

# **DOES SIMPLE MARKETING TECHNIQUES APPLICABLE TO FARM GATE LEVEL OF UP-COUNTRY VEGETABLES?**

## **A CASE FOR WELIMADA AREA, BADULLA DISTRICT**

*Imali N. Fernando*

*Lecturer, Faculty of Management*

*Uva Wellassa University, Badulla, Sri Lanka*

[pimalifernando@yahoo.com](mailto:pimalifernando@yahoo.com)

*Sandya Nilmini*

*Lecturer, Faculty of Science and Technology*

*Uva Wellassa University, Badulla, Sri Lanka*

[sandya\\_nilmini@yahoo.com](mailto:sandya_nilmini@yahoo.com)

## **INTRODUCTION**

Diverse agro-ecological regions of Sri Lanka are well suited for the cultivation of different kinds of vegetable crops. There are two main groups of vegetables grown in Sri Lanka based on the agro-ecological adoptability. The upcountry (hilly areas) vegetables constitute crops such as cabbage, carrot, beetroot, cauliflower, knolkhol, bean, tomato, potato and capsicum which are grown on a commercial scale with high input use. The other group constitutes the low-country (plains) vegetables, which include brinjal, bitter gourd, pumpkin, luffa, cucumber, snake gourd, okra, sweet potato, long beans, wing beans, ash plantain etc. which are cultivated less intensively under low input systems. Additionally leafy vegetables are grown across the country, mostly in home gardens and have an important part in the Sri Lankan diet. Vegetables such as bell peppers, tomato, and salad cucumbers are also grown under intensive culture under protected agricultural systems mostly for the hotel industry and exports.

Vegetables are an important component of the daily diet of the people in Sri Lanka, (which is only next to rice as that of many Asian countries) and the aggregate demand for vegetables has increased rapidly with increasing population. With increasing of consumer demand, the producer supply should adjust to create an equilibrium for the determination

of market price. However practically, majority of the upcountry vegetable farmers are still not receiving a fair market discovered price for their produce even to cover their basic production costs. Fresh vegetables move from producers to consumers through a complex web of marketing organizations, many of which are outmoded and inefficient. Normally vegetables move through at least two, and at times as many as four, wholesale facilities. (Jumper,1974). The structure of the traditional vegetable supply chains is such that there are a large number of intermediaries – vegetable collectors, transport agents, commission agents etc. between the producer and the consumer.

Agricultural value added business requires a combination of techniques or methods to provide a competitive superior advantage to customer to take the superior value in return to the producer.

### **BACKGROUND OF THE RESEARCH**

Uva province is one of the poorest provinces in Sri Lanka with nearly 70 percent of the population engaged in agricultural activities (Table 1 . It consists of two hilly districts of Badulla and Moneragla, with relatively dry climate through out the year. Nearly 69.4% of the rural population in the province depend on agriculture for their livelihood ( Department of Census and Statistics, 2007).

Uva province recorded the highest percentage of people in the poverty line for year 1990-91, 1995-96 and 2002 survey periods (table 1). This reflects that the poverty elimination by upgrading the income of the rural population is a major development goal in the province. However, the poverty line in 2002 declined by 21% as compared to earlier survey periods .

**Table 1- Poverty Line of Different Provinces (Percent of population) ,Sri Lanka**

Province	Survey period		
	2002 (%)	1995/96 (%)	1990/91 (%)
Western	9.2	13.0	15.6
Central	20.8	31.3	25.8
Southern	23.6	27.0	24.7
North Western	22.3	23.6	21.6

North Central	18.1	20.4	20.4
Uva	31.8	40.2	27.0
Sabaragamuwa	28.9	36.1	26.8

Source : Department of Census and Statistics, 2003

According to the Department of Agriculture in Uva province, Bandarawela and Welimada areas are popular for up-country vegetables such as potato, cabbage, carrot, bean and tomato and other vegetables. Most of the farmers in hill country derive their primary income from vegetable farming with majority of them living below or within the poverty line (Dept of Census and Statistics, 2007). One of the major reasons for the poor income derived in agriculture is the farmers lack of awareness of value addition for their vegetables such as grading, sorting, cleaning, transport and better packaging for product quality .This also increases their marketing margin with the middlemen in the market supply chain.

