AGRARIAN RESEARCH & TRAINING INSTITUTE

ECONOMICS OF VEGETABLE PRODUCTION AND MARKETING

A CASE STUDY OF 4 VILLAGES IN PALUGAMA (WELIMADA)

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A Case Study of 4 Villages in Palugama (Welimada)

by

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PREFACE

The area of agricultural marketing is one of the weakest links in the production structure in Sri Lanka. The problems associated with the marketing of an annual crop such as paddy have received the special attention of the Government through the establishment of the Paddy Marketing Board. In regard to vegetable marketing however, due to a multiplicity of factors the producer has never been able to obtain a fair price for his produce while on the other hand the urban consumer has always been called upon to pay high prices.

The ARTI in order to understand the practical problems faced by the farmer in marketing his vegetables made use of two of its young research officers to institute a study on problems associated with the production and marketing of vegetables in a principal vegetable producing area. The two officers have had the benefit and guidance of some of us in the Institute and from outside. Though the study may not be complete in itself it is hoped that it will throw some light on some of the basic problems relating to the marketing of vegetables and thereby pave the way for remedial action to be taken at the highest levels.

The authors of this study acknowledge with thanks all those who helped them in their study. They are particularly grateful to the Government Agent, Badulla, the local extension staff of the Department of Agriculture, and other officials of the Department of Agriculture, Marketing Department, and the Co-operative Department, and above all, the farmers of the Palugama area for their active co-operation and assistance in enabling them to undertake this study and complete it within a period of six months.

Director

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INTRODUCTION

The Problem

The agricultural production programme of the Government of Sri Lanka places considerable emphasis on the production of vegetables. The main objective of this programme is to provide adequate supplies of vegetables to consumers in urban areas, particularly in Colombo. The best way to achieve this objective would be to concentrate on developing cultivation in a few selected districts in the island such as Kandy, Nuwara Eliya, Badulla etc., where cultivation takes place on a commercial scale. The successful implementation of a programme to increase production of vegetables on a national scale is largely dependent on providing suitable channels for marketing the produce and in ensuring that the producer and not the middleman will be the principal beneficiary.

It is often stated that while the consumer pays very high prices for vegetables the producer has to undergo many difficulties both with regard to production and marketing. These include recurrent low prices, inadequate and unsatisfactory marketing channels and the high cost of the input materials - all of which generally tend to place the producer at a disadvantage. A widely prevalent notion is that the private marketing agencies ('middlemen') are mainly responsible for this situation and that they obtain exorbitant profits by exploiting both the producer and the consumer. Although the problems faced by the producer and consumer could be partly attributed to the perishable nature of the product, it is essential to ascertain what other factors have led to this situation. Up to now very few attempts have been made to study the varied aspects relating to the production and marketing of vegetables in Sri Lanka. In the context of the recent measures taken to step up domestic food production, production of vegetables too has to receive a new impetus and a study of this nature is therefore timely and useful.

One of the most important commercial vegetable growing areas in Sri Lanka was chosen for this Study and an attempt has been made to ascertain the structure of marketing systems operating in this area with a view to identifying the major problems faced by the producers in marketing their produce. As production and marketing of vegetables are so closely interlinked it is not always meaningful to draw a distinction between these two aspects. *Consequently, an attempt has been made to analyse the production process in fair depth in order to understand both the production and marketing problems faced by the grower.*

Objectives of the Study

This study is aimed at identifying the present vegetable marketing structure in the selected area with a view to:

i. Examining the process of production of vegetables with special reference to the method of disposal adopted by the grower.

ii. Evaluating the respective roles played by the co-operative and other marketing organisations in channelling the produce from the growers to the consumers.

iii. Identifying the factors responsible for the dominant role played by the private marketing agencies in this area even in the presence of a relatively well developed co-operative marketing system.

iv. Ascertaining how and to what extent the price structure varies at different levels of marketing and the relative prices that the producer obtains at the farm level for three selected vegetables.

1.3 Methodology

The study involved the collection, analysis and interpretation of data gathered at three different levels of the marketing chain viz: growers at Palugama and traders who are mainly involved in the wholesale and retail trade of vegetables produced at Palugama. The latter two phases of the study were undertaken after completion of the study at producers' level. This enabled us to use some of the data collected at the producer level in the subsequent analysis at the wholesaler or retailer levels.

a) Selection of Area

Production of vegetables on a commercial scale is undertaken in two major areas in Sri Lanka, namely, Jaffna Peninsula and the Upcountry wet zone of which the latter is relatively more important in meeting the national demand. This study is restricted to a major vegetable producing area in the upcountry namely,Palugama. This area has a distinct advantage in not only being traditionally associated with commercial production of vegetables but also due to the existence of a fairly well established co-operative marketing organisation. This has incidentally facilitated a comparative study of the roles played by the co-operative and the private marketing agencies. Of the 20 villages that comprised Palugama, four were purposively selected for investigation. The main consideration in selecting the four villages was the varied methods of disposal available in this area, viz: (a) Commission Agent/Private Traders; (b) Co-operative Marketing Agency; (c) the wholesale fair at Welimada.

The villages selected are as follows:

Village	Principal Mode of Disposal
1. Harakgamakanda	Commission Agent/Private Traders
2. Girambe	Co-operative Marketing
3. Ududadana	Both commission agent and co-operative, but with a definite predominance of the commission agents over co-operative marketing
4. Dambawinna	Wholesale fair at Welimada

The selection ofthese villages was undertaken in consultation with the local authorities such as the officials of the Co-operative Society, Agricultural Extension Staff, Manager of the different Co-operative Purchasing Centres, and vegetable producers in the area.

b) Sampling Procedure

A list of the agricultural operators in the chosen villages prepared by the Department of Census and Statistics was used to ascertain the total number of farmers. A random sample from the list was taken so as to represent at least 10% of the total number of farmers in each village Table 1 gives the detailed breakdown of the sample.

Table 1: Distribution of Farmers in the sample by Villages

Village	Total Population	*Total number of agricultural operators	Number in the sample
Harakgamakanda	2,310	370	38
Ududadana	783	125	20
Girambe	571	103	11
Dambawinna	787	93	9
Total	4,451	691	78

* Excluding large estates

c) Tools of Data Collection

Data at the producer level was collected by using a questionnaire which was administered to the selected growers by trained investigators. Separate schedules were used as guidelines for collecting data from the officials of the co-operative. Data gathered from reports and records maintained by the co-operatives,were also used.

In preparing the questionnaire certain special features were taken into consideration . Some of the special features that were taken into consideration are indicated below:

i) Accuracy of the Data

The farmers own small holdings and cultivate a number of vegetables simultaneously in small extents. A major problem is to ascertain the extent under each kind of vegetable. The extent reported by the farmer was cross-checked with the amount of seed/seedling used by him. The quantity reported as produced by farmers was also cross-checked with the assistance of the extension staff by using the standard production estimates of this area. A cropping calendar was incorporated in the questionnaire to obtain information relating to the different vegetables grown. This provided an opportunity to record each and every crop grown during the season and also facilitated the identification of the cropping system adopted by the farmer.

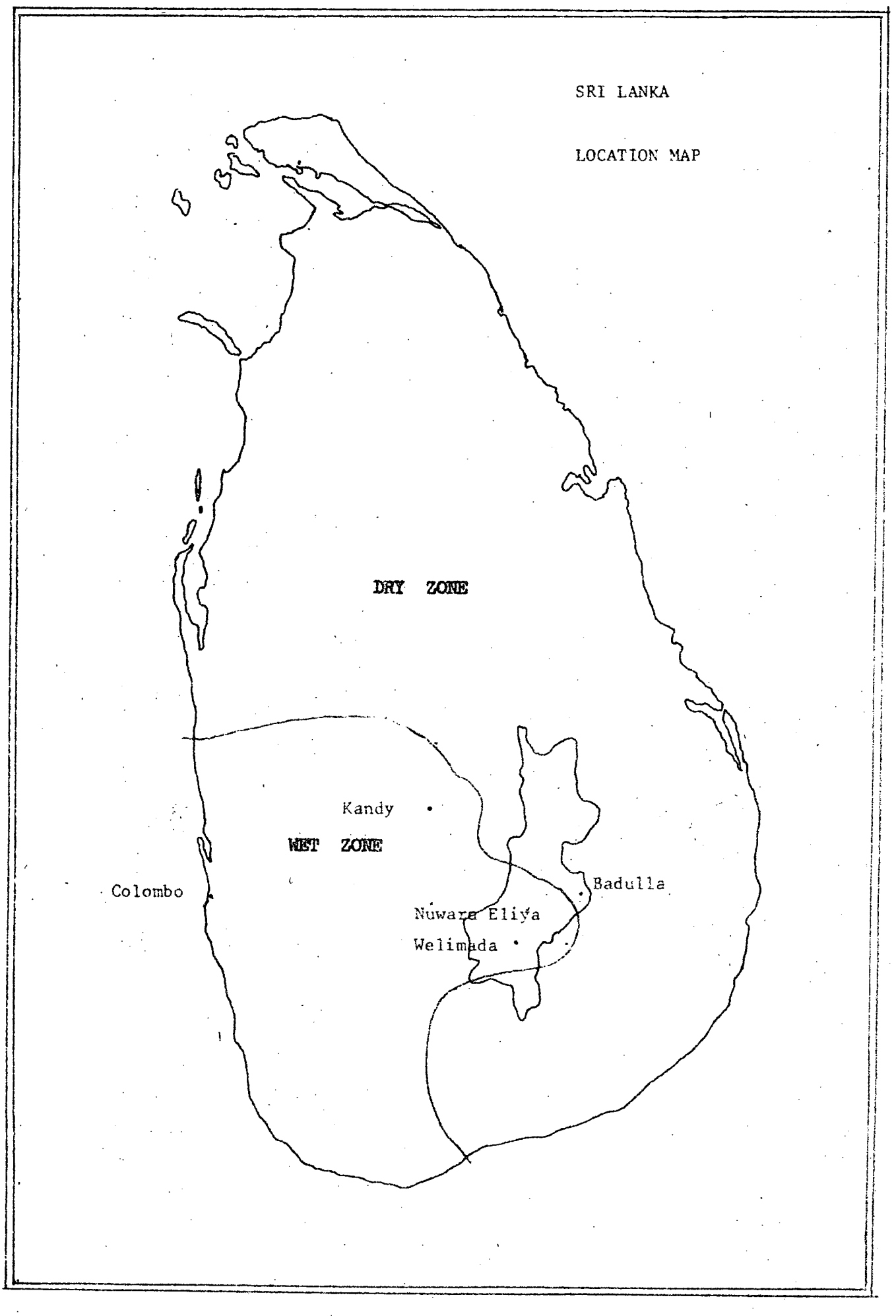
ii) Training of Investigators and Field Work

The questionnaire was explained in detail to the investigators before the commencement of field work. They were also provided with a manual of instructions explaining the important aspects in the questionnaire. Collection of data by the investigators was closely supervised by the researchers.

To get the co-operation of the farmers the assistance of the Government Agent, Badulla, Agricultural Extension Staff and Janatha Committee members of the area was obtained. Field work for collection of data from the farmers commenced at the end of the Yala season - i.e. July 1973 and was completed in ten days.

1.4 Limitations of the Study

This case study was undertaken in a major vegetable producing area in the upcountry. Four villages from this area were selected for investigation on a purposive basis in accordance with the objectives of the study. It is not intended to draw general conclusions from this study with regard to production and marketing of vegetables in the upcountry. We are, however, of the view that data assembled here would not only highlight the problems faced by vegetable growers in these four villages, but will also throw some light on the problems of vegetable production and marketing in a major producing area which would be useful to policy makers.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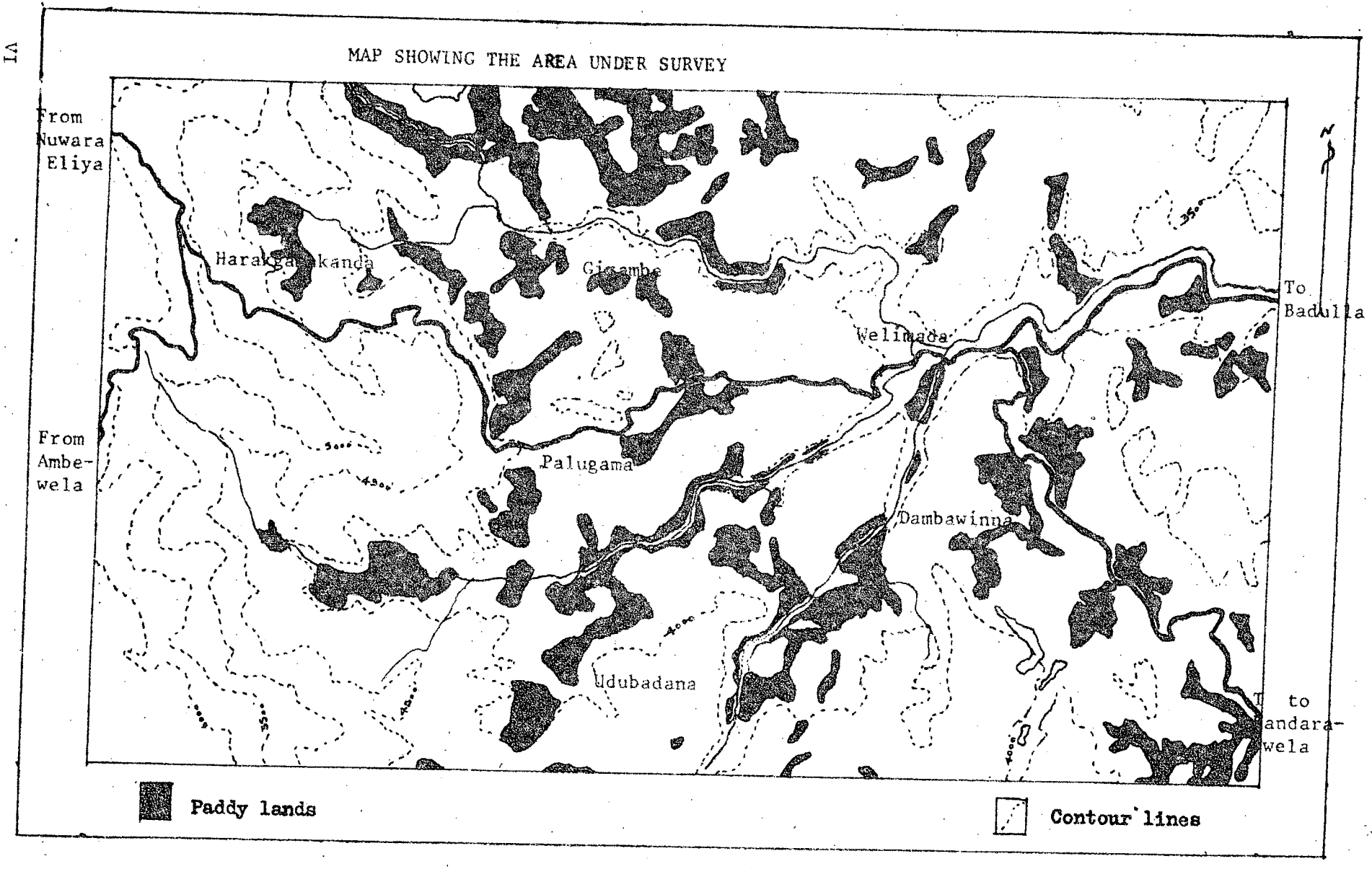
LOCATION MAP
DRY ZONE
Kandy
WET ZONE
Colombo
Badulla
Nuwara Eliya
Welimada

MAP SHOWING THE AREA UNDER SURVEY



CHAPTER 1

THE SETTING

1.1 Location

Palugama lies in the Badulla district surrounded by the mountain ranges of Nuwara Eliya, Ragala and Bandarawela (3,500' above sea level). Areawise it coincides with the present D.R.O. Division of Welimada. It lies 125 miles east of Colombo, where the major wholesale vegetable market is situated and is about 80 miles from Kandy, which is also significant as a wholesale market for vegetables. The main road connecting Nuwara Eliya and Badulla runs through the Palugama area. Welimada which is the main town in the area is about 20 miles from Nuwara Eliya and about 15 miles from Badulla. In addition to the major wholesale markets (Colombo and Kandy), Welimada and Nuwara Eliya also serve the vegetable producers of the area as outlets for their produce. An out-agency of the Ceylon Government Railway is situated at Welimada, but the nearest railway station is at Ambewela which is 10 miles from Welimada.

1.2 Climate and the Village Economy

Ecologically Palugama falls within the hill country wet zone. Due to the seasonal nature of rainfall this area shows two marked climatic seasons coinciding with Yala and Maha; Maha season is the rainy season and extends from July to December and Yala the dry season, extends from January to June. The soil and other climatic conditions (cool dry climate) of the area are favourable for vegetable cultivation. Agriculture of the area is however essentially a rainfed one. The main season for vegetable production in this area is therefore Maha, the production in Yala being relatively less.

Agriculture is the mainstay of the village economy and vegetable cultivation has remained the main agricultural activity of the Palugama area for several generations. Paddy cultivation here is only subsidiary to vegetable production and is meant mainly for home consumption.

According to the Census and Statistics Department there are about 9,000 vegetable growers in the area.

1.3 Land Use

Tea occupies the bulk of the highland area and is under large plantations. The villages locked up by such large plantations have very little land and the holdings are very small. Paddy is grown on the lowlands and the highlands are used for vegetable cultivation. In the Yala season, paddy lands are cultivated with vegetable and/or potatoes. Sometimes even during the Maha season vegetables are grown in paddy lands. Water from streams is utilised by some villages to irrigate the land especially during the Yala season. At times several villages are served by such small streams and the distribution of water often creates a wide variety of problems.

