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**UPLAND DEVELOPMENT PROGRAMME
IN SOUTHERN MINDANAO (UDP)**

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Vegetable Market
Research in
South Cotabato



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VEGETABLE MARKET RESEARCH IN SOUTH COTABATO

I. Objective

The study aims to examine the following:

- a. Current marketing practices of the vegetable industry key players
- b. Producers situation in production and marketing
- c. Demand and Supply situation
- d. Postharvest handling and distribution

II. Methodology

The research focused largely on fifteen (15) vegetables extensively produced in the area and three (3) potential vegetables with high market prospect. The former includes potato, carrots, cabbage, baguio beans, radish, chinese cabbage, ginger, cauliflower, chayote, string beans, squash, eggplant, ampalaya, mongo, and tomato while the latter comprises garlic, bell pepper, and bulb onion.

There were two methods used in gathering relevant primary data in the course of the research. First is the Focus Group Discussion (FGD), which was conducted with the vegetable farmers in the three (3) municipalities of UDP area in South Cotabato (Tantangan, Tampakan, and Tupi). The FGD covers mainly the commodity flow along the marketing chain with emphasis on unit cost analysis covering production cost, marketing cost, and wholesale price per kilo in respect to product's source and destination points. Second is through survey by means of a structured questionnaire. There were a total of 193 respondents for both upland vegetable farmers and vegetable buyers. A complete enumeration was done for the 98 pre-identified vegetable buyers. The list of buyers was taken from the agribusiness profile of the MED Component.

Secondary source of data was also taken from the National Statistics Office (NSO), UDP Library, and trade directories from the Internet.

III. Market Overview

Vegetable industry in South Cotabato particularly in the areas of Tantaran, Tampakan, and Tupi (TaTaTu) is growing steadfast as population is gradually increasing and with the recent ascension of Koronadal into city-hood. The result of the focus group discussion with vegetable farmers in the uplands as to the flow of vegetables showed that vegetables coming from Tantaran are channeled usually to Koronadal and Sultan Kudarat markets while the bulk of Tampakan and Tupi vegetables go to the two (2) major terminal markets, General Santos City and Koronadal City.

Notwithstanding the length of time the upland farmers are into vegetable production and marketing, they still remain as price takers due to lack of bargaining power in the market and that they compete on an uneven playing field. Individual vegetable producers are weak sellers because they offer for sale, on an open market, small volumes of product on an irregular basis and with little information. The basis for this perceived lack of farmer market power lies in the small size of their farms in relation to the larger retailers and wholesalers. The size problem is worsened by the tendency of farmers to pay little attention to marketing and focus on cash (spot) markets for the sale of their products. These characteristics result in the loss of bargaining power because of, but not limited to, the following reasons. First, the buyers are able to play one source of supply off against another. Second, there is no bagsakan center to serve as a consolidation point where market transparency can play. Last, the farmers are not able to determine the real value of their products to the buyer because they lack market information.

With this situation, the farmers have not so far sought to counter the prevailing scenario. They remain contented on the way things happen; the role of supply aggregation remains the function of traders operating out of major markets.

IV. Results

Buyers Trading Operation

Table 1.0 in the annex shows the buyers trading operation which indicates that for semi-temperate vegetables the buyers' primary source of supply is in Miasong, Glandang, Banate, and Laurel except for garlic and bulb onion, which is in Manila, San Jose, Davao, and even Taiwan while the major distribution outlets are in General Santos City and Koronadal City. For tropical vegetables, the source is mainly in Tandingan, Tampakan, Banate, and Koronadal with its distribution points in General Santos City, Koronadal City, Kiamba, Maitum, and Surallah. The frequency of buying is generally twice a week across all commodities but eggplant, ampalaya, and tomato are usually procured on daily basis.

Commodity Price Calendar

Figure 1.0 shows which particular period a commodity will have favorable and weak price. The dark shaded area (or red) represents the months where the price is relatively low while the light shaded ones (or green) correspond to months where price is at its peak. The unshaded area means that the price is neither high nor low for those periods. For most semi-temperate vegetables, the price is favorable from the months of September until January and starts to dwindle from February to June. Bulb onion, garlic, and bell pepper, nevertheless enjoys good price most of the time of the year.

The season of price basically has a direct relationship with the demand and supply situation in the market, which means that the market price for a vegetable is set by the quantity available for sale and the quantity buyers are willing to purchase. The commodity price calendar in effect is almost always inversely related to the production calendar. The former is given more importance in the study than the latter so as to guide farmers when they can have the best profit for their produce.

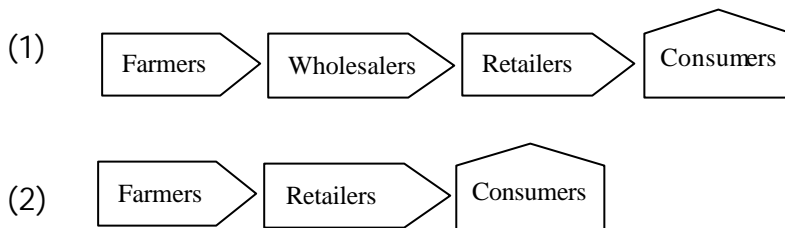
Major Market Segments

The market segment for vegetable industry in South Cotabato is basically comprise of the wholesale market, institutional market, and the retail market. Anecdotal evidence on trade estimates are that for the higher value vegetables, 15% of the volume is at retail, 30% is through institutional markets (hotels, and restaurants and other institutions), and 65% is through wholesale market.

The retail/consumer market is segmented into the traditional “wet markets” estimated to account for 70% of the retail trade in fresh vegetables. This is manifested as bulk purchases of goods from the bagsakan centers of Gensan and Koronadal are retailed in public and small markets of both cities and its neighboring towns.

The Supply Chain

There are two pronounce channels of distribution for fresh vegetables in South Cotabato. The illustration below shows the key players involved in the production, delivery and final sale of vegetables to the end user.



The illustration identifies the major points at which title (ownership) of the product changes without specifically acknowledging the role of chain facilitators, such as agents, financiers, information providers and transport operators, in the transfer process.

Situation (1) is the traditional route of distribution in which wholesalers sometimes employ agents to consolidate vegetables from major supply areas. This practice, in the process, creates unnecessary proliferation of marketing channels. It was learned especially in tropical vegetables that the product from the farm has to pass through 3 to 4 channels before it reaches the end-user due to the presence of agents and “jamboleros”. The study, however, shows that only 12% of the buyer-respondents employ marketing agents gaining a share of P0.50 to P1.00 per kilogram.

It was observed that each participant in the supply chain “adds value” for the final customer through product modification or packaging or through improved product availability over a wider geographic area via transport systems and more convenient small/retail outlets.

Vegetable trading in South Cotabato is essentially a buyer-dominated market with relatively large retail margins and small wholesaler margins. While there are more than a hundred wholesalers centered at GenSan Bagsakan and Koronadal

China Town, only 13 of these dominate, and for the high value vegetables, around 56 are active traders.

Channels of distribution tend to vary with the value and degree of perishability of the vegetable. Highly perishable and valuable vegetables such as cauliflower and garlic tend to go directly from the wholesaler to the larger retailers or institutional buyers (hotels/restaurants), while less perishable and less valuable items such as squash will follow a more traditional producer to wholesaler to retailer route.

Wholesale Buying Price and Margins

Normal wholesale-retail markups for bulk transaction are in the 20-50% range but for the more perishable crops, markups of 100% and up are common. Wholesale prices of 18 selected vegetables available in South Cotabato are shown in Table 2.0, which indicates the price range by location in respect to commodity price calendar. Table 3.0 shows the mark-up price (in kilogram) of commodities by location.

Vegetables of attractive buying and markup prices across destination points include potato, carrots, cauliflower, bell pepper, bulb onion, ginger, and garlic.

Prices of vegetables vary over time within a particular market simply because of the interaction between supply and demand. The quality of vegetables, however, also plays an important role as determinant of the final price. It also varies between markets at any one time because of the different market specifications, end use and supply source. The data in the study clearly demonstrates the difference in value between the semi-temperate vegetables and tropical vegetables. For instance, tropical vegetables are usually destined for the retail market, while high value vegetables are predominantly at wholesale and institutional market segments.

Packaging

Acceptable packaging at the farm and wholesale markets at the time of interview includes sack, wooden and bamboo crates, plastic, and bag. It was noted that there is an extensive amount of sorting and repackaging that takes place at the wholesale market, its major purpose being to gain more profit. High volume items such as potatoes, radish and cabbage are usually repacked. This also serves to eliminate spoilage, since any product deterioration that has taken place during transport from the farm is sorted out, and decayed cabbage leaves are removed from the exterior of the vegetables. Figure 2.0 shows that sacks and

crates are widely used materials for packing vegetables. Most of these vegetables need packaging but larger fruit vegetables such as squash are exception, which are usually transported in bulk. Leafy vegetables such as cabbages are also transported in bulk since its outer leaves act as a form of packaging by protecting the inner leaves.

Marketing Costs

This section describes the costs incurred by the vegetable producers and buyers resulting from the transfer of produce from the supplier to the consumer. The marketing costs for vegetable normally starts from produce preparation (i.e. cleaning, sorting and grading), packaging, handling (load and unload), transport, losses/spoilage, storage, market fees, commissions and capital cost.

Capital cost was not considered in the study although very important, due to its opportunity cost implication, is difficult to obtain and ascertain its real value. The calculation of capital cost for a small produce is far too complex an operation when the aim is simply to work out marketing costs of vegetables from a group of farmers to a nearby market.

The marketing costs were derived using existing commercial rates for the hire of services such as labor rates and transport rates even if the trader owns the truck as these commercial rates already have capital costs built-in by the trucker.

The study reveals that 70% of the farmer respondents deliver their produce to the wholesale market and incur the same form of marketing costs in the process except storage cost. Farmers and wholesale buyers do not have access to cold storage to extend the availability of vegetables to the consumer but simple warehouse or cool store. Most of the produce is rather sold immediately after harvest.

Vegetables that have high marketing cost relative to its selling price are potato, cabbage, radish, chinese cabbage, chayote, ampalaya, mungo, and tomato while the rest are below 20% of the selling price. The percentage of cost against the price is within 26-53% range with ampalaya at the lower end and chayote at the upper limit.