The available estimates of the gross marketing margins suggests that these values are relatively high given the fact that that most of the vegetables are marketed in an unprocessed form without costly preparations for sale. It has been estimated that the gross marketing margin for sixteen vegetables were above 50%.( Gunawardena, 1981) Accordingly the net price received by the producers were below 50% of the consumers retail price. The highest proportion of the gross marketing margin is absorbed by the retailers and not by the producers itself. This may due to high overhead costs of retail operators.( Gunawardena, 1981) on the other hand, the transparency in the transaction between the buyer and the farmer is relatively low among traditional vegetable supply chains. The commission agents tend to quote a price to the farmer which is lower than the price for which the vegetables were actually sold at the wholesale market. (Perera *et al.*,2004)

Competitive advantage from farming is a strategy that can practice by farmers. It may come from being able to sell at the lowest price due to economies of scale, having a monopoly or being among the first to produce or market in a new way. Most farmers are not in a position to find advantage in the first two ways but they adopted into the third method.(Born,2001) Thus farmers are producing new crops and new products, practicing

new harvesting methods and farming practices and experimenting with alternative marketing methods.

Unawareness of this competitive advantage may lead to earn very low percentage from their equity invested by vegetable farmers while other parties throughout the vegetable marketing chain earns large share from their investments. The differentials in prices between producer, wholesaler and retail markets are considerably higher than the transport costs, handling charges and wastage plus the commission retained. The post-harvesting losses may also play a main role. These losses are caused by pests and diseases, inadequate sorting, grading and cleaning, rough handling on storage and during transportation and lack of packaging materials for storage and transport of vegetables.

Consumers in the market are always expecting better, nutritious, fresh and hygienic quality vegetables and fruits for their daily consumption. If they can get them for an affordable price, then it automatically create a specialized market for the farmers. Development of the food service sector and tourism creates a niche market for “value added products” specially for organic vegetables and fruits.

Theoretically the primary demand for vegetables is initiated from consumers in retail level, retailer’s demand from wholesalers and wholesalers demand from producers. It is the derived demand for farmers/producers. But in practice, the pre-determined prices at the wholesale level form the fundamental basis of price formation at other levels (Purcell, 1997). This may lead to create a practice of most wholesalers to underpay the producers or pay the price of the lowest grade. In most times, price paid to the producers may vary depending on the following factors such as

- Volume and quality of vegetables
- Perishability
- Number of producers and traders at a particular market place
- Large supply during harvesting season
- Producers urgent financial needs and unawareness about formal financial institutions
- Relationships, bonds and agreements between producers and traders
- Lack of information regarding prices and demand
- High margins kept by the brokers and agents at the farm-gate

## **RESEARCH PROBLEM**

Even competitive advantage is short-lived and is a strategy practiced by the farmers. For example, adding value to vegetables at farm gate level by cleaning and grading of vegetables to organic farming. Identifying a niche market is a recently developed innovative method, which lead to selecting a specific group of consumers and targeting them in the marketing effort. High value new domestic markets such as supermarkets, tourist hotels and food service industry and foreign markets have made a sustainable niche market in recent years to vegetable growers. This may lead to increasing the producer income as it increase the “price” of the end product through product differentiation. The following marketing methods can be stated as examples of product differentiation

- Grading and standardization : signals the quality and leads to price differentiation in the market
- Sorting and cleaning: leads to make a sense of a quality and freshness of the product. Sometimes sorting vegetables are essential in some markets such as in hotels and food service industry ie. baby corn, baby carrots, large potatoes and capsicum for decorating salads
- Packaging and transportation: leads to minimize the wastage and preserve the perishability.
- Organic farming : it specially focusing a niche market sector

Hence the research problem could be expressed as ;

Does simple marketing methods are applicable to farm gate level of up-country vegetable farmers? Do they apply even those simple differentiation methods that they could earn a comparably higher income?

