a set volume requirement of an identified buyer to fill in.

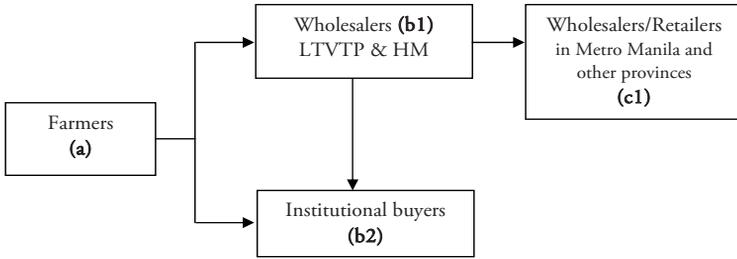


Figure 2. First case of the lettuce supply chain in Benguet

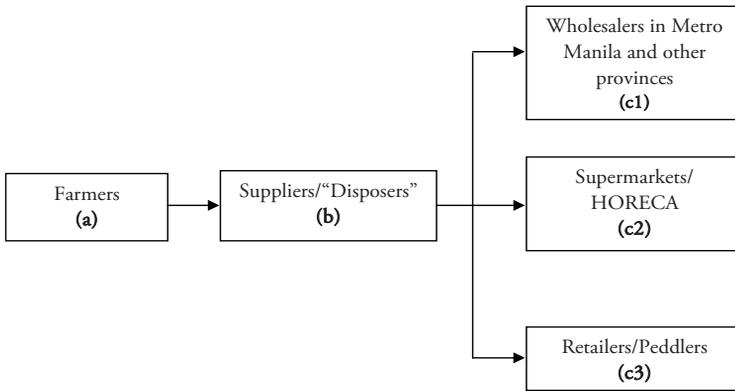


Figure 3. Second case of the lettuce supply chain in Benguet

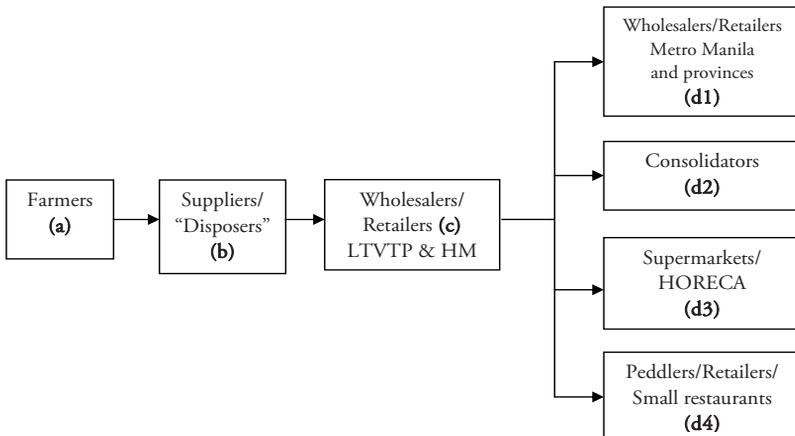


Figure 4. Third case of the lettuce supply chain in Benguet

Individuals play dual roles along the chain. A few farmers eventually became “disposers” as well and a few “disposers” eventually became farmers too. This practice has eliminated one link in the chain.

The “disposer” may also be the supplier who provides all production inputs to the farmers, who in turn would promise to pay him back with his produce. He may also be the contractor who purchases standing crops in advance (*pakyaw*).

Added Costs

A closer look reveals that a series of activities take place aside from the mere transfer of goods from the farmer through channels to the consumers. These activities entail added costs, which partially account for the marketing margins at every node of the chain.

For lettuce, these activities are transporting, trimming, and packaging. However, the emergence of the “commissioner” and/or the “disposer” has turned harvesting into another marketing activity. In this arrangement, the “disposer” takes care of harvesting, hauling, and transporting the produce to the wholesaler-retailer. These activities sum up to PhP2.76 added cost per kilogram.

For the wholesaler-retailer, added costs amounted to PhP2.37 per kilogram incurred while trimming and packaging the product. Items that registered the highest costs were carton boxes at PhP0.85 and food for the workers at PhP0.50 for every kilogram of lettuce sold (Table 2). Lumped under the label “Others” are the “curtais” or the entrance fee into market premises at PhP3.00 per basket of lettuce, security guard fee, residence tax certificate, and business permit.

Added costs for the retailer totaled PhP3.64, with labor accounting for almost 40% of the cost at PhP1.40 per kilogram. Except for PhP0.163 spent on hauling, all the rest were incurred while trimming and packing the product before selling to the consumers.

Among these 3 players, the retailer put in the highest added cost at PhP3.64 per kilogram of lettuce while the wholesaler-retailer put in the least at PhP2.37 per kilogram.

Marketing Margins

The selling price in each node is increasing, implying a positive margin (Table 2). The price also increased as the product moved along the chain.

Buying from the farmer at PhP12 per kilogram, the “disposer” sells it to the wholesaler at PhP25, who then sells it to the retailer at PhP 35, who in turn sells it to the consumer at PhP50. The total margin of PhP38 per kilogram is distributed among the 3 traders as follows: retailer, PhP15; wholesaler-retailer, PhP10; and the “disposer,” PhP13.