Table 4.0 and Figure 3.0 illustrate the marketing costs of buyers by commodity and by location. The data shows that the cost difference between Gensan and Koronadal buyers are, in most cases, immaterial except for potato, cauliflower, bell pepper, and garlic. In particular, bulb onion and garlic's high costs are attributed to it being imported from Luzon or Manila with Gensan as the landing zone. In the case of cabbage and chinese cabbage, high spoilage is evident in

the course of moving the goods from one destination to another; product loss/spoilage ranges from 15-40%.

Figure 4.0 compares the marketing costs of the Buyer and the Producer. It can be noted that the marketing cost of the producer is consistently higher than the buyer's across all commodities due to high transportation and spoilage costs except for cauliflower, ginger, and garlic. These particular commodities are being imported from other provinces and regions in which the buyer shoulders bulk of the cost. In the case of cauliflower, the usual practice of the buyer is to collect the commodity at the farm site on the account that it is highly perishable and requires special handling where the cost are largely assumed by the buyer.

Marketing Practices

The movement of vegetables to the wholesale market is usually facilitated by the producers thus they incur higher marketing costs than the buyers. Eighty-one percent (81%) of the buyer respondents indicated that the goods are delivered to them most of the time at cash on delivery (COD) basis. Payment terms of 15 to 30 days are not usually imposed unless there is an abnormal influx of vegetables coming from vegetable producing areas apart from Miasong and Glandang, which the market can no longer absorb (See Figure 5.0).

Grading system particularly for high value vegetables is being observed even at the farm level. The study shows that 88% of the farmer respondents sort and grade their produce at the farm. The grading starts when produce preparation such as cleaning (removing soil and foreign matter), trimming (removing unwanted leaves, stems or roots), and sorting (removing rejects and non-marketable produce) are performed. Grading is done by separating the vegetables into similar sizes and qualities before packing. When the products arrive at the wholesale markets, however, these are reclassified again according to sizes and attributes to the advantage of the buyers. This scenario only proves that the standard of the grading system is subjective and differs between a group of producers and buyers with the latter having much leeway to get around with the grading standard in his favor. For instance, during the months of October to January when the demand and price of radish are relatively high the grading standard is altered in such a way that what is considered Class B at the farmgate would qualify as Class A at the wholesale market and in the event of oversupply the situation reverses accordingly. This practice is constantly ripping the farmer off of what is supposed to be due him.

Buyers and producers typically do not undertake further processing of vegetables as these are sold right away after harvest. The absence of cold storage facilities or even simple cool store or warehouse mirrors the situation. On financing

aspect, it shows that majority or 83% and 88% of respondent buyers and producers, respectively do not have access to both formal and informal financing. This finding is in stark contrast to the common notion that loan sharks through production financing with onerous interest rates incessantly exploit producers.

Product Spoilage Usage

Farmers and buyers differ in terms of handling product spoilage incurred in the course of selling their produce (refer to Figure 6.0 and Figure 7.0). Majority of the farmers (52%) tend to set aside spoilage for household consumption while buyers (48%) just simply throw them away if not given as extra for regular clients. Their next option is to sell them at lower price. Very few of the farmers and traders bother to convert damaged vegetables into feeds, as this will incur them additional costs, yet with insignificant perceived benefits.

Other Observation

It is interesting to note that 72% of the farmer respondents produce and sell based on market feedback. It means that they themselves inquire from their prospective buyers about product specifications, quantity demanded, terms of payment, delivery arrangements, and price prior to planning to grow and sell their produce. The information, however, is transient as no follow-up or continuous market intelligence is being made. This is understandable because it is an expensive activity on the part of the producer notwithstanding the fact that 42% of farmer respondents have their farms located 6-10 kilometers from the municipal roads (See Figure 8). In some cases, there are deliberate attempts of traders to inhibit the free flow of information between producers and their customers for obvious reasons.

As to the satisfaction of vegetable producers with their current buyers, 49% responded positively for the following reasons. They are reliable buyers (i.e. they pay on time, buy regularly and offer marketing services), offer reasonable buying price, and they are residents of the area. As shown in Figure 9, the three basic factors, however, affecting the farmer's decision to sell are buying price, provision of marketing services by the traders and availability of marketing information at the time of sale.

In terms of access to production and marketing assistance, 66% of farmer respondents have benefited either from Upland Development Programme (UDP), Department of Agriculture (DA), Southern Mindanao Agricultural Programme (SMAP), Special Zone for Peace and Development (SZOPAD), and Maguindanao

Development Foundation, Inc. (MDFI). Majority of the assistance or 87% came from the UDP.

The table below shows the most common marketing problems encountered by vegetable producers and buyers.

Vegetable Producers	Vegetable Buyers
Sudden price fluctuation	Unstable prices
Massive planting of the same commodity among producers	High percentage of losses (especially for highly perishable vegetables)
Poor road condition	Poor quality of vegetables due to poor handling
No access to storage facilities	No access to storage facilities
Lack of transportation facilities	Limited alternative markets in the event of oversupply
Limited Buyers	
Low quality of produce	
Delayed payment of buyers	
No price information	
Lack of communication facilities	

Sudden fluctuation of price is attributed to production glut. There is the tendency of farmers to produce more than the market can absorb, thus resulting in a low price.

V. Findings

Supply and Demand Analysis

Table 5.0 shows the volume supplied to and the volume requirements of buyers in the two major terminal markets on a per commodity basis. It should be noted that the figures do not represent the entire supply and demand situation in South Cotabato but rather attempts to approximate the two economic variables and the resultant gap in respect to the maximum volume of all identified major buyers can absorb and the amount of volume supplied at a given time. The advantage of this approach is that the potential demand can be ascertained on a per buyer basis thus market targeting can be more focused. Deducting the total volume requirements of the buyers from the total volume supplied derives the resulting gap.

The vegetables with large quantity supply include potato, carrots, cabbage and radish. These commodities are sourced out largely in Glandang and Miasong and

being exported to as far as Zamboanga, Iloilo and Manila especially during peak seasons. For high value vegetables such as cauliflower, bulb onion, bell pepper and garlic, the data shows that bulk of these commodities or eighty percent (80%) are imported from Luzon (Benguet) and Manila. The remainder either comes from Matutum or Digos (Kapatagan). The data is reinforced as valid because not one farmer out of 98 respondents interviewed grows garlic and cauliflower while only one (1) and four (4) farmers plant bulb onion and bell pepper, respectively.

The collective volume requirement of vegetables totals to about 1,062 tons per year amounting to approximately 18 million pesos with a potential demand gap of 312 tons valued at P4.5 million pesos. The aggregate volume of imported vegetables, on the other hand, accounts to around 90 tons in a year, which translates to roughly P3.5 million pesos. About 67% of the volume constitutes bulb onion and followed by garlic at 22%. Again, the figures were derived based on the responses of pre-identified South Cotabato buyers as respondents in the survey. The total volume requirement and imported volume of vegetables may be much higher when the entire market supply situation of South Cotabato is taken into consideration.

With such limitation the data, however, underpins the fact that there is a great opportunity for upland vegetable farmers to develop their livelihood by venturing into production of imported high value vegetables.

Another potential commodity is Ginger. It was found out that no farmer respondents plant ginger. It is also being imported from Maguindanao, Davao del Sur and even Indonesia at approximately 20 tons a year. Practically, it enjoys better price year-round along with cauliflower, bulb onion, bell pepper and garlic. The only disadvantage in ginger is its culture period, which normally takes 8-10 months from planting to harvest. This is one of the reasons why upland farmers shun from growing ginger.

Cost and Return Analysis

Vegetable Producers

The approach used in this study to derive cost and return is through unit cost analysis. It treats variables in a per unit basis, kilograms in this case. The analysis to derive the net margin did not consider the land value or rent for tilling the land. It considered, however, all production and marketing costs (MC). It should be noted that there are no available data for ginger and garlic as no farmer respondents grow these vegetables in the area.

Table 6.0 shows that commodities with attractive net margins and return on investment include mungo, cauliflower, bell pepper, bulb onion, potato, eggplant and tomato. Tomato, though, is profitable in the months of September to February but beyond this period would mean a cash cow for tomato growers. The production cost per kilo is derived based on the current farming practices of vegetable producers, that is, without interventions from the outside. Treating production cost as percentage of the selling price shows that carrots, baguio beans, bulb onion, string beans, and ampalaya are expensive to produce. It simply illustrates that production efficiency has not been achieved yet in these particular commodities. One reason is the size of the farm, which is usually less than a quarter of a hectare or inappropriate farming practices.

Wholesale Buyers

In the wholesale transaction as shown in Table 7.0 and Figure 10, the cost and return analysis for wholesale buyers shows the commodities with high net margins and return on investment such as carrots, cabbage, baguio beans, radish, string beans, eggplant, and ampalaya. The data suggests that for locally grown vegetables, the buyers are earning reasonably than from imported ones. This is so because the buyers have various alternatives where to source out supply of locally available vegetables at lower price while for imported items the buying price is relatively high and the demand is affected by the willingness of the consumers to pay for the final price. In other words, price elasticity of demand comes into play.

Looking at Figure 11 on the percentage share of buyer and producer relative to the consumer peso, it indicates that vegetable farmers have a big share of the final buying price in potato, baguio beans, bell pepper, bulb onion, eggplant, mungo, and tomato. Thus, it can be inferred that the marketing system for the abovementioned commodities is efficient. For instance in the case of potato, for every peso spent by the consumer 81 cents goes to the farmer and the remainder to the buyer. In the case of cauliflower, due to its perishable nature the buyers are the ones facilitating the consolidation of the produce at the farm site down to the final consumer, thus getting the bulk share of the consumer peso.

VI. Recommendation

The nearly year-round abundance of vegetables in the wholesale markets indicates the economic importance of these crops. The farming practices as observed, however, remains focused in achieving production efficiency. It is not propounded here that efficiency is not important. It is, but it must be seen in the context of meeting an identified consumer need. The focus on volume of production without a corresponding increase in the demand for vegetables condemns farmers to a vicious cycle of falling prices and increasing productivity. The farmer's attempts to maximise production without considering religiously the market requirements can be attributed to two factors. First is that there is minimal influence the majority of individual farmers have on the price that they receive for their produce and the second is that they have limited alternative uses for their small farms.

