

Research Report  
2011-12



National  
Institute of  
Agricultural  
Marketing  
(NIAM)

**Jaipur**

Rajasthan

**INVESTMENT IN  
AGRICULTURAL  
MARKETING AND MARKET  
RELATED  
INFRASTRUCTURE AND  
AGRICULTURAL  
MARKETING SYSTEM IN  
THE ABSENCE OF APMC  
ACT - A CASE STUDY OF  
KERALA**

Report prepared by

Dr.N.Rangasamy  
Research Officer

## CONTENTS

CHAPTER	TITLE	PAGE NO.
	<b>FOREWORD</b>	
	<b>ACKNOWLEDGEMENT</b>	
	<b>EXECUTIVE SUMMARY</b>	
<b>1.0</b>	<b>INTRODUCTION</b>	1-3
<b>2.0</b>	<b>REVIEW OF LITERATURE</b>	4-7
<b>3.0</b>	<b>METHODOLOGY</b>	8-10
	3.1 Sampling methodology	8
	3.2 Data collection	9
	3.3 Analytical Framework	10
<b>4.0</b>	<b>DESCRIPTION OF THE STUDY AREA</b>	11-20
	4.1 Agriculture	11
	4.1.1 Trend in Area, Production and Productivity of Crops	11
	4.2 Kerala Agricultural Marketing System	13
	4.2.1 Department Of Agriculture Markets	13-15
	4.2.2 Local Self Government Controlled Markets	15-16
	4.2.3 State Government Organizations Associated With Agricultural Marketing in Kerala	16-19
	4.2.4 Central Govt. Organizations	20
<b>5.0</b>	<b>RESULTS AND DISCUSSION</b>	21-33
	5.1 Investment Made Under Agricultural Marketing Infrastructure	21-25
	5.2 Factors Influencing And Responsible For Lack Of Investment In Agricultural Marketing And Market Related Infrastructure In Kerala	26-27
	5.3 Perception of different Stakeholders About Agricultural Marketing Investment In Agricultural Marketing Infrastructure	27-33
<b>6.0</b>	<b>SUMMARY AND CONCLUSIONS</b>	34-39

	6.1 Suggested/Recommended Agricultural Market And Market Related Infrastructure Investment For Kerala	36-37
	6.2 Major Policy Recommendations	38-39
	<b>BIBLIOGRAPHY</b>	i
	<b>ANNEXURE</b>	I -VII

## LIST OF TABLES

TABLE NO	TITLE	PAGE NO.
3.1	Total number of stakeholders selected from Kerala	9
3.2	Area, Production and productivity of Principal crops	12
3.3	Total number of markets in Kerala	15
5.4	Investment under Scheme for Development and Strengthening of Agricultural Marketing Infrastructure, Grading and Standardization during 2005-06 to 2010-11 (Category of project wise investment for Kerala state)	22
5.5	Per cent Change in Investment during the years (2005-06 to 2010-2011) in Kerala	23
5.6	State Wise Investment Under AMIGS Scheme (As On 31-08-2011) Since Inception By Different Organizations (Per Cent )	24
5.7	State wise Investment in Rural godowns (Per cent ) (As On 31-08-2011)	25
5.8	Factors responsible for lack of investment in agricultural marketing and market related infrastructure in Kerala	26
5.9	Total investment requirement for all the suggested infrastructure (Rs Crores )	32-33

## FOREWORD

Agricultural markets in India are facing numerous problems in marketing of agricultural commodities in all the post harvest operations from cleaning to final distribution of agriculture produce. Currently, the advantages of globalization, privatization and liberalization flowing across countries and this advantage should be reaped in global and Indian markets through effective marketing of agricultural commodities by different stakeholders of India. However, effective marketing of agricultural commodities is caught up by traditional static policies and laws in agricultural marketing in India.

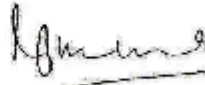
There is no APMC act in Kerala. The State does not have well developed agricultural market, related infrastructure, market information and market intelligence system. In spite of all these investment for improving market infrastructure is not coming forward. Keeping this in view the present study has undertaken to the reasons for lack of investment and suggest measures for attracting investment in agricultural marketing infrastructure.

The study was mainly based on primary as well as secondary source of information collected from different agricultural marketing organizations and various stakeholders of agricultural markets of Kerala. The results of the study clearly indicated that Kerala was attracting less investment (only 4.31 per cent) under AMIGS scheme since inception. Under Rural Godown scheme only 0.32 per cent of investment was attracted by Kerala. In addition to that, investment in agricultural marketing infrastructure in Kerala was influenced by so many factors except APMC act or lack of market regulation.

The study suggested to develop agricultural market and market related infrastructure of Kerala in several areas. Hence, total investment requirement for all the suggested infrastructure items is Rs 1267 crores. This research study recommended that Public Private Partnership should be promoted and private sector participation may bring in the much needed investment. In addition to that Kerala government may bring all the Local self Government markets under the control of Department of Agriculture.

It is expected that the research findings of this study would be helpful to planners, policy makers, administrators, researchers and other stake holders who are concerned with development of agricultural markets in Kerala and the whole country in general.

Place: Jaipur  
Date: 01-12-2011

  
Dr. R. P. Meena, IAS  
Director General, NIAM

#### ACKNOWLEDGEMENT

I express my deep gratitude to Mr. Ajith Kumar, Director (Agricultural Marketing), Department of Agriculture, Trivandrum, Government of Kerala for his constant support throughout the assignment which made me possible to carry out this assignment in a short period.

I would also like to thank Mr. Prakash Thambi, Deputy Director (Marketing) and Mr. John, Assistant Director (Marketing), Government of Kerala for their support during this assignment.

I also wish to thank Mrs. Regina, Assistant Director (Marketing), Thodupuzha, Mr. Saji, Technical assistant, Cochin, Mrs. Leikha, Assistant Director (Marketing), Calicut, Mr. Babu, Assistant Director, Wayanad and Mrs. Durga Priya, Secretary, Sultan Batherly market for their help and immense cooperation during the field visit to carry out this assignment.

I sincerely thank officers of the Directorate of Economics and Statistics, Trivandrum, Kerala, Directorate of Marketing and Inspection, Faridabad, NCDU, Trivandrum and other Kerala state government organizations who provided me the data which contributes to the crux of the research work.

I sincerely thank officers of the Directorate of Agriculture, VEFCK, HORTICORP and other Kerala state government organizations for their valuable contributions during stakeholders meet.

I am also thankful to all the farmers, traders and other stakeholders of agricultural markets who gave their valuable time in enlightening me towards sharing their views and suggestions. I hope that the recommendations of this report serve to lighten some of their problems.

Finally, I extend my special thanks to respected Dr. R.P. Meena, I.A.S, Director General, Dr. M.S. Jairath, Director (Research), NIAM and other NIAM faculty members who provided valuable suggestions and constructive criticism in making this research report complete.

Place : Jaipur

Date : 1.12.2011



(N.RANGASAMY)

## **EXECUTIVE SUMMARY**

Agriculture is a state subject; it is the responsibility of respective State Governments to take requisite steps for reforming agricultural marketing structure to move away from controlled markets to regulation, creating competition and promoting investment in markets as per the model act. Now, many states have introduced various aspects of agricultural marketing reforms and some states are in the process of amending their APMC act. But, there is no APMC act in Kerala. Further, Kerala state lacks well developed agricultural market and market related infrastructure and also having poor market information and market intelligence system. There is an apprehension that due to lack of APMC act in Kerala, agricultural market related investments are not coming up. Keeping these factors in view, the Kerala was suggested by Ministry of agriculture. Therefore, the present study was conducted to enlighten the various aspects of Investment in agricultural marketing and market related infrastructure in Kerala.

Four districts of Kerala viz. Idukki, Cochin, Kozhikode and Wayanad were selected purposively for this study. From the selected districts, a total of 120 stakeholders were randomly selected. For assessing the existing situation of Kerala, data was collected through primary as well as secondary source of information. The agricultural marketing and market related infrastructure and investment made was collected from secondary data. The perception of different stakeholders about investment in agricultural marketing infrastructure, investment made in agricultural marketing, factors responsible for lack of investment in agricultural marketing and market related infrastructure and total investment requirement in Kerala was analyzed by using tabular analysis method.

The total investment made for development of Agricultural Marketing Infrastructure in Kerala stood at 10132.69 lakhs under AMIGS scheme during 2005-06 to 2010-11 for different categories of projects. The overall per cent rise in investment in the end of 2010-11 as compared to 2005-06 recorded an extraordinary increase of 265.18 per cent. Total investment of Rs 440395.35 lakhs was made in agricultural market and market related investment in different states (since the inception of AMIGS scheme from 2001), the selected state of Kerala was accounted for Rs 19001.22 lakhs nearly meager 4.31 share and also Kerala was accounted for (Rs 1148.56 lakhs) too little (0.32 per cent) share in rural godown investment.