1.4 Accessibility

A large number of villages in the Palugama area still suffer from poor accessibility. Few villages are accessible by motorable roads. In some villages the roads end abruptly and access is possible only by tractor. Transport of material to and from the farm up to the nearest motorable road has to be done invariably with manual labour. Vegetables produced in the villages have therefore to be brought by the farmer to a place accessible to vehicles. Transport of vegetables from Palugama to Colombo is done by lorries and rail transport is almost non-existant.

1.5 Disposal of Vegetables

A vegetable producer in the Palugama area has four different types of marketing outlets available for disposal of his produce. They are:

(a) Commission Agents/Wholesale Traders
(b) The Co-operative Society of the area
(c) Individual Assembly Traders
(d) Welimada fair.

The Commission agents are private traders in the Colombo wholesale market undertaking the sale of vegetables on behalf of the producer. The Individual Assembly traders are normally the village boutique keepers who collect vegetables brought to them by small scale producers of the area, but they play a less important role. There are two primary co-operative societies in the area (Welimada and Udapalatha) and of them only the latter is engaged in the marketing of vegetables. The Welimada fair is also an important marketing outlet. The fair functions only two days a week and the buyers are the wholesale traders who come from various parts of the country.

The utilisation of the above marketing outlets by the farmer depends on the size of his enterprise. However, there are instances when a farmer may use more than one marketing outlet. In the same way villages also make use of one or more outlets. The special features of the villages surveyed in this study are discussed below:

Harakgamakanda - Located on the slopes of a valley, Harakgamakanda village suffers from poor accessibility. Perennial streams flowing down the slopes provide an assured water supply and hence the cultivation of the land all the year round is possible. Private marketing channels of which the commission agents dominate are the only marketing outlets available to the vegetable producers of the village. The village co-operative society supplies consumer requirements but does not undertake vegetable marketing.

Udubadana - is located just beyond the Welimada-Haputale road about six miles away from Harakgamakanda. More paddy lands could be seen in this village and hence during the Maha season these fields come under paddy cultivation whilst in the Yala the farmers grow vegetables on them. Although there is a stream running through the village water supply seems to be insufficient.

In this village a vegetable purchasing centre has been established by the Udapalatha Co-operative Society and the farmers make use of both the co-operative and the private marketing channels. However, the bulk of the produce is sold to private marketing agencies and only a small portion is sold to the Co-operative. This pattern of marketing is a common feature in a majority of the villages.

Girambe - is surrounded by tea plantations and farmers have very limited highland as compared to the other villages in this study. On these highlands most of the farmers grow tobacco presumably because water supply is not assured. Vegetables are grown in small plots on the highlands during the Maha season, while in the Yala season almost all the paddy fields come under vegetable cultivation.

In this village too there is a vegetable purchasing centre of the Udapalatha Co-operative Society. The majority of the producers in Girambe sell their vegetables only through the Co-operative Society. The bulk of the vegetables purchased by the co-operative come from this village. However, villages which sell their produce mainly through the co-operative are very few in the Palugama area.

Dambawinna - is situated in the hill slopes facing Badulla. As there are no irrigation facilities and water is available only in the rainy season cultivation is possible only in Maha. This village comes within the area of operation of the Welimada Co-operative Society and therefore the village co-operative society is not interested in the collection of vegetables from the producers. Due to these reasons and since the Welimada Wholesale Fair is only half a mile away from the village, the majority of the producers utilise the Wholesale Fair to sell their produce.

Producers' Co-operative - since the discussion in this report is centred round the Co-operative Society of Udapalatha which is engaged in the collection and marketing of vegetables produced in the Palugama area a brief description of the activities of the Co-operative with reference to vegetable marketing would be useful.

The present Udapalatha Co-operative Society had its beginning in 1939 as an agricultural co-operative society for the sole purpose of serving the vegetable producers in the area, at a time when the wholesale marketing operations were completely in the hands of the private traders. From its modest beginning, the marketing activities of the co-operative expanded gradually and in the 1960s it became a popular marketing channel. However, in 1963 the agricultural producers' co-operative was converted into a multi-purpose co-operative society. Since then its activities have been diversified. At present the Udapalatha Co-operative Society with a membership of about 6,000 operates 20 village level branch co-operative societies and 13 vegetable purchasing centres.

In addition to the purchase and marketing of vegetables it is also engaged in a wide variety of other activities such as: supply of consumer items, tobacco processing, transport services including touring buses, fuel filling station, grinding mill and a Rural Bank etc. Some of these activities have expanded during recent years and the marketing activities of the Co-operative have tended to contract with increasing importance attached to private marketing agencies.

CHAPTER 2

ECONOMICS OF VEGETABLE PRODUCTION

The objective of this Chapter is to analyse data pertaining to the production of vegetables in the selected villages, in order to ascertain the important features associated with vegetable production and to identify the links between production and marketing in each village. For this purpose data relating to operational land holdings, land use pattern, income and expenditure have been analysed.

2.1 Operational Holdings

The data presented in Table 2 shows that the average extent of land per farm varies considerably in the different villages from about 1.5 acres in Harakgamakanda to about 3.5 acres in Ududadana. The average extent of land per farm in both Girambe and Dambawinna is about 2.6 acres.

Table 2 : Size and Composition of Farms

Size of Operational Holding	Harakgama-kanda	Ududa-dana	Girambe	Dambawinna
	(Average extents per farm acre)			
	%	%	%	%
Total extent	1.4 (100)	3.5(100)	2.6(100)	2.6(100)
(a) Lowland	.2 (19)	.7(20)	1.2(46)	.6(24)
(b) Highland	1.2 (81)	2.8(80)	1.4(54)	2.0(76)
No of farmers operating				
Total	38	20	11	9
(a) Lowland	10	20	11	6
(b) Highland	38	20	11	9

The above data shows that in all the villages except in Girambe highland constitutes about 80% of the total agricultural holding while in Girambe highland accounts for nearly half the total extent of land. This indicates the importance of highland cultivation in this area particularly in the villages of Harakgamakanda, Ududadana and Dambawinna.

Classification of farms according to size of operational holdings shows that of the 78 farmers included in the sample 56 (72%) are

operating extents less than 3 acres while 42 (54%) of them are operating holdings less than 2 acres in extent. This data shows the predominance of small holdings in these villages and this is particularly seen in Harakgamakanda where about 60 percent of the farmers in the sample are operating extents less than ½ acre (Annex I).

2.2 Farm Labour Force

In the selected villages the average farm family size varied from 6 in Udubadana to about 8 in Harakgamakanda (Table 3). The average farm family size is distinctly higher in Harakgamakanda than in all the other villages and this is due to the existence of 'Joint Families'.

Table 3: Size of Farm Family

Family Members	Harakgamakanda	Udubadana	Girambe	Dambawinna
Adults	3.8	3.5	3.7	4.4
Children *	4.1	2.9	2.8	2.2
All	7.9	6.4	6.5	6.6

* Less than 14 years of age.

In order to ascertain the distribution of family labour for farm work and off-farm work, the adult members of the farm were classified according to the nature of work performed by them (Table 4).

Table 4: Distribution of Family Labour Force

Number of members 1/ per farm engaged in	Harakgamakanda	Udubadana	Girambe	Dambawinna
Farm Work				
Full-time	1.2	1.9	2.2	2.3
Part-time	1.2	1.0	.9	2.0
Total	2.4	2.9	3.1	4.3
Off-farm work				
Full-time	.3	.2	.2	.7
Part-time	1.1	.9	.5	1.1
Total	1.4	1.1	.7	1.8

1/ Family members over 14 years of age are included.

The highest number of family members per farm available for farm work is in Dambawinna, about 4.3, while the lowest is in Harakgamakanda which is about 2.4. Assuming that two part-time working family members are equivalent to one full-time working member, the

total potential labour supply per farm varies from 1.8 in Harakgamakanda to 2.6 in Dambawinna whilst the corresponding figures for Udubadana and Girambe are 2.4 and 2.6 respectively. In view of the scarce labour supply situation in Harakgamakanda, the amount of wages paid to farm workers in Harakgamakanda is higher than in other villages

Table 4 shows that the supply of family labour for off-farm employment is highest (1.8) in Dambawinna and lowest (0.7) in Girambe. Off-farm work comprised mostly of agricultural work in the neighbouring farms.

2.3 Land Use and Cropping Pattern

The survey shows that there is considerable variation in the nature, and intensity of land use in the villages under consideration. The extent of land cultivated by a farmer as well as the intensity of land use determines to an important degree the incomes and the costs involved in farming. A farmer could intensify land use by:(i)cultivating high-income yielding crops (e.g. potatoes, in contrast to raddish); (ii) increasing the number of crops cultivated per year.

The commonly used indicator for measuring the intensity of cropping systems in an area where potentially more than one crop can be grown during the year, is the 'cropping index'. It shows the acreage cultivated as a percentage of the physical land area available for cultivation. The excess over 100 indicates the extent of double (or multiple) cropping adopted. The cropping indices of the villages are given below:

Table 5: Intensity of Land Use in Terms of Cropping Intensity

	Harakgamakanda	Udubadana	Girambe	Dambawinna
Physical land area per farmer (acres)	1.4	3.6	2.6	2.6
Land area cultivated per farm (acres)	2.3	3.3	2.9	.9
Cropping index	1.6	.91	1.1	.4

From the data presented above it could be observed that the cropping intensities of the selected villages have varied from 1.6 in Harakgamakanda to .4 in Dambawinna. This indicates that in general all the villages show a relatively low cropping intensity than would normally be expected due to the drought conditions that prevailed during 1973. It is interesting to note that cropping intensities are high in villages where the commission agents/ private traders control the marketing of produce. The cropping intensity is low in villages served by the Co-operative Marketing System. Although the physical land area per farmer is the same in both Girambe and Dambawinna only 41% of the land is under vegetables in Girambe (Table 6).

Table 6: Pattern of Land Use in terms of the number of Farmers Cultivating and Extent under each Crop.

Type of Crop	Harakgamakanda	Udubadana	Girambe	Dambawinna
Total No of farmers	38	20	11	9
No Cultivating				
(a) Vegetables	38	20	11	9
(b) Paddy	2	8	8	-
(c) Tobacco	-	2	3	-
Type of Crops				
(a) Vegetables	98	91	41	99
(b) Paddy	2	8	30	1
(c) Tobacco	-	1	29	-
All Crops (%)	100	100	100	100
Total extent (acres)	(2.34)	(3.31)	(2.90)	(.97)

A feature observed in the cropping systems in all the villages is the restriction of cultivation to annual crops. As illustrated in Table 6, farmers of all the villages except Girambe used almost all their cultivable land for vegetable cultivation. All the 78 farmers in the sample have grown vegetables, although the extent under vegetables varied from village to village.

Paddy cultivation is relatively less significant in all the villages, except in Girambe. Of the total sample of 78 farmers only 23 percent of the farmers had grown paddy. In Girambe, however, 8 farmers out of 11 have grown paddy in 30% of their total cultivated land. Furthermore, all the farmers in the sample had grown paddy only in Maha which means that paddy is of minor importance as a commercial crop in this area. Another important crop grown is tobacco, the cultivation of which is undertaken in the villages of Udubadana and Girambe. In Girambe three farmers out of eleven cultivated tobacco and the income earned from it was 29% of their total farm income. Tobacco cultivation in these villages is related to the marketing arrangements, the co-operative being the only buyer of tobacco produced in this area.

A wide range of vegetable crops has been grown by the farmers and the extents of land under the more important vegetables and the income per farm is given in Table 7.

Table 7: (a) Extent cultivated and (b) income derived as a percentage of total cultivated extent and total income respectively, from the more important vegetables grown in the villages.

Kind of vegetables grown	Harakgamakanda		Ududabadana		Girambe		Dambawinna	
	(a) Extent cultivated per farm as a % of total	(b) Income from sales as a % of the total cash farm income	(a) Extent cultivated per farm as a % of total.	(b) Income from sales as a % of the total cash farm income	(a) Extent cultivated per farm as a % of total	(b) Income from sales as a % of the total cash farm income	(a) Extent cultivated per farm as a % of total	(b) Income from sales as a % of the total cash farm income
Cabbage	3	2	17	11	49	23	21	34
Beans	30	31	28	26	32	43	11	11
Potato	10	24	21	48	9	23	44	45
Tomato	3	1	9	4	-	-	-	-
Carrots	38	33	-	-	-	-	-	-
Knolkhol	-	-	5	3	-	-	-	-
Raddish	-	-	3	1	-	-	19	9
Brinjal	-	-	4	4	8	10	-	-
Others 1/	16	9	13	3	2	1	5	1
All vegetables	100	100	100	100	100	100	100	100

1/ includes vegetables of minor importance which accounts for less than 1% of the total extent.

According to Table 7, the most commonly grown vegetables in all these villages are beans, potatoes and cabbage. Beans produced in the Palugama area obtain a premium price in the Colombo wholesale market and hence the predominance of bean cultivation in these villages. Though the same could be said of potato cultivation, cabbages grown in this area are not considered to have the same quality as those grown in other areas such as Nuwara Eliya and Kandapola. This may be a reason for the low priority given to cabbage cultivation in all these villages, more particularly in Harakgamakanda.

Farmers in Harakgamakanda give greater importance to the cultivation of carrots, beans and potatoes. In Harakgamakanda almost the entire range of exotic vegetables is grown unlike in the other villages where this is not possible because of dry climatic conditions. In Harakgamakanda less importance is attached by the growers to the cultivation of crops that yield low returns such as raddish, knolkhol, etc.

In the case of Udubadana the most important crop as regards both the income per farm (48%) as well as the extent cultivated per farm (21%) is the potato. In Girambe the largest extent of cultivated land was under cabbage although beans and potatoes are also important.

It would be interesting to compare the cropping system followed in these villages with the marketing arrangements that prevailed in these areas and the prices obtained for the different vegetables. In Harakgamakanda farmers emphasize the cultivation of crops where the price per unit is relatively high such as beans, carrots and potatoes, while in Udubadana and Girambe where marketing is largely through the Co-operative, the most important crop is potato.

2.4 Farm Expenses and Income

In this section data on income and expenditure are discussed mainly to ascertain the variation in the pattern of income and expenditure in relation to the principal methods of disposal adopted in each village. The income from sales and cash expenses incurred per farm are interpreted to mean income and expenditure of the farm respectively for purpose of this analysis.

a) Cash Expenses

The total cash expenses incurred by the farmers for production and disposal of vegetables in the selected villages show a wide variation among the four selected villages. It varies from about Rs. 2,700/- per farm in Harakgamakanda to about Rs. 700/- in Dambawinna. The corresponding costs involved by the farmers in Udubadana and Dambawinna are about Rs.2,250/- and Rs. 760/- respectively. (Table 8). The reason for such a wide variation is mainly due to the difference in cropping intensities and cropping systems discussed earlier.

As shown in Table 8 the relatively low cash expenses incurred by the farmers in Girambe in comparison with much higher cash expenses incurred in Harakgamakanda reveal a relationship between the cost incurred and the principal means of disposal of the produce.

In Harakgamakanda which shows the highest cash costs per farm, the only important channel of marketing is the commission agents, while in Dambawinna with the lowest cash expenditure per farm the predominant means of disposal is the fair at Welimada. Girambe which is one of the few villages in Palugama where the co-operative marketing system is predominant, shows a relatively low cost per farm (Rs.761/-). Farmers in Udubadana incur a relatively high cash cost which is almost equal to that of Harakgamakanda and the most important means of disposal is the commission agent. This seems to show that where the cash requirements for cultivation are relatively high the commission agents tend to dominate (see page 34) as the marketing agency.

Table 8: Cash Expenses per farm* for the Production and Disposal of Vegetables Maha 1972 and Yala 1973

Items	Harakgamakanda Amount Rs.	%	Udubadana Amount Rs.	%	Girambe Amount Rs	%	Dambawinna Amount Rs.	%
Labour Costs	863	32	423	19	128	17	111	15
Material inputs	1109	41	1300	58	382	50	541	74
Rent paid for land & other hired items	48	2	6	-	2	-	7	1
Transport of vegetables	313	12	240	11	130	17	24	3
Payment of commission for sales	361	13	280	12	119	16	49	7
Total costs	2694	100	2249	100	761	100	732	100

Material Inputs - An analysis of the components of the total cash expenses per farm reveals that the most important item of expenditure of the vegetable grower is the cost of material inputs. A considerable proportion of their total expenditure, as much as 40 - 50% of the total cost has been incurred on material inputs (ref. Table 8). The amount spent by the farmers in Udubadana and Harakgamakanda was relatively higher amounting to Rs.1,300/- per farm respectively, whilst in Girambe and Dambawinna it amounted to Rs.541/- and Rs.382/- respectively. A breakdown of the costs incurred on purchased inputs per farm in different villages is indicated in the table below:

Table 9: Cost of Material Inputs per farm in the different villages - Maha 1972 and Yala 1973

Item	Harakgamakanda Amount Rs.	%	Udubadana Amount Rs.	%	Girambe Amount Rs.	%	Dambawinna Amount Rs.	%
Seed/Planting material	498	45	725	56	111	29	343	63
Fertiliser	516	46	466	36	217	57	170	31
Agro-chemicals	75	7	91	7	46	12	22	4
Organic manure and lime	20	2	18	1	8	2	6	1
All	1109	100	1300	100	382	100	541	99

* Please see Table 2 for unit of Farm Size.

The above table shows the relative importance of seed and fertiliser for the vegetable grower in terms of expenditure. The expenditure on both these items expressed as a percentage of the total cash costs is about 90% in all the villages. Consequently the supply of these inputs to the grower becomes an important factor in vegetable cultivation.