## **RESEARCH OBJECTIVES**

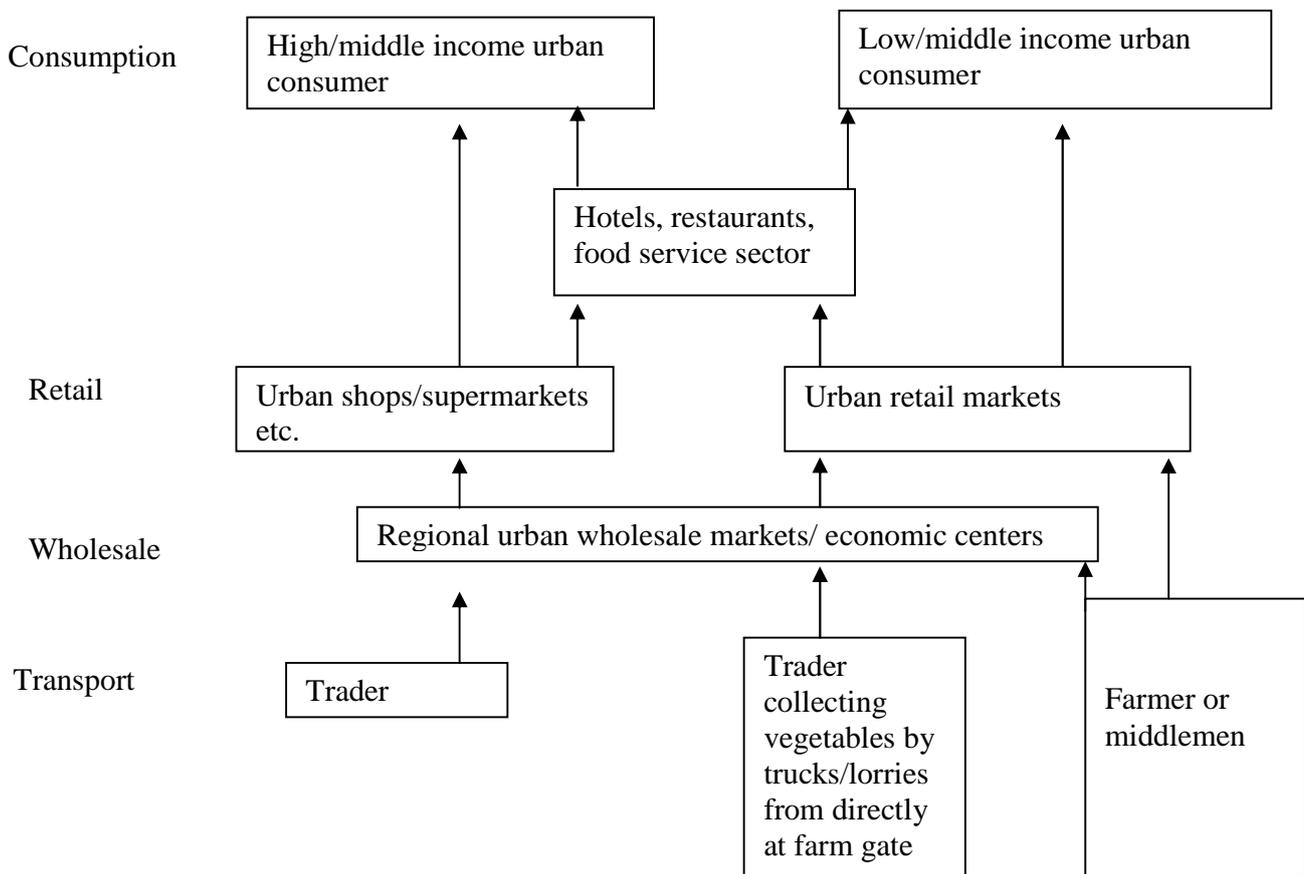
The general objective of this study is to identify the simple marketing techniques that could be applied by up-country vegetable farmers and their nature of adaptation those methods.

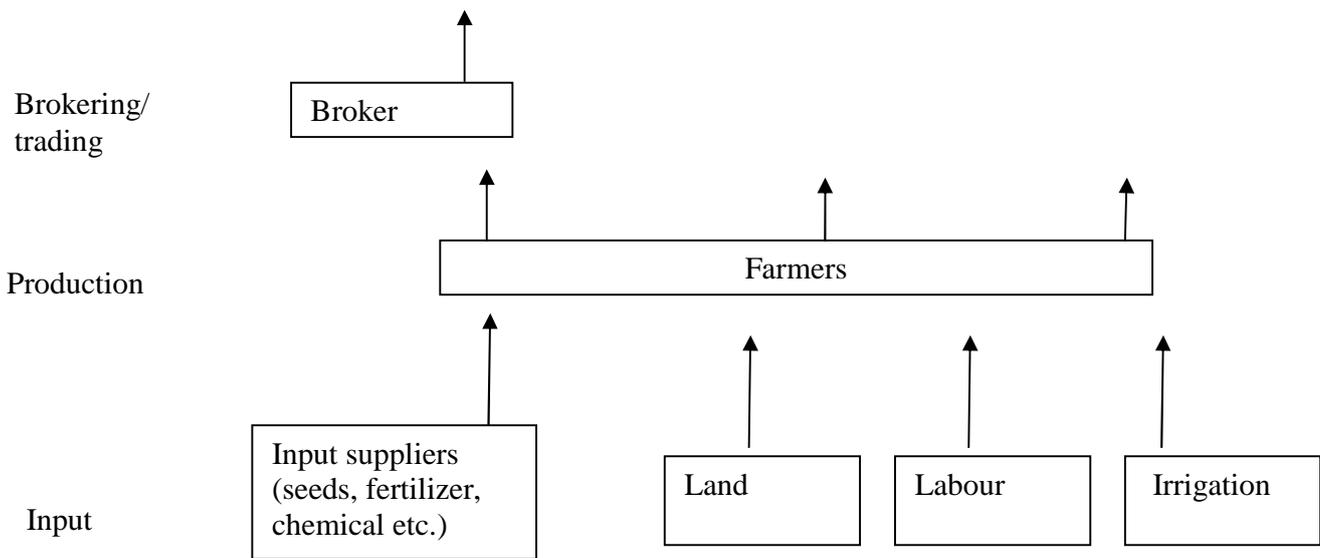
The specific objectives are as follows.