It was found that among the various factors influencing investment in agricultural marketing infrastructure, 100 percent of respondents reported that processing and value addition was highly influencing agricultural marketing infrastructure investment, followed by other factors like lack of APMC act, very less exports, lack of public-private partnership in market infrastructure, less public sector investment, lack of regulatory environment for agricultural markets, poor management of local self-government markets, lack of awareness about central government schemes, strong trade unions and labour problems were influencing investment in agricultural marketing infrastructure.

The selected respondents suggested to develop agricultural market and market related infrastructure in several areas viz. modernization and renovation of whole sale male markets of Department of agriculture, renovation and modernization of Local self-government markets, strengthening of market Information and market intelligence system for agricultural markets, price stabilization and market intervention fund for agricultural commodities, Infrastructure and facilities for VFPCCK markets, HORTICORP, State Warehousing Corporation, exporters and export oriented spice crops and also commodity specific infrastructure for Pine apple, Banana, Mango, Tapioca etc. Hence, total investment requirement for all the suggested infrastructure items is Rs 1267 crores.

This research study recommended that Public Private Partnership should be promoted and private sector participation may bring in the much needed investment. In addition to that funds can flow from RIDF (Rural infrastructure development fund), State Government of Kerala and Local self of Government of Kerala to meet out all the suggested investment. Kerala government may bring all the Local self Government markets under the control of Department of Agriculture and also suggested tax concessions /tax incentives for market related investment projects, rationalizing tax structure, less interest rate should be fixed by financial Institutions and emphasis should be given to training and awareness programs for central sector schemes for different stakeholders in the area of agricultural marketing and related infrastructure.



# 1. INTRODUCTION

## General Background

Agriculture is a state subject; it is the responsibility of respective State Governments to take requisite steps for reforming agricultural marketing structure to move away from controlled markets to regulation, creating competition and promoting investment in markets as per the model act. Now, many states have introduced various aspects of agricultural marketing reforms and some states are in the process of amending their APMC act. The model Act has been implemented since 2004 and the era of its first phase reforms is going to be over soon. But, there is no APMC act in Kerala. Keeping the lack of APMC act, the Kerala has been suggested by Ministry of agriculture vide letter no D.O.NO.1-14018/4/201-MPDC dated 16th May, 2011.

## Statement of the Problem

The suggested state lack well developed agricultural market infrastructure on post harvest handling, assembling, sorting, grading, processing, packing, transportation, quality certification, palletization, labelling, pre-cooling, cold-store, ripening chambers and exports. In addition to that scenario of overcrowding, chaos and insanitary condition is apparently reflected in the markets. There is no sanitary and phytosanitary measures being adopted for the quality control of the produce. Therefore, the development of Kerala agricultural markets would require huge investment resources.

There is an apprehension that due to lack of APMC act in Kerala, agricultural market related investments are not coming up. So, this study was conducted to analyze whether due to lack of APMC act, investments are not coming up or it may be due other factors also. Keeping the above facts in view, the present study was conducted to enlighten the various aspects of “**Investment in agricultural marketing and market related infrastructure and agricultural marketing system in the absence of APMC act - A case study of Kerala**” .

More specifically the objectives of the study were :

1. To analyze the investment made in agricultural marketing and market related infrastructure in Kerala after implementation of model APMC act.
2. To find out the factors responsible for lack of investment in agricultural marketing and market related infrastructure in Kerala.
3. To study the perception of different stakeholders about agricultural marketing investment in agricultural marketing infrastructure.
4. To suggest ways and means to promote investment in agricultural marketing and market related infrastructure in Kerala.

#### **Scope of the study**

1. The research study will be useful to improve agricultural market and market related infrastructure in Kerala.
2. The analysis of investment made in agricultural marketing would helpful for planning future investment in agricultural market and market related infrastructure in Kerala.
3. Research findings of the study would be helpful to planners, policy makers, administrators, researchers and other stake holders who are concerned with development of agricultural markets in Kerala and the whole country in general.
4. The study will throw light on the perception of different stakeholders about agricultural marketing investment and factors responsible for lack of investment in agricultural marketing infrastructure in Kerala.

#### **Limitations of the research study**

1. The present study was confined to Kerala state and only 120 sample respondents were interviewed due to limitations in terms of time and resources available to the investigator.
2. The data was collected for AMIGS and rural godown scheme since the inception of scheme. Therefore, the data were collected and analysed during the period only (since 2001) . Sector wise and project wise data on investment was not available for elaborate analysis. Besides, due to lack of APMC act,

the data on quantity of agricultural commodities marketed for agricultural markets of Kerala was not available.

3. The perception of different stakeholders for market investment and necessary market infrastructure were identified through interview from different stakeholders of agricultural marketing .Hence, their perception is based on their ability to perceive and analyze the situation and also capacity of expression.
4. The study was restricted to Kerala State. Therefore universality and generality regarding results and findings are valid for the selected State Kerala only. However, the observations made and findings of the study could be used for reference purposes.
5. Due to shortage of time and resources, this study was given emphasis to six whole sale agricultural markets under Department of Agriculture, Local Self Government controlled markets and state government organizations involved in procurement and marketing agricultural commodities and central government organizations are not included in this study .

### **Organization of the research report**

The research report has been presented in six chapters. The first chapter is devoted to statement of the problem, objectives and limitations of the study. A brief review of the work already carried out in the field of agricultural market and market related infrastructure have been presented in chapter two. The sampling plan and analytical methods employed to achieve the different objectives are presented in chapter three. Chapter four describes general background of the study area and details of the selected State. The results obtained in this study has been presented and discussed in chapter 5. The last chapter summarises the main findings and provides conclusions drawn from the analysis along with policy implications thereof.

## 2. REVIEW OF LITERATURE

Commensurate with the objectives of the study, a survey of available literature that may have a direct or indirect bearing on the framework of this subject was attempted. The existing literature on investment made in agricultural marketing and market related infrastructure in India is scanty, sketchy. An effort has been made in the ensuing section to compile the available information on this subject under Indian conditions and for other advanced countries of the world.

**Ramesh Chand (2000)** conducted a study on Agricultural investment and found that public and private investments in agriculture have been moving on a rising trend till early 1980s. Based on this, it has been inferred that there is complementarity between public and private investments. However, after 1980-81, public sector investments started declining, in real term, and private investment did not follow public investments. On the contrary, private investment kept moving upward showing disparate movement in the two series since 1981-82. This has led to questioning of the widely accepted conclusion that private sector investment in agriculture is determined by the level of public investment, followed by debate on the determinants of private investment.

**Andrew W. Shepherd (2004)** conducted a study on agricultural marketing finance and found that the agricultural trade sector in Asia finances itself through a combination of self-financing, bank loans, and informal credit assistance from friends and relatives, suppliers, customers and moneylenders. Loans from banks are important to millers, accounting for over 60 percent of their finance in India, Nepal, Pakistan and Viet Nam, and are used both for investment and working capital purposes. With lower or, in some cases, non-existent financing requirements for investment capital, combined with an inability to offer collateral, paddy, rice and horticultural traders are insignificant users of loans from financial institutions, with the apparent exception of paddy traders in Pakistan. Traders rely mainly on own funds, advances from millers or wholesalers, acceptance by farmers of deferred payments and, in times of peak financing requirements, moneylenders. Working capital finance requirements are greater for those dealing with non-perishable

commodities. While traders dealing in perishable horticultural products turn over their capital in a matter of a few days, or can rely on farmer finance for that period, those dealing in storable products such as paddy, potatoes, onion or garlic require finance of a longer duration. The paper concludes that lack of working capital is probably not a major constraint to the functioning of agricultural marketing systems in Asia. Nevertheless, millers, in particular, do appear to experience problems in accessing investment capital. A feature of most agricultural marketing systems is the existence of many vertical financial linkages, pivoting around millers in the case of grains and wholesale market traders in the case of horticultural produce. The paper concludes that such linkages seem to be generally non-exploitative and serve mainly to secure supply, guarantee markets and reduce transaction costs.