As is evident from Table 8 wage payments account for a major part of the total cash expenditure incurred by the farmers. This ranges from 32 percent of the total cost incurred by the farmers in Harakgamakanda to 15 percent in Dambawinna which in terms of cash amounts to Rs. 863/- and Rs.111/- per farm respectively. The high cash costs incurred for payment of wages in Harakgamakanda is a result of the high cropping intensity and the cropping pattern adopted. In this connection it is also relevant to point out that the availability of family labour in Harakgamakanda for vegetable cultivation was limited (vide page 7). A detailed analysis of wage payments is given in Table 10.

Table 10: Percentagewise Distribution of Wage Payments to Hired Labour per farm for vegetable cultivation

Operation	Harakgamakanda	Udubadana	Girambe	Dambawinna
Land Preparation	40	53	49	58
Planting	3	6	6	5
Irrigation	16	-	-	5
Weeding & Earthing	13	7	5	12
Aftercare Operations	7	6	13	13
Harvesting	9	7	8	5
Value of food provided	12	21	19	2
All operations %	100	100	100	100
Amount Rs.	863	423	128	111

From Table 10 it is seen that payment to hired labour for the preparation of land constitutes the highest item of expenditure in the total wage bill. This item accounts for nearly half the labour costs in all the villages. It is also seen that the farmers in Harakgamakanda spend about 16% of the total wage payment per farm for hiring labour to irrigate their plots.

Another important item of expenditure to the vegetable farmer is the cost of disposal of produce which includes transportation to Wholesale Markets in Colombo and the payment of a commission to the marketing agency which handles the sales. The farmers in all the villages except in Dambawinna incur relatively higher expenditure on this item since most of themtransport their produce to Colombo for sale. Most of the farmers in Dambawinna however sell their produce at a nearby wholesale fair, thus reducing the cost of transport and sales commission.

Since the study reveals high expenditure on the marketing of vegetables it would be of interest to compare the total cash costs involved in cultivation with the costs incurred in the disposal of the produce.

It is seen from Table 8 that the costs incurred for disposal of the produce is relatively high ranging from 33% in Girambe to 10% in Dambawinna. The cost of marketing vegetables in Colombo amounted to about 1/4 of the total cost in all the villages and this expenditure is borne by the producer. It could thus be seen that vegetable producers have not only to incur heavy cash costs for cultivation, but also for marketing their produce. It would be of interest to note that farmers in Girambe who dispose of their produce mainly through the co-operative marketing agency incur nearly 1/3 (Rs.250/-) of their total cash costs for marketing and the remaining 2/3 (Rs.510/ -) for production purposes. This shows that even in cases where the level of cash inputs is relatively low farmers are compelled to bear comparatively high cash costs for marketing their produce.

b) Farm Income

Cash farm income which is equal to total cash income received per farm both agricultural as well as non-agricultural sources shows a wide variation from Rs. 4,215/- in Harakgamakanda to Rs. 4,028/- in Udubadana, Rs. 1,176/- in Girambe and Rs. 1,068/- in Dambawinna (see Table 11).

Table 11: Source of Cash Farm Income

	Harakgamakanda		Udubadana		Girambe		Dambawinna	
	Amount Rs.	%	Amount Rs.	%	Amount Rs.	%	Amount Rs.	%
Vegetables	4159	(98.8)	3518	(86.2)	1608	(93.7)	1002	(93.8)
Paddy	-	-	-	-	7	(.4)	31	(2.9)
Tobacco	-	-	10	(.2)	43	(2.5)	-	-
Livestock	27	(.6)	32	(.8)	-	-	33	(3.1)
Off-farm sources	29	(.7)	522	(12.8)	58	(3.4)	2	(.2)
All sources	4215	(100)	4082	(100)	1716	(100)	1068	(100)

Income from sales of vegetables constituted the largest percentage of the total cash farm income in all the villages. Vegetables represent 94% of the total cash farm income in all the villages except in Udubadana where the income from vegetables accounts for 86% of total cash farm income. The variation in income (Table 11) is partly associated with the intensities of cropping adopted (Table 5) and the nature of crops grown in the respective villages, both of which are dependent to a large extent on the availability of irrigation water during the dry season. Another factor responsible for low cash incomes from sales of vegetables particularly in Girambe and Dambawinna is that an appreciable volume of the produce is used for household consumption leaving a small amount for sale.

On the basis of the cash income derived from the sale of vegetables the villages could be categorised into two distinct groups, one with a higher income of around Rs. 4,000/- and the other with a lower income of around Rs. 1,500/- per year per farm. Harakgamakanda and Udubadana belong to the former category while Dambawinna and Girambe belong to the latter category. The first two villages which sell their produce to private marketing agencies belong to the higher income category. Income from paddy cultivation does not constitute a significant portion of the cash income except in Dambawinna where only 3 farmers reported an average cash income of Rs. 93/- per farm. In Udubadana and Girambe a small percentage of their cash farm income is derived from the sale of tobacco. In Udubadana an average farm receives an income of about 12% (Rs.522/-), and in Girambe about 3% (Rs.58/-) from tobacco. Income from other sources includes cash incomes from activities outside the farm. Income from other sources is important since it provides the farmer with an opportunity of supplementing the cash requirements needed for vegetable cultivation which is his primary economic activity. Table 11 indicates income received from other sources as well. Income received from other sources is very small except in Udubadana where nearly 10% (Rs.522/- per farm) of the total cash incomes of the farm is derived from other sources. In Girambe nearly 3% (Rs.58/-) per farm, of the total cash income is derived from outside sources while for both Harakgamakanda and Dambawinna income from other sources accounts for less than 1% of their respective total cash incomes per farm.

The opportunities for off-farm employment in these villages are restricted particularly in Harakgamakanda and Dambawinna. The off-farm income derived in the other villages is mainly from casual labour.

c) Net Cash Farm Returns from Vegetable Cultivation

Net cash farm returns represents total amount of cash derived from sales minus cash operating expenses per farm. This value could be used to indicate the relationship between the money costs and money incomes of the farmers and also the net amount of cash that a grower is left with when all his money costs are deducted from his money income which is the cash available for his family expenses. However care should be exercised in using the net cash farm returns as a yard-

stick to measure the economy of vegetable growers in these villages since it does not represent the non-cash returns and expenses of the growers, such as value of the produce retained for family consumption, and the cost of family labour used for vegetable cultivation.

Table 12: Net Cash Farm Returns from Vegetable Cultivation - Maha 1972/73 and Yala 1973

	Harakgamakanda Rs.	Udubadana Rs.	Girambe Rs.	Dambawinna Rs.
Per farm cash returns from vegetables	4,159	3,518	1,608	1,002
Per farm cash operating expenses	2,694	2,248	761	732
Net cash return per farm	1,465	1,270	847	270

Table 12 shows that the farmers in Harakgamakanda received the highest net cash returns from vegetables amounting to about Rs.1,500 per farm while farmers in Dambawinna received the lowest amounting to Rs.270/- per farm.

d) Net Cash Returns Per Acre

In order to measure the efficiency of land use in the four selected villages, the cash farm returns can be compared with the cash farm expenses per cultivated acre. This would eliminate the direct effect of farm size upon income and expenses. Table 13 shows the cash returns, cash operating expenses and net cash returns per acre from vegetable cultivation in the chosen village units.

Table 13: Cash Returns and Cash Expenses per acre for vegetable cultivation - Yala and Maha

	Harakgamakanda Rs.	Udubadana Rs.	Girambe Rs.	Dambawinna Rs.
Cash returns per acre	1,816	1,164	1,351	1,033
Cash expenses per acre	1,176	744	635	754
Net cash returns per acre	640	420	716	279

It was pointed out earlier that among all the villages, farmers in Harakgamakanda receive the highest cash income (Rs.4,160/- per farm), while those in Dambawinna receive the lowest (Rs.1,000/- per farm). Table 13 shows that with regard to cash cost per acre

Harakgamakanda stands out again prominently in that it is almost twice higher than for the other three villages. This is due both to the cropping systems adopted and the high cropping intensity in this area. The farmers in Girambe received the highest net cash returns per acre Rs. 716/-, while Dambawinna received the lowest Rs. 280/-. It is of interest to note that though Harakgamakanda showed the highest cropping intensity, it did not receive the highest net cash returns per acre from vegetables.

1.5 Credit and Indebtedness

In order to ascertain the situation with regard to indebtedness among the vegetable growers in Palugama area data was collected on the borrowings made during the reference period of the survey (June 1972 - July 1973) and on debt outstanding at the time of the survey. This data was classified according to each village and is presented below:

Table 14: Incidence of Debt in the selected villages as shown by (a) loans taken during the year; (b) debt outstanding at the time of the survey

	Harakgamakanda	Ududadana	Girambe	Dambawinna
Total No. of farms	38	20	11	9
a) Loans taken during the year:				
i. No of farmers reporting	33	19	8	5
ii. Debt per farmer reported	Rs.1327	Rs.2521	Rs.1090	Rs. 767839
b) Loans outstanding				
i. No of farmers reporting	34	13	9	3
ii. Debt per farmer reported	Rs.1616	Rs.2418	Rs.1162	Rs. 251

The above table shows that of the total 78 farmers in the sample, 92% (65) have been borrowing. This indicates a very high incidence of borrowing in all the villages. However, in respect of the amount borrowed per farm it is observed that the incidence of debt is significantly high in all the villages, the debt load being highest in Harakgamakanda and Ududadana. The debt outstanding at the time of survey represents the debt situation of the farm only at a particular time and this would vary considerably with the passage of time in a cropping season. Table 14 shows that 76% (59) of the total number of farmers in the sample reported having outstanding loans at the time of survey which is evidence of the high incidence of debt among the farmers. The amount of the outstanding loans per reporting farmer again shows the same type of variation between the villages as observed in

the case of loans taken during the survey period. The amount of loans outstanding per farm at the time of survey is less than the amount of loans taken during the survey period in both Dambawinna and Ududadana which shows that these farmers paid off during the survey period some of the loans taken earlier. The outstanding loan per farm is highest in Ududadana (Rs.2418) and lowest in the case of Dambawinna (Rs.251/-) while the corresponding amounts in Harakgamakanda and Girambe are Rs.1,616/- and Rs. 1,162/- respectively.

Table 15: Comparison of Total Cash Income and the Loans taken during the year (average of all farmers)

	Harakgamakanda		Ududadana		Girambe		Dambawinna	
	Rs.	%	Rs.	%	Rs.	%	Rs.	%
Total cash income	4215	100	4082	100	1716	100	1069	100
Total amount of debt	1152	28	2395	58	793	46	466	44

The amount of loans taken during the survey period expressed as a percentage of the total cash income of the farmers ranges from about 30% in Harakgamakanda to about 60% in Ududadana. This points to the fact that the debt load of the farmers in the sample is quite substantial in all the villages.

In order to identify the major purpose for which these loans were obtained by the farmers in different villages, loans were classified into cultivation and non-cultivation loans.

Table 16: Purposes for which the Loans were taken by Farmers in Different Villages - average of all farmers

	Harakgamakanda		Ududadana		Girambe		Dambawinna	
	Rs.	%	Rs.	%	Rs.	%	Rs.	%
Cultivation	1014	88	1690	70	611	77	438	94
Non-cultivation	138	12	705	30	182	23	28	6
Total	1152	100	2395	100	793	100	466	100

The amount of loans taken for cultivation expressed as a percentage of the total amount of loans taken varies from 70% in Ududadana to about 94% in Dambawinna. The high percentage of loans taken for cultivation purposes in all the villages is quite understandable in view of the high cash outlay required for vegetable cultivation which forms the main source of income of these farmers.

The highest amount of cultivation loans have been taken by farmers in Ududadana and amounts to Rs.1,690/- per farm whereas the lowest amount has been taken by the farmers in Dambawinna, amounting to

Rs. 466/- per farm. It could be seen that the loans taken by individual farmers in these villages are related to the costs incurred by them for vegetable cultivation, the relevant figures being Rs. 2,249/-. Rs. 2,694/-, Rs. 761/-, Rs.732/- in Udubadana, Harakgamakanda, Girambe and Dambawinna respectively. The amounts borrowed for non-cultivation purposes vary beteween 33% and 8% in the four villages. Borrowing for consumption is part of the debt of the growers in all the villages and accounts for a relatively small portion of the total debt.

CHAPTER 3

MARKETING CHANNELS

This section is intended to give an account of the principal characteristics of marketing arrangements for vegetable produced at Palugama. This involves carrying out three basic functions, namely:

(a) the collection of small surpluses from a large number of scattered farms in the area;
(b) preparation of the produce for sale;
(c) distribution to the consumer through retailers.

Since the major sales outlet is far away from the producing area, distribution of vegetables to consumers is effected through three distinct channels viz: producers, wholesalers and retailers.

In order to facilitate analysis, the farmers in the sample were classified into five major groups. In deciding these groups the following factors were considered:

(a) the regularity of utilisation of each channel by the vegetable growers;
(b) quantities of vegetables sold through each of these channels by each farmer during Maha 1972/73 in the sample (Annex 7).
(c) period during which the farmers used these channels for selling their vegetables. The classification is given in Table 17.

3.1 Producer Level

Palugama vegetable producers utilise two major wholesale outlets to dispose of their produce; the wholesale market at Colombo is by far the most important while the wholesale fair at Welimada forms a secondary outlet. More than 90% of the vegetables produced in Palugama is transported daily to Colombo whereas the local wholesale fair is held only on two days a week.

There are four different types of marketing agencies to which the producer at Palugama could deliver this produce. They are:

1. Commission Agents/Wholesale Traders
2. Udapalatha Co-operative Society, Palugama
3. Wholesale buyers in the fair at Welimada, and
4. Individual Assembly Traders.

Of the four marketing agencies the commission agents and the co-operative society are the most important and both these agencies sell vegetables at the Colombo wholesale market.

a) Commission Agents/Wholesale Traders

Commission Agents handle vegetables produced in Palugama and elsewhere on a wholesale basis. At present the largest volume (about 90%) of vegetables sent to the Colombo market is handled by them.

The link between the producer and the commission agents is provided by several transport agents who collect the vegetables from the producers and deliver them to the commission agents at the wholesale market in Colombo. Each producer normally sends his produce to a particular commission agent; the bags of vegetables delivered to the transport agents carry labels giving particulars of the producer and the commission agent for identification. The unloading is handled by the commission agent who pays the cost of transport and unloading and recovers that cost from the sale proceeds of the vegetables delivered to him. In addition he charges a commission on the sale proceeds (i.e. weight of vegetables x sale price) amounting to 10% for vegetables and 5% for potatoes. On completion of the sale of each consignment sent by each producer the commission agent prepares a sales invoice giving details of the value realised and the transport, unloading and commission charges deducted. On the basis of this sales invoice the payment due to the producer is sent to him by cheque or money order or in certain instances cash is sent through the transport agents.

b) Co-operative Marketing

The Udapalatha co-operative society undertakes the collection of vegetables from the producer through its collecting centres located in the villages. At present the Co-operative Society operates 20 branch co-operative societies in 20 villages. It does not operate vegetable purchasing centres in all these villages since it is not economical for the co-operative to do so. The village purchasing centre is managed by a purchasing manager who receives a commission of 2% of the value of the vegetables purchased for this work.

The vegetables thus collected from the producer are sent to the Colombo market by the co-operative through its lorries. The co-operative society disposes of these vegetables in Colombo through its own wholesale stall and the marketing department wholesale floor.

The co-operative also sells the produce on a commission basis and its commission and handling charges are the same as those of the commission agents. The producer collects for the produce his money from the local vegetable purchasing centre.

c) Welimada Fair

This is situated about five miles away from Palugama and functions only two days a week. The buyers at this fair comprise of wholesale traders from distant areas such as Galle, Matara, Kurunegala and Anuradhapura. Those who bring the produce to the fair are generally small scale growers in the nearby villages who sell the produce themselves and obtain ready cash payment.

d) Individual Assembly Traders

Individual Assembly traders in the village collect the small quantities of vegetables brought by the small scale producers who do not have sufficient quantities of vegetables to send to either Colombo or to the nearby fair. The growers get ready cash from the trader. The vegetables thus collected by the Individual Assembly trader are sent either to Colombo or to the fair. However, these traders do not form a significant channel for disposing vegetables produced in this area.

e) Other Less Important Marketing Agencies

Apart from the above mentioned major marketing agencies there exist two more methods of disposal not commonly used by the farmers, namely, brokers of the Marketing Department and the money lending neighbouring farmers.

Although the marketing department operates a purchasing centre at Nuwara Eliya the farmers prefer to sell their produce through the brokers. This may be due to the quota system (Chapter 4) adopted by the Marketing Department and the transport difficulties experienced by the farmers in sending their vegetables to Nuwara Eliya. There is a misconception among most of the farmers espesically at Harakgamakanda, that only farmers who have been registered with the marketing department could sell their produce to it. Some of the farmers have therefore got used to selling their produce to the Marketing Department through the brokers. Most of the vegetables thus collected do not reach the marketing department's wholesale floor at Saunders Place, Colombo, but are distributed through its own retail network spread over the city of Colombo and outstations.

The other method which involves an extra intermediary in the commission agent's chain of links, is used when a small scale producer needs money immediately. This method could be explained as a 'pre-harvest' contract system. The farmer who needs money borrows from one of his neighbours and consigns a certain amount of vegetables on behalf of the money-lender to the commission agent. Once the vegetables are sold the commission agent sends the money lender the proceeds of the sale from which the money-lender recovers what is due to him ; in addition he also recovers a Rs.1/- per bag of vegetables (1 cwt) and hands over the excess, if any, to the borrower.