One way to break this cycle is for farmers to focus on meeting identified consumer requirements, rather than solely concentrating on what they produce best. They need to adopt a consumer focus that will guide them in the production of differentiated products.

The succeeding points of argument present ways to address the issue.

One particular product differentiation strategy is to find a market niche, that is, in the case of Glandang and Miasong vegetable farmers, to venture into specialty crops such as producing organic vegetables. This may not be an easy endeavor, as it will require substantial information about the target market for the identified niche. The market must be big enough and sufficiently profitable to make it worth targeting. A group-managed vegetable organic farming is highly recommended considering this is an entirely new venture for upland farmers. A separate study that will specifically probe into this health-conscious market must be done to establish presence of demand and consumer preference over pesticide free vegetables.

Another proposal is to develop a more efficient vegetable commodity flow system in order to narrow the price spread between farmers and consumers, notably through direct marketing strategy. It should be noted that 70% of farmer respondents deliver their produce to the wholesale and retail markets, which made them familiar already, in the process, on the intricacies of product distribution. On this backdrop, direct marketing strategy, also called "shopping with a human face" is seen as an appropriate response. Besides, vegetables do not require much processing before consumption thus makes them ideal for one-on-one marketing. Such is often an unorthodox approach and may take the form of roadside stands (e.q., the fruit stands in Tupi along the national highway),

farmer's markets (i.e., "tabo") and sales to restaurants, or even supermarkets and institutional food service with product logo on it.

Direct marketing can give the farmer or group of farmers a larger share of the consumer peso and possibly a higher return on each unit sold, offsetting to some extent the loss of economies of scale. Upland farmers basically are unable to compete in, or are locked out of distant markets, can still build a thriving local business. However, finding the right market and marketing directly to the public is a hard and tedious job requiring time and effort, creativity, ingenuity, and the ability to deal with people in a pleasant and positive manner. Nevertheless, experience shows that prospects for direct farmer-consumer interaction are particularly promising especially at the rural-urban fringe.

The first logical step is to have an inventory of institutional and large scale wholesale markets in South Cotabato including General Santos City. One way to identify potential markets that exist in the area is by using the "50-kilometer market technique." It is a rule of thumb in market research that puts forward the idea that most customers of direct marketers are believed to live within 50 kilometers of the point of sale. The Marketing Point Persons (MPPs), in this case, together with the farmer leader should be responsible in identifying and coordinating with these prospective markets. The Marketing Specialist should help in every step of the way.

One option for the farmers to obtain countervailing power in the marketplace is to establish a cooperative marketing group. Ergo, the approved bagsakan center projects in Tupi and Tampakan should be implemented the soonest time possible. Its immediate presence will primarily improve the distribution and marketing system and it being the procurement base can draw the supply required in the major consuming areas. The concept of collective marketing will work, which to a larger extent would have the potential to increase producer bargaining power by reducing the opportunity for buyers to take advantage of the presence of weak sellers in the market and at the same time gain better access to market information through direct contact with large scale wholesale markets rather than relying on merchants or agents.

To minimise product losses, packaging materials must be improved. The ones used in La Trinidad like plastic bags must be introduced. At present, product spoilage is within the range of 10-40%.

On the production side, the concept of calendar planting for individual farmers to follow must be adopted to assure markets of substantial volume and consistency of supply. Further, it will avert production glut and unnecessary wastage thus increasing production efficiency. A trip to Marilog District of Davao City or in Maragusan, ComVal for Glandang and Miasong farmers might be a worthwhile

learning experience to observe how the local farmers are putting the idea of calendar planting into practice.

With a huge opportunity for upland farmers to replace imported high value vegetables by growing them locally and commercially, it is imperative that the SAD component should put extra attention to extend appropriate technologies for these crops (cauliflower, bulb onion, bell pepper and garlic).

There should also be efforts by the programme to promote vegetable seed production for selected crops in order to meet local seed requirements. A seed production within the capability of farmers to manage or even a seed grower's business may be established in Kablon.

Annex I. Tables

Table 1.0 Wholesale Buyers of General Santos City

	Commodity	Specification	Source of Supply	Distribution Area	Frequency of Buying
1	Potato	Small	Miasong	Gensan City	2X a week
		Medium	Glandang	Maitum, Kiamba	Daily
		Big	Banate	Pdomolok Iloilo City	
				Surallah	
2	Carrots	Small	Glandang	Gensan City	2X a week
		Medium	Miasong	Gensan Public Market	Daily
		Big	Laurel	Maitum, Kiamba	
			Banate	Surallah	
			Kapatagan	Iloilo City	
3	Cabbage	Small	Glandang	Gensan City	Daily
		Medium	Miasong	Kiamba	3X a week
		Big		Surallah	
				Koronadal	
				Iloilo	
4	Baguio Beans	Good	Glandang	Gensan City	2X a week
		Reject	Miasong	Kiamba/Maitum	Once a week
			Limblesong	Koronadal	
			Palakasam	Surallah	
5	Cauliflower	Class A	Glandang	Gensan City	Once a week
			Miasong	Koronadal	
			Davao	Surallah	
6	Raddish	Small	Glandang	Gensan City	2X a week
		Medium	Miasong	Kiamba/Maitum	
		Big	Malungon	Polomolok	
			Laurel	Midsayap, Cotabato	
				Davao City	
7	Bell Pepper	Small	Sultan Kudarat	Gensan City	2X a week
		Medium	Koronadal	Kiamba/Maitum	
		Big	Miasong	Davao City	
				Surallah	
8	Chinese Cabbage	Good	Glandang	Gensan City	Daily
		Reject	Miasong	Koronadal	
				Kiamba/Maitum	
				Surallah	

9	Chayote	Small	Miasong	Gensan City	2X a week
		Medium	Glandang	Kiamba/Maitum	Daily
		Big	Palakasam	Koronadal	
				Midsayap	
				Surallah	
10	Bulb Onion	Small	Luzon/Manila	Gensan City	2X a week
		Medium	San Jose	Koronadal	Once a week
		Big	Miasong	Kiamba/Maitum	
			Digos	Glan	
11	Ginger	Class A	Miasong	Gensan City	2X a week
		Class B	Glandang	Kiamba/Maitum	3X a week
		Class C	Makilala		
			Bansalan		
			Kidapawan		
12	Garlic	Small	Luzon/Manila	Gensan City	2X a week
		Medium	Miasong	Koronadal	
		Big	Surallah	Glan	
			Taiwan	Maasim/Kiamba/Maitum	
13	String Beans	Small	Koronadal	Gensan City	3X a week
		Medium	Tantangan	Kiamba/Maitum	Daily
		Big	Tampakan		
14	Squash	Small	Alabel	Gensan City	2X a week
		Medium	Miasong	Kiamba/Maitum	4X a week
		Big	Polomolok		
			Palkan		
15	Eggplant	Good	Banate	Gensan City	Daily
		Reject	Tantangan	Kiamba/Maitum	2X a week
			Tampakan		
16	Ampalaya	Small	Polonoling	Gensan City	Daily
		Medium	Tantangan	Koronadal	2X a week
		Big	Bo. 8, Koronadal		
17	Mongo	Class A	Banate	Gensan City	Once a week
			Maibo	Koronadal	2X a week
			China	Kiamba/Maitum	
18	Tomato	Good	Miasong	Gensan City	Daily
		Reject	Palakasam	Koronadal	4X a week
			Banate	Kiamba/Maitum	
			Liganfa	Cotabato City	
			Qumang	Davao City	

Table 1.1 Wholesale Buyers of Koronadal City					
	Commodity	Specification	Source of Supply	Distribution Area	Frequency of Buying
1	Potato	Small	Miasong	Koronadal	2X a week
		Medium	Glandang	Banga	
		Big	Tboli	Surallah	
			Isulan		
2	Carrots	Small	Glandang	Koronadal	2X a week
		Medium	Miasong	Banga	
		Big	Laurel	Gensan City	
			Tboli	Sultan Kudarat	
				Surallah	
3	Cabbage	Small	Glandang	Koronadal	2X a week
		Medium	Miasong	Banga	
		Big	Wao	Surallah	
			Gapok, SK	Colombio, SK	
			Balisong		
4	Baguio Beans	Good	Glandang	Koronadal	2X a week
		Reject	Eil Blel	Surallah	
			Tampakan	Isulan	
				Bankerohan, DC	
5	Cauliflower	Class A	Glandang	Koronadal	2X a week
			Miasong	Surallah	
6	Raddish	Small	Glandang	Koronadal	2X a week
		Medium	Miasong	Surallah	
		Big	Polomolok	Colombia, SK	
			Balisong		
			Tampakan		
7	Bell Pepper	Small	Glandang	Koronadal	2X a week
		Medium	Tampakan	Surallah	Once a week
		Big	Lake Sebu		
8	Chinese Cabbage	Good	Glandang	Koronadal	2X a week
		Reject	Miasong	Banga	
				Surallah	
9	Chayote	Small	Glandang	Koronadal	2X a week
		Medium	Miasong	Gensan City	
		Big	Lake Sebu	Surallah	
			Isulan		
10	Bulb Onion	Small	Luzon/Manila	Koronadal	2X a week

		Medium	Miasong	Surallah	Once a week
		Big	Makilala, SC		
			Isulan		
11	Ginger	Class A	Miasong	Koronadal	2X a week
		Class B	Glandang	Polomolok	
		Class C	Makilala	Surallah	
			Malungon		
			Upi		
12	Garlic	Small	Luzon/Manila	Koronadal	2X a week
		Medium	Miasong	Surallah	
		Big	Digos		
			Davao		
13	String Beans	Small	Tantangan	Koronadal	2X a week
		Medium	Esperanza		
		Big	Bo. 5, Koronadal		
14	Squash	Small	Tampakan	Koronadal	2X a week
		Medium	Bo. 5/8, Koronadal	Tacurong	
		Big	Banga	Surallah	
			Tantangan		
15	Eggplant	Good	Bo. 5, Koronadal	Koronadal	2X a week
		Reject	Esperanza	Tantangan	
			Morales	Colombio, SK	
			Siodina		
16	Ampalaya	Small	Bo. 5, Koronadal	Koronadal	2X a week
		Medium	Esperanza	Tantangan	Daily
		Big	Bo. 8, Koronadal	Colombio, SK	
			Morales		
17	Mongo	Class A	Surallah	Koronadal	2X a week
			Tantangan	Polomolog	
			Manila		
18	Tomato	Good	Tantangan	Koronadal	2X a week
		Reject	Namnama	Kabacan, Cotabato	
			Gensan	Surallah	
			Lake Sebu		
			Lemblisong		