**Planning commission (2007)** report of the working group on agricultural marketing infrastructure and policy required for internal and external trade for the XI Five Year Plan 2007-12 have suggested to develop agricultural marketing and market related infrastructure namely rural Primary Markets/Rural Periodic Markets/Rural Haats and setting up of new wholesale markets , Terminal Markets under PPP mode, Farmers Markets ,commodity specific markets for fruits and vegetables, specialized flower markets , markets for medicinal and aromatic plants, specialized markets for spices ,livestock markets, modern abattoirs under PPP format , modern meat retail markets, cool chain infrastructure and increased warehousing capacity. And ,also related infrastructure like farm roads, national Electronic Spot Markets, automated weather stations, centers of Perishable Cargo, food safety infrastructure, good agricultural practices for India gap certification, farmers' organizations should be developed. They estimated total investment requirement for all the above suggested infrastructure items is Rs 64,312 crores. Of this, private sector investment has been estimated to the tune of Rs 30,652 crores. Besides, estimated investment for food processing sector is Rs 43,000 crores during the XI Five Year Plan.

**M.S.Jairath (2008 )** has conducted a study on rural infrastructure viz. Grameen Bhandaran Yojana (Rural godown ) and analyzed the extent of spread of constructed rural godown , investment made, subsidy distributed , regional imbalances in construction of rural godowns , the availability of rural godowns, utilization pattern

and benefits extended to rural economy , wastage reduction and price gain to farmers and suggested that benefits of rural godowns should be extended to small farmers and farmers of hilly and desert areas and the growing imbalance among the regions, districts and states in the construction of rural godowns should be checked and recommended that priority should be given to hilly states , on spot sanctioning of loans , training and awareness should be given in poorly developed areas, implementing pledge financing , introduction of negotiable warehouse receipt system and promoting accreditation organization having compatibility with future trading and commodity exchanges .

**M.S.Jairath (2008)** has estimated the extent of investment made in promotion of marketing infrastructure in the country and growth in public and private investments and he also examined state-wise spread of private and public investments in agricultural marketing infrastructure, its composition and share and has investigated whether private investment induces public investment or vice versa. Of the total investment of Rs 157652.30 lakh made for the development of agricultural marketing infrastructure, Madhya Pradesh has accounted for the maximum (36%) share, followed by Tamil Nadu (18%) and Andhra Pradesh (13.5%). West Bengal has accounted for the lowest share. The analysis has indicated that there is a strong complementarity between private and public investments and as soon as private investment comes, public investment also starts pouring in. The study has revealed that private investment induces public investment and private investment has taken a lead, which is a welcome change because private investment is more efficiently used as compared to public investment. He further suggested that barriers encountered in boosting of the private investment should be removed, awareness should be created at grass root level about the scheme, 'Entrepreneurial Bank' for promotion of agricultural marketing infrastructure units should be established for mobilizing investment, fiscal incentives in the form of progressive taxation should be provided and on the overseas front, Foreign Direct Investment may be allowed .

**Maurice R. Landes and Mary E. Burfisher (2009)** examined the performance of India's agricultural marketing system and analyzed the economy

wide implications of improved marketing efficiency system in India and concluded that greater investment in agricultural markets and efficiency in India's agricultural supply chains have the potential to enhance agricultural growth over the longer term .New policies lead to rapid investment by modern retailers and others in transforming India's markets and more efficient agricultural marketing is likely to strengthen consumer demand for food and other goods.

The literature reviewed here shows that only very few studies had been conducted so far in agricultural marketing and market related infrastructure in India. There is no State specific research study was conducted in absence of APMC act. Keeping this in view , Kerala state was suggested by Ministry of agriculture and this study was conducted to analyze whether due to lack of APMC act ,investments are not coming up or it may be due other factors also.

## **3. METHODOLOGY**

This chapter presents the methodological framework used in the study mainly covering selection of study area, sampling methodology, data collection and the analytical tools used. These are presented and discussed under the following subheads:

- 3.1 Sampling methodology.
- 3.2 Data collection.
- 3.3 Analytical framework.

### **3.1 SAMPLING METHODOLOGY**

#### **3.1.1 Selection of the state**

The Kerala state lacks well developed agricultural market infrastructure on post harvest handling, assembling, sorting, grading, processing, packing, transportation, quality certification, palletization, labelling, pre-cooling, cold-store, ripening chambers and exports. In addition to that scenario of overcrowding, chaos and insanitary condition is apparently reflected in the markets. There is no sanitary and phytosanitary measures being adopted for the quality control of the produce.

Kerala does not have APMC act. There are no statutory regulations prevail. There are no controls for agricultural market. Government and LSG institutions provide marketing infrastructure. There is complete liberal market scenario prevail in Kerala markets. There is an apprehension that due to lack of APMC act in Kerala, agricultural market related investments are not coming up in the state. Keeping this in view, Kerala state was purposively selected as suggested by Ministry of Agriculture.

#### **3.1.2 Selection of respondents**

To study the perception of different stakeholders about agricultural marketing investment in agricultural marketing infrastructure and factors responsible for lack of investment in agricultural marketing and market related infrastructure in Kerala, four districts of Kerala viz. Idukki, Cochin, Kozhikode and Wayanad were purposively selected. From the selected districts, different stakeholders namely marketing



department officials, market officials, farmers, traders ,entrepreneurs ,bankers ,self-help groups,co-operatives and exporters were randomly selected and also retail traders , processing units , self-help groups of VFPCCK markets , public sector organizations like HORTICORP and state government department officials were randomly selected for this study. Table 3.1 depicts the number of stakeholders selected from the selected four districts.

**Table 3.1 Total number of stakeholders selected from Kerala**

S.No	Name of Stakeholder	Number of stakeholders
1	Marketing department officials	20
2	Market officials	10
3	Farmers	40
4	Traders	20
5	Entrepreneurs	5
6	Bankers	3
7	Self-help groups	5
8	VFPCCK markets	5
9	Co-operatives	2
13	Processing units	4
14	Exporters	6
	Total	120

Thus, total sample of 120 respondents were selected for this study.

### **3.2 DATA COLLECTION**

Commensurate with the objectives of the study, both primary and secondary data were collected.

### **3.2.1 Primary data collection**

In order to study the factors responsible for lack of investment in agricultural marketing and market related infrastructure and the perception of different stakeholders about agricultural marketing investment in agricultural marketing infrastructure in Kerala, the primary information was collected from selected respondents through well structured and pre-tested schedules by personal interview method.

### **3.2.2 Secondary data collection**

The data on category of project wise investment made under scheme for development and strengthening of agricultural marketing infrastructure, grading and standardization (AMIGS scheme) in Kerala during 2005-06 to 2010-11, State-wise investment under AMIGS scheme (as on 31-08-2011) since inception by NABARD, NCDC and State agencies, State wise investment in rural godowns were collected from Directorate of Marketing and Inspection, Faridabad, Ministry of Agriculture.

The secondary information on number of whole sale markets under Directorate of Agriculture, number of markets under Vegetable Fruit Promotion Council Keralam (VFPCCK), number of Grama Panchayat, Municipality area, Municipal Corporation agricultural markets and other information on area, production and productivity of principal agricultural crops of Kerala and related information was collected from Directorate of Economics and Statistics, Trivandrum, Kerala and also secondary information on quantity of agricultural and horticultural commodities procured and marketed were collected from respective organizations and departments.

### **3.3 ANALYTICAL FRAMEWORK**

The perception of different stakeholders about investment in agricultural marketing infrastructure, investment made in agricultural marketing and factors responsible for lack of investment in agricultural marketing and market related infrastructure in Kerala was analysed by using tabular analysis method. The area, production and productivity of principal agricultural crops of Kerala and quantity of agricultural and horticultural commodities procured and marketed was analysed by using tabular analysis method.

## **4. DESCRIPTION OF THE STUDY AREA**

### **4.1 AGRICULTURE**

Kerala, the State is blessed with abundance of water due to the 34 lakes, other small streams, backwaters, water bodies, 44 rain-fed rivers flowing over the terrain of the state and also the adequate annual rainfall of 3000 mm received by this state probably facilitates agriculture to a great extent and hence the economy of the state is dominated by agriculture. The staple crop is the rice. Next to rice is Tapioca and is cultivated mainly in the drier regions. Kerala is also a major producer of spices that form the cash crops of the state. The important spices are pepper, cardamom, cinnamon, clove, turmeric, nutmeg and vanilla. Other cash crops that constitute the agricultural sector include Tea, coffee, cashew, Pulses, areca nut, ginger and coconut. Kerala also accounts for more than 90 per cent of natural rubber production of the country. Apart from rubber, other plantation crop like plantains or bananas are also grown in plenty.