3.2 Wholesale Marketing Arrangements

As stated earlier vegetables produced in Palugama enter the national network of vegetable marketing through two main wholesale market outlets, of which the most important is the Colombo wholesale market. Hence, attention is focussed here mainly on the Colombo market.

The Colombo vegetable wholesale market is located in Kachcheri Road, Pettah, Colombo 11. This serves as the wholesale outlet for most of the commonly produced vegetables in the island in-

cluding Palugama. The wholesale market prices for vegetables are determined in this market and these prices have a significant influence on the prices prevailing in other wholesale markets such as Kandy

The wholesale trade in vegetables in the Colombo market is handled by private wholesale traders, the marketing department wholesale unit, and the wholesale stall of Udapalatha Co-operative Society. The largest wholesalers are the private wholesale dealers. There are about 300 of them each having a stall in the market. These wholesale traders could be grouped into two on a functional basis, namely, the primary wholesalers (Commission Agents) and the sub-wholesalers. The wholesalers belonging to the first category have direct and regular communication with the producer by selling their produce as commission agents. These Commission Agents receive large quantities of vegetables from vegetable producers in various parts of the island (including Palugama) and they sell vegetables to those who make their purchases in relatively large amounts such as the traders coming from major market in the distant areas and sub-wholesalers at the market.

There is another category of wholesalers who do not generally have direct communication with the producers but obtain their daily requirements from the Commission Agent and who engage in wholesale business in volumes relatively smaller than that of the Commission Agent. Their normal clients are mainly the retail traders in and around Colombo, who make regular purchases required for daily sales in relatively small qunatities. This category of wholesalers could be considered as the sub-wholesalers. Most of these Commission Agents specialise in marketing certain categories of vegetables. For instance some of them specialise in up-country vegetables such as cabbage, beans and carrots, while a few others specialise in varieties of pumpkin.

The stall maintained by the Udapalatha Co-operative Society is similar to one of the private wholesale stalls mentioned above. It would be of interest to note that this is the only co-operative vegetable wholesale stall maintained in this wholesale market. The stall was established in 1941 by the Udapalatha Co-operative Society in order to sell their produce at a time when there was no alternative marketing channel open to the producer in Palugama.

The marketing department wholesale floor at present handles a large volume of vegetables but the quantity when compared to that handled by the private wholesaler is extremely small. The marketing department wholesale unit is also engaged in selling vegetables sent by its own purchasing centres as well as those sent by the Udapalatha Co-operative Society on a commission basis on lines similar to private wholesalers.

a) Limited Availability of Space in the Wholesale Market

An important observation in respect of the wholesale market in Colombo is the acute congestion prevailing there which has an adverse influence on the retail trade. As pointed out earlier the Colombo wholesale market form the central wholesale outlet

for most of the areas in Sri Lanka which produce vegetables commercially. It is estimated that the total volume of vegetables that reach the Colombo Market is about 150 tons a day. Vegetables reaching this market are despatched daily to most of the areas in the island. Thus the Colombo wholesale market not only caters to the retailers within Colombo but outside Colombo as well. All transactions to the wholesale market take place in the morning hours only. *All these factors have contributed to enormous conjestion and unhygienic conditions prevailing in the market.*

b) Uncertainty of Supply

Another significant feature associated with the wholesale market in Colombo is the high degree of uncertainty regarding the arrival of vegetables. The wholesale market starts its activities from about 6.30 each morning. As vegetables do not arrive according to any set pattern there is a great deal of uncertainty among the buyers in the market. The buyers who come from distant areas make their purchases in the morning and this creates a heavy demand for the vegetables that arrive in the morning. The wholesale prices are highest between 9-10 a.m. at which time the transactions are heaviest. *Depending on the time of arrival of vegetables a considerable amount of price variation takes place within a matter of a few hours in the morning.*

3.3 Retailing

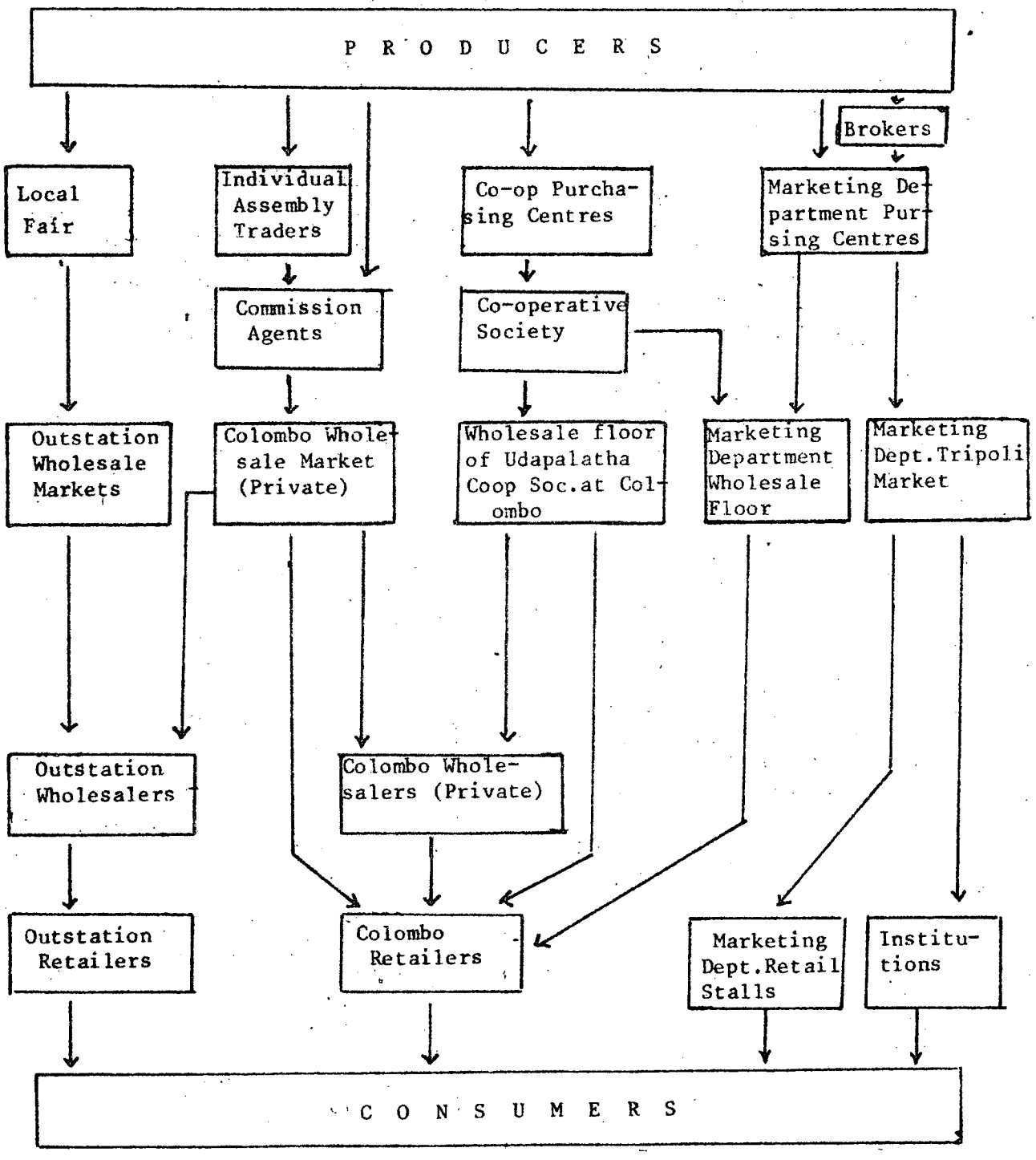
The vegetables produced in Palugama reach the Colombo Wholesale Market from where they are distributed to a large number of markets in different parts of the island. This poses a problem of establishing a definite marketing channel through which vegetables from Palugama reach a retail seller. However, an attempt was made to identify the method adopted to channel these vegetables from the Colombo wholesale market to the private retailers serving consumers in Colombo. These private retailers are located in the major markets in Colombo such as at Borella, Thimbirigasyaya, Kollupitiya, Bambalapitiya and Wellawatte. It was observed that the retailers obtain their daily requirements from the Colombo wholesale market through the sub-wholesalers.

Figure 3.1 shows diagrammatically two major alternative marketing channels open to the vegetable producers in Palugama area, i.e. the co-operative organisation and the private traders. It could be seen from the figure that both these channels have certain similarities in channelling vegetables grown in this area to urban consumers:

(a) The number of intermediaries involved is more or less similar.
(b) The Marketing Department is also engaged in retail selling of vegetables purchased through its own purchasing centres. However the vegetables collected by the co-operatives in the area are not channelled to the consumer directly, but through the private retail traders. This is because the co-op marketing channel links itself with private channels after the wholesale level.

F I G U R E 3.1

Channels Through which Vegetables Produced in Palugama Area reach the Consumer.



It could be seen from the foregoing discussion that the private Wholesale Trader/Commission Agent dominates the vegetable marketing scene. Although the participation of the marketing department wholesale unit and the Udapalatha Co-operative Society in the wholesaling of vegetables has some influence on the marketing situation the dominant position of the private wholesale trader is by no means altered. Although the number of wholesale traders in the market is fairly large there is little or no competition among them because all the traders do not handle the same type of vegetables. There is specialisation among them and some traders handle only certain variety of vegetables.

Table 17: Villagewise Distribution of Marketing Channels

Village	Total of of farmers selected	Marketing Channel				
		C.A	C.A and Co-op	Co-op	Pola	Assembly Traders
Harakgamakanda	38	36 (90.0)	-	-	1 (10.0)	1 (33.3)
Udubadana	20	3 (7.5)	16 (84.2)	1 (16.7)	-	-
Girambe	11	-	3 (15.8)	5 (83.3)	3 (30.0)	-
Dambawinna	9	1 (2.5)	-	-	6 (60.0)	2 (66.7)
All Villages	78 (100)	40 (51.3)	19 (24.4)	6 (7.7)	10 (12.8)	3 (3.8)
		100	100	100	100	100

Of the 78 farmers in the sample 40 (51.3%) sold all their produce through commission agents, while 19 (24.4%) sold a major portion of their vegetables through commission agents and the remainder to the co-operative societies. Only 7.7% farmers of the sample said that they utilise the co-operative society as their major marketing agency, while 13 (16.6%) utilised the local wholesale fair or the Indidivudal Assembly traders to dispose of a major share of their produce.

Although the villages in the sample were selected on a purposive basis we are of the opinion that this distribution represents adequately the characteristics of the marketing arrangements in this area. It shows the general predominance of private vegetable marketing agencies in the area. Annex 7 gives a clearer picture of this situation. Nearly 95% of vegetables grown in Harakgamakanda and 80% of that in Udubadana are sold through commission agents. In contrast the Girambe farmers dispose of nearly 65% of the vegetables through the Co-operative and only about 14% through commission agents. The records kept by the co-oerative society

for the year 1972 show that the largest quantity of vegetables they received during that year was from Girambe. When compared to the quantity of vegetables produced in the area the relative share received by the co-operative is however, very small.

Apart from this, it could be seen from Table 18 that the vegetables which the co-operative handles are mostly beans and cabbage. It is interesting to note that the co-operative received only about 6% of the total potato production of the farmers during Maha 72/73 although it supplied seed potatoes to the farmers on credit.

Table 18: Percentage of Vegetables Marketed through the various marketing agencies in Maha 72/73 by farmers in the sample

Type of Vegetable	Commission Agent	Co-operative	Others Local fairs & A.Traders	All
Cabbage	43.8	30.7	25.5	100
Beans	82.2	10.0	7.8	100
Carrots	86.9	-	13.1	100
Tomato	92.9	1.1	6.0	100
Potato	90.1	5.6	4.3	100
Beet-root	97.3	-	2.7	100
Capsicum	100	-	-	100
Knolkhol	89.7	10.3	-	100
Raddish	71.4	11.8	16.8	100
Leeks	100	-	-	100
Brinjal	85.5	12.7	1.8	100
Lettuce	100	-	-	100

It is interesting to note that the co-operative has not received vegetables such as capsicum, tomato and carrots which normally fetch a higher price in the market. The factors affecting this situation will be discussed in more detail in Chapter 5.

CHAPTER 4

HANDLING AND TRANSPORT OF FARM PRODUCE

In its widest sense vegetable marketing comprises all the operations involved in the movement of produce from the grower to the point of final consumption. In order to ensure that the chain of operations work smoothly, a number of subsidiary services are needed. The intention of this chapter is to recognise the different types of services that are involved in channelling vegetable produced at Palugama to the main wholesale market and also to ascertain the nature of such services. These services are mianly performed by the various agencies such as the transport agents, wholesalers and the retailers though some of the services have necessarily to be carried out by the growers themselves.

4.1 Preparation of Produce for Sale.

Once the crop is harvested it has to be prepared by the growers for marketing and this involves cleaning, grading and packing of the produce. Hence, this could be considered as the first step of a series of services involved in the process of channelling the produce to the consumer. The preparation of produce at the farm level is particularly important in the case of vegetables because once prepared and packed by the grower, until it reaches the retail seller on the following day (invariably with a minimum time lapse of 24 hours), it continues to remain in the same packing used by the grower. Hence, the manner in which the vegetable is prepared by the grower for marketing is most important not only for him to obtain a higher price at the time of selling, but also to reduce the wastage that would occur in the process of marketing.

a) Cleaning

Once the vegetable is harvested it needs cleaning to provide a better appearance. However, the different varieties of vegetables do not require the same degree of cleaning after harvest; ~~for~~ e.g. beans and capsicum require the minimum amount of cleaning, whereas crops like cabbage, beet, raddish, leeks etc. need much cleaning.

The type of cleaning involved in these crops normally ranges from the removal of leaves which are of sub-standard quality to the removal of adhering soil. It was however, observed that the growers in Palugama do not pay much attention to cleaning of the produce and the produce that is sent to Colombo is often in an uncleaned state.

b) Grading/Sorting

In vegetable marketing, grading means the sorting out of produce into lots each with substantially the same characteristics with respect to the market qualities. Grading of produce before marketing normally enables the producer to obtain a premium price over ungraded produce. On account of its importance an attempt

was made in this study to ascertain whether the vegetable growers at Palugama follow a system of grading prior to disposal of produce and if so, its nature. It was observed that there was hardly any systematic grading of vegetables at the farm level. An attempt was made to ascertain the farmers attitudes to the practice of grading their produce prior to marketing as a means of obtaining a higher market price. Only 28 farmers out of 78 (22%) reported that the type of grading of vegetables done at present would enable them to obtain a higher price than on ungraded produce. It would appear therefore, that growers would not take any meaningful steps to grade their vegetables before marketing as most of them do not consider it advantageous to do so.

c) Packing

It is necessary, for several reasons, to pack the produce suitably prior to dispatch to market. Packing would facilitate convenient handling of produce and reduce damage in transport. The latter is particularly important because once the produce is packed in the farm it remains in the same condition till it reaches the retail seller on the following day. Much damage could be caused to the produce within this period if it is not suitably packed. The commonest type of packaging used for cabbage, beans, beet, brinjal etc. by the vegetable producers in Palugama is sacks or gunnies. The sacks are either of the coarse mesh variety or the normal type. Growers use wooden boxes for packing vegetables such as tomatoes, capsicum, and sometimes potatoes. It was further observed that most of the farmers do not use any type of packing for raddish, but bundle the produce by tying it with coir ropes.

The above facts show that the functions involved in preparing the produce to the market such as cleaning, grading, and packing receive very little attention from the growers in this area and as a consequence substantial amounts of vegetables are wasted during the marketing process.

Though these practices appear to be technically inefficient, they are not inefficient from an economic point of view for the following reasons:

a) in the absence of satisfactory transport and refrigeration facilities, if proper cleaning and preparation of produce for sale is undertaken at the producers level, no greater benefit is likely to accrue to the producers.

b) If higher prices cannot be obtained for the graded vegetables there is no incentive for grading the produce.

c) Packing methods are determined in relation to the existing transport facilities, and consequently if new methods are to be introduced transport arrangements have to be modernised.

4.2 Weighing

Almost all the growers in the sample (94%) reported that they weighed the produce before sending it to market and most of them

owned weighing balances of their own. Weighing helps them to check the weight indicated in the bill subseqently sent by their marketing agencies.

As almost all the growers indicated that they weigh their produce prior to disposal, we examined whether the weights indicated by their marketing agencies are substantially different from their weights. Of the 73 farmers who weighed their produce regularly, 54 (77%) indicated that generally a weight difference is observed. The reasons adduced by them are indicated in Table 19.

Table 19: Reasons given by the growers for the existence of a difference in weight of produce measured by them and their marketing agency.

	No.	% *
Total number of growers reporting a difference	44	100
Reasons given:		
Drying of the produce	31	58
Irregular practices of the marketing agency	23	43
Wastage due to bad packing, etc.	19	35
Irregular practices of transport agents	2	4
Others	2	4

(* Percentages do not add up to hundred since farmers gave one or more reasons).

It is seen from the above table that although a majority of the producers (about 77%), reported that there is a weight difference, 58% of the growers attributed this to dryage. 23% of the farmers reported that the constant reduction in weight is due to some malpractice on the part of their marketing agencies, while 19% of the growers contended that it is due to wastage.

4.3 Collection

The collection of vegetables in Palugama implies the assembly of small amounts of vegetables from widely scattered small farms in the area. This is a difficult and time consuming task since most of the farms in Palugama area are not easily accessible because of their location.

In most of the villages no proper roads exist and consequently the growers are compelled to carry their produce to a central place in the village which can be reached by lorries or tractor-trailers. The growers at Palugama who send their produce to Colombo start harvesting the crop late in the mornings. The transport agents collect these vegetables in the afternoon of the same day and dispatch them to Colombo on the following morning. The vegetables therefore reach the Colombo wholesale market almost 24 hours after they are harvested.