- To identify simple marketing methods which are currently used by up-country vegetable farmers and nature of their adaptation
- To investigate that how the simple marketing methods for vegetable crops would increase the farm gate level income of farmers in border sense.

The holistic picture of a vegetable marketing chain can be illustrated as in Figure 1 below. Several intermediaries are between the producer and final consumer with the marketing margin being distributed among them. This signals the importance of farmer associations, bargaining centers and the mechanisms required for information delivery.

**Figure 1 : Vegetable Marketing Chain**





## LITERATURE REVIEW

In the cool highlands, monocropping, multicropping and relay cropping are practiced in vegetable production. (Ranaweera *et al.*, 2000) The cropping intensity and the level of technology adoption is high, often with overuse of inputs. According to past studies, the upcountry vegetable growers are competent and marketing of inputs and vegetables is well organized. (Ranaweera *et al.*, 2000,) But the lack of marketing information and lack of organized marketing system, lead to low farm gate prices and profitability for the farmers.

The returns from cultivation is the main reason for the farmers to engage yet with some traditional vegetable crop farming. According to the study in returns from vegetable cultivation for 1992-93 period (Department of Agriculture, 1994), in maha season the cost in Carrot production is Rs. 5.24 while the average retail price is Rs.10.50/kg. Carrot recorded a benefit cost ratio of 1.0 as compared to 1.60 for pole beans, 0.79 for potatoes and 1.29 for tomato respectively. (Ranaweera *et al.*, 2000)

Vegetable marketing in country is primarily handled by the private sector. According to the study, there are four vegetable marketing middlemen in vegetables:

- Assembly agents: agents or brokers who collect the produce from farmers for the trucker-buyer or commission agents. They usually keep about 5% market margin.

- Trucker-buyer: traders who come in Lorries and purchase the produce through the assembly agents or direct from the producers.
- Commission agents: wholesale traders at major wholesale markets who sell vegetables for farmers on assembly agents on a commission basis.(normally 10 margin )
- Retailers : retail traders who sell vegetable in stalls, general grocery shops and at the road side.

Although there are very simple market functions and services that is required , some methods are still ignored by the farmers. For example, most farmers do not clean their produce before selling and its only limited to removal of spoilage and visible extraneous matter. (Gunawardena,1992).

In some upcountry areas some farmers have formed societies, and these society members grade their vegetables before selling for higher prices. In macro level analysis, marketing margins in vegetable trade varies from 31% to over 70% (Ranaweera *et al.*2000). Micro-level studies on marketing margins showed that producers receive a margin of less than 50%, and the marketing margin varies from market to market for the same commodity .

To be competitive, the vegetable processors must keep unit costs low, and hence large organizations normally do the processing to get the competitive advantage. Many small scale farmers find difficult to compete with the large organizations in processing vegetables and have gone out of business. Processing of vegetables increase the farm-gate level prices of the producers, although it reduces some margin from intermediaries. Before processing , farmers ( specially small-scale ) should obtain information on identifying potential customers and determine the geographical area where they need to market their fresh produce, assess the level of unfulfilled demand among consumers within a defined marketing area and consider the competitive structure of the market. Marketing innovations or tapping into new niche marketing areas lead to an increase in the producer margins. Here the marketing information on market demand, customer expectations etc. plays a major role.

In general, farmers always respond to future expected prices. This behaviour can be explained in the “Cobweb Therom”. This results in low income for majority of farmers.

Existence in large marketing organizations may be advantageous or disadvantageous for the farmers. Most of large marketing organizations represent varying degrees of vertical integration, reaching back as far as possible towards the farm, and in some cases attempting to take over all the functions of processing, distribution and marketing between farmer and the consumer (Waugh, 1936). However in some cases those organizations lower the farm-gate prices that farmers are getting and may greatly weaken the bargaining power of the farmer.

The supply chain intermediaries/organizations may be traditional, complex and inefficient. The vegetables are marketed in unprocessed form without costly preparation for sale by farmers. Gunawardena (1981), reported that the gross marketing margins for sixteen vegetables were above 50%, varying from 56% for beans to 84% for radish. The net price received by the producers was below 50% of the consumer's price. In Sri Lanka vegetable marketing is functionally inefficient in view of high market margin, wastage of produce, technical inefficiencies and transport methods.