#### **4.1.1 Trend in Area, Production and Productivity of Crops**

Table 3.2 depicts the area, production and productivity of important crops grown in Kerala .Out of a gross cropped area of 26.69 lakh ha. in 2009-10, food crops comprising rice, pulses, minor millets and tapioca occupy only 11.86 per cent. Kerala state which had a low base in food crops production is facing severe challenges in maintaining even this scanty area. Kerala agricultural economy is undergoing structural transformation by converting over a large proportion of its subsistence crops like rice and tapioca to more remunerative crops like coconut and rubber.

**Table 3.2 Area, Production and productivity of Principal crops**

	Crops	Area (ha)		Production (MT)		Productivity	
1	Rice	234265	234013	590241	598339	2520	2557
2	Pulses	3943	4449	2982	3390	756	762
3	Pepper	175808	171489	40641	37899	231	221
4	Ginger	5578	5408	23380	28605	4191	5289
5	Turmeric	2754	2438	6292	6065	2285	2488
6	Cardamom	41588	41593	8550	7800	206	188
7	Areca nut	96745	99219	124623	127893	1288	1289
8	Banana	53516	51275	427604	408405	7990	7965
9	Other Plantains	49499	47800	393617	381109	7952	7973
10	Cashew nut	52875	48972	42274	36450	800	744
11	Tapioca	87278	74856	2710934	2525383	31061	33737
12	Coconut **	780500	778619	5763	5667	7384	7278
13	Coffee	84696	84796	57200	59250	675	699
14	Tea	36557	36840	51726	57809	1415	1569
15	Rubber	517475	525408	783485	745510	1514	1419

\*\* Production in million nuts and Productivity in nuts/ha.

\* 2009-10 figures are provisional

**Source:** Directorate of Economics and Statistics, Govt. of Kerala.

The rice area has been decreasing constantly over the last several years. However, the pattern seems to have overturned in the recent year. After a long period of continuous decline, paddy area increased from 2.29 lakh ha in 2007-08 to 2.34 lakh ha in 2008-09 and marginally declined by 252 ha only in 2009-10. In the case of tapioca, the area declined from 0.87 lakh ha. to 0.75 lakh ha in 2009-10 over 2008-09. The area under commercial crops in general and rubber in particular has improved significantly during the last two decades. During Ninth plan average annual increase in area under rubber was 1951 ha while during 2009-10 area increased by 7933 ha related to previous year and the increase was mainly due to rise in prices. In the case of coconut, area was at its highest during 2000-01. During the year 2009-10 area declined by 1881 ha. over 2008-09. Major commercial crops which had noted expansion of area during 2009-10 are rubber (7933 ha), tea (283 ha), coffee (100 ha), cardamom (5 ha) and areca nut (2474 ha). The major crops with substantial loss in area include pepper (4319 ha), ginger (170 ha), banana

(2241 ha), cashew (3903 ha) and coconut (1881 ha). The crops which have failed to sustain the production level in 2009-10 are banana (19199 MT) and cashew (5824 MT). In 2009-10 most of the crops indicated increase in production over 2007-08. These crops are paddy (8098 MT), ginger (5225 MT), areca nut (3270 MT), coffee (2050 MT), and tea (6083 MT). Decline in production in 2009-10 was recorded for some of the major crops like banana (19199 MT), cashew nut (5824 MT), tapioca (185551 MT), coconut (96 million nuts) and rubber (37975 MT), crops like banana (19199 MT), cashew nut (5824 MT), tapioca (185551 MT), coconut (96 million nuts) and rubber (37975 MT).

#### **4.2 KERALA AGRICULTURAL MARKETING SYSTEM**

Kerala does not have APMC act. There are no statutory regulations prevail. There are no controls for agricultural market. Government and LSG institutions provide marketing infrastructure. There is complete liberal market scenario prevail in Kerala markets.

##### **4.2.1 DEPARTMENT OF AGRICULTURE MARKETS**

There are six whole sale agricultural markets are functioning in Kerala viz. three urban whole sale markets (1.Trivandrum, Anayra, 2.Ernakulam, Maradu 3.Khozhikode, Vengeri) and three rural whole sale markets (1. Trivandrum, Nedumangadu 2. Ernakulam, Moovatupuzha 3.Wayanad, Sultan Bathery )

These six Agricultural Wholesale Markets of Kerala are Government owned markets constituted under Department of Agriculture. These markets were designed under Kerala Agricultural Market Project(KAMP),with financial assistance from the European Union(EU),the enterprise envisages to ensure efficient handling of Agricultural produce and to facilitate its proper marketing .At present ,these markets are functioning as per market rules framed by Govt. of Kerala.

These markets of Kerala started functioning on 1999-2000 with sanctioned strength of one secretary (Deputy Director of Agriculture), one assistant secretary (Assistant Director of Agriculture), one accountant (Junior Superintendent), one lower division clerk, one attender and one driver. The market secretary is carrying out the day today activities of the market. An Executive committee headed by the District collector as chairman is monitoring the activities of the market. The activities of the markets are funded with Market Development Fund.

**4.2.1.1 Central committee :** A central committee, nominated by the Executive committee, is constituted for the procurement and marketing of agricultural produce to the market and for the smooth running of auction process. Central committee consists of 11 members with President, Secretary, Treasurer, Joint Secretary, and Vice President as its office bearers At the grass root level, farmers groups(clusters) consisting individual farmers are formed ,from which the central committee is nominated. The main objective of the central committee is to procure agricultural produce from the vegetable groups constituted in the respective district, to give a fair price to the farmers, to involve in the auction process, to weigh the agricultural produce brought in the market for auction sale, to maintain proper records/registers related to auction sale proceeds and the central committee members are given wages at the rate approved by the Executive committee as manpower hiring on market days.

**4.2.1.2 Farmer groups and collection centres:** The agricultural produce (Vegetables & Fruits) from the farmers of various parts of the district are collected by farmers groups (clusters) registered under Societies act, constituted at Panchayat level. At present there are farmers groups constituted in receptive districts and this group will collect vegetables from the farmers of remote areas of the respective districts and the convener of the group will facilitate transportation of vegetables from farmers groups to the market. In order to undertake this activity, the group will be given a financial support of Rs.50000/- as one time grant. Out of this 10000/- is utilized for the enhancement of infrastructure facilities such as purchase of weighing balance, crates and other accessories. Rs.40000/-is used as revolving fund by farmers groups. The farmers groups arrange collection and transportation of durables of their own, and transportation charges are met from market development fund .At present, collection centres are managed by farmers groups on a rental basis. Infrastructure like Stalls , auction hall and a market yard is existing in most of these markets. The stalls are rented out to traders. Rent for these stalls is determined on auction basis.

**4.2.1.3 Auction Process:** Auctioning agricultural produce is based on Public Auction Process. Auction is conducted on three days in a week viz.Monday, Wednesday and Friday. Base Price of commodities for auction, determined on relative market price prevailing at open markets on the day. Market fee is paid by farmers @ of 0.5 per cent of the value of total turnover for the day.

**4.2.1.4 Commodities Traded:** Banana-Nendran, Other fruits like Poovan, Chenkadali, Njali, Poovan, Robusta, Palayamkoda, All Vegetable Varieties, Coconut, Tapioca, Elephant Foot yam, Citrus Varieties are traded .

#### **4.2.2 LOCAL SELF GOVERNMENT CONTROLLED MARKETS**

It is shown in table 3.3 that there are total of 1290 markets functioning in Kerala. Out of these, 85 markets are functioning in the Municipal Corporation area, 129 of them are functioning in the Municipal area and 1076 markets are functioning in the Grama Panchayats.

**Table 3.3 Total number of markets in Kerala**

S.No	Type of markets	Number of markets
1.	Total rural primary markets (Panchayat markets )	1076
2	Urban Whole sale markets	
a)	Municipal corporation markets	85
b)	Municipality markets	129
	Total number of markets in the state	1290
Source : Report of Survey on markets in Kerala ,2005-06 , Directorate of Economics and Statistics ,Kerala		

##### **4.2.2 .1 Fuctioning of Local Self Government controlled markets**

**4.2.2.2 Nature of Working :** All the local self government markets are not functioning throughout the day or in identical manner. The time schedule of each market is different. This timing might have been formed according to the regional trading practices or agricultural pattern of each region to help the farmers. Some markets are functioning in the forenoon, some in the afternoon. Some of the markets are functioning throughout the day, some are functioning part day and part night etc.

**4.2.2.3 Rate of Cess :** All the traders have to pay some money as cess in the market. The traders, vehicles, the farmers etc. who brought the produces for sale have to pay cess according to the rate fixed by the authorities, which differ according to the type of vehicles and quantity of item brought for trade. It is within the range of Rs. 2 to Rs. 7 among the districts per load, Rs. 4 to Rs.9 for two wheelers, Rs. 8 to Rs. 25

for three wheelers, Rs. 13 to Rs. 96 for mini lorry, Rs. 25 to 163 for large trucks. Rs. 4 to 63 for bullock carts, Rs. 3 to 26 for handcarts and Rs. 4 to 193 for other vehicles.