4.4 Transport

Transport constitutes one of the most important services involved in vegetable marketing since it not only forms a part of every phase in marketing from the producer to the point of final consumption but also accounts for a substantial part of marketing costs. As pointed out earlier (cf Chapter 2) the cost of transport of produce from the farm to Colombo is borne by the grower himself and this accounts for about 10% of his total cash outlay involved in vegetable farming. Due to lack of proper access roads the producers have to use hired/family labour to bring the produce to the nearest motorable road where the lorries can collect it.

It could be seen from Table 20 that the average distance from the farm to the nearest motorable road in all the villages is about half-a-mile and the cost of transport of produce ranged from 80 cents to Rs. 1.00 per bag (1 cwt.).

Table 20: Cost of Transport of Produce from the farm to the collection point.

Village	No of farmers using hired labour	Distance in miles	Cost Rupees per cwt (bag)
Harakgamakanda	33	.64	.93
Udubadana	7	.62	.98
Girambe	9	.41	.88
Dambawinna	3	.41	.83
All villages	52	.52	.92

The vegetables are transported to Colombo by road. The responsibility of the transport agent is to collect the produce from the farmers and deliver it in Colombo. It is his responsibility to ensure that the produce reaches the Colombo market as early as possible, generally before 9 a.m. since a delay in arrival may result in lower selling prices. The agencies that undertake the transport of vegetables are mainly the private lorry owners in this area. There is competition among these transport agents and a grower could always change his transport agent if his services are not satisfactory.

The charges levied by the transport agent for transporting vegetables are based on a 'piece rate'. A gunny bag or a wooden box containing vegetables is considered as a 'piece' and the transport charge levied is about Rs. 2.50 per piece from Palugama to Colombo. An additional amount is charged when the point of collection is not easily accessible or far from the main road.

Table 21 shows that only 20% of the farmers were unable to find transport when needed, particularly during the peak production period. The highest percentages were reported from Harakgamakanda and Udubadana which shows that transport problems are more accute in the areas where the production is higher.

Table 21: Efficiency of Transport Services Available to the Producers

Village	No. of farmers	Transport not available when needed	Damage due to unsatisfactory transport of produce	Low prices due to unsatisfactory transport of produce
Harakgama-kanda	38	9	23	23
% of village total		(23.7)	(60.5)	(63.2)
Ududabana	20	5	6	10
% of village total		(25.0)	(30.0)	(50.0)
Girambe	11	1	5	5
% of village total		(9.1)	(45.5)	(45.5)
Dambawinna	9	1	3	3
% of village total		(11.1)	(33.3)	(33.3)
All villages	78	16	37	42
% of all villages		(20.5)	(47.4)	(53.8)

In relation to vegetable marketing it is often said that unsatisfactory and unsuitable packing, grading and transport are responsible for the extensive wastage of the produce. Although packing and grading no doubt contribute to this situation, the findings made during this study indicate that the problem is primarily one of transport.

As stated earlier transport is one of the costly items involved in the process of vegetable marketing which has to be borne by the producer and by the urban consumer at a later stage. As transport charges are recovered on a piece rate the producer attempts to keep the number of packages or bags to a minimum by packing as much produce as physically possible into each bag or box. This process results in much damage to the produce through crushing and bruising. Damage is much worse when the vegetables packed in this manner have to remain for at least 24 hours in these bags or boxes. The transport agents also add to this situation by loading as many gunnies and boxes as possible into the lorries. They adopt various ruses to maximise the use of available space in the lorry. The wastage tends to be inordinately high as the produce packed in this manner lies in the lorry from the evening of the day of harvest till it is unloaded at the Colombo market the following morning.

The impact of such a transport system on the adoption of improved marketing practices such as packing and grading at the farm level need not be over-emphasized.

The existing transport system is causing so much damage to the produce in transport that there is little or no difference in quality between vegetables that are carefully graded and those that are ungraded by the time the produce finally reaches the Colombo market.

The possibility of utilising the railway more advantageously in preference to road transport was considered. The growers and transport agents of Palugama were however, of the view that the railway is entirely unsuitable for this type of specialised transport which demands great flexibility in operation as well as speedy movement of produce to the point of sale. Road transport provides a direct link between the points of production and point of sale by offering a door to door service with all the savings in loading and unloading that it implies.

4.5 Sales

As discussed earlier the sale of vegetables at the Colombo market is undertaken by the commission agents on behalf of the growers. This arrangement has become necessary due to the distance separating the producers and the buyers and the small quantities each producer offers for sale at any one time.

The marketing agency to whom the producer has assigned the task of selling the produce on his behalf at the Colombo market undertakes the responsibility of selling the produce to the best advantage of the producer. The proceeds of the sale are sent to the producers after deducting costs and other charges. If the grower had taken any loans from the marketing agency necessary deductions are made from the sale proceeds . It could thus be seen that in undertaking the service of selling vegetables, the marketing agency (whether it be the marketing department, co-operative or the commission agents) runs no risk. There is considerable fluctuation in the price of vegetables during the course of a morning. This situation enables the commission agents to quote a price of their choice to the producers. In this situation exploitation of producers is possible because the commission agents can understate the price at which the vegetables were actually sold. However, the study reveals that the producers are responsive to prices and are prepared to change their commission agent if the prices they obtain are unsatisfactory.

By continuing to bear the risk and pay only for sales service the growers can benefit from upward price movements in the market. On the contrary,if the wholesale traders at the Colombo market were to buy vegetables outright for resale they would tend to offer a low price to the producers. This would be particularly so in a perishable commodity like vegetables where fluctuations in price are both rapid and substantial. In fact the past experience of the Marketing Department in this field has not been very successful.

The Marketing Department with the intention of paying the producer the highest possible price for his vegetables paid a predetermined price for the produce that it purchased. In doing so it had to face two problems: (i) It often had to sell at a loss to individual consumers due to a drop in prices. The prices the Marketing Department pays to the producers are fixed on the basis

of the market prices that prevailed on the previous day but the selling prices are fixed on the basis of the market prices prevailing on the following day or the day after. There is thus a 3-4 day interval during which prices fluctuate considerably. (ii) the Marketing Department retails direct to individual consumers and institutions and the volume of produce it can purchase is determined by its retailing outlets.

Recognising these limitations the Marketing Department has recently started the wholesale operations on a commission basis on the same lines adopted by the private traders. It has been noted that this system is much more efficient than its original scheme.

4.6 Farm Financing

Vegetable cultivation and marketing require substantial cash outlays. It is noted that the growers in Harakgamakanda and Uddubadana spent about Rs. 2690/- and Rs.2250/- respectively for the production and marketing of vegetables - vide Table 8. As vegetable crops are essentially short-term crops, cash for the purchase of seed, fertilizer, agro-chemcials etc., is needed by the grower within a relatively brief period. Most of the vegetable cultivators in Palugama area are small scale operators with very little surpluses left for their consumption requirements. It is, therefore, difficult to isolate the credit needs of the farmers for cultivation purposes from non-cultivation purposes.

It is important to know the sources from which the farmers obtain their credit. The position in regard to the 4 villages is as follows:-

Table 22: Sources from which the farmers obtained their credit

	Harakgamakanda		Ududabadana		Girambe		Dambawinna	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
Total No. of farmers	38		20		11		9	
Commission Agents	17	1462	11	618	2	280	-	-
Relatives and Neighbours	7	842	9	2271	1	3800	1	100
Private Trader	3	333	1	1000	1	760	2	421
Co-operative Society	16	349	18	623	3	450	4	724
Co-operative Rural Bank	3	466	1	1283	-	-	-	-
Peoples Bank	9	593	1	750	2	875	-	-

The sources of credit as reported by the producers contain both institutional and non-institutional agencies. The farmers obtain credit from Commission Agents, the Co-operatives, Co-operative Rural Banks, People's Bank, private traders, relatives and neighbours. The importance of these sources varies from one village to another as shown in the above table, but the two most important

sources in the area are the Commission Agents and the Co-operative Societies. The least important lending source in these villages are the Co-operative Rural Bank and the People's Bank.

It is significant that there is a close relationship between the Marketing Agency and the source of credit. In Harakgamakanda where the Commission Agents are the predominant marketing agency they are also the principal lenders. In Girambe, the Co-operative is the main source of credit and also the most important marketing channel for the farmers. In Udubadana farmers sell their vegetables to Commission Agents as well as to the Co-operatives and hence, obtain credit from both. Since the grower needs to obtain credit frequently from his marketing agency he is obliged to sell vegetables regularly to the same marketing agency. This system has no doubt led to a situation of chronic indebtedness of the grower to his marketing agency.

4.7 Savings

Payments due to the grower are normally not sent to him immediately unless the grower makes a special request ~~for it~~. The usual practice is for only a part of the sale proceeds to be sent to the farmer and the balance retained by the commission agent. In such instances a part of the sale proceeds accumulates as short term savings with the commission agent. The grower could obtain this money at short notice but no interest is paid on the money retained by the Commission Agent.

The study reveals that of the 59 farmers who regularly sell vegetables through the commission agents 34 allowed their money to be accumulated with the commission agent. The remaining 25 growers did not adopt this practice. The amount that is left with the commission agents by the grower sometimes amounted to a few thousand rupees. This form of saving helped the farmer to build up his image with the Commission Agent in order that he could go to him for larger loans in times of distress.

CHAPTER 5

EFFICIENCY OF THE MARKETING AGENCIES

The main features relating to handling and transport of vegetables were discussed in the last chapter. It is intended here to examine the efficiency with which these services are performed by the major marketing agencies, viz: the Commission Agents and the Co-operative Society operating in this area.

5.1 The views of the farmers were sought as to why they sold their produce through commission agents even though a co-operative marketing agency was available in the area. Of the total sample of 78 farmers 40 sold through commission agents.

Table 23: Reasons given by farmers for the selection of Commission Agents as their Marketing Agency

Reason	No Reporting	Percentage
Total number reporting	40	100
Easy loan facilities	31	76
Convenience in obtaining payment	22	55
Payment of higher prices	14	35
Obliged to sell being indebted	12	30
No other efficient outlet available	10	25
Others	6	15

Easy loan facilities provided by the commission agents had been given as the main reason by 31 farmers (76%) 22 farmers (55%) felt that they were able to obtain payment for vegetables sold from the commission agents without much difficulty. 14 farmers (35%) had indicated the payment of higher prices for their vegetables as the reason for prefering the commission agent. The other reasons stated by the farmers were that they were obliged to sell the produce to commission agents because they were indebted to them (30%) and that there was no suitable alternative outlet (25%) available to them.

5.2 Similarly in order to ascertain the views of the farmers using the co-operative society as their marketing channel data was collected from the relevant farmers. This category of farmers consisted of only 6 farmers and the reasons stated are presented in Table 24.

Table 24: Reasons given by the farmers for the selection of Co-operative Society as their Marketing Agency

No of reporting farmers	6
Reasons given	No
To obtain credit	3
More reliable than commission agents	2
Employee of the co-operative	1
Co-operative collecting centre is close by	1
Others	1

5.3 It could be seen from the above Table that 3 farmers out of 6 sold their produce through the co-operative in order to obtain credit, while 2 farmers reported that the co-operative is more reliable than the commission agents.

The reasons given by the farmers for not selling through the co-operative marketing agency are given in Table 25.

Table 25: Reasons for not selling through the Co-operative

	No. of farmers	Percentage
Total number of reporting farmers	40	100
Co-operatives offer lower prices	25	63
Delay in getting the sale proceeds	18	45
Not reliable	9	23
Obliged to sell through the commission agents	7	18
Reluctant to give up the commission agent	6	15

According to the above data the reason given by the largest number (25) of farmers (63%) for not utilising the co-operative is the low prices offered by the co-operative. The delay in recovering payment for the vegetables sold through the co-operative was the next important reason given by the farmers. A further 23% (9 farmers) reported that the co-operative is not reliable. The other reasons provided by the growers were 'inadequate loan facilities' and 'obligation to sell through the commission agents'.

An appreciable number of farmers - 45 out of 59 who were interviewed reported that their commission agents conduct business in a reasonable manner. The balance 14 farmers (24%) stated that their commission agents were unreasonable and that almost all of them do not pay for the produce the actual prices prevailing in the market. About one fourth of the farmers reported that their commission agents understate the weight of vegetables sent to them.

5.4 An examination of the views expressed in the preceeding sections reveals that producers judge the efficiency and value of their marketing agency by the following four criteria.

a) provision of loan facilities
b) payment of higher prices for the produce
c) payment of money without undue delay
d) reliability

Hence our discussion on the roles played by the marketing agencies would focus attention on the above four factors.

a.(i) Provision of Loan Facilities

The need for heavy cash outlay for production and marketing of vegetables was stressed in Chapter 4. The commission agents tend to be more popular in villages where the cash cost is higher while in areas where the cash cost per farm is lower the co-operatives have a lead over other agencies - vide Annexes 5 and 6. The average cash cost incurred during the year is highest for the farmers who sell their vegetables only through commission agents (Rs.2,716/-) whereas the corresponding figures for those who are using only the co-operative marketing system is relatively much lower. (Rs. 954/-).

It would also be pertinent to examine the income structure of the farmers falling under these two categories - vide Annex 4. Farmers who sell only through the commission agents derive their income mainly (98%) from vegetable cultivation whereas those who sell through the co-operative depend on vegetable cultivation to a lesser degree (65%). The relevant figure for those who are using both channels is about 85%. The comparatively high cash costs as well as the very high degree of dependence on vegetables of those who are selling only through the commission agent would in fact indicate a high credit requirement and this would justify the relative emphasis placed by them on the provision of credit facilities by the commission agents.

Table 26: Sources of Credit classified according to the marketing channels *
(for further details please see Annex 8)

Marketing Agency used by the farmers	Total no of farmers	Source of Credit			
		Co-operative		Commission Agents	
		No of borrowers	Amount per farmer Rs.	No of borrowers	Amount per farmer Rs.
Commission Agents	40	18	451	24	1090
Commission Agents & Co-operative	19	15	668	10	606
Co-operative	6	2	650	-	-
All sources	65	35	557	34	948

* Only the co-operative and commission agents have been included here.

It would be seen from Table 26 that both the co-operative and the commission agents are equally important sources of credit to the farmers. The amount of loan per borrower provided by the co-operative is relatively lower than that provided by the commission agent, the amounts being about Rs. 560/- and Rs. 950/- respectively.

Farmers who sell their produce only through the commission agents as well as those who sell both through the co-operative and commission agents have obtained loans from the co-operative. Of the 40 growers who do not sell their produce through the co-operative 18 have obtained credit from the co-operative amounting to Rs.451/- per borrower. The source of credit available to 6 farmers selling their vegetables only through the co-operative is the co-operative society itself. No loans are obtained from the commission agents. Of the 40 farmers who sell their produce only through the commission agents 24 of them obtained loans from the commission agent and the amount per borrower was Rs.1,090/-. However, in the case of farmers who sell both through the commission agents and the co-operative the most important source of credit is the co-operative from which 15 farmers out of 19 included in this group have obtained loans which amounted to Rs.668/- per borrower. This shows that although this category of farmers sell a major part of their produce through the commission agents, their main source of credit is the co-operative.

The above analysis indicates that there is a clear relationship between the supplier of credit and the channel of marketing selected by the grower. Another important feature that emerges from the above analysis is that although the co-operative society performs a substantial service to the grower by providing credit it is not popular as a marketing agency. An analysis of the purpose for which loans are taken would help us to understand why the commission agents play such an important role in providing credit.

a.(ii) Purposes for which Loans were taken.

The purposes for which loans were taken from the commission agents are shown in Table 27. Of the 59 farmers who sold all or a part of their produce through the commission agents 46% (27 farmers) reported that they obtained loans for cultivation purposes amounting to Rs. 939/- per borrower and about 12% (7 farmers) reported that they obtained loans for consumption purposes amounting to Rs. 980/- per borrower.

This indicates that loans were obtained from the commission agents mainly for cultivation, though the loans were taken by the farmers for consumption purposes as well. Another significant feature is that the average amounts borrowed for both purposes are almost the same.

Table 27: Purposes for which Loans were taken from Commission Agents classified according to the marketing channel

Marketing Agency	Total No.	Cultivation		Consumption	
		No. reporting	Amount per borrower Rs.	No. reporting	Amount per borrower Rs.
Commission Agent	40	19	1100	5	1052
Commission Agent and Cooperative	19	8	556	2	800
All	59	27	939	7	980

In contrast to this situation the loans of the co-operative are restricted to cultivation purposes only. Since the co-operative society provides credit in respect of a few annual crops such as paddy etc. the data was classified on the basis of crops for which loans were taken.

Table 28: Purposes for which Cultivation Loans were taken

Marketing Agency	Total no of farmers	Purpose*			
		Potatoe Cultivation		Vegetable Cultivation	
		No. of borrowers	Amount per borrower Rs.	No. of borrowers	Amount per borrower Rs.
Commission Agent	40	18	431	2	175
Commission Agent and Cooperative	19	15	643	2	184
Cooperative	6	1	313	2	513
All groups	65	34	524	6	293

* Farmers in the sample did not take any loans for paddy cultivation.

Of the 65 farmers in the sample 34 (52%) obtained loans for potatoe cultivation which amounted to about Rs.520/- per farmer while only 6 farmers (9%) obtained loans for vegetable cultivation, the amount per borrower being about Rs.290/-.

The relatively small number of borrowers well as the smaller amount borrowed per farmer in respect of the loans taken for the cultivation of vegetables other than potatoes indicate that even though the co-operative is engaged in providing cultivation loans to the growers emphasis is given to potatoe cultivation. The Co-operative Society has placed greater emphasis on credit for potatoe cultivation because Palugama is one of the most important

areas of potatoe cultivation in the island and the distribution of certified seed material is done only through the co-operative society. Seed potatoe which is a scarce item is issued to growers along with fertilizers and agro-chemicals through the co-operative on credit.