	GenSan		Koronadal		Tupi		Banga		Alabel	
	Peak	Lean	Peak	Lean	Peak	Lean	Peak	Lean	Peak	Lean
Potato	15 - 20	18 - 35	15 - 20	20 - 30	12 - 15	15 - 30	13 - 18	25 - 35	10 - 15	15 - 30
Carrots	10 - 15	20 - 30	10 - 15	20 - 30	10 - 20	12 - 35	8 - 15	20 - 30	10 - 20	35 - 45
Cabbage	3 - 8	10 - 25	3 - 10	10 - 25	5 - 10	10 - 25	6 - 18	20 - 30	15 - 20	25 - 30
Baguio Beans	8 - 12	10 - 25	2 - 10	5 - 28	4 - 8	5 - 15				
Cauliflower	40 - 70	50 - 100	20 - 30	40 - 50						
Raddish	3 - 10	6 - 15	3 - 10	7 - 15	4 - 8	5 - 10	3 - 10	12 - 20	5 - 8	8 - 12
Bell Pepper	15 - 25	40 - 100	10 - 25	35 - 80						
Chinese Cabbage	6 - 10	12 - 20	3 - 15	15 - 25			8 - 15	20 - 35		
Chayote	1 - 2	1.5 - 3	0.5 - 5	2 - 10	3 - 8	6 - 10				
Bulb Onion	25 - 30	28 - 75	20 - 50	25 - 75	40 - 80	60 - 120	40 - 60	70 - 120	30 - 65	50 - 95
Ginger	8 - 22	25 - 40	8 - 20	23 - 50	15 - 20	25 - 32			10 - 20	20 - 25
Garlic	20 - 80	25 - 200	20 - 100	60 - 150						
String Beans	8 - 15	12 - 18	3 - 8	5 - 15						
Squash	1.5 - 5	2 - 7	2 - 7	3 - 10						
Eggplant	5 - 15	5 - 20	3 - 10	5 - 15						
Ampalaya	4 - 10	5 - 20	7 - 10	12 - 15						
Mongo	8 - 25	15 - 35	7 - 25	15 - 35						
Tomato	5 - 15	8 - 18	6 - 15	8 - 25	10 - 12	12 - 25			5 - 10	10 - 15

	GenSan	Koronadal	Surallah	Sarangani	Polomolok	Cotabato	Iloilo	Davao
Potato	2 - 7	2 - 5	2 - 5	3 - 4	6 - 7	2 - 5	8 - 12	
Carrots	2 - 7	2 - 5	2 - 7	5			10	
Cabbage	2 - 5	2 - 5	2 - 5	2 - 7			10	
Baguio Beans	2 - 5	2 - 5	5	2 - 5				
Cauliflower	4 - 10	4 - 10	10					
Raddish	2 - 5	1 - 3		3 - 5	2 - 7	5 - 7		5
Bell Pepper	4 - 5	5		5				8 - 10
Chinese Cabbage								
Cabbage	3 - 5	2 - 3	7	3 - 5				
Chayote	0.75 - 2	0.50 - 2	1.5 - 2	0.6 - 1	0.50			
Bulb Onion	5 - 8	5 - 8		5				
Ginger	5	3 - 5		5 - 10				
Garlic	5 - 15	5 - 15		5				
String Beans	4 - 5	3 - 5			5			
Squash	1.5 - 3.5	1.5 - 2		1 - 2				
Eggplant	2 - 8	2 - 8		2 - 3				
Ampalaya	3 - 5	3 - 5						
Mongo	2 - 4	2 - 5		5				
Tomato	2 - 7	2 - 5		2 - 3		2		

Commodity	Location			
	GenSan	Koronadal	Banga	Tupi
Potato	2.80	1.40	1.4	1.7
Carrots	0.80	0.70	1.4	1.4
Cabbage	1.20	0.80	1.75	2.2
Baguio Beans	0.95	0.73		1.8
Cauliflower	0.75	1.50		
Raddish	0.90	1.00	1.7	1.85
Bell Pepper	2.30	0.70		
Chinese Cabbage	2.10	1.75	1.5	
Chayote	0.70	0.60		1.25
Bulb Onion	2.50	2.10	3.6	1.3
Ginger	1.60	1.21		1.0
Garlic	2.70	1.50		
String Beans	0.40	0.30		
Squash	0.75	0.70		
Eggplant	1.40	1.50		
Ampalaya	0.85	1.70		
Mongo	0.95	1.30		
Tomato	2.50	2.00		2.45

	Volume Supplied		Total	Volume Reqt		Total	Volume Produced	Dmd Gap
	GenSan	Koronadal		GenSan	Koronadal			
Potato	93,515	54,320	147,835	134,515	83,500	218,015	141,872	70,180
Carrots	114,775	38,900	153,675	148,975	57,950	206,925	306,952	53,250
Cabbage	36,822	43,488	80,310	111,192	59,574	170,766	77,650	90,456
Baguio Beans	8,028	4,590	12,618	6,138	7,188	13,326	61,748	708
Cauliflower								
Raddish	37,200	38,535	75,735	41,975	49,615	91,590	192,995	15,855
Bell Pepper	4,475	1,440	5,915	2,675	8,650	11,325	786	5,410
Chin Cabbage	4,272	6,750	11,022	5,562	10,290	15,852	22,830	4,830
Chayote	32,340	22,360	54,700	38,020	27,816	65,836	8,690	11,136
Bulb Onion	24,375	51,325	75,700	25,630	63,375	89,005	400	13,305
Ginger	16,180	5,920	22,100	22,240	10,480	32,720		10,620
Garlic	7,015	17,750	24,765	7,530	19,600	27,130		2,365
String Beans	1,612	1,332	2,944	1,756	1,456	3,212	9,801	268
Squash	21,272	7,180	28,452	23,680	7,500	31,180	22,481	2,728
Eggplant	6,900	4,540	11,440	8,900	4,560	13,460	21,952	2,020
Ampalaya	2,080	2,840	4,920	8,900	2,960	11,860	8,740	6,940
Mongo	2,768	7,280	10,048	4,940	9,045	13,985	31,418	3,937
Tomato	11,468	13,504	24,972	13,130	29,090	42,220	3,004	17,248

Table 6.0 Table Cost and Return Analysis Vegetable Producers						
	Cost/Kilo	MC	Total Cost	SP	Net Margin	ROI
Potato	5	6.5	11.50	15	3.50	30
Carrots	4	1.55	5.47	7	1.53	28
Cabbage	1.5	1.6	3.10	4	0.90	29
Baguio Beans	3.60	1.2	4.80	6	1.20	25
Cauliflower	5.38	1.26	6.64	15	8.36	126
Raddish	2	1.45	3.45	5	1.55	45
Bell Pepper	6.25	2.25	8.50	17	8.50	100
Chinese Cabbage	2.00	2	4.00	5	1.00	25
Chayote	0.35	1.05	1.40	2	0.60	43
Bulb Onion	15	2.25	17.25	25	7.75	45
String Bean	3.5	1.15	4.65	6	1.35	29
Squash	0.75	2.55	3.30	4	0.70	21
Eggplant	2.00	1.57	3.57	6	2.43	68
Ampalaya	3	1.47	4.47	5.5	1.03	23
Mongo	5.0	0.75	5.75	15	9.25	161
Tomato	3.25	2.70	5.95	9	3.05	51

Table 7.0 Cost and Return Analysis Vegetable Wholesale Buyers						
	WBP	MC	Total Cost	WSP	Net Margin	ROI
Potato	15	1.4	16.40	18.5	2.10	13
Carrots	9	0.7	9.70	12.5	2.80	29
Cabbage	5	1.2	6.20	8.5	2.30	37
Baguio Beans	6	0.75	6.75	9.5	2.75	41
Cauliflower	25	1.5	26.50	32	5.50	21
Raddish	6.5	1	7.50	10	2.50	33
Bell Pepper	17.5	2	19.50	22.5	3.00	15
Chinese Cabbage	9	1.75	10.75	11.5	0.75	7
Chayote	2.75	0.6	3.35	4	0.65	19
Bulb Onion	35	2.1	37.10	41.5	4.40	12
Ginger	14	1.21	15.21	18	2.79	18
Garlic	60	1.5	61.50	67	5.50	9
String Bean	7	1.21	8.21	11	2.79	34
Squash	5	1.5	6.50	6.75	0.25	4
Eggplant	6.5	0.8	7.30	9.5	2.20	30
Ampalaya	8.5	0.7	9.20	12.5	3.30	36
Mongo	16	1.5	17.50	19.5	2.00	11
Tomato	10.5	1.7	12.20	14	1.80	15

Table 8.0 Production Data for a 1/4ha Area

	Source	Prodn Cost	Yield	Prodn Loss	Consumption	Marketable Yield
Potato	Tupi	8,000	1500	5-7%	5-10 kg	1,390
Carrots	Tupi	3,900	1000	3-5%	3-5 kg	945
Cabbage	Tupi	5,300	3600	20-30%	5-15 kg	3,045
Baguio Beans	Tupi	3,500	960	10%	2-7 kg	857
Cauliflower	Tupi	3,500	650	20-30%	1-3 kg	452
Raddish	Tupi	3,800	1750	8%	4-11 kg	1,599
Bell Pepper	Tampakan	1,500	240	10-20%	0.25-1 kg	191
Chinese Cabbage	Tupi	5,000	2500	20-30%	3-11 kg	2,114
Chayote	Tampakan	1,000	2880	5-7%	2-10 kg	2,668
Bulb Onion	Tampakan	6,000	400	5-10%	0.5-3 kg	357
String Beans	Tantngan/Tampakn	1,100	170	15-20%	2-12 kg	124
Squash	Tantngan/Tampakn	1,200	1600	8-10%	5-16 kg	1,424
Eggplant	Tantngan/Tampakn	2,500	1250	20-30%	2-8 kg	867
Ampalaya	Tantngan/Tampakn	900	300	15-20%	1-6 kg	234
Mongo	Tantngan/Tampakn	875	175	5-10%	2-12 kg	146
Tomato	Tantngan/Tampakn	650	160	20-30%	1-5 kg	107