**4.2.2.4 Rent:** Rent is the amount, to be remitted to the owner of the market for providing facilities for the functioning of the market. Since the nature of the market varies (Periodicity, time of functioning, their infrastructure facilities etc.) rent of different markets also varies. Thus while monitoring the structure of rent, it is understood that local bodies which are the largest provider of facilities for the functioning of the markets, have got the highest income from this source. It can be noticed that markets are a good source of income to the owners, i.e. a market functioning under local body is contributing an average rent of Rs.10764/- per month. This includes all types of markets (daily, weekly, monthly etc). A private person is getting an average rent of Rs.3963/- per month for providing facilities for functioning of markets. All types of markets together contribute an average amount of Rs.7708/- per month to the owner.

**4.2.2.5 Volume of Transaction:** As per the survey on an average 8.5 lakhs consumers are visiting the markets in a market day. Total transaction worth Rs. 2744 lakhs and an average transaction worth Rs. 212716 are taking place in the state in these markets per market day.

(Source: Report of Survey on markets in Kerala, 2005-06, Directorate of Economics and Statistics, Kerala)

### **4.2.3 STATE GOVERNMENT ORGANIZATIONS ASSOCIATED WITH AGRICULTURAL MARKETING IN KERALA**

Besides these, six whole sale agricultural markets under Department of Agriculture and Local Self Government controlled markets, the following state level organizations are involved in procurement and marketing agricultural commodities:

**4.2.3.1 Vegetable fruit promotion council Keralam (VFPCCK):** It is an ISO 9001-2000 certified company registered under section 25 of Indian Companies Act 1956 and has been established to bring about overall development of fruit and vegetable sector in Kerala. The Self Help Groups (SHGs) conceptualized by the Council form the base units for all the interventions like Extension, Rural Credit, Group Marketing, Participatory Technology Development (PTD), Value Additions and



Exports. VFPCCK is a company with majority stake of farmers and the Government and financial institutions as the other major shareholders. Self Help Groups of farmers constitutes 50% of shares, Government of Kerala has 30% and other related institutions hold 20% of VFPCCK's shares. The Primary objective of the Council is to improve the livelihood of vegetable and fruit farmers by empowering them to carry on vegetable and fruit production, value addition and marketing as a profitable venture in a sustainable way. At present 175 VFPCCK farmers markets (Swasraya Karshaka Samithis) are functioning in across Kerala. About 1,00,060 MT of produce worth Rs. 157 crores were traded by these farmers during the financial year 2010-11.

#### **4.2.3.2 Kerala State Horticultural Products Development Corporation (HORTICORP)**

Kerala State Horticultural Products Development Corporation Limited (HORTICROP) is a fully owned Government Company incorporated in the year 1989. The main activities of HORTICORP are procurement of vegetables and fruits, marketing of vegetables and fruits through retail outlets of HORTICORP, scientific storage facility, distribution of seeds and planting materials, participation in state and national agricultural exhibitions and organising fairs during festival seasons.

#### **4.2.3.3 Kerala Kerakarshaka Sahakarana Federation (KERAFED )**

It is the apex co-operative federation of coconut farmers in Kerala and is the largest producer of coconut oil in India. KERAFED's coconut oil complex at Karunagapally in Kollam district is one of the biggest such units in India, with a capacity of 200 Tons per day. KERA brand of coconut oil is produced by KERAFED from copra of the finest quality, directly procured from coconut growers in Kerala. The copra thus procured is processed using the most modern technology and converted in to coconut oil. Thus, produced coconut oil is marketed through out the country in "KERA" brand of coconut oil.

#### **4.2.3.4 Kerala State Co-Operative Rubber Marketing Federation Limited (Rubber Mark )**

The Kerala State Co-operative Rubber Marketing Federation Limited popularly known as Rubber Mark was incorporated in 1971, as an apex institution of the primary Rubber marketing co-operatives in Kerala, India. It is a professionally managed organization of 38 member societies throughout the state of Kerala with active participation of the Rubber board and the government of Kerala. Rubber Mark is the only government agency in India which procures Natural Rubber directly from the farmers, process and sells the processed rubber to the Tyre and Shoe companies within India. It has also undertaken export of various Asian countries since 2002.

#### **4.2.3.5 Kerala State Co-Operative Marketing Federation – (MARKETFED )**

It was established with the prime objective of socio-economic betterment of the farming community numbering around 30 lakhs, the Kerala State Co-operative Marketing Federation Limited (MARKETFED) has come a long way since its inception. MARKETFED began as The South Malabar District Wholesale Co-operative Store Ltd. on 24th December, 1942 with the area of operation as the whole of erstwhile Malabar District. On 10th August, 1960 this society was upgraded into an apex body of Marketing Co-operative Societies as "The Kerala State Co-operative Marketing Federation Limited" and the area of operation was extended to whole of the Kerala State. Since its inception as an Apex body for primary Marketing Co-operative Societies in Kerala, it has been striving to provide better marketing facilities to the Kerala agriculturists, fair prices for their produces, even direct purchase of the commodities whenever required for stabilizing the commodity market, elimination of intermediaries and middlemen, uninterrupted supply of agricultural inputs at fair prices and on easy terms of payment and finally exploring and establishing export markets for traditional agricultural commodities like Pepper, Cardamom, Turmeric, Dry Ginger, Cocoa, Tapioca etc. With the paramount motive of welfare to the farmers, MARKETFED is now successfully handling a variety of agricultural commodities like Spices, Copra, Arecanut, Rubber, Cashew etc. and inputs like fertilizers (both organic and bio), pesticides etc.

#### **4.2.3.6 Kerala Agro Industries Corporation Ltd. :**

The Kerala Agro Industries Corporation Ltd. (KAIC) is a joint venture of Government of India and Government of Kerala established in 1968. A premier institution in the state promoting mechanisation and modern technology in agriculture, setting up of agro based industries, production of value added products, civil construction, infrastructure development, waste management solutions etc. KAIC acts as an implementing agency for various schemes under state and central Governments.

#### **4.2.3.7 Kerala State Warehousing Corporation**

Kerala State Warehousing Corporation came into existence on 20th February 1959 .It functions under the Warehousing Corporations Act 1962 (Central Act 58/1962). KSWC is a statutory Corporation having 50% Share Capital by Central Warehousing Corporation and 50% share capital by the Govt. of Kerala. It has its Corporate Office at Ernakulam with 3 Zonal Offices, 9 Regional Offices and 60 Warehouses scattered all over the state. All types of agricultural commodities and other commodities notified by the Government from time to time are accepted for storage in a Warehouse. The idea behind the whole warehousing scheme is to give scientific storage to the agricultural produce and also to arrange easy credit and holding power to the agriculturists to enable them to get a better price for their produce. A warehouse receipt incorporating the quantity, quality, market value and particulars of insurance against fire, theft and burglary will be issued to the depositor. The warehouse receipt is negotiable in nature and can be pledged in any bank.

#### **4.2.3.8 Oil palm India limited**

Oil Palm India Limited was established in the year 1977 with the objective of propagating oil palm cultivation in the country and more particularly in Kerala. From 1983 onwards the Company started functioning as a joint venture of the Government of Kerala and Government of India with share participation of 51% and 49% respectively. The paid-up share capital of the company is Rs.11.78 Crores. Oil Palm India Limited has got a total planted area of 3646 Hect. of plantation spread over in three estates viz. Yeroor, Chithara and Kulathupuzha in Kollam District, Kerala. The

Crude Palm Oil (or) Palmolein is produced from oil palm fruit bunches and the Crude Palm Oil is marketed through its sales outlets.

#### **4.2.3.9 Plantation Corporation of Kerala**

The Plantation Corporation of Kerala Ltd, the largest Plantation company in public sector was formed in 1962, by the Government of Kerala with an initial share capital of Rs.750 Lakhs . The purpose of establishment the Plantation Corporation was to accelerate the agro-economic development of Kerala. It is producing Centrifuged latex, Raw Cashew nuts, Oil palm fresh fruit bunches, Areca nut , Pepper etc. and marketing these commodities to different stakeholders.

#### **4.2.4 CENTRAL GOVT. ORGANIZATIONS**

In addition to that Central government organizations viz. Spices board, Tea board, Coffee board and Coconut Development Board etc. involved in marketing of specific agricultural commodities.

## **5. RESULTS AND DISCUSSION**

This chapter presents the findings of the study based on the objectives stated for investigation and the data collected were analyzed by employing appropriate statistical techniques as given in the chapter on methodology. The results of the study are presented and discussed in this chapter in the following sequential order.