If we separate loans taken for potatoe cultivation from those taken for vegetable cultivation it would enable us to identify a more direct relationship between the source of credit and the marketing channel selected by the growers in this area.

Table 29: Loans taken for cultivation of vegetables (excluding potatoe) by the farmers classified according to marketing channels.

Means of Disposal	Total no of farmers	Source of Credit			
		Commission Agent		Co-operative	
		No. reporting	Amount per borrower Rs.	No. reporting	Amount per borrower Rs.
Commission Agent	40	19	1,100	2	175
Commission Agent and Cooperative	19	8	556	2	184
Cooperative	6	-	-	2	513
All	65	27	939	6	293

The data presented in the above Table indicates the relative significance of the two major sources of credit, the co-operative and the commission agents utilised by the 65 growers included in the sample. Of this number 43% (27) obtained credit from the commission agents for vegetable cultivation, the amount of the loan being Rs. 939/- per borrower whereas only 11% (6) obtained loans from the co-operative society for the same purpose the average amount of the loan being Rs. 293/- per borrower. The number of farmers who obtained loans from the co-operative for cultivation of vegetables excluding potatoe is considerably less when compared to the number of farmers who obtained loans from the commission agents. Even in respect of the average amount of the loan obtained from these two sources there is a substantial difference - Rs. 939/- from commission agents as against Rs.293/- from the co-operative.

Of the 40 farmers selling their vegetables only through the commission agents, almost half the number (19) have taken loans from commission agents amounting to Rs. 1,110/- per borrower. In contrast only 2 farmers in this group (5%) have taken loans from the co-operative for cultivation of vegetables other than potatoe and the amount per borrower is only Rs. 175/-. The position is similar with regard to farmers who are utilizing both co-operative and commission agents for sale of their vegebles. The larger volume of credit obtained from commission agents

perhaps explains why these growers sell a large portion (about 80%) of their vegetables to the commission agents.

Information gathered in the survey reveals that the farmers prefer to borrow from the Commission Agents for various reasons such as - easy repayment terms, flexibility in regard to the purposes for which the loans could be utilised, the relatively easy manner in which loans are obtained with no security furnished and no interest paid etc.

The system of lending adopted by the commission agents has not only great flexibility but also operates strictly on a personal basis. No security either in kind or cash is insisted upon and personal security provided would to a great extent depend on the degree of business confidence that has been built up between the farmer and the lender over a period of time. The system of repayment needs special mention since it involves a gradual deduction from the proceeds of the sale of the produce that is sent to the market. In instances where there is crop damage or serious price fluctuations resulting in poor price levels, repayment of the loans is adjusted to suit the situation. On the other hand, loans could be obtained from the co-operative society only for cultivation purposes by a member by providing two other members as security. The maximum credit that could be obtained from the co-operative is limited to 20 times the face value of share capital of the members. Further a loan obtained from the co-operative should be paid back within the same season; if not, the farmer is not entitled to borrow until the full amount is paid back.

b) Payment of Higher Prices for the Produce

Data gathered in this study showed that the farmer is highly price responsive. It is observed that 63% of the farmers did not sell their produce through the co-operative society because of the lower prices paid by the co-operative. 35% of the farmers who sell exclusively through the commission agents gave the payment of high prices as the reason for preferring the commission agents . This is further substantiated by the reasons given by farmers for changing their commission agents (Table 30) which shows that 70% of farmers who changed their commission agents did so on account of the low prices paid by them. As explained in the chapter on Market Information, most of the growers are in fact aware of the current market prices and this enables them to check the price indicated in the bills by the marketing agency. The high degree of price responsiveness of the grower is quite understandable in view of the large volumes he sells.

The study reveals that the growers are generally not satisfied with the prices paid by the co-operative and this is likely to have serious repercussions on the development of the co-operative vegetable marketing system in the area. The commission agents always endeavour to maintain a slightly higher price level than that of the co-operative and this is supported by available data (see Chapter 7). The main justification for the operation of the co-operative marketing agency in this area is that it helps to raise the prices of vegetables paid to the growers.

c) Payment without Delay

Prompt payment of proceeds from sale is very much appreciated by the producer. As pointed out earlier an important criticism of the growers in this area in respect of the co-operative marketing system is that there is considerable delay in the payment of proceeds. Under normal circumstances the number of days a grower should wait to obtain his money if his produce is sent through the co-operative is about 6-7 whereas with private marketing agencies the time involved is only 2-3 days. The delay in payment is mainly due to the fact that the bill sent from Colombo has to reach the primary co-operative society from which it is again transmitted to the village vegetable purchasing centre from where the grower receives payment.

d) Reliability

It could be seen from the foregoing paragraphs that the relationship existing between the vegetable grower at Palugama and the commission agent in Colombo is relatively stronger than the one existing between the farmer and the co-operative society of the area. The relationship between the growers and their commission agents assumes a personal nature after a period of time. We found that the commission agents had visited 12 out of 59 growers who sell regularly through them to attend family functions etc. They also have helped their producer clients in times of need with loans and gifts.

An attempt was made to find out whether the vegetable growers are in a position to change their marketing agencies if they wished to do so. From the evidence available we find that farmers are at liberty to change their commission agents. Of the 59 farmers in the sample 42 had changed their commission agents once or more after they took to vegetable cultivation. The reasons indicated by these farmers for changing their commission agents are present in Table 30.

Table 30: Reasons offered by the farmers for changing their commission agents.

Number of reporting farmers	Number 42	% 100
Reluctance to give loans	17	41
Low prices offered very often	16	38
Bankruptcy or death	13	31
Delay in payment of sale proceeds	9	22
Malpractices	6	14
Others	4	9

The reason reported by 41% of the farmers who had changed their commission agents was the reluctance of the commission agents to provide loans. The second important reason reported by 38% of the farmers was the recurrent payment of low prices for the vegetables. The other reasons reported by the farmers were closure of the business due to death or bankruptcy, delayed payments and malpractices.

CHAPTER 6

MARKET INFORMATION

In a wider context, market information could be defined as the facts and the interpretation of facts likely to help growers, traders and consumers in the decision making process. In this Chapter attention is focussed on market information relevant and helpful to the producer in the selected area of study. An attempt is made here to ascertain the degree of awareness of the producers to the day to day wholesale market prices prevailing in the Colombo market which is their principal wholesale outlet and also to identify the normal sources through which they get this information.

This survey showed that of the 78 vegetable growers included in the sample, 75 (96%) were aware of the Colombo wholesale market prices which is an indication that the majority are aware of price fluctuations in the main wholesale vegetable market of the country.

The sources through which the growers receive their price information are indicated below in order of decreasing importance.

Table 31: Sources through which the Growers Receive Price Information.

	No	%
1. Radio announcement	64	85
2. Commission Agent	47	63
3. Neighbour	22	29
4. Transport Agent	13	17
5. Others	1	-
Total No. receiving information	75*	100*

* Figures are not additive since one farmer may have reported one or more sources.

As shown above the largest percentage of farmers (85%) obtain Colombo market prices from the daily radio announcements. Out of 64 farmers who depend on this source 11 indicated that this is the only source of information available to them, 63% of the farmers reported that prices given by the commission agents are indicative of the Colombo market prices, while 30% rely on price information from their neighbours.

The daily wholesale prices are released over the radio by the Marketing Department primarily to help the vegetable producers scattered all over the island. The computation of these wholesale prices is based on prices collected at the Colombo market three times a day during the morning hours. These prices are indicative of the wholesale market prices prevailing in the Colombo market.

An attempt was made to compare the prices received by the growers from the different marketing agencies which undertake the sale of vegetables produced in the area. The prices announced over the radio are held as the basis for comparison with what the producers actually receive. Table 32 gives the actual prices received by the farmers from different marketing agencies in comparison with the prices announced over the radio.

Table 32: Prices received by the farmers in relation to to the Colombo wholesale market prices.

Marketing Channel Used		Total No reporting	Number of farmers reporting Higher price	Same price	Lower price
Commission Agent		23	4	6	13
Commission Agent & Co-operative		15	1	6	8
Co-operative		6	-	1	5
Wholesale fair		8	1	1	6
All	No	52	6	14	32
	%	(100)	(14)	(27)	(59)

Of the 52 farmers who were able to provide a definite comparison, 32 (59%) indicated that the prices received by them are generally lower than those released over the radio, while 14 of them (27%) indicated that they are almost the same and only 6 growers (14%) obtained a higher price. The fact that nearly 60% of the farmers reported that they receive lower prices than the Colombo wholesale market prices supports the common complaint made by the growers in this area that the marketing agencies (commission agents as well as co-operative) pay them a lower price. It may be that this is due to the commission agents under-invoicing the prices or that the prices announced over the radio are over estimations or both.

It is seen from the foregoing paragraphs that price information broadcast over the radio certainly serves a useful purpose in keeping the growers of the area informed of the current wholesale prices at their principal sales point. However, full awareness of the wholesale prices in Colombo alone would not place the producer in a better position. This is due to a variety of problems associated with production and marketing of vegetables.

The following are some of the major problems confronted by the farmers:

i. The perishable character of the vegetables and lack of storage facilities prevent the producer from making maximum use of price fluctuations to his advantage.

ii. Absence of suitable competitive marketing agencies result in the dominance of the private marketing channels.

iii. The producer is heavily indebted to the private marketing agencies and consequently the benefit of higher prices is denied to him.

CHAPTER 7

STRUCTURE AND BEHAVIOUR OF PRICES

In this Chapter an attempt is made to examine (a) the disparities of prices received by growers from the marketing agencies: (b) pattern of seasonal fluctuations of prices; (c) the marketing costs incurred at various stages before the produce reaches the consumer.

a) Price Disparities among the Marketing Agencies

In order to compare the prices paid by various agencies to producers in this area, data was gathered from three different sources for the period under reference. They were the producers, the Udapalatha Co-operative Society and the Marketing Department. This analysis was restricted only to three vegetables as year round data was available in the co-operative society only for cabbage, bean and carrot. Since it is difficult for farmers to remember the prices received for various types of vegetables sold throughout the year, only information on highest and lowest prices received by them were ascertained.

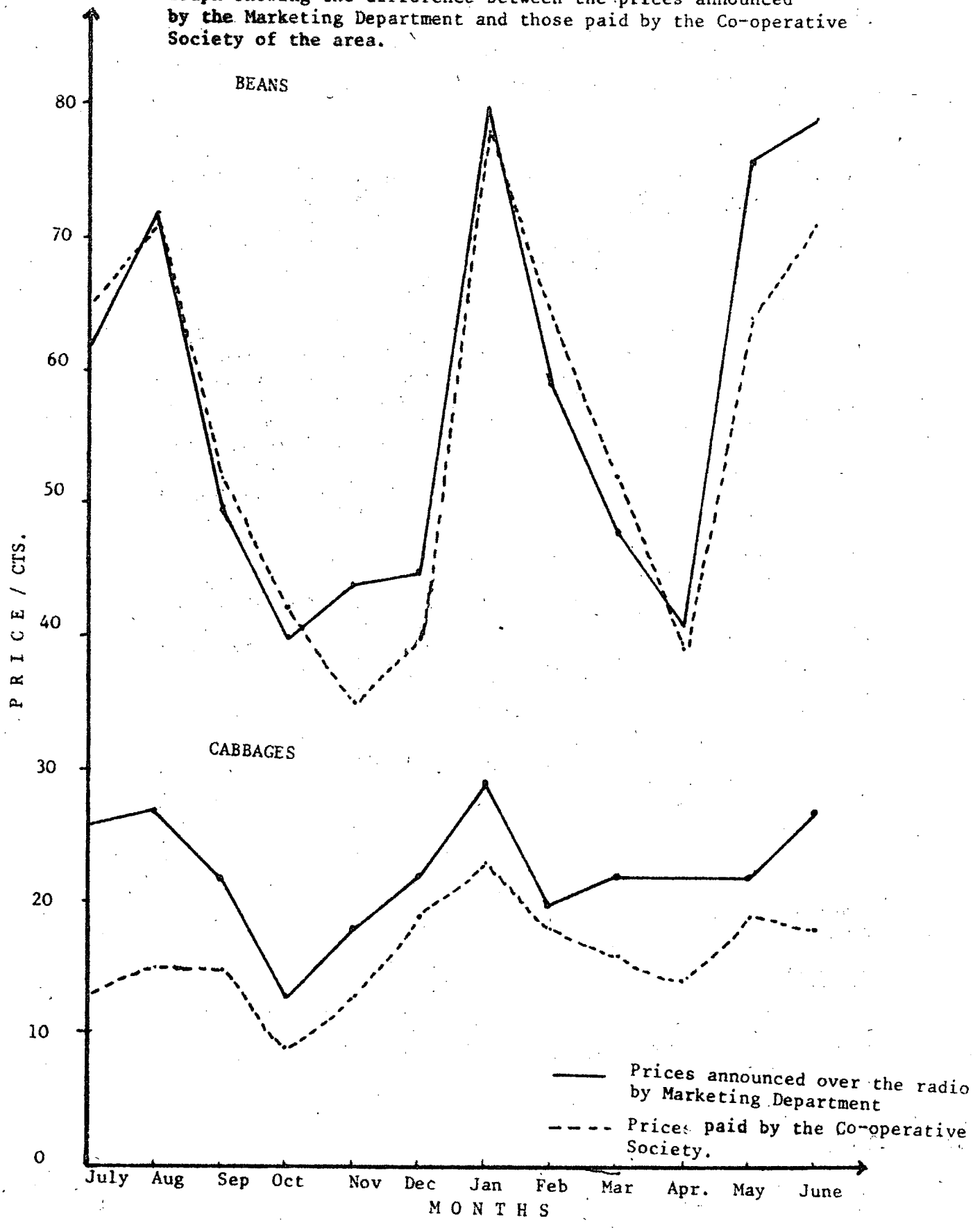
According to Table 33, 73% of the farmers have indicated that the commission agents pay relatively higher prices for their vegetables. This was the main reason given by the producers for selling their produce through the commission agents. All the 19 farmers who sell their produce both to the commission agents and the co-operatives have indicated that the commission agents pay the highest price for their produce.

Table 33: Farmers' views regarding prices paid by the different marketing agencies

Marketing Agents	Total Farmers	Agency which offers the best price			
		Commission Agents	Co-operative	Fair	Individual Assembly Traders
Commission Agents	40	37	-	-	3
Commission Agents & Co-operative	19	19	-	-	-
Co-operative	6	1	5	-	-
Fair	10	-	-	9	1
Individual Assembly Traders	3	-	-	-	3
Total	78	57	5	9	7
%	(100)	(73)	(6)	(12)	(9)

F I G U R E 7.1

Graph showing the difference between the prices announced by the Marketing Department and those paid by the Co-operative Society of the area.



Based on data obtained from the Marketing Department and Co-operative Society Udapalatha

Table 34: Comparison between the wholesale prices announced by the Marketing Department and the prices paid by the Co-operative Society

	Cabbage			Beans			Carrots		
	Low-est	High-est	Ave-age	Low-est	High-est	Ave-age	Low-est	High-est	Ave-age
Wholesale prices announced by the Marketing Department (cents	12	29	22	40	80	58	23	78	44
Prices paid by the Co-operative	09	23	16	35	78	56	18	35	28
Difference (M-C)	03	06	06	05	02	02	05	43	16

Data in Table 34 compares the wholesale prices announced by the Marketing Department with those paid by the Udapalatha Co-operative Society. This data shows that the prices paid to producers by the co-operative society are always less than the Colombo market prices announced by the Marketing Department. Figure 7.1 shows this relationship more clearly particularly in the case of cabbage where the prices paid by the co-operative society have been always less than the prices announced by the Marketing Department. However, in the case of beans in a few isolated instances the co-operative has paid higher prices.

Tabe 35 indicates the differences in price per pound received by growers (from each marketing channel) and the prices announced by the Marketing Department. It could be observed that the farmers who sell their vegetables through the co-operative society generally tend to receive lower prices compared to those who market through the commission agents. Consequently, although the co-operative intends to widen its purchasing activities, farmers could not be expected to respond as they would always prefer to sell their vegetables through an agency that gives them a better price.

Table 35: Difference between the prices announced by the Marketing Department and those received by the producers

	Cabbages			Beans			Carrots		
	Lowest cts	Highest cts	Average cts	Lowest cts	Highest cts	Average cts	Lowest cts	Highest cts	Average cts
a. Prices announced over the Radio by the Marketing Dept. (cents)	12	29	22	40	80	58	23	78	44
b. Prices received by producers from:									
1. Commission Agents	13	35	20	52	82	64	20	61	38
2. Co-operative	09	30	16	26	74	55	NA	NA	NA
3. Fair	12	37	20	26	82	51	20	57	33
4. Individual Assembly Traders	15	35	20	NA	NA	NA	25	70	35
Difference between (a) and (b) above									
1. Commission Agents	+01	+06	-02	+12	+02	+06	-03	-17	-06
2. Co-operative	-03	+01	-06	-14	-06	-03	NA	NA	NA
3. Fair	0	+08	-02	-14	+02	-07	-03	-21	-11
4. Individual Assembly Traders	+03	+06	-02	NA	NA	NA	+02	-08	-09

b) Seasonal Variation in Prices

The prices of most farm products tend to fluctuate through the growing season. These fluctuations are greater in the case of perishable produce such as vegetables. Surplus vegetables reaching the markets during the peak harvesting periods in the major producing areas cause severe fluctuation in prices. These price fluctuations also cause uncertainty in the income levels of vegetable growers who depend mainly on income derived from vegetable cultivation.