Annex II. Figures

Figure 1.0 Commodity Price Calendar

Commodity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Potato	High	Low	Low	Low	Low	Low	High	High	High	High	High	High
Carrots	High	Low	Low	Low	Low	Low	High	High	High	High	High	High
Cabbage	High	Low	Low	Low	Low	Low	High	High	High	High	High	High
Baguio Beans	High	Low	Low	Low	Low	High	High	High	High	High	High	High
Cauliflower	High	Low	Low	Low	Low	Low	High	High	High	High	High	High
Raddish	High	Low	Low	Low	Low	Low	High	High	High	High	High	High
Bell Pepper	High	Low	Low	Low	Low	High	High	High	High	High	High	High
Chinese Cabbage	High	Low	Low	Low	Low	High	High	High	High	High	High	High
Chayote	High	Low	Low	Low	Low	High	High	High	High	High	High	High
Bulb Onion	High	Low	Low	Low	Low	High	High	High	High	High	High	High
Ginger	High	Low	Low	Low	Low	High	High	High	High	High	High	High
Garlic	High	Low	Low	Low	Low	High	High	High	High	High	High	High
String Beans	High	Low	Low	Low	Low	High	High	High	High	High	High	High
Squash	High	Low	Low	Low	Low	High	High	High	High	High	High	High
Eggplant	High	Low	Low	Low	Low	High	High	High	High	High	High	High
Ampalaya	High	Low	Low	Low	Low	High	High	High	High	High	High	High
Mongo	High	Low	Low	Low	Low	High	High	High	High	High	High	High
Tomato	High	Low	Low	Low	Low	High	High	High	High	High	High	High

Legend:

Low Price
 High Price

Figure 2. South Cotabato Vegetable Buyers Commonly Used Packaging Mats

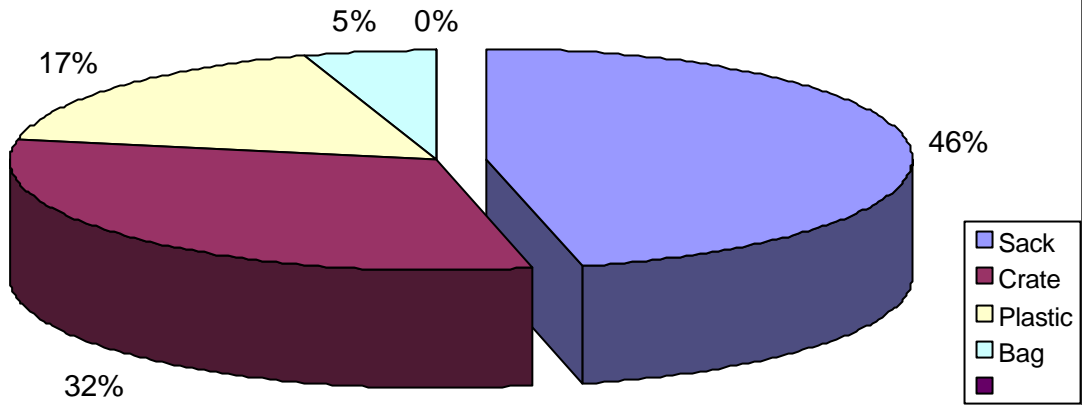


Figure 3. Buyers Marketing Cost By Location

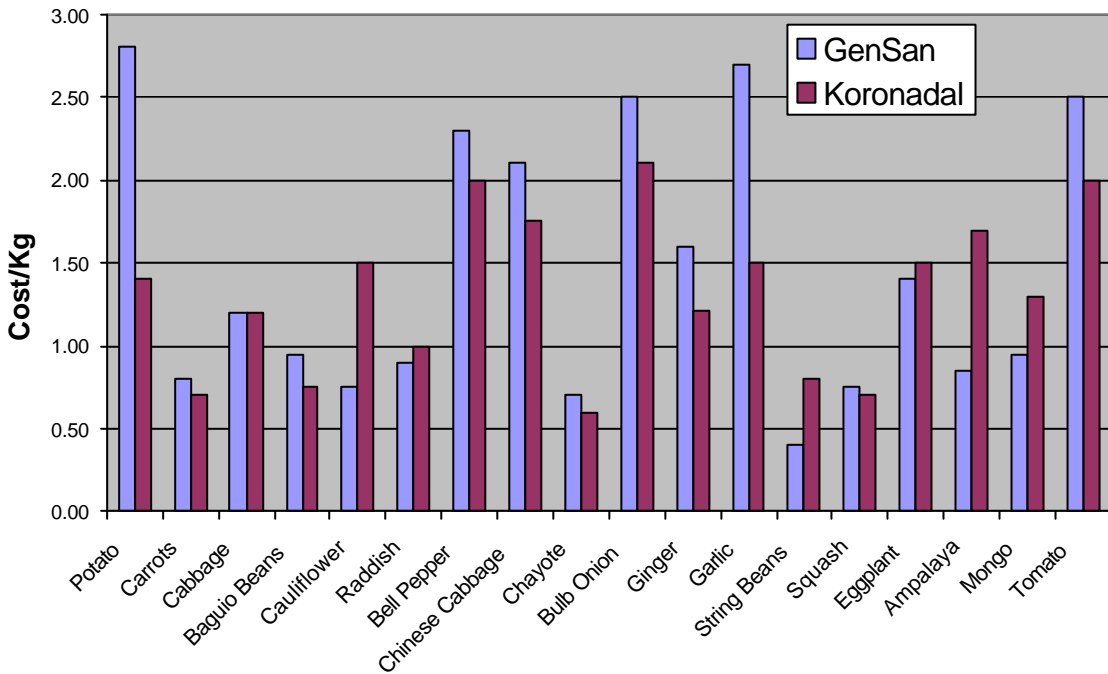


Figure 4. Marketing Costs of Buyer & Producer

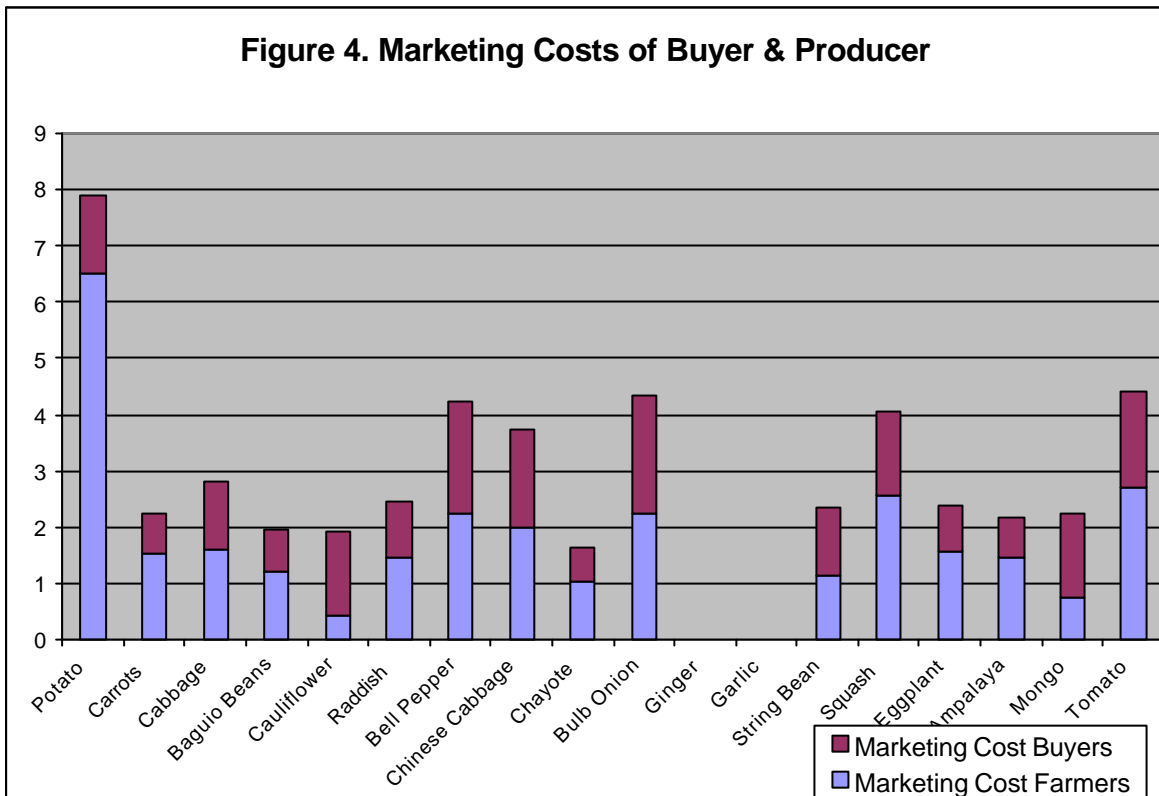


Figure 5. South Cotabato Vegetable Buyers Buying Terms

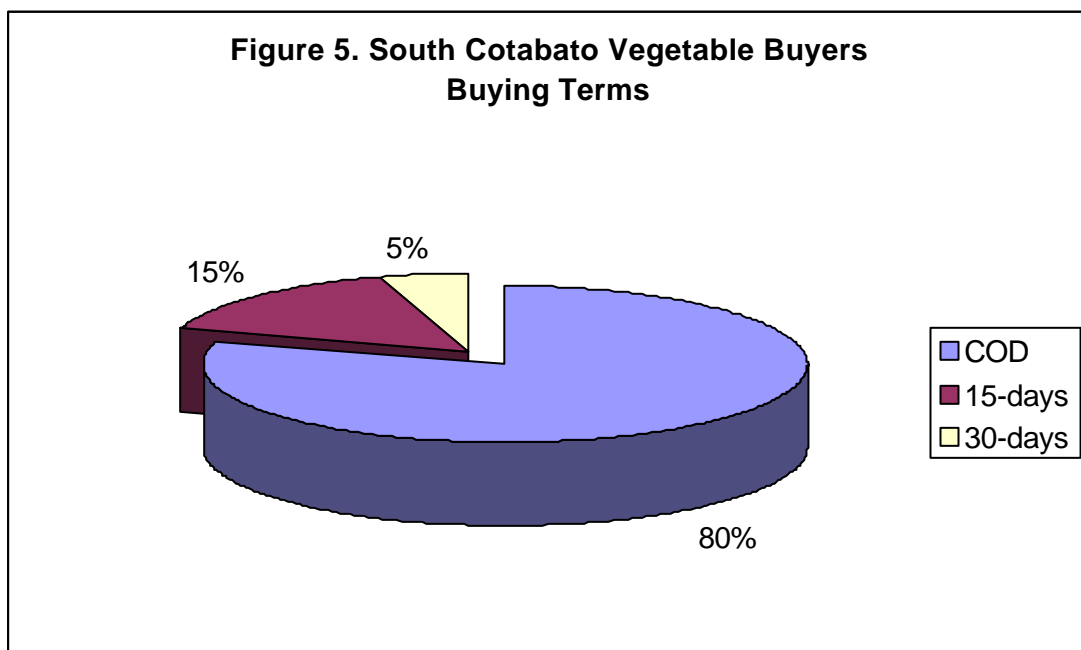


Figure 6. Farmers Production Loss Usage

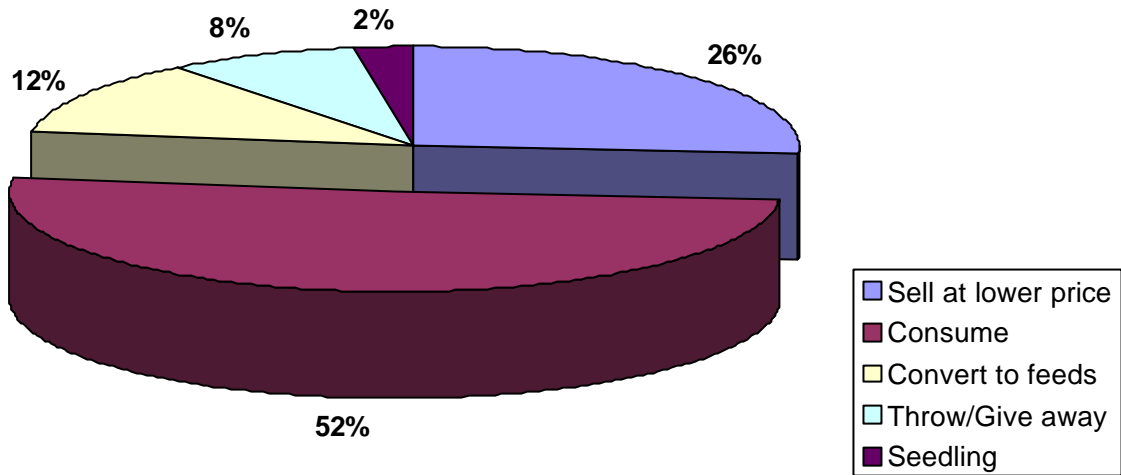


Figure 7. South Cotabato Vegetable Buyers Product Spoilage Usage