5.1 Investment made under Agricultural Marketing Infrastructure.

5.2 Factors responsible for lack of investment in agricultural marketing and market related infrastructure in Kerala.

5.3 Perception of different stakeholders about agricultural marketing investment in agricultural marketing infrastructure.

### **5.1 INVESTMENT MADE UNDER AGRICULTURAL MARKETING INFRASTRUCTURE**

To attract investment in agricultural marketing infrastructure, the Ministry of Agriculture launched a reform-linked scheme in October, 2004. Under the scheme, subsidy to private and public entrepreneurs is provided for a wide range of projects. The scheme is credit linked with 25 per cent to 33 per cent back ended subsidy depending on the area and category of beneficiaries. The maximum subsidy limit is Rs 50 to 60 lakhs per project for the private sector, whereas there is no limit for the subsidy for the public sector investment. Being a reform linked scheme, only 16 states /union territories have taken the benefit of the scheme.

Investment made under agricultural marketing and market related Infrastructure has been worked out and the results were discussed in this section as Investment under Scheme for Development and Strengthening of Agricultural Marketing Infrastructure, Grading and Standardization (AMIGS scheme) during 2005-06 to 2010-11 for category wise projects for Kerala state, Per cent Change in Investment over the years (2005-2011) for Kerala state, Investment under AMIGS scheme (as on 31-08-2011) since inception by different organizations viz. NABARD, NCDC and state agency, and Investment in rural godowns for Kerala and all India level.

**Table 5.4 Investment under Scheme for Development and Strengthening of Agricultural Marketing Infrastructure, Grading and Standardization during 2005-06 to 2010-11 (Category of project wise investment for Kerala state)**

S.No	Type/ Category of Project	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	Total (Rs Lakhs)	Per cent
1	Primary Processing and Value Addition Facility	5.87	126.44	235.31	214.38	249.26	128.12	959.38	9.47
2	Cleaning, Grading, Storage and Packaging Unit	341.12	362.66	1245.70	682.89	19.08	395.53	3046.98	30.07
3	Pre-cooling/Cold chain facility (Cold Storages, Reefregrated Vans, Milk Chilling Plants etc)	0.00	0.00	298.50	298.50	0.00	0.00	597.00	5.89
4	Market User Common Facility (Auction platform, Weigh Bridge, Mechanical Handling Equipments)	0.00	0.00	0.00	2138.92	20.00	0.00	2158.92	21.31
5	Mobile Infrastructure	0.00	18.50	23.60	157.52	18.50	184.16	402.28	3.97
6	Establishment of private markets/ Purchase Centres/ Collection Centres/ Market Yards	6.50	236.75	1044.05	566.27	418.87	561.63	2834.08	27.97
7	Other Infrastructures	0.00	0.00	0.00	139.93	0.00	0.00	139.93	1.38
	<b>Grand Total (Rs Lakhs)</b>	<b>347.62</b>	<b>744.35</b>	<b>2847.16</b>	<b>4198.41</b>	<b>725.71</b>	<b>1269.43</b>	<b>10132.69</b>	<b>100.00</b>

Source: DMI, Faridabad, Ministry of Agriculture

Table 5.4 shows Investment made under Scheme for Development and Strengthening of Agricultural Marketing Infrastructure, Grading and Standardization for different categories of projects for Kerala state during 2005-06 to 2010-11 . It is envisaged from the table that the major share of investment was Cleaning, Grading, Storage and Packaging unit category of projects ( 30.07 per cent ) , followed by Establishment of private markets/ Purchase Centres/ Collection Centres/ Market Yards category of projects (27.97 per cent), Market User Common Facility projects (Auction platform, Weigh Bridge, Mechanical Handling Equipments) (21.31 percent), Primary Processing and Value Addition Facility projects (9.47 per cent ) and remaining investment was contributed by other categories of projects like Pre-cooling/Cold chain facility ( 5.89 ) , least by Mobile Infrastructure ( 3.97 per cent) and share of other Infrastructures was only 1.38 per cent in the overall investment for different categories of projects . Thus, the total investment made for development of Agricultural Marketing Infrastructure in Kerala stood at 10132.69 lakhs .

**Table 5.5 Per cent Change in Investment during the years (2005-06 to 2010- 2011) in Kerala**

S.No	Type/ Category of Project	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	Total (Rs Lakhs)
1	Primary Processing and Value Addition Facility	5.87	126.44	235.31	214.38	249.26	128.12	959.38
2	Cleaning, Grading, Storage and Packaging Unit	341.12	362.66	1245.70	682.89	19.08	395.53	3046.98
3	Pre-cooling/Cold chain facility (Cold Storages, Reefergated Vans, Milk Chilling Plants etc)	0.00	0.00	298.50	298.50	0.00	0.00	597.00
4	Market User Common Facility (Auction platform, Weigh Bridge, Mechanical Handling Equipments)	0.00	0.00	0.00	2138.92	20.00	0.00	2158.92
5	Mobile Infrastructure	0.00	18.50	23.60	157.52	18.50	184.16	402.28
6	Establishment of private markets/ Purchase Centres/ Collection Centres/ Market Yards	6.50	236.75	1044.05	566.27	418.87	561.63	2834.08
7	Other Infrastructures	0.00	0.00	0.00	139.93	0.00	0.00	139.93
	<b>Grand Total</b>	<b>347.62</b>	<b>744.35</b>	<b>2847.16</b>	<b>4198.41</b>	<b>725.71</b>	<b>1269.43</b>	<b>10132.69</b>
	<b>Per cent increase /decrease (change )</b>		<b>114.13</b>	<b>282.50</b>	<b>47.46</b>	<b>-82.71</b>	<b>74.92</b>	

Source: DMI, Faridabad, Ministry of Agriculture

It is visualized from table 5.5 that an investment of Rs 347.62 lakhs was made during the first year (2005-06). During the next year (2006-07), this investment rose to 744.35 lakhs recording a 114.13 per cent increase. During 2007-08, investment reached a level of Rs 2847.16 lakhs, recording the highest (282.50 per cent) increase over the previous year. Next year (2008-09), investment increased to 4198.41 lakhs, recorded only 47.46 per cent increase from the previous year. During the year (2009-10) ,it decreased to Rs 725.71 lakhs and registered a 82.71 per cent decrease over previous year. Again, it increased to 1269.43 lakhs from the previous year and registered an increase of 74.92 per cent from 2009-10. The overall per cent rise in end of 2010-11 as compared to 2005-06 recorded an extraordinary increase of 265.18 per cent.

**Table 5.6. State wise investment under AMIGS scheme (as on 31-08-2011) since inception by different organizations (per cent )**

		<b>NABARD</b>	<b>NCDC</b>	<b>STATE AGENCY</b>		
<b>S.No</b>	<b>Name of the state</b>	<b>TFO (Total Financial outlay)</b>	<b>TFO (Total Financial outlay)</b>	<b>TFO (Total Financial outlay)</b>	<b>Grand total (Rs Lakhs)</b>	<b>Per cent</b>
1	Andhra Pradesh	73638.98	0.00	0.00	73638.98	16.72
2	Madhya Pradesh	56641.23	0.00	16969.26	73610.49	16.71
3	Punjab	19235.60	648.40	20996.17	40880.17	9.28
4	Kerala	13704.87	4863.62	432.73	19001.22	4.31
5	Tamil Nadu	24079.63	30096.60	100.00	54276.23	12.32
6	Rajasthan	32136.18	0.00	15378.19	47514.37	10.79
7	Chhattisgarh	7427.15	0.00	5798.46	13225.61	3.00
8	Himachal Pradesh	2408.97	0.00	2735.84	5144.81	1.17
9	Maharashtra	58509.40	3365.00	12599.59	74473.99	16.91
10	Orissa	482.40	0.00	0.00	482.40	0.11
11	Gujarat	15517.72	17485.49	815.42	33818.63	7.68
12	Sikkim	60.42	0.00	0.00	60.42	0.01
13	Karnataka	552.90	0.00	177.91	730.81	0.17
14	Assam	1052.50	0.00	0.00	1052.50	0.24
15	Nagaland	0.00	0.00	1713.20	1713.20	0.39
16	West Bengal	0.00	30.41	0.00	30.41	0.01
	<b>Total</b>	<b>305447.94</b>	<b>57230.64</b>	<b>77716.77</b>	<b>440395.35</b>	<b>100.00</b>

State wise spread of investment has been worked out and presented in table 5.6 . Out of 28 States and Union territories, only 16 states came forward for making investment in different projects of agricultural marketing infrastructures. Of the total investment of Rs 440395.35 lakhs made, the selected state of Kerala was accounted for (Rs 19001.22 lakhs) nearly meager 4.31 share. In the total investment, the Maharashtra alone accounted for nearly 17 per cent, followed by Andhra Pradesh (16.72 per cent) and Madhya Pradesh (16.71 per cent). The share in the total investment ranged between 10 to 15 per cent for only two states viz. Tamil Nadu and Rajasthan. The share in the total investment ranged between 7 to 10 per cent for the two states viz. Punjab and Gujarat. Sikkim and West Bengal accounted for lowest share. The share was below 1 per cent for the four states, viz. Orissa, Assam, Karnataka and Nagaland.