Table 2. Added costs at each node of the lettuce supply chain, PhP•kg⁻¹

Activities	Cost item	Disposer	Wholesaler-retailer	Retailer
Harvesting	Labor	0.48	-	-
Hauling	Labor	0.48	-	0.16
Transporting	-	1.80	-	-
	Newspaper	-	0.10	-
	Carton	-	0.85	-
	Packaging tape	-	0.07	-
	Straw	-	0.02	-
	Plastic bags	-	-	0.36
Trimming and Packaging	Labor	-	0.36	1.40
	Food	-	0.50	0.32
	Rental	-	0.27	0.27
	Utilities	-	0.07	0.06
	Tools & equipment	-	0.02	0.04
	Others	-	0.12	1.03
	Total		2.76	2.38

Considering the added costs together with the margins at each node, the retailer also spent the highest at PhP3.64 per kilogram, which is 24.27% of his margin of PhP15.00 per kilogram. The “disposer” spent the least at P2.76, which is 21.23% of his PhP13.00 margin per kilogram.

The use of gross margins to examine the distribution of benefits among actors in the chain is inadequate. However, most marketing margins analyses consider only gross margins as these can be computed readily from published secondary data on prices across nodes in the chain. Also, it is extremely difficult to collect data on costs as these will reveal the profits or net margins gained by the actor in the chain. When one considers the cost of value-adding activities incurred by different actors in the chain and compute for net margins, the distribution of benefits may be entirely different compared to gross margins indicators. However, retailers get the highest gross and net margins despite the fact that they incur the highest cost (Table 3). Also, while “disposers” have higher gross margins than the wholesaler-retailer, they incur higher cost in providing service to their clients. Finally, these figures are expressed in per-kilo terms. Thus, total net margins gained by these actors vary depending on the volume traded or sold.

Table 3. Selling price, costs, and marketing margins of lettuce in Benguet, PhP•kg⁻¹

Actors	Selling price	Margins	Costs	Net margins	Cost/Margin (%)
Farmer	12.00	-	-	-	-
Disposer	25.00	13.00	2.76	10.24	21.23
Wholesaler-retailer	35.00	10.00	2.37	7.37	23.70
Retailer	50.00	15.00	3.64	3.64	24.27

Concluding Comments

The lettuce value chains in Benguet are in the process of evolving as they respond to market requirements. The traditional lettuce iceberg variety is produced by the farmers following conventional open-field technologies and sold in the spot market. The emergence of fancy lettuce varieties in the market is mainly due to the rise of fast-food chains that may have influenced the eating habits of the people. These fancy varieties are produced using modern greenhouse technologies and are mostly sold in the modern retail markets. Modern greenhouse production requires a large capital outlay; thus, only a small number of farmers, those who can afford the cost of technology, produce fancy lettuce. As a result, the market structure for this type of lettuce is different from that of iceberg lettuce. Due to high investment cost required in producing fancy lettuces, the structure is more concentrated compared to iceberg lettuce where many small farmers are involved.

While most of the traditional iceberg lettuce producers are associated with the traditional value chains characterized by inefficiencies of various layers of marketing channels, the fancy lettuce producers are associated with more direct modern value chains. Fancy lettuce producers saw the need to cooperate with one another in order to cope with the requirements of buyers. Moreover, input suppliers are in close contact with the producers to supply their technological requirements.

There are opportunities open to small producers as the market restructures. Lettuce, particularly fancy lettuce, may require higher investment costs and stricter food safety standards since they are eaten fresh. Thus, unlike most fruits and vegetables, lettuce sold in supermarkets is branded, which makes it easier for consumers to decide which brands are reliable and worthy of their trust.

References

- Briones, M.R. 2001. National integrated RDE agenda and program for vegetable. BAR Digest. Bureau of Agricultural Research, Department of Agriculture, Quezon City.
- Bureau of Agricultural Statistics (BAS). n.d. Statistical database. 10 June 2008. <http://www.bas.gov.ph>.
- Maghirang, R.G. 1999. Vegetables: Integrated National Research and Development Program. Proceedings of the 1st National Stakeholders' Congress for Vegetables, Fruit Crops, and Cutflowers/Ornamentals Industries in Support of AFMA, Benguet State University, La Trinidad, Benguet, 3–7 May 1999.
- Maslan, F.K. 2004. Distribution of highland vegetables from farm to the consumers. Souvenir program of the 2nd National Vegetable Congress, Benguet State University, La Trinidad, Benguet, 21–23 April 2004.
- Milagrosa, A. 2007. Institutional economic analysis of vegetable production and marketing in Northern Philippines: Social capital, institutions and governance. Ph.D. thesis, Wageningen University, The Netherlands.
- Vasant, G.P., and N.V. Namboodiri. n.d. Marketing of fruits and vegetables in India: A study covering the Ahmedabad, Chennai and Kolkata markets. 10 June 2008. <http://ideas.repec.org/p/iim/iimawp/2004-06-09.html>.