It is justifiable that proper market information helps to improve the bargaining power of farmers at the spot markets. The problem getting worse because vegetable production in hilly areas is the major income source for majority of farmers. (Rupasena *et al.*, 1999) Transportation as well as other infrastructure problems lead to weaken the farmer in bargaining process, while it creates middlemen more strongly. Although analysis of marketing margins revealed that farmers' share in the consumer rupee was about 50% and huge margin was captured by retailers due to small scale business. (Rupasena *et al.*, 1999)

The lack of marketing information on pricing and preferences leads to very low farm-gate prices. Sometimes farmers neglect the simplest things regarding customers' expectations. Nature of the competition is also in favour of intermediaries. Up-country vegetable production is mainly carried out by family members on small plots of lands located in remote areas under rain-fed conditions. (Rupasena *et al.*, 1999) Even though there is competition among the traders (real buyers) at the producer level during slack periods of production, the advantage of such competition is taken more by the brokers than by the producers (Gunawardena, 1981). Most of the producers are in a weak bargaining position, rather than other parties. This happens specially in peak harvesting periods because it increases the supply side abnormally rather than demand. The insulated and scattered nature of producer markets enables the traders to maintain a particular price level at a given market, although differential prices may exist at different markets. (Gunawardena, 1981)

This also enable other brokers and intermediary parties to take advantage of differential prices prevailing at different markets. The transparency in the transactions between the buyer and the farmer is relatively low in traditional vegetable supply chains. ( Perera *et al.*,2004) This tend to pay a lower price or the price of the lowest grade to farmer. Sometimes the intermediary parties reduce a certain amount of the weight, stating that the vegetables have been damaged and dehydrated while being transported. Here the competitive advantage goes to intermediary parties than for the producer. Also in the traditional chains , quality signals are not being passed down to the producers. This neglects the competitve advantage in marketing.

Excessive and direct public sector invlovmnt retards the evolution of domestic vegetable marketing systems in country. Thus seeking a better balance in public and private sector involvements is a critical need. (Abeysekera et al.,2007) The improvements or reforms in the marketing system could come from private enterprise, farmer group action or by the government. (Gunawardena,1981) There is also a possibility for development in SME's or farmer group association to reform existing marketing system to upgrade farm-gate income to producers.

## **RESEARCH METHODOLOGY**

### **Sampling methodology**

➤ Based on the statistics available with the Department of Agriculture, the following 5 crops can be considered to be main crops grown by a larger proportion of the up-country vegetable producers in those two areas namely,

- Potatoes
- Beans
- Capsicum
- Carrot
- Tomato

- Uva province is divided into two districts as Badulla and Monaragala. Most of up-country vegetable farmers are located in Welimada area in Badulla district and has chosen for the study. Cultivation practices, for all practical purposes, can be considered homogeneous. Because of all selected vegetables are cultivated in each Govijana Seva sectors. Of the 10 Govijana Seva sectors, six were selected randomly for the first stage of the survey (Table 3).

The sample was distributed equally among the six selected GS Sectors. Within each area the sample of 20 farmers was selected at randomly.

*Table 3 GS Sector selected and farm gate sample sizes*

GS Sector	Sample Size
Dambavinna	20
Kotawera	20
Uva Paranagama	20
Boralanda	20
Ambagasdowa	20
Keppetipola	20
<b>Total</b>	<b>120</b>

## **Research Design**

- Survey method will include in collecting production and marketing information from the respondents using a structured questionnaires for personnel interviews of sampled farmers

A single-visit, sample-survey technique with a questionnaire was used to collect the required information from the farmers. The questionnaire was retested in the Kumbalwela GS sector as pilot survey and revised again. It's included following main sections:

- Socio-economic background of the cultivators,
- Information related to the cultivation of vegetable
- Utilization of vegetables, production and marketing, marketing channels and farm gate prices

- Application of value added methods when selling vegetable (grading by quality, sorting by size, sorting by variety)
- Type of selling( whole sale, retail sale or other ways) with applying of value added methods
- Constraints faced by farmers in selling vegetables
- Farmers' views on improving the cultivation and production of vegetable

### **Data collection**

- Primary data collection by using survey method with vegetable farmers and other parties involved in vegetable marketing chain in Welimada area
- Secondary data from various Agriculture Marketing Institutions, Agriculture Department, Research Institutions , Central Bank Report, Department of Census and Statistics and other related institutes

### **Data Analysis**

Descriptive Statistics (Summary measures) have used to analyze the qualitative data. Furthermore coefficient of variance has used to determine variation among the selected vegetables. t- test has used to find out the significance difference between vegetable prices.

## **DATA ANALYSIS AND INTERPRETATION**

### **Socio-Economic Background of selected Areas**

#### **Family Information**

The average family size of vegetables-cultivating farmers in Badulla district is 5.8 persons. Among them most of them are male (77%) in every GS sector. In some cases wives are working as part-time basis on the farm while attending to household work as well. In addition to the farmer and his wife with adult children are worked on the farm.