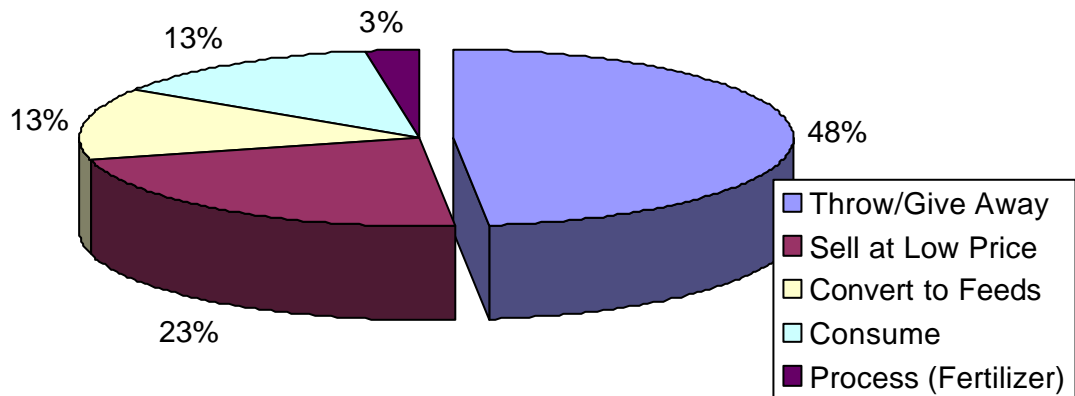


Figure 8. Distance of Farm to Market Road

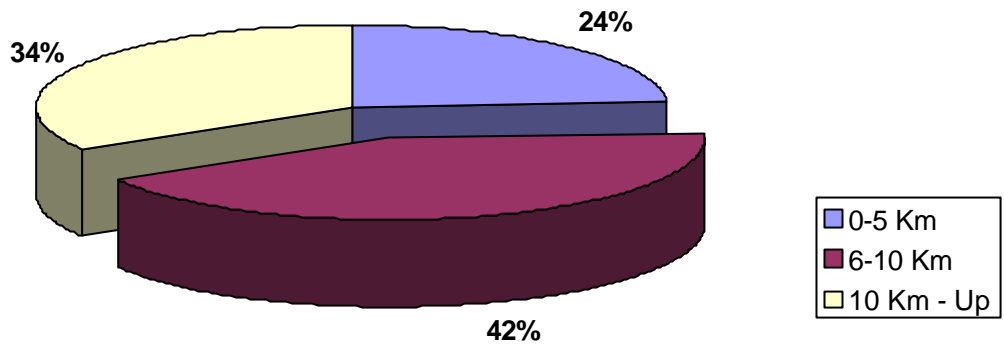


Figure 9. Factors Affecting Farmer's Decision to Sell

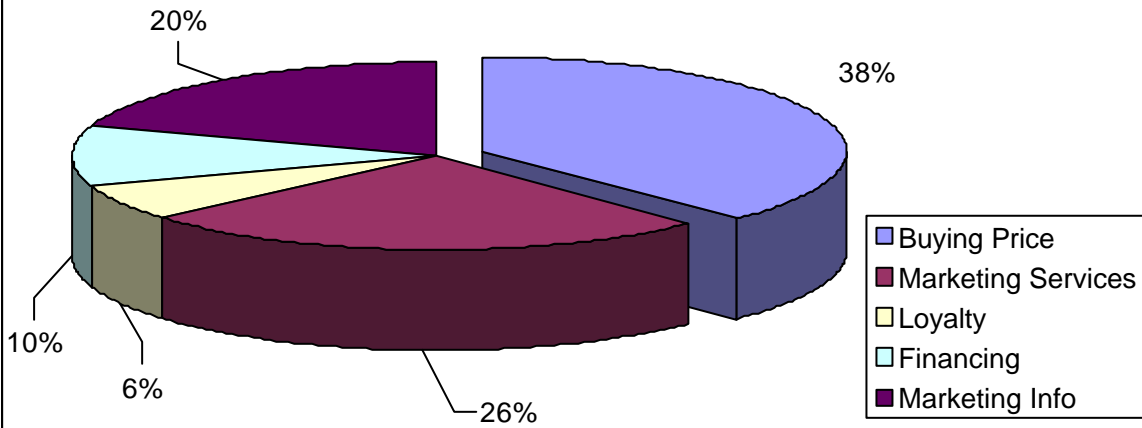


Figure 10. Return On Investment

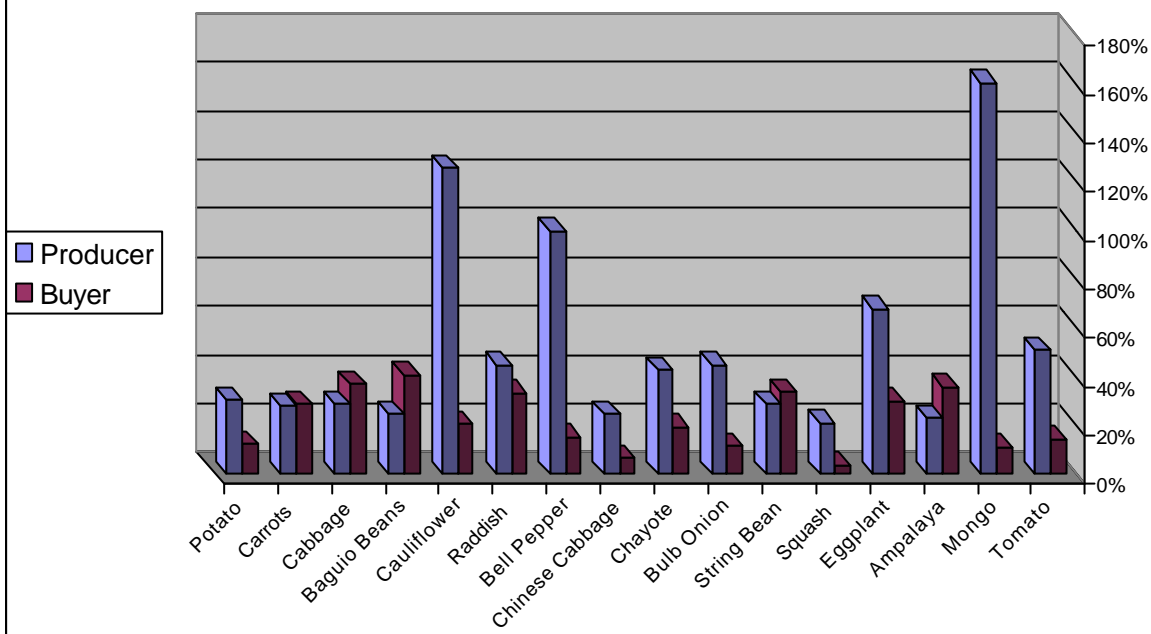


Figure 11. Percentage Share to Consumer Peso

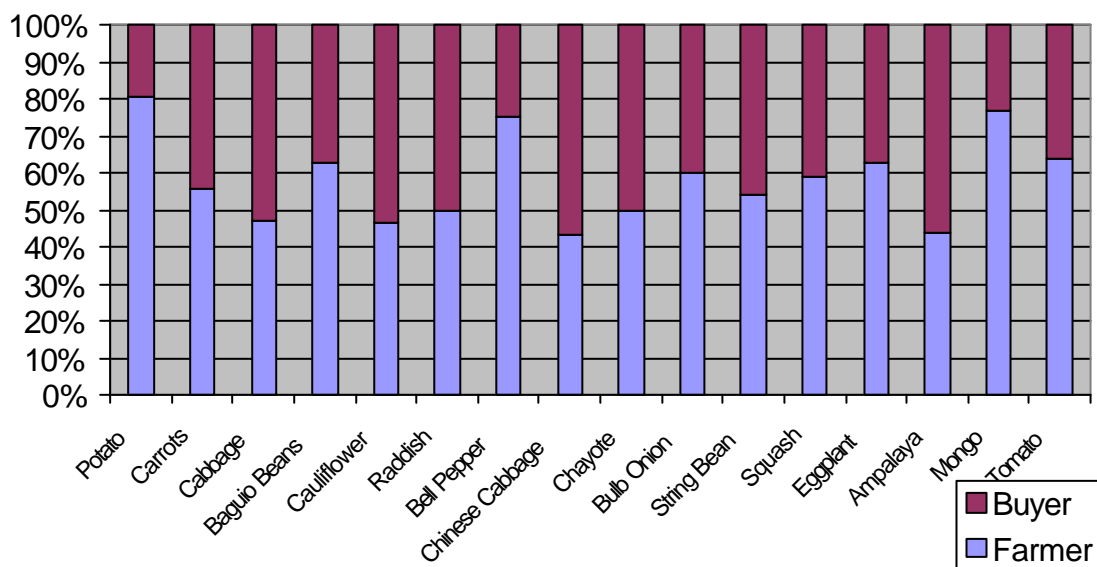
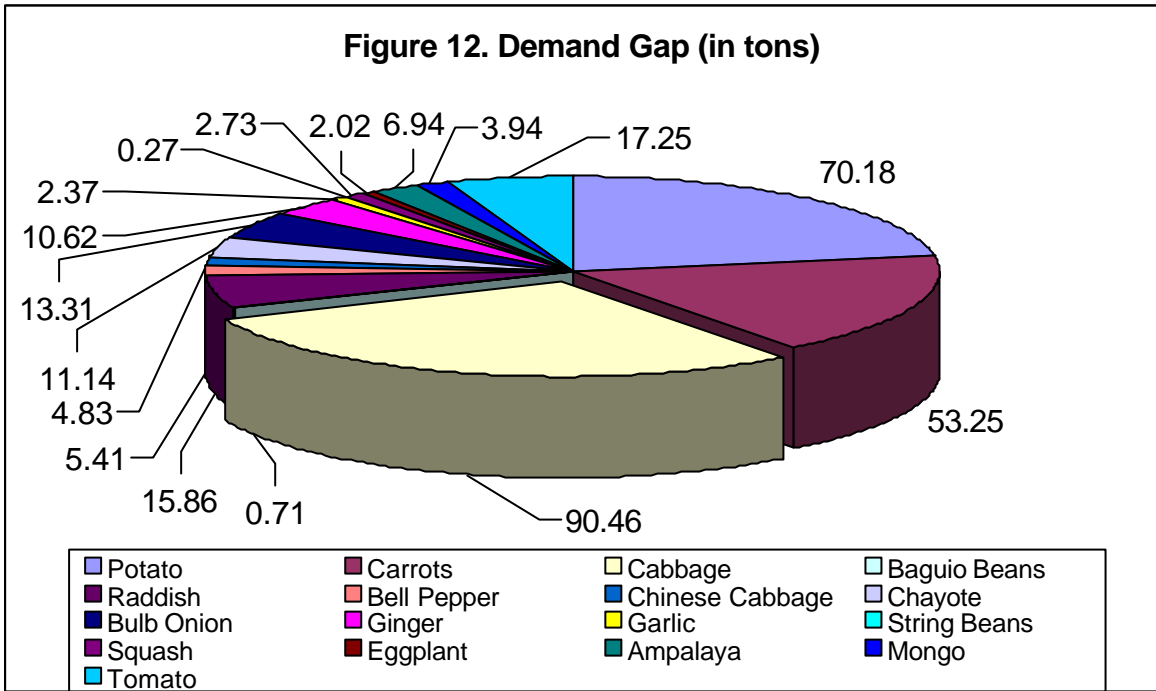
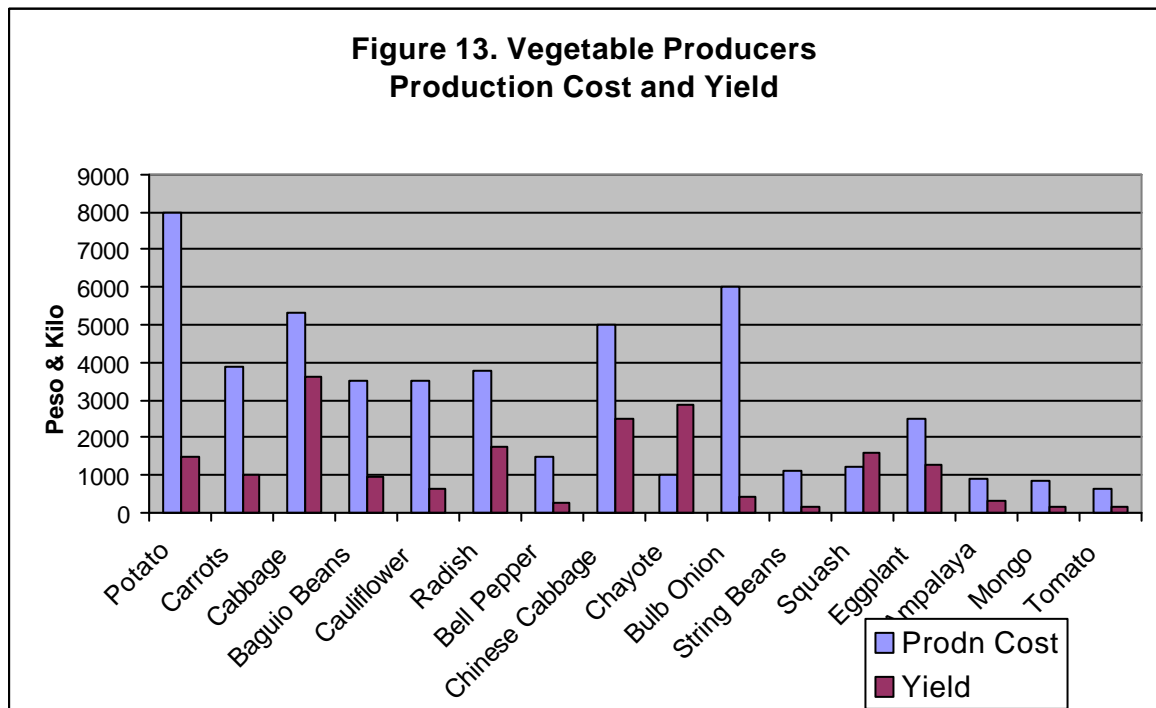


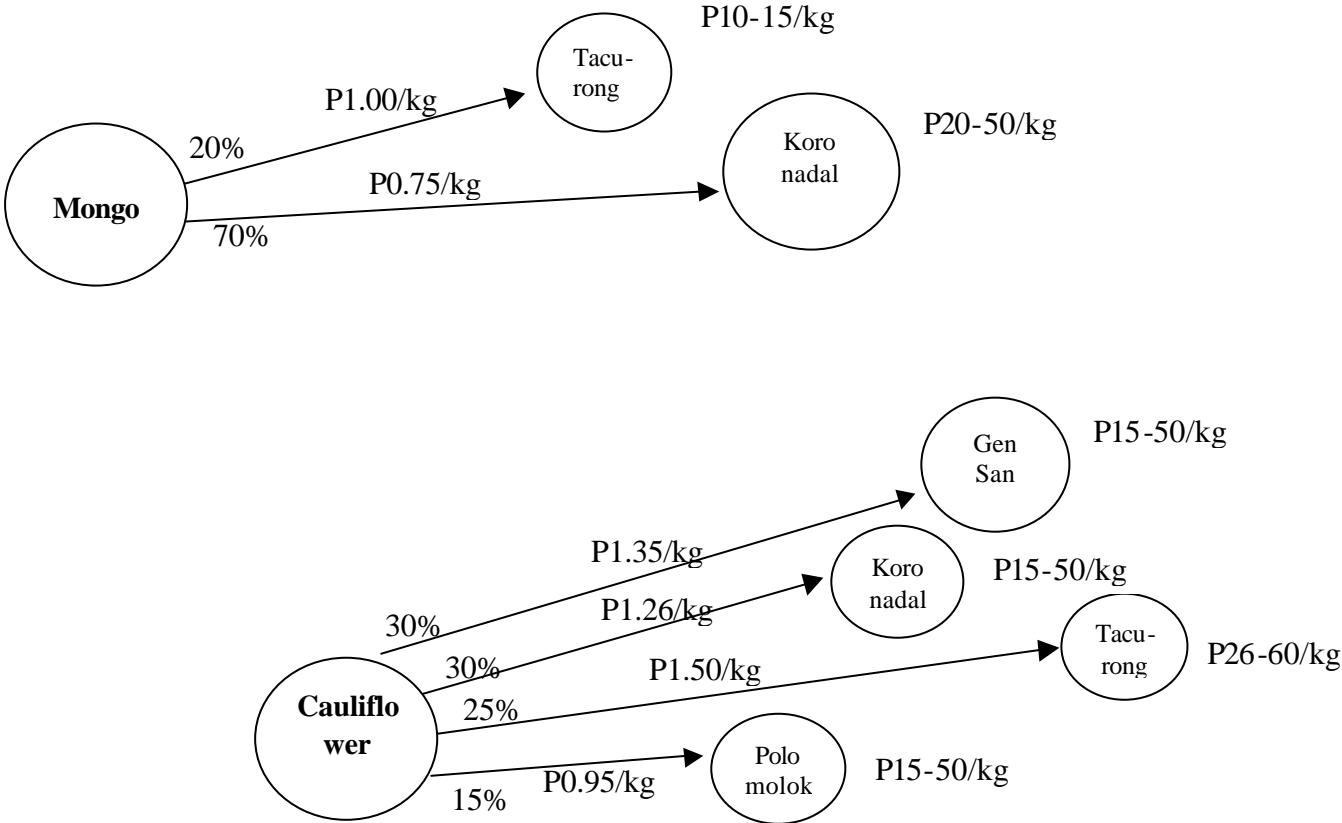
Figure 12. Demand Gap (in tons)