**Table 5.7 State wise Investment in Rural godowns (Per cent ) (as on 31.08.2011)**

	Rural godown	NABARD (TOTAL SUBSIDY)	NCDC (TOTAL SUBSIDY)	TOTAL (NABARD +NCDC)	Total amount invested	PERCENT
S.No.	State				(Lakhs)	
1	Andhra Pradesh	15559.879	0.873	15560.752	62243.008	17.53
2	Arunachal Pradesh	6.3	0	6.3	25.2	0.01
3	Assam	2004	3.33	2007.33	8029.32	2.26
4	Bihar	0	352.4895	352.4895	1409.958	0.40
5	Chhattisgarh	2604.916	509.6202	3114.5362	12458.1448	3.51
6	Goa	1.8555	0	1.8555	7.422	0.00
7	Gujarat	9144.221	9.236	9153.457	36613.828	10.31
8	Haryana	6289.653	1472.8655	7762.5185	31050.074	8.74
9	Himachal Pradesh	16.037	33.3238	49.3608	197.4432	0.06
10	Jammu & Kashmir	19.866	0	19.866	79.464	0.02
11	Jharkhand	28.725	0	28.725	114.9	0.03
12	Karnataka	7354.055	595.08	7949.135	31796.54	8.95
13	Kerala	140.9904	146.1497	287.1401	1148.5604	0.32
14	Madhya Pradesh	12100.673	344.5205	12445.1935	49780.774	14.02
15	Maharashtra	9600.909	592.4425	10193.3515	40773.406	11.48
16	Meghalaya	70.363	5.001	75.364	301.456	0.08
17	Mizoram	5.0395	0	5.0395	20.158	0.01
18	Nagaland	4.353	0	4.353	17.412	0.00
19	Orissa	1808.03	4.398	1812.428	7249.712	2.04
20	Punjab	4377.449	92.2483	4469.6973	17878.7892	5.04
21	Rajasthan	2134.517	197.116	2331.633	9326.532	2.63
22	Tamilnadu	1623.84	502.8409	2126.6809	8506.7236	2.40
23	Uttar Pradesh	3395.207	395.2495	3790.4565	15161.826	4.27
24	Uttarakhand	1167.225	112.6	1279.825	5119.3	1.44
25	West Bengal	3760.426	29.06	3789.486	15157.944	4.27
26	UTs	0	0	0	0	0.00
27	NAFED	0	114.375	114.375	457.5	0.13
28	NCCF	0	37.5	37.5	150	0.04
		<b>83772.5194</b>	<b>5550.3194</b>	<b>88768.8488</b>	<b>355075.3952</b>	<b>100.00</b>

With the introduction of rural godown scheme, investment has started pouring in for creation of storage infrastructure in the country. Till, August, 2011, total investment of Rs 355075.40 lakhs has been made under this scheme. Table 5.7 indicates that state wise investment made under rural godown in the country. Kerala was accounted for (Rs 1148.56 lakhs) meager 0.32 per cent share. In the total investment, the Andhra Pradesh alone accounted for nearly 18 per cent, followed by Madhya Pradesh (14.02 per cent) ,Maharashtra

(11.48 per cent) , Gujarat (10.31 per cent) ,Karnataka (8.95 per cent ) and Haryana ( 8.74 per cent ). The share in the total investment ranged between 3 to 7 per cent for three states viz. West Bengal, Uttar Pradesh and Chhattisgarh. Remaining states share was below than 3 per cent only .

## **5.2 FACTORS INFLUENCING AND RESPONSIBLE FOR LACK OF INVESTMENT IN AGRICULTURAL MARKETING AND MARKET RELATED INFRASTRUCTURE IN KERALA**

It can be inferred from table 5.8 that among the various factors influencing investment in agricultural marketing infrastructure, 100 percent of respondents reported that processing

**Table 5.8 Factors responsible for lack of investment in agricultural marketing and market related infrastructure in Kerala**

S.No	Important Factors	Per cent
1	Processing and value addition is less.	100.00
2	There is no APMC act.	92.86
3	Exports are very less except spices, fish and few commodities.	92.86
4	Public -private partnership of market infrastructure is not there	92.86
5	Public sector investment is less.	92.86
6	There are no market regulations (legislations) / Regulatory environment for agricultural markets.	85.71
7	Access to finance / Financial institutions is not easy	85.71
8	Market rate of interest / Real interest rate for market investment should be less.	85.71
10	Lack of availability of State Govt. subsidy for market infrastructure investment schemes.	85.71
11	Not favourable State Government policies.	85.71
12	Farmers involvement in marketing is less and traders involvement is more .	85.71
13	Most of the markets are Local self-government markets( gram panchayat , municipality and municipal corporation markets ) .	85.71
14	Less market development activities and Poor management of local self govt. markets by owners of the markets except market cess collection.	85.71
15	Lack of awareness about Central government. subsidy for market infrastructure investment schemes.	78.57
16	Strong trade unions and labour problem	78.57
17	Less raw material availability (Agricultural production is less except for few agricultural commodities )	78.57
18	Land availability and land acts for market development is not conducive.	78.57
19	Not favourable Central government policies.	71.43
20	Tax concessions /Tax incentives for market investment should be more .	71.43
21	Private sector investment is less.	71.43
22	People working culture - not active people .	64.29

and value addition was highly influencing agricultural marketing infrastructure investment, followed by lack of APMC act (92.86 per cent), very less exports (92.86 per cent), lack of public-private partnership in market infrastructure (92.86 per cent) and less public sector investment (92.86 per cent).

Around 80 to 90 percent of respondents reported that factors like lack of regulatory environment for agricultural markets, access to finance / financial institutions, market rate of interest, lack of availability of state government subsidy schemes, state government policies, farmers involvement in marketing is less and traders involvement is more, most of the markets are local self-government markets, poor management of local self-government markets and less market development activities were influencing investment in agricultural marketing infrastructure.

The other respondents reported (70 to 80 per cent) that lack of awareness about central government subsidy, strong trade unions and labour problem, less raw material availability, land availability and land acts for market development, central government policies, tax concessions /tax incentives for market investment, private sector investment were considerably influencing investment and also people working culture (64.29 per cent) was least influencing factor for market investment.

### **5.3 PERCEPTION OF DIFFERENT STAKEHOLDERS ABOUT AGRICULTURAL MARKETING INVESTMENT IN AGRICULTURAL MARKETING INFRASTRUCTURE**

#### **5.3.1 Suggested/Recommended agricultural market infrastructure and market related investment by various stakeholders**

##### **For Directorate of Agriculture Markets :**

- Major renovation of existing infrastructure like buildings and market roads should be carried out for six whole sale agricultural markets.
- Cool rooms /controlled atmospheric storage with supporting reefer trucks should be set up.
- Integrated pack houses should be set up.
- Ripening chamber should be set up.
- Retail markets should be set up to promote direct marketing
- E- auction facility should be created in Urban markets .

- Shops-Mall concept may be established in three urban markets considering the proximity to Metros .
- Construction of training hall and staying facilities including dormitories should be given importance.
- Theme park with food courts should be established.
- Scientific waste management facility should be created.
- Auction platforms for grain market should be constructed.
- Resting space for animals should be constructed.
- Processing unit should be set up.
- Electricity problem should be rectified in Sultan Bathery market.
- Drinking water problem should be rectified in Sultan Bathery market.
- Farmers / traders rest house facility should be created.
- Electronic Weigh Bridge should be set up.
- Canteen should be made functional.
- Food safety and hygienic practices should be followed in the market.
- One agricultural officer and one agricultural assistant /market may be posted to meet out shortage of human resources.

**For Civil supplies Corporation :**

- **Procurement of Agricultural commodities:** Paddy marketing is major problem. It is procured from only 5 major paddy growing districts by Civil supplies corporation. Civil Supplies Corporation may extend Paddy procurement to all other districts also. So , Paddy procurement centres should be set up in other districts.
- Credit to paddy farmers also major problem and credit institutions should provide loans to paddy farmers based on the storage receipts (warehouse receipts ) of quantity of paddy stored with Civil supplies corporation .