Three principal vegetables grown in Palugama area, namely, cabbage, bean and carrot were chosen to examine the pattern of seasonal price variations. The monthly average prices for these vegetables were collected from the records of the Marketing Department for the five year period commencing from July 1968. In computing the seasonal variation in prices the aggregate method was used.

Tables 36, and Figure 7.2 show the indices of seasonal variation in wholesale prices of cabbage, beans and carrots at the Colombo wholesale market. It is seen that the average prices of these vegetables for the five year period have been ⁄20, ⁄55 and ⁄40 cents for cabbage, beans and carrots respectively. This data shows that the seasonal index of prices for cabbage reached its peak (117) in June, and fell to the lowest in October (83). Similarly beans too had recorded the lowest price index in October (76). The highest was reached in May (127) which indicates that the price fluctuation in respect of beans is greater than in the

Table 36*: Indices of Seasonal Variation in Wholesale Prices of Cabbages, Beans and Carrots, Colombo Market (1969-1973)

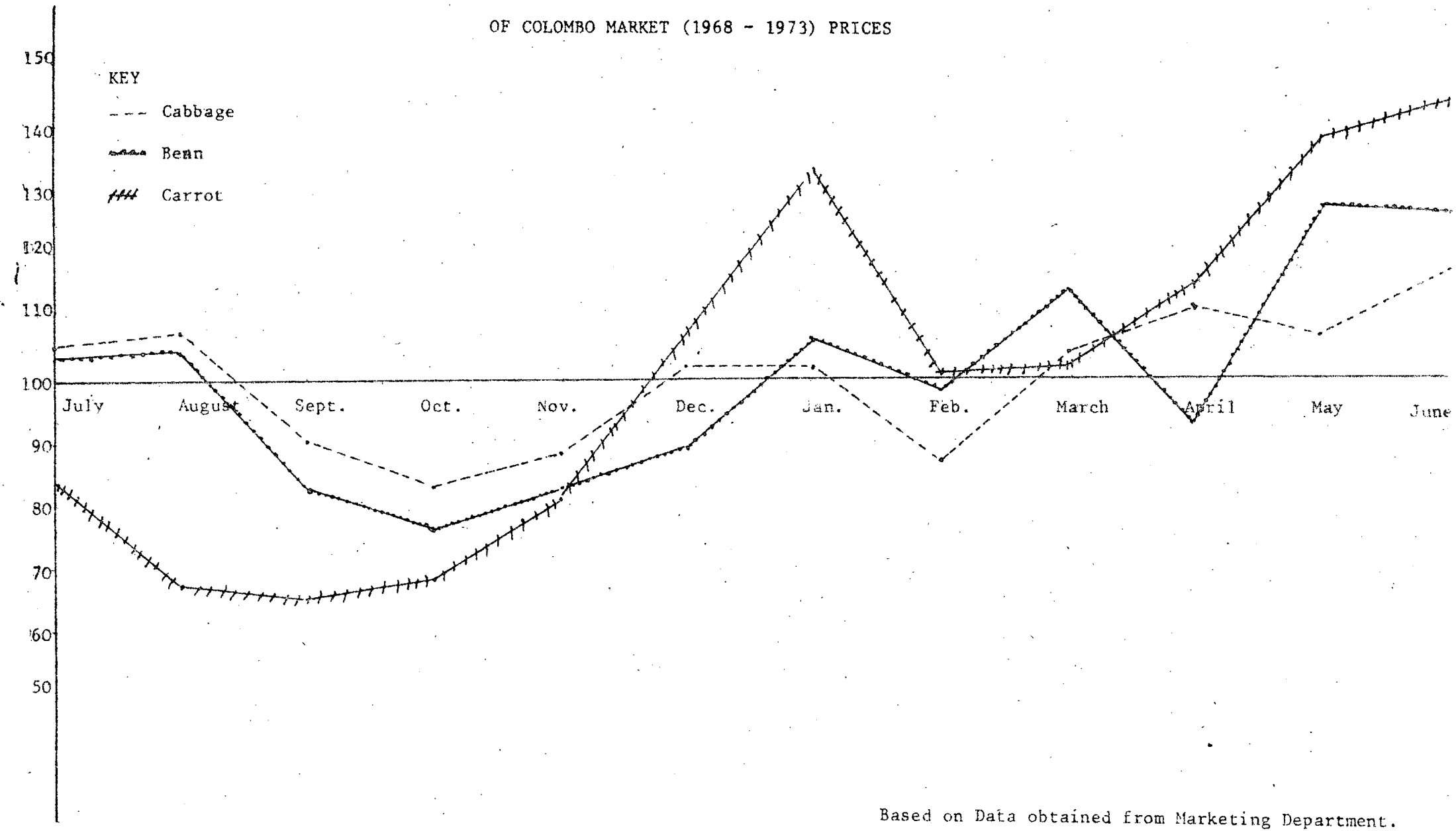
Months	Cabbage		Beans		Carrots	
	Average price per lb cts	Index of seasonal variation	Average price per lb cts	Index of seasonal variation	Average price per lb cts	Index of seasonal variation
July	20.4	104.6	57.4	103.2	33.2	83.6
Aug.	20.8	106.7	58.0	104.3	26.4	66.5
Sept.	17.6	90.3	45.6	82.0	25.6	64.5
Oct.	16.2	83.1	42.4	76.3	26.8	67.5
Nov.	17.2	88.2	45.4	81.7	32.0	80.6
Dec.	19.8	101.5	49.2	88.5	42.0	106.8
Jan.	20.0	101.5	58.8	105.8	52.6	132.5
Feb.	17.0	87.2	54.2	97.5	40.0	100.8
March	20.2	103.6	63.6	114.4	40.4	101.8
April	21.6	110.8	51.6.	92.8	45.8	115.4
May	20.8	106.7	70.8	127.3	54.6	137.5
June	22.8	116.9	69.8	125.5	57.0	143.6
	19.5	100.0	55.6	100.0	39.7	100.0

* Based on data collected from the Marketing Department

F I G U R E 7.2

GRAPH SHOWING THE SEASONAL INDICES OF CABBAGE BEAN AND CARROT

OF COLOMBO MARKET (1968 - 1973) PRICES



Based on Data obtained from Marketing Department.

case of cabbage. The lowest price index was 67 in September and the highest was reached in June (144). It is of interest to note that among the three vegetables considered for this study both the lowest as well as the highest price indices have been recorded in respect of carrots.

Table 37 shows the percentage difference in prices worked out on the basis of data given in Table 36. It is noteworthy that the lowest difference in prices was in respect of cabbages (34%) while the highest (79%) was in the case of carrots. For beans the price difference was moderate (51%). The prices of carrots have therefore shown the greatest fluctuation among the three vegetables.

Table 37: Amplitude of seasonal variation in prices

Variety of vegetables	Index of Seasons Low	Index of Season High	Difference
Cabbage	83.1	116.9	33.8
Beans	76.3	127.3	51.0
Carrots	64.5	143.6	79.1

The differences in price fluctuations could be attributed to a number of reasons:

(i) Since cabbage is grown in the different agro-climatic regions in this country the supply position of this vegetable during a greater part of the year is very regular.

(ii) As cabbage is a relatively cheaper vegetable consumed mostly by the lower income groups, the demand does not fluctuate to any appreciable extent. Hence prices tend to remain relatively more stable.

(iii) Unlike cabbage, carrot is grown only in a selected few areas and consequently supply is not regular throughout the year. Data is not available with regard to quantities received in the Colombo wholesale market during the different months of the year. In addition carrot is a vegetable that is consumed mostly by the affluent sections of the community. As a result of fluctuations in supply, the price tends to fluctuate more markedly as the demand is relatively price inelastic.

Cabbage:

Due to the seasonal price variations the wholesale prices for cabbage are less than average during September, October, November and February. In Palugama cabbage is grown on the highlands during the rainy season commencing in June and ending in December. Cabbage reaches the market 2½ - 3 months after planting i.e. in September, October November during which period the price paid for it in the Colombo market is very low. In the Yala season paddy fields in this area are cultivated mostly with high value vegetables such as potatoes and beans. Thus, only very little quantity of cabbage reaches Colombo from this area in the remaining months of the year. The cabbage grown in this area is poor in quality compared to the varieties grown in Nuwara Eliya district (Kandapola) and very often fetches lower prices than those produced in Kandapola. Price variations for cabbage at the Colombo wholesale market cannot be

explained fully with the data collected in this area as this is a crop that is grown on a commercial scale in Kandy, Nuwara Eliya districts and also in some parts of the dry zone.

Beans:

The price of beans was less than average during the months of September, October, November, December, February and April, the price index being less than 100. Although there are only two major cultivation seasons in the area in the case of beans, it was found that there are three planting seasons due to the climatic variations within the area. The three planting seasons fall in January, July and November. The most common type of beans grown is the pole bean which takes normally 2½ months to bear.5-7 pickings of pods are taken at intervals ranging from 5-10 days. It could thus be seen that the peak production period in this area falls in the months of October, February and April when low prices prevail in the Colombo market.

Carrots:

The type of carrots grown in this area takes 3½ months from sowing to harvest. In the four villages selected for this study, this crop was grown only in one village, namely Harakgamakanda, on a large scale. Normally sowing commences in March and extends until July which makes this crop available in the market during the period, July to October. During this period due to stormy winds crops such as beans cannot be grown. These months again coincide with the period when price of carrots is low in Colombo Consequently producers in this area receive lower prices.

Although the price variations in Colombo market cannot be explained in terms of the pattern of production in Palugama area alone, we are of the view that a large proportion of the three vegetables under study produced in this area also reach Colombo market during the period when vegetables from other areas are plentiful. Consequently the prices tend to go down further which in turn affect adversely the incomes of the producer.

c) Price Spreads and Marketing Costs

It was seen earlier that the differences between wholesale and retail prices vary considerably in the case of some vegetables. It was therefore decided to study the price spread of a few selected vegetalbes, viz. - cabbage, beans and carrots and compute the marketing margins and costs of services provided by intermediaries.

There are a number of methods by which price spreads can be studied such as lot method, aggregate method and mode method. It was our intention to study the price spread using the lot method, but due to a number of difficulties it was not possible to use this method in this study. In this method, costs and margins have to be worked out by selecting specific 'lots' of the commodity transacted in the consumer markets. The lots have then to be traced back to the source of origin. The main obstacle to using this method is the difficulty of tracing a lot at different levels in the marketing channel. At the commission agent level the marketing costs and margins could be worked out because they indicate to the producer the transport cost and their commission in respect of each consignment.

But retailers who purchase their vegetables through the commission agents do not indicate their costs and margins.

In view of these reasons the mode method was used in this study it was possible to use this method as prices for the same kind and quality of vegetables were easily obtainable at different marketing points. Model prices at the different points in the marketing channel were compared to obtain the gross margins of various agencies. The net margin of intermediaries was computed by deducting marketing costs from gross margins.

The wholesale prices for kidney beans No.1, carrots No.1 (with leaves) and uncleaned cabbages were collected at the wholesale market Kachcheri Road, Colombo for 5 consecutive days between 8.00 a.m. to 9.30 a.m. and were averaged. The collection of data was limited to the private channel as it is more typical of vegetable trade. The price data obtained from the marketing department was utilized for comparison purposes with the data collected by us independently. Since the producers themselves do not keep records of sales of vegetables the prices at the producer level were calculated using wholesale prices and records of Udapalatha Co-operative Society for the reference period. The retail prices for vegetables of the same quality were collected from the two municipal markets at Wellawatte and Thimbirigasyaya and from retailers at Kirillapone for the same period between 3.00 - 4.30 in the afternoon. The collection of data at wholesale and retail levels was undertaken during the first week of December 1973.

i) Cost Incurred to Transport Vegetables to the Retail Markets.

Transport costs to the retail markets vary both according to distance and the type of transport used, and consequently transport charges vary with each lot of vegetables. This tends to cause variations in the prices at retail level. For purposes of uniformity it was assumed that vegetables were transported by lorries/vans to the retail markets from the Pettah wholesale market and the charges were computed at Rs.1/- per bag (1 cwt) for all types of vegetables. This is the normal standard rate charged by most of the van and lorry owners.

ii) Cleaning and Preparation of Produce for Retail Sale

Cleaning and preparation of produce are attended to with a certain degree of refinement at the retail level though occasionally some cleaning is also done at the wholesale level. The loss of weight incurred due to cleaning, preparation and spoilage was ascertained from retailers at the three retail markets studied. The data collected are summarised in Table 38.

Table 38: Loss of Weight due to Cleaning, Spoilage etc.

Types of Vegetables	Quantity of Vegetables at the Wholesale Market	Retail Equivalent	Loss in Weight
Cabbage	100 lb	75 lb	25 lb
Beans	100 lb	92 lb	8 lb
Carrots	100 lb	80 lb	20 lb

Due to variability in quality, the difference between the quantity of vegetables in the wholesale market and the actual quantity available for sale at the retail outlet after cleaning etc. varies even within each lot of the same kind of vegetables. The extent of loss also varies depending on the time lag involved between purchase and sales. It has been assumed ~~that~~ for purposes of this study that the time lag does not exceed two days.

iii) Operating Costs of Traders

The operating costs of individual traders vary depending on the volume of vegetables handled during the year. For purposes of costing it is necessary to distribute the operating costs to every 1 cwt of vegetables, in proportion to the volume handled by the individual traders. We were unable to gather information relating to the volumes of vegetables handled by the traders. The margins referred to in this analysis are presented together with the operating costs involved.

iv) Sales Commission

It is often said that the commission agents pay the producers a price lower than the actual price realised at the market. Growers as well as retailers confirmed this view. There is room for under-invoicing of prices by the wholesalers as prices of vegetables tend to fluctuate sharply at different times of the day. Normally the prices that prevail in the afternoon are lower than the prices in the morning. This gives an opportunity to the commission agents to indicate the lower prices to producers. This matter however needs further investigation and the 'lot' method ~~is~~ Should be used to ascertain the true situation. In our analysis a flat rate of 10% commission has been considered as the charge made by commission agents.

Table 39 prepared on the basis of quantities given above gives a break down of the price differentials at the different levels of the marketing channel in respect of the three vegetables. A detail breakdown of the costs and margins ~~are~~ given in Table 40

Table 39: Price spread by different stages of marketing for selected vegetables

Stages of Marketing	Cabbages (100 lbs) Cost Rs.	Cabbages (100 lbs) Price Rs.	Beans (100 lbs) Cost Rs.	Beans (100 lbs) Price Rs.	Carrots (100 lbs) Cost Rs.	Carrots (100 lbs) Price Rs.
1. Producer level:						
Net price received by growers		7.05		61.95		49.35
%		(18.6)		(55.3)		(44.9)
Transport	3.50		3.50		3.50	
Unloading	.25		.25		.25	
Sales Commision (10%)	1.20		7.30		5.90	
2. Commission Agents/; Wholesalers level		12.00		73.00		59.00
3. Sub-wholesalers level	12.00		73.00		59.00	
Sub-wholesalers margin and operating costs	6.00	18.00	12.00	85.00	15.00	74.00
4. Retailers level	18.00		85.00		74.00	
Loading and Handling	.50		.50		.50	
Transport	1.00		1.00		1.00	
Losses due to cleanning, preparation, spoilage etc.	6.00		7.65		18.50	
Retailers margin and operating costs	12.50		17.85		16.00	
5. Price paid by the consumers		38.00		112.00		110.00
%		(100.0)		(100.0)		(100.0)
6. Gross Marketing margin (5-1)	30.95		50.05		60.65	
	(81.4)		(44.7)		(55.1)	

Table 40: The prices paid by consumers and the shares accruing to the producer and others

	Cabbage 100 lbs		Beans 100 lbs		Carrots 100 lbs	
	Price/ margin Rs.	% of consumer price	Price/ margin Rs.	% of consumer price	Price/ margin Rs.	% of consumer price
1. Producer	7.05	(18.6)	61.95	(53.3)	49.35	(44.9)
2a. Commission Agents Margin	1.20	(3.16)	7.30	(6.52)	5.90	(5.4)
b. Sub-wholesalers Margin & Costs	6.00	(15.79)	12.00	(10.72)	15.00	(13.64)
c. Retailers margin & cots	12.50	(32.9)	17.85	(15.9)	16.00	(14.5)
2. (a+b+c) traders total margin	19.70	(51.8)	37.15	(33.2)	36.90	(33.3)
3. Cost of all other marketing services	11.25	(29.6)	12.90	(11.5)	23.75	(21.6)
4. Consumer price	38.00	(100.0)	112.00	(100.0)	110.00	(100.0)

Subject to limitations in the price analysis referred to earlier, the producer's share has ranged from 19% to 55% of the price paid by the consumers. It is 19% for cabbages, 45% for carrots and 55% for beans. The percentage of consumer price received by the grower shows a direct relationship with the perishability of the commodity handled. The greater the perishability of the vegetables the smaller is the share of the price received by the growers. Another important feature which has a bearing on this situation is the fixed marketing costs that have to be incurred irrespective of the type of vegetables sold. These fixed costs include transport costs and unloading charges which amount to Rs.3.50 and -/25 cents per 1 cwt.

The commission agents' share is 10% of the wholesale price. It is smaller in relation to the price paid by the consumers and was 3, 7 and 5 percent of the consumer price of cabbage, beans and carrots respectively. In absolute terms it amounted to Rs.1.20, Rs.7.30 and Rs.5.90.. It is relevant in this context to refer to the 'hidden margin' obtained by the commission agents by under invoicing the produce they handle. In evaluating the services rendered by the commission agents it is essential to take into consideration the following aspects:

a) the risks taken by them in giving interest free loans to growers.

b) Social obligations of the commission agents

c) Costs incurred for correspondence with the farmers.