Some farmers, who are working full-time on the farm, engage in some other employment as their extra income source. This is possible due to differences in the nature and time-frame of their work. Most of those who have outside employment work as mainly animal husbandry, paddy cultivation, mushroom production and selling woods.

*Table 4 Age Level and Education Level of farmers*

*Unit: % of Farmers*

GS Sector	Age Level				Education Level		
	31-40	41-50	51-60	61-70	Primary	Up to grade 8	O/L or Higher
Boralanda	10	30	40	20	35	40	25
Keppetipola	12	35	36	17	27	57	16
Kotawera	20	40	30	10	25	40	35
Dambavinna	20	40	25	15	0	45	55
Uva Paranagama	20	50	20	10	10	40	50
Ambagasdowa	10	40	40	10	58	32	10
<b>Average</b>	<b>15.3</b>	<b>39.2</b>	<b>31.8</b>	<b>13.7</b>	<b>25.8</b>	<b>42.3</b>	<b>31.8</b>

Most of the farmers are more than 40 years old in these considerable areas. Nearly two-third (65%) of the farmers in these areas has received an education up to the grade 8, among them some of them are none educated. O/L or Higher has been received by 35% of farmers, who are younger than others. In Badulla district most of farmers are not well educated because of various reasons.

*Table 5 Farmers Experience in years*

*Unit: % of Farmers*

Area	10-20	21-30	31-50
Boralanda	40	35	25
Keppetipola	47	36	17
Kotawera	48	32	20
Dambavinna	55	35	10
Uva Paranagama	50	30	20
Ambagasdowa	30	40	30
<b>Average</b>	<b>45.0</b>	<b>34.7</b>	<b>20.3</b>

Most farmers have more than 20 years experience about their field work. This implies that they have started cultivations from their childhood. Most of them are not cultivating only vegetables, but also depending on the seasonal prices, they go for paddy farming.

### Information of Land Usage

Most of them are cultivating their own land in each and every area and very few have rented or leased land. They were engaging in agricultural activities from their tradition as well as their major income source. Other than that they do not have any knowledge about other fields. But Kotawehera GS area situation is different from the other areas because of most of farmers are used rented or leased lands (75%). Since they are not real owners of the cultivated lands, the farmers rarely apply the marketing techniques.

*Table 6 Availability of Own Land  
Farmers*

*Unit: %*

Availability of Own Land	GS Sectors					
	Dambavinna	Kotawehera	Uva Paranagama	Boralanda	Ambagasdowa	Keppetipola
Yes	80	25	78	85	65	73
No	20	75	22	15	35	27

The size of land holding varies from area to area within the district. Considering the availability of all land, the average extent of a farm size in the survey area is 0.55acre. On Average the highest amount of the total land use for potato (0.69 acres) and carrot (0.66 acres) cultivation in the selected areas. Most of the areas farmers are practicing inter-cropping system. That is the total land area used by the farmers for the cultivation of the all crops (carrots, beans, capsicum and tomatoes). But in Dambawinna and Uva Paranagama areas most of them preferred to cultivate tomato and beans (55%) than other crops. Further more most of the farmers are cultivating carrot(72.5%). Each and every area few of them are doing capsicum (35%) cultivation. Because of climate conditions are not more suitable for capsicum cultivation in this area and high cost of cultivation.

Graph 1 Usage of Land (in acres) for Selected Vegetables

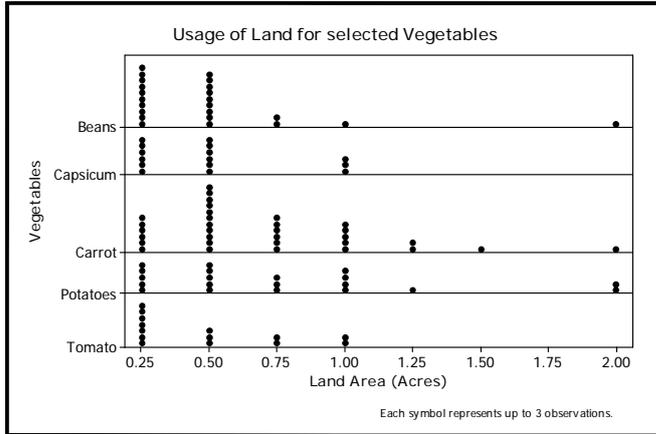


Table 7 Descriptive Statistics for Land Usage in Selected Vegetables

Vegetable	No. of Farmers	% of Farmers	Mean	Standard Deviation	Coefficient of Variation (CV %)
Beans	62	51.7	0.45	0.278	61.7
Capsicum	42	35.0	0.48	0.261	54.2
Carrot	87	72.5	0.66	0.353	53.2
Potatoes	53	44.2	0.69	0.474	67.9
Tomato	37	30.8	0.44	0.259	57.8