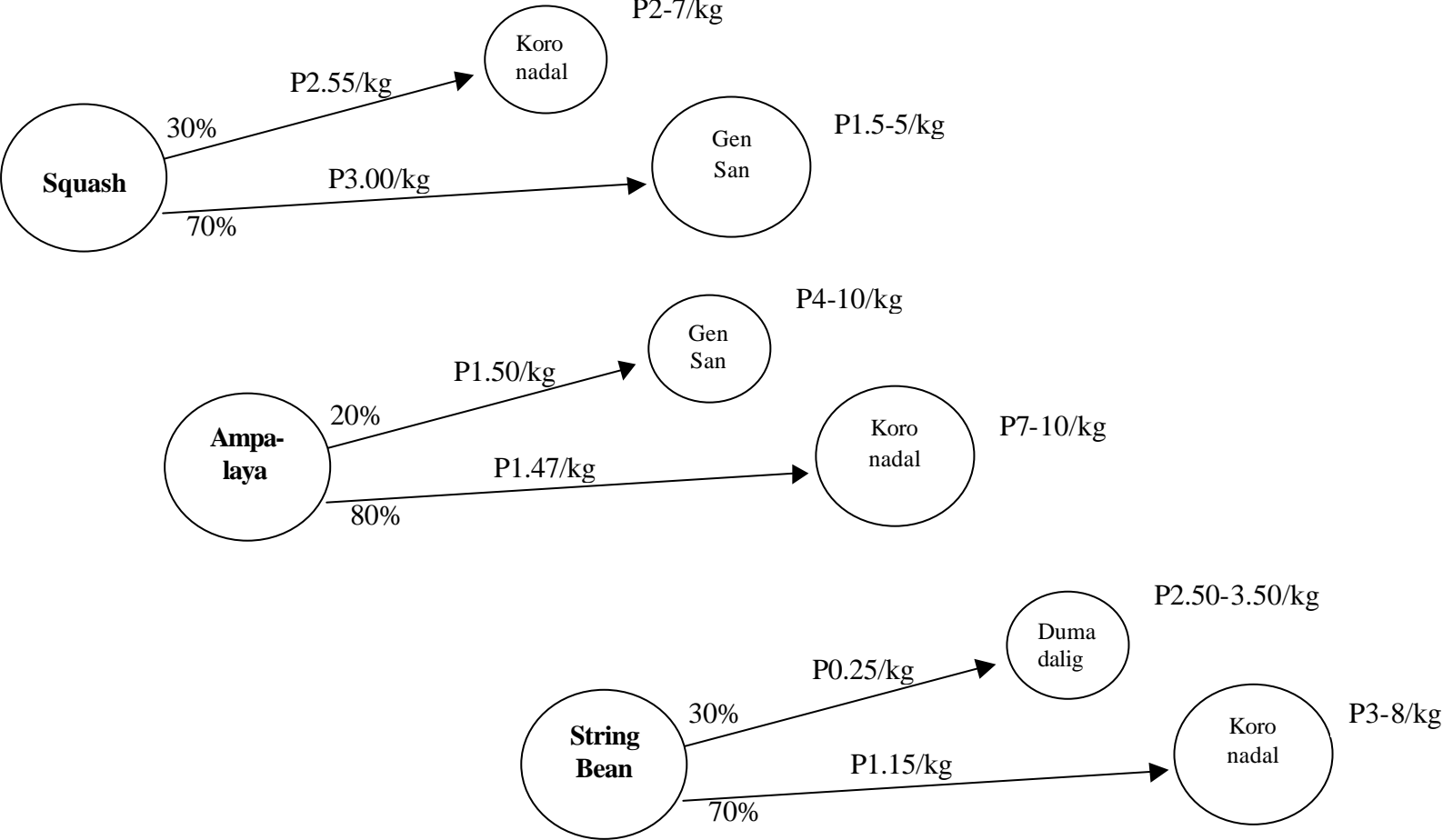
**Figure 13. Vegetable Producers
Production Cost and Yield**



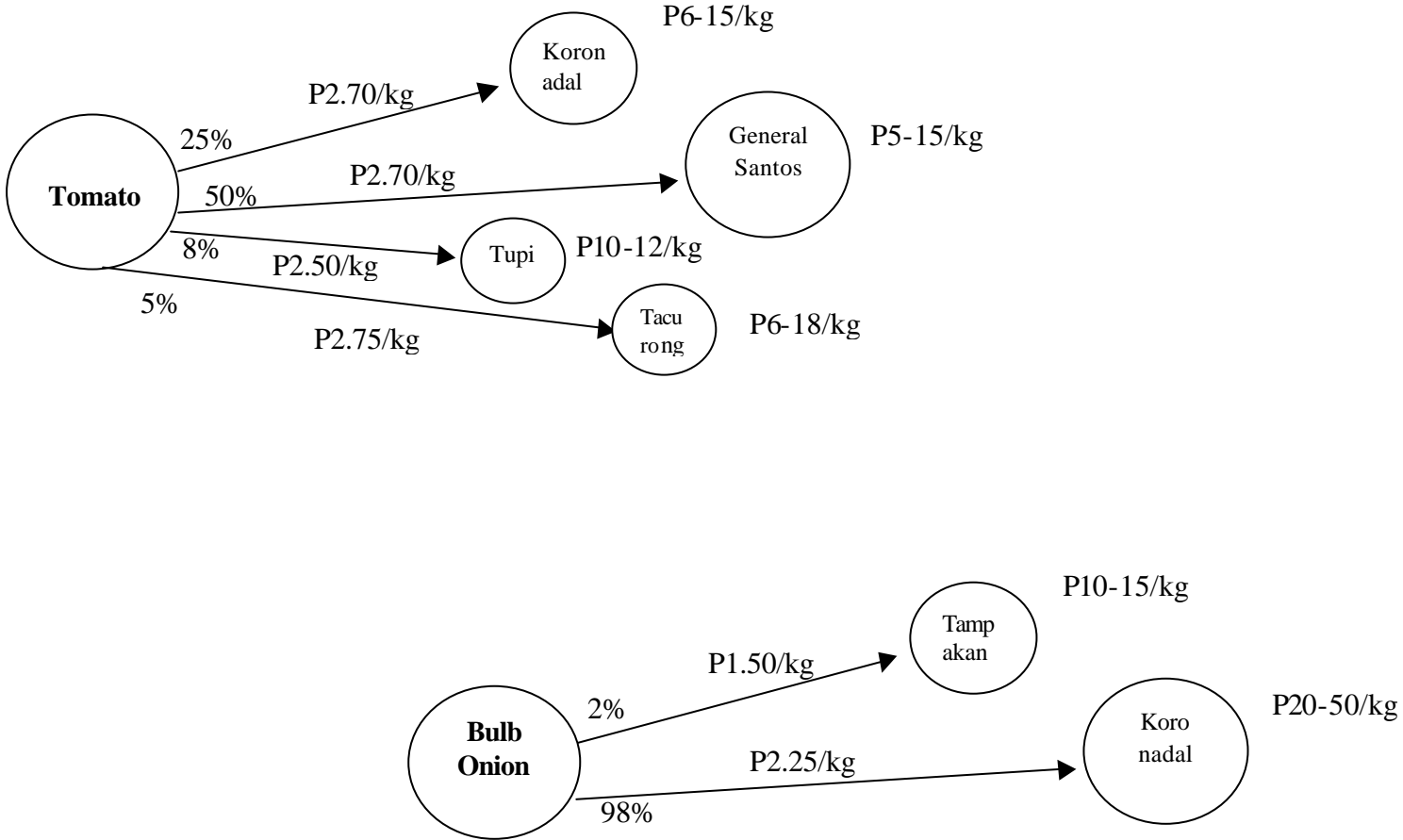
Vegetable Commodity Flow
UDP Vegetable Farmers



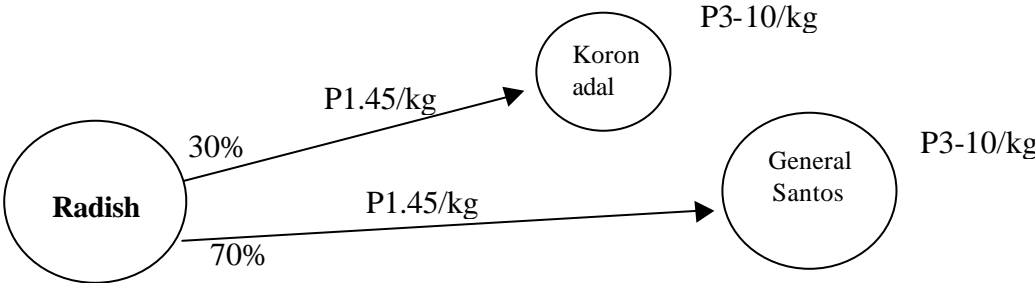
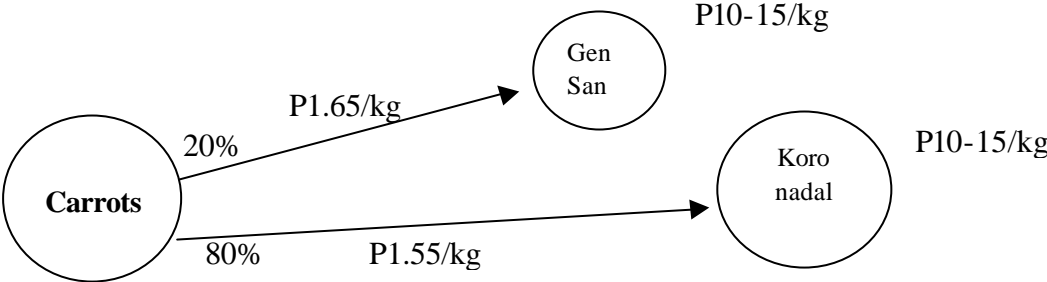
Vegetable Commodity Flow
UDP Vegetable Farmers



Vegetable Commodity Flow
UDP Vegetable Farmers



Vegetable Commodity Flow
UDP Vegetable Farmers



Vegetable Commodity Flow
UDP Vegetable Farmers