Unless the volume handled by each commission agent is large enough to cover risks and other overhead expenses such as rent and wages of the employees, it may be difficult to eradicate malpractices involved in marketing such as under invoicing etc.

The data in Table 40 shows that the share received by the sub-wholesaler is considerably greater than the share received by the primary wholesalers (commission agents) both in relative and absolute money terms. In money terms sub-wholesalers have got Rs.6/-, Rs.12/- and Rs.15 respectively for 100 lbs of cabbage, beans and carrots ~~respectively~~. This amounts to 16%,11% and 14% respectively of the prices paid by the consumers. The sub-wholesalers do not have to incur any of the costs generally borne by commission agents except some overheads such as rents and wages.

The share received by the retailer is the highest in respect of all the three vegetable . Retailers have got Rs.12.50, Rs.17.85 and Rs.16.00 for 100 lbs of three vegetables. These prices have amounted to 33%, 16% and 15% of the prices paid for cabbages, beans and carrots respectively. It cannot however, be concluded that the retailers are responsible for the wide disparity in prices between the producer and the consumer. Generally, individual retailers handle only a small quantity of vegetables each day, and as pointed out earlier, if the time lag between purchase and sales exceeds two days, the amount of losses incurred in handling would be relatively larger. In such an eventuality the margins that would accrue to the retailer would decrease substantially. It is however relevant to point out that the margin and operating costs of the commission agent, the sub-wholesaler and the retailer are very much higher than those of all the others who provide marketing services such as transport, loading, unloading and cleaning. Costs and margins to the latter group amounted to only 30%, 12% and 22% for cabbages, beans and carrots respectively, while the cost and margins to the former group accounted for 52%, 33% and 33% of the consumers' price.

From the foregoing analysis it is clear that about 81%, 47% and 55% of the consumer price in respect of cabbages, beans and carrots were absorbed by the marketing channel. Although the produce is sold in an unprocessed form, the above percentages cannot be considered as small. It is therefore desirable that efforts should be directed towards lowering this spread.

SUMMARY AND CONCLUSIONS

This study was conducted at four purposively selected villages in Palugama - a principal vegetable producing area in Sri Lanka, primarily to ascertain the important features relating to the production and marketing of vegetables The study deals with varied aspects pertaining to both production and marketing.

1.1 The average size of holding per farm including both highland and lowland ranges from 1.4 acres in Harakgamakanda to 3.6 acres in Ududbadana. However, most of the holdings are small in all four villages, particularly in Harakgamakanda where 60% of the holdings are less than 1/2 acres in extent. In all the villages selected for the study, highland constituted about 60-80% of the operational holding.

1.2 All the farmers in the sample indicated that vegetable crops constitute the main source of their income and that they receive no-income from permanent crops. While in Harakgamakanda no paddy is grown at all, in other villages paddy is grown only in Maha, mainly for consumption. In Girambe tobacco cultivation accounted for 29% of the cultivated land during the period under reference. The index of cropping intensity was highest in Harakgamakanda being 1.6 while in Udubadana and Girambe it amounted to 9.1 and 1.1 respectively. An overall reduction in the cropping intensity was evident in all the villages due to the drought experienced in the area during the period. The most common types of vegetables grown in these villages were beans, potatoes and cabbages except in Harakgamakanda where carrot cultivation takes precedence over other crops.

1.3 The total cash returns per farm during the year under consideration ranged from Rs. 4,215/- to Rs.1,068/- in Harakgamakanda and Dambawinna respectively. In Ududbadana and Girambe it was Rs.4,082/- and Rs.1,716/- per farm respectively. Cash returns from vegetables in Harakgamakanda formed 98% of the total farm income while in Udubadana it was 86%. The farmers of the area are almost exclusively dependent on vegetable cultivation.

1.4 The cash need of the vegetable grower is great particularly in villages where cultivation is more commercially oriented. The per farm cash expenses incurred for vegetable cultivation both during Maha and Yala seasons varied from Rs.2,700/- in Harakgamakanda to Rs.730/- in Dambawinna. The most important item of expenditure in all the villages was the cost of material inputs such as seeds, fertiliser and agro-chemicals which accounted for 41% in Harakgamakanda and 74% in Dambawinna. The expenses incurred for disposal of produce made up largely of transport costs ~~of vegetables to Colombo~~ ranged from 25% to 33% of the total cash costs involved.

1.5 *The net cash farm income per year was highest in Harakgamakanda amounting to Rs.1,465/- while it was lowest in Dambawinna amounting to Rs.270/-.*

1.6 *A significant aspect associated with vegetable cultivation in the area is the strikingly heavy incidence of debt. The loans obtained were mainly used for vegetable cultivation. The sources from which the cultivators obtained credit are the commission agents, the Co-operative Societies, the Co-operative Rural Banks and private traders. The most important of these are the commission agents and the Co-operative Societies. It was observed that the Co-operative Societies extended loan facilities primarily to potato cultivators, while the commission agents provided loans for other varieties of vegetables.*

1.7 *It was evident throughout the study that in two villages viz. Harakgamakanda and Udubadana where the commission agents (private traders) dominate, the costs per farm, the cropping intensity as well as the returns per farm are higher than that of Girambe where Co-operative marketing predominates. It was also clear that small scale farmers usually sell their vegetables through the local fair or through Individual Assembly traders and this was true of Dambawinna village.*

1.8 *The two major channels of marketing open to the vegetable growers in the area are the Co-operative and the Commission Agents/Wholesalers. Although the amount of vegetables handled by the Udapalatha Co-operative Society is relatively small it plays an important role in Palugama. However, as the competition offered by the Co-operative is inadequate the private channels of marketing play an increasingly major role. The Marketing Department is not popular among the growers.*

1.9 *The existing methods of harvesting, packing and grading in the area are mostly of a traditional nature. Preparation of produce for sale is not systematically undertaken at the producers' end. The prevailing marketing system gives no incentive for an improvement of the present practices.*

1.10 *The need to reduce transport costs was stressed by producers. They felt that if improvements are effected in the transport system it could eliminate wastage and facilitate a higher price to producers.*

1.11 *The wholesale market prices broadcast by the Marketing Department over the radio help the producer to obtain a fair price.*

1.12 *The types of vegetables ordinarily collected by the Co-operative are cabbage and beans. Although the Co-operative Society supplied seed potatoes to farmers, only 6% of the produce had been sold to it by the farmers in the sample during the Maha season 1972/73.*

1.13 The prices offered by the Co-operative are usually lower than that offered by the Commission Agents. This perhaps accounts for the relatively small volume of vegetables collected by the Co-operative. Farmers who sold their vegetables to the Commission Agents often received prices higher than those announced by the Marketing Department.

1.14 Transport costs and commission charged from the vegetable producer by both the Commission Agents and the Co-operative are more or less the same. Consequently, the amount received by the producers who utilise the co-operative as their marketing outlet is generally less thantthat received by the farmers who dispose of their produce through the Commission Agents.

1.15 Cabbage grown in Palugama, being of an inferior quality, fetches lower prices than those grown in Kandapola while the beans grown in the area are of a higher quality. The peak harvesting periods of the popular varieties of vegetables grown in Palugama coincide with the periods of low prices at the Colombo market.

1.16 The profit margin and the cost of operational expenses of the middlemen ranged from 52% of the consumer price for cabbages to 33% for carrots and 34% for beans. The producers share was 19% for cabbages, 45% for carrots and 55% for beans. The cost of all other marketing services ranged from 11% of the consumer price for beans to 28% for carrots and 30% for cabbages. This shows that about 81% of the prices paid by the consumer in the case of cabbage, 45% in the case of beans and 55% in the case of carrots are absorbed by the marketing channel

1.17 The extent of loss incurred due to damage and poor handling of the produce varies with the types of vegetables. The wastage amounted to 25% of the quantity for cabbages at the wholesale level whereas for beans it was only 8% . In the case of carrots it was nearly 20% of the amount handled.

RECOMMENDATIONS

1. It has been shown in this study that at present more than 90% of the vegetables sent to the Colombo Market from the Palugama area is handled by the private marketing agencies. There are two national level organisations which compete with these private agencies at the wholesale level namely, the Marketing Department, and the Co-operative Marketing Federation. In addition, the Udapalatha Co-operative Society has also its own wholesale stall at the Colombo Wholesale Market. The quantities handled by these institutions are not large enough to offer effective competition to the private wholesale traders. *If the price gap between the producers and consumers is to be reduced there should be alternative marketing channels which are strong enough to compete with these private agencies especially at the wholesale level.*

2. There is considerable scope for improving the co-operative marketing system. The Co-operatives could become effective competitors only if they purchase vegetables in such quantities as to influence prices at the assembly level. At present there are only a few village level purchasing centres operating under the control and supervision of the Co-operatives. *If the Co-operatives are to procure as much as possible of the local supplies of vegetables more village level purchasing centres should be established.* There are, however, some limiting factors that have prevented Co-operatives from playing a more dominant role in the production and marketing of vegetables.

3. The Co-operative Societies provide credit facilities to a large number of producers in the Palugama area at present. But a substantial amount of the credit given goes for potato cultivation and the amount of loans given for cultivation of other vegetables is comparatively small. We have shown that vegetable production and marketing are very intimately tied up with the sources of credit. *If more credit facilities are extended to growers it would result in a closer link being established between the Co-operative and the growers.* The relationship between the producer and the Co-operative could be strengthened if appropriate steps are taken to provide for an integrated system of marketing whereby the existing supporting agencies at assembly level such as the branch co-operative societies, the Co-operative Rural Banks, village level purchasing centres etc. are brought into the ambit of this system.

4. It has been shown that even where the Co-operatives provide credit facilities to the producer the produce is not necessarily sold to the Co-operatives. *This is primarily due to the low prices offered by the Co-operatives. If the Co-operatives could offer better prices for vegetables they are likely to receive larger quantities of vegetables which in turn would enable them to widen the scope of their marketing activities.* The expansion of marketing activities would

result in the more affluent section of the growers also making use of this marketing channel. It is needless to say that expansion of marketing activities would also result in the Co-operative mobilising the savings of the farmers to augment their capital resources which could profitably be used for lending purposes.

5. *Another important reason why Co-operatives do not receive large quantities of vegetables is the inadequate arrangements provided by them at the wholesale level.* The Udapalatha Co-operative Society which has a wholesale stall in the Colombo Market handles only limited supplies of vegetables. The All Ceylon Producers Association which has now been superseded by the Co-operative Marketing Federation also handles limited supplies of vegetables. The situation has now changed with the Marketing Department operating a wholesale floor in Colombo. As the Marketing Department would absorb larger quantitites of vegetables the Co-operatives should concentrate their efforts towards purchasing more produce in the area and channelling them to the Marketing Department wholesale floor. It has been observed that the turnover in the Colombo wholesale market operated by the Marketing Department has shown a marked increase in the last few months.

6. The link between the Co-operative Societies in Palugama and the Co-operative Marketing Federation in Colombo does not seem to be satisfactory. It has been observed that the vegetables produced in the area do not reach the Co-operative Marketing Federation but reach the Marketing Department wholesale floor. Wholesale marketing in vegetables is now undertaken by more than one organisation namely, the Marketing Department, the Co-operative Marketing Federation, the Udapalatha Co-operative Society and the private traders in the Pettah Market. *It is not difficult to combine the activities of the Marketing Department, the Co-operative Marketing Federation and the Udapalatha Co-operative Society into a more effective integrated system of marketing. These organisations should also get together and improve the conditions of the wholesale market and arrange for the introduction of better marketing practices such as improved grading and packing.* The combined effort of these organisations would be advantageous not only to the organisations concerned but to the producers as well as this would result in better prices being offered to them.

7. Much has been said of the 'hidden margin' enjoyed by the Commission Agents. If the Commission Agents are to be deprived of this additional margin *adequate steps should be taken to disseminate more reliable price information.*

8. It is known that steps are being taken to relieve congestion in the Colombo Market. This has to be attended to as early as possible as congestion in the market has led to avoidable waste and spoilage of produce.

ANNEX 1

Size and Distribution of Operational Holdings by Villages

Size of Holding (Acres)	No of Farms			
	Harakgamakanda	Ududadana	Girambe	Dambawinna
Less than ½	8	-	-	-
½ to less than 1.0	14	-	-	-
1.0 to less than 2.0	8	5	4	3
2.0 to less than 3.0	2	6	3	3
3.0 to less than 4.0	1	2	1	1
4.0 to less than 5.0	1	2	2	2
5.0 and above	4	5	1	
All sizes	38	20	11	9

ANNEX 2

Tenurial ~~Tenurial~~ Status by Villages (farmers reporting)

Tenurial Status	Harakga-makanda		Ududbadana		Girambe		Dambawinna	
	No.	Av. Ext (acres)	No.	Av. Ext. (acres)	No.	Av. Ext. (acres)	No.	Av. Ext. (acres)
Owned	31	1.2	20	3.0	11	1.2	6	1.6
Jointly Owned	3	.5	2	.3	1	1.0	2	.6
Rented-in	7	1.5	6	.4	6	1.5	7	3.8
Encroachments	11	.6	5	1.8	3	1.2	-	-
All	38	1.4	20	3.6	11	2.6	9	2.6

ANNEX 3

Material Inputs Used per Farm per Village

Type	Villages			
	Harakgamakanda	Ududadana	Girambe	Dambawinna
Seed/Planting material	497.94	725.05	110.44	343.00
Fertlizer	515.62	465.25	216.97	170.00
Agro-chemicals	75.32	90.60	46.44	21.45
Organic manure and lime	20.04	18.25	7.60	6.40
All Inputs	1,108.92	1,299.15	381.45	540.85

ANNEX 4

Total Cash Farm Income Classified according to marketing channel (Maha 1972 and Yala 1973)

	Commission Agent		Commission Agent and Co-operative		Co-operative		Wholesale Fair		Individual Assembly Traders	
	Amt Rs.	%	Amt Rs.	%	Amt Rs.	%	Amt. Rs.	%	Amt Rs.	%
Agriculture										
Vegetables	4084	98.7	3553	85.	2071	62.0	773	57.9	1362	82.5
Paddy	-	-	4	.1	47	1.4	-	-	121	7.3
Other crops	-	-	10	0.2	98	2.9	411	30.8	-	-
Livestock	25	0.6	16	.4	59	1.8	-	-	100	6.0
Non-agricultural sources	28	0.7	581	13.9	1066	31.9	150	11.3	67	4.1
Total	4137	100.0	4164	100.0	3341	100.0	1334	100.0	1650	100.0

ANNEX 5

Annual Cash Expenditure per Farm for Vegetable Production and Marketing classified according to Marketing Channel

Cost Component	Marketing Channels Adopted: Commission Agents		Commission Agents and Co-operative		Co-operative		Wholesale Fair		Individual Assemby Traders	
	Amt. Rs.	%	Amt. Rs.	%	Amt. Rs.	%	Amt. Rs.	%	Amt Rs.	%
Labour costs	845	31.0	410	19.0	115	12.0	133	22.4	12.	3.2
Material Inputs	1144	42.1	1215	56.5	468	49.1	441	74.1	378.	95.0
Land Rent and other hired items	47	1.7	6	.3	3	0.3	2	.3	4.	1.0
Transport of produce	312	11.5	240	11.5	193	20.2	14	2.4	2.	.5
Sales commission	368	13.6	275	12.7	175	18.3	5	.8	-	-
Total Cost	2716	100.0	2146	100.0	954	100.0	595	100.0	396.	100.0

ANNEX 6

Operationwise Distribution of Labour Costs per farm classified by marketing channel

ITEM	MARKETING AGENCY				
	Commission Agent	Commission Agent and Co-operative	Co-operative	Wholesale Fair	Assembly Traders
Land Preparation	345	218	51	73	10
Planting	27	26	5	9	-
Irrigation	137	1	-	-	-
Weeding & earthing-up	108	21	-	10	-
Other after-care operations	48	23	27	17	-
Harvesting	80	32	5	11	-
Value of food provisions	100	89	27	13	2
Total	845	410	115	133	12

ANNEX 7

Quantity of Vegetables sold during the period of Maha 1972/73 to various Marketing Agencies by the farmers in the sample

Marketing Channels	Harakgamakanda	Udubadana	Girambe	Dambawinna
Commission Agent	1,265 (94.8)	590 (80.0)	30 (14.1)	32 (16.5)
Co-operative	- (-)	148 (20.0)	138 (64.8)	- (-)
Local Fair	6 (0.5)	- (-)	44 (20.7)	133 (68.6)
Assembly Traders	63 (4.7)	- (-)	1 (0.4)	29 (14.9)
All Groups	1,334 (100.0)	738 (100.0)	213 (100.0)	194 (100.0)

ANNEX 8

Sources from which the farmers obtained their loans - classified according to the marketing channel adopted.

Marketing Channel	Total No.	Co-operative Society		Co-operative Rural Bank		Peoples Bank		Commission Agnet		Private trader		Relatives and Neighbours	
		No.	Amt per borrower Rs.	No.	Amt per borrower Rs.	No.	Amt per borrowers Rs.	No.	Amt per borrower Rs.	No.	Amt per borrower Rs.	No.	Amt. per borrower Rs.
Commission-Agent	40	18	451	3	467	9	615	24	1090	2	350	7	736
Commission-Agent & Co-operative	19	15	668	7	1100	1	750	10	61	1	1000	8	2760
Co-operative	6	2	650	2	875	-	-	-	-	-	-	2	775
Wholesale Fair	10	3	560	-	-	-	-	-	-	3	633	2	200
Assembly Traders	3	2	149	-	-	-	-	-	-	-	-	1	750

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