### Ways of marketing Vegetables

In order to obtain an insight on this topic, the way of selling products is more important. Here four main distinct methods of marketing Vegetables are identified in Table 8. The prevalent method is the transport of Vegetables by the farmers to the traders both inside the village and at the bazaar. In certain GS areas, farmers sell to the Keppetipola Economic Center (KEC) and wholesale traders directly come to the farm gate. The second method is to sell Retail traders who are directly come to the farm gate. The third method is to sell to the collecting agents who come to the farm. The fourth method is to take the produce to the local fair and sell it to customers, who often come from outside the area to collect vegetables.

Table 8: Ways of marketing Vegetables  
total productions

Unit: % of

Methods	Boralanda	Kotawera	Dambavinna	Uva Paranagama	Ambagasdowa	Keppetipola

Wholesale traders directly come to the farm gate	30	55	60	62	75	58
Retail traders directly come to the farm gate	40	35	25	-	12	20
Collectors directly come to the farm gate	25	5	5	28	13	12
Sell to the consumers	-	5	5	10	-	10
Other ways	5	-	5	-	-	-

Most of the farmers sell their products through the wholesalers in every area .That imply whether wholesale traders directly come to the farm gate or they sell to wholesale traders at KEC. A majority of farmers have reported that transport facilities are the main constraint they face in the marketing process. They also complain that the prices they receive are not adequate and little bargaining takes place to decide the prices.

### **Application of simple marketing Methods before selling Vegetables**

Under this study following marketing based value addition methods was identified which were adopted by some farmers.

- Grading by quality: super grade, good, medium & perishable
- Sorting by size: Large, medium & small
- Sorting by variety
- Cleaning
- Packaging and labeling
- Other marketing methods
- Farming practices – Organic farming, Green house and poly tunnels

*Table 9: Application of Value Added Methods  
farmers*

*Unit: % of*

Value Added Methods	Kind of Vegetables				
	Potato	Beans	Capsicum	Carrot	Tomato
Grading by quality	23	24	35	36	45

Sorting by size	45	18	33	38	44
Sorting by variety	5	15	-	-	18
Cleaning	23	12	18	37	23
Packaging and labeling	55	45	54	46	65

Some vegetables are consumed by all the farmers. All surplus vegetables are sold immediately after harvest without adding much more value added methods. Only few farmers apply above mentioned value added methods and basically, majority of farmers apply those techniques for tomatoes and potatoes. The most widespread method of grading as super grade, good and perishable wise as well as sorting as large and small way. Sorting by variety was not applied by most of the farmers. But sorting by variety is applied in most time for potatoes, beans and tomatoes.

### **Grading**

Primary Level private traders usually pay a flat rate the produce and are not particular about grading. Therefore, the farmers also invariably avoid any grading. Although they realize an addition price advantage by this method, farmers generally receive the price of the lowest grade.

The study reveals that a systematic grading of vegetables is very seldom done. The little grading done also is depending on individual preferences. More than 50% of the customers are willing to pay a premium price for a graded and a uniform product. Therefore, it was concluded that grading increases the competitiveness of the growers of the district.

### **Packaging**

A very poor feature seen throughout the district is the usage of inappropriate packing material and packing methods. Designing and producing a container is not done according to a plan. Other than a few larger growers in the district, other farmers are not maintaining packing stations. The farmers usually use gunnies (for Beans, Capsicum and Carrot) and wooden boxes (for Potatoes and Tomatoes) to pack, although some vegetable are merely tied into bundles and dispatched to markets. Farmers try to minimize the cost of containers by packing the maximum possible weight in a container, while the traders and transport agents usually load the maximum quantity of containers into one vehicle to economize on transport costs. That why most vegetables are perishable while transport from farm gate to market. This is much effect on intermediates but ultimately the effect will pass on to the consumers.

### **Transportation**

The road structure of the area is poor. Vehicles coming from rural areas take a long time to reach main towns. Transportation of vegetable produce in old and rugged Lorries is a common sight in the district. Breakage of containers, inefficient working methods, unnecessary movement of produce, rough and too much handling, careless loading & unloading and use of inappropriate packing material are very common in every part of the district. People involved in transport of vegetable produce do not seem to understand that care in above can bring about reduction of marketing costs.

### **Effect of Greenhouses and Poly Tunnels**

Some of the farmers used green houses and poly tunnels for tomato cultivation. Those farmers were obtained, fixed amount of price per kilogram as Rs. 60.00. Therefore uses of those methods are more profitable than other traditional methods due to high quality of the crops. Those farmers were obtained more profit than traditional framers who are cultivating tomatoes, because of high quality. But the initial financial needs to start poly-tunnels mat limit the access of using such methods by farmers. But its clearly see that there is a great demand for those crops by Super markets and other food sector organizations, Hotels for decorations etc.

### **Appling Organic Farming**

When producing agricultural products, organic farming plays a major role as it reduces the cost of production. Under the study Uva Paranagama farmers apply organic farming which is prepared by them, while other areas majority of farmers do not apply it. Because of Uva Paranagama Govijana Seva Centre conducted program for farmers to improve their knowledge regarding the organic farming. This implies that the awareness of farming practices and government supports for executing them may provide positive results. In Uva Paranagama, it could see that some farmers may involve with niche marketing activities with some super markets. They directly come to the farm gate and buy the product from the farmer.

*Table 10 Appling Organic Farming  
Farmers*

*Unit: %*

Appl y	Uva Paranagam a	Dambawinn a	Ambagasdow a	Boraland a	Kotawer a	Keppetipol a
Yes	85	15	25	35	15	23
No	15	85	75	65	85	77

**Comparison between farmgate, wholesale and retail level crop prices with and without grading and sorting**

*Table 5.14: Comparison between farmgate, wholesale and retail level crop prices with and without grading and sorting*  
Unit: Rs./kg

Prices	Beans	Capsicum	Carrot	Potatoes	Tomato
Farm gate	30.00	55.00	32.00	40.00	15.00
<b>Wholesale price</b>					
Without applying grading and sorting process	53.88* (0.11)	67.90* (0.50)	44.90* (0.06)	44.00 (0.48)	21.50 (0.78)
After grading and sorting process	68.00* (0.26)	74.90* (0.014)	50.00* (0.79)	46.00 (0.49)	23.00 (0.81)
<b>Retail price</b>					
Without applying grading and sorting process	79.60* (0.50)	81.50* (0.44)	55.00* (0.56)	58.00 (0.54)	35.00** (0.44)
After grading and sorting process	86.90* (0.014)	91.00* (0.08)	68.00* (0.87)	60.00 (0.64)	45.00** (0.34)

Note: \* significant at 1% level; \*\* significant at 5% level

Standard errors are in parentheses.

According to the above analysis, Beans, Capsicum and Carrot reflect a significant difference between applying and without applying the simple marketing methods as Grading and Sorting in both retail and wholesale level. This further explains there is no significance difference between both wholesale and retail prices on Potatoes and Tomatoes by using the methods as Grading and Sorting. But however, there is a difference between applying Grading and Sorting to the Tomatoes only in retail level at 5% significance level.

This implies that there is a potentiality to apply those methods by the farmer at the farm gate level, to derive a comparably higher income rather than selling in bulk. Accordingly for Beans, Capsicum and Carrots, the significant difference is there by grading and sorting the produce at retail and wholesale level. This signals the potentiality to farmer, to apply those simple techniques, in some extent at the farm gate level for the crops of Beans, Capsicum and Carrots. This can cause to get a higher proportion from the marketing margin, rather than he getting presently, as selling bulk produce for a fixed price.

## **CONCLUSION AND RECOMMENDATIONS**

According to the present selling practices, still vegetable farmers are depend on the traditional methods such as selling whole cultivation to the whole sellers or retail traders who come close even to the farm gate. At the same time most of them are not aware of the value addition methods and simple marketing methods such as grading by quality, sorting by size or sorting by variety. They do not have proper knowledge regarding the implementation of above value addition methods as well as they are doing agricultural activities as their traditional income source.

When consider about the application of new farming techniques such as green house farming, poly tunnels or organic farming, uses of these techniques are very low. Although some of them may apply organic farming it's also not in the considerable level. To engage with the modern techniques they need to have better knowledge and also they need large amount of initial capital.

Distribution channels of the agricultural products should be able to deliver the product within the limited time space, because most of those products are perishable. Also intermediary involvement is much higher in those channels and because of that reason farmers are not allow for getting the higher benefit from their farmer produce. Most of the portion from marketing margin goes to the intermediaries.

Thus it's recommended by being selling the bulk produce to the wholesalers or collectors, if a vegetable farmer could apply simple marketing methods as Grading, Sorting, cleaning and if it's possible, some packaging and labelling, it will increase his farm gate level income. Also by initiating farmer societies among the vegetable farmers will increase their bargaining power. The government and Agricultural department support is also important factor. Organize programmes about new crop varieties and techniques, new farming techniques, providing financial facilities to initiate new farming methods as Ploy tunnels and Green houses and specially improve the transportation facilities are highly recommended.

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