**Kerafed , Market fed and Consumer fed :**

- Copra procurement: Kerafed , Market fed and Consumer fed should procure green nuts (Coconut) through their member societies and drying facilities should be provided.
- Selected large scale private copra dealers can also be promoted for the same under registration with the Government agencies.
- Farm level primary processing for coconut should be created.

### **Market intervention fund :**

For 12<sup>th</sup> plan period, Price stabilization and market intervention fund @ Rs 10 crores per year for 5 years for market intervention operations can be provided to meet out price fluctuations (price fall ) for agricultural commodities .

### **Market Information and Market intelligence:**

Market Information and Market intelligence system should be strengthened.

- Only 91 agricultural markets of Kerala are reporting market related data to [www.agmarknet.nic.in](http://www.agmarknet.nic.in). Under agmarknet more markets should be brought under for ensuring the periodicity and accuracy of data for effective market information dissemination.
- Market intelligence facility is available for 3 major crops like Coconut, Cardamom and Pepper through Kerala agricultural university under ICAR- NAIP project and other crops also should brought under market intelligence program. Commodity boards should be involved in market intelligence activities for their respective crops and Kerala agricultural university/ NIAM should provide training for the same.
- Kerala Prices Board:  
More staff has to be recruited for analysis of prices data for effective price dissemination of agricultural commodities.

### **Vegetable fruit promotion council Keralam:**

Infrastructure like cold storage, cool chamber and concrete floors for fruits and vegetables handling facility should be created in VFPCCK markets.

### **Kerala State Horticultural Products Development Corporation(HORTICORP ) :**

- 500 retail outlets should be opened .
- More staff and transportation facility should be provided .
- Horticorp should purchase agricultural produce from EEC and VFPCCK markets for which working capital should be provided .
- Horticorp should be strengthened to start wholesaling activity at RAWM, Muattupuzha.

### **State Warehousing Corporation:**

It should be provided with more warehousing facility.

### **Local self government controlled markets infrastructure requirement:**

- Local self government markets like Panchayat markets, Municipality markets and Municipal Corporation markets are operating without sufficient and poor infrastructure and renovation and modernization of all these markets is essential.
- Directorate of Marketing and Inspection, Ministry of Agriculture may provide assistance under Market infrastructure scheme for development of these local self-government controlled markets.
- State government of Kerala should provide matching share for renovation and modernization of these local markets ,VFPCCK markets and HortiCorp stalls etc.

### **Exporters**

- Steam sterilization facilities should be created for export oriented spices .
- Pesticide residue is major problem for spice exporters of Kerala for crops like Pepper, Ginger and Nutmeg. So, Export testing labs should be set up to meet out European Union and US standards to avoid export consignment rejection.
- Focus group subsidy should be given to exporters of Pepper and Chilli by APEDA.
- DEPB –Duty entitlement pass book scheme was stopped and it should be started again.
- Uniform VAT structure should be implemented.
- Proper tax structure should be implemented for exporters.

### **Spice Crops**

- Primary level processing should be created for cleaning of Pepper, Washing of Ginger and Turmeric at field level .
- Industrial units should be set up for Oleoresin and Oil extraction for Ginger and turmeric .
- Drying yard for Ginger, Turmeric and Nutmeg should be promoted and constructed.
- Primary level processing i.e powdering of Ginger and Pepper facility may be created for farmers at field level.
- Cardamom grading machine should be provided .
- Cardamom curing device should be provided.
- Cardamom processing unit should be set up (Because , production in Kerala and processing and market yard at Bodinaickayanur , Tamil nadu)

- Nut meg artificial drying chamber should set up.
- Polythene sheets and bamboo mats for drying should be provided for farmers.
- Quality control labs should be set up essential for spices.
- Storage godowns should be set up for Black pepper, Dried ginger and Turmeric .
- Organic certification units should be set up for Organic Pepper and Coffee for Wayanad farmers .
- Coffee dehusking ,dehulling machine and drier may be provided.

### **Pepper**

- Cleaning, Grading, pulping and drier machine should be provided.
- Threshing machine for Pepper should be provided at farm level. (Because, some of the farmers are practicing leg threshing )
- Bamboo mats should be provided for threshing.
- Steam sterilization units should be provided for export purpose.

### **Paddy**

- Paddy Processing unit for scented variety should be set up.
- Drying yards for paddy should be created.
- Combined harvester should be provided.
- Storage godown should be set up.

### **Commodity Specific infrastructure**

- Pine apple processing plant may be set up.
- Existing Mango processing plant at Punalur may be modernized.
- Coconut Chips making unit at small scale level should be set up .
- Banana ripening chamber should be set up.
- Tapioca starch making unit should be set up .
- Commodity specific market yards should be created .

#### **5.3.1.2 Total investment requirement for all the suggested infrastructure**

Table 5.9 depicts that total investment requirement for all the suggested infrastructure items is Rs 1267 crores. The above suggested investment can flow from RIDF (Rural infrastructure development fund), funds from State Government of Kerala, Local self of Government of Kerala, Central government assistance and from private sector.

**Table 5.9 Total investment requirement for all the suggested infrastructure (Rs Crores )**

Particulars	Unit cost	Number of units	Estimated Investment (crores )
<b>1.Modernization and Renovation of six markets under Directorate Of Agriculture</b>	Rs 6 crores / market	6	36
<b>2.Local self govt. markets (modernization )</b>			
i. Panchayat markets (Rural primary markets )	Rs 25 lakhs / market	1000	250
ii. Municipality markets	Rs 2 crore /market	80	160
iii. Municipal Corporation markets	Rs 2 crore /market	100	200
<b>3.Paddy and coconut</b>			
i. Paddy procurement centres	Rs 25 lakhs /unit	10	2.5
ii. Farm level primary processing for coconut	Rs 25 lakhs /unit	10	2.5
<b>4.Market intervention fund ( Rs 10 crores /year )</b>	Five years		50
i. Market Information			50
ii. Market intelligence			50
<b>4.VFPCK</b>			
i. Cold storage, cool chamber	1 crore /unit	10	10
ii. Concrete floors	2 lakhs / market	200	4
<b>5.HORTICORP</b>			
i. Retail outlets	5 lakhs / unit	500	25
ii. Wholesaling unit	1 crore / unit	5	5
iii. Transportation vehicles	10 lakhs / unit	10	1
iv. Working capital	20 crore		20
<b>6.State Warehousing Corporation</b>			
i. Warehouses	10 crore /warehouse	10 warehouses	100
<b>7.Exporters</b>			
i. Steam sterilization units	Rs 5 crore /unit	2	10
ii. Export testing labs	Rs 1 crore /lab	10	10
<b>8.Spice Crops</b>			
i. Primary level processing unit	Rs 10 lakhs /unit	10	1
ii. Industrial units should be set up for Oleoresin and Oil extraction			
iii. for Oleoresin and Oil extraction	Rs 10 crores/unit	2	20
iv. Drying yard for Ginger, Turmeric and Nutmeg	Rs 20 lakhs /unit	20	4
v. Primary level processing i.e powdering of Ginger and Pepper	Rs 25 lakhs /unit	10	2.5
vii. Cardamom grading machine	Rs 2 crore /unit	2	2
ix. Cardamom curing device	Rs 1 crore /unit	1	1
x. Cardamom processing unit	Rs 10 crore /unit	2	20
xi. Nut meg artificial drying chamber	Rs 2 crore /unit	2	4
xii. Polythene sheets and bamboo mats for drying	approx.		5
xiii. Storage godowns	Rs 1 crore /godown	5	5
xiv. Organic certification units	Rs 50 lakhs /unit	2	1



<b>9.Pepper</b>				
i.	Cleaning, Grading, pulping and drier machine	Rs 50 lakhs /unit	10	5
ii.	Threshing machine	Rs 10 lakhs /unit	10	1
iii.	Bamboo mats (approx.)			50
iv.	Steam sterilization units	Rs 5 crore /unit	1	5
<b>10.Paddy</b>				
i.	Scented variety Paddy Processing unit	Rs 2 crore /unit	2	4
ii.	Drying yards for paddy	Rs 20 lakhs /unit	25	5
iii.	Combined harvester	Rs 20 lakhs /unit	5	1
iv.	Storage godown	Rs 1 crore /godown	5	5
<b>11. Processing units</b>				
i.	Pine apple processing plant	Rs 20 crore/ Unit	1	20
ii.	Existing Mango processing plant -modernization	Rs 10 crore /unit	1	10
iii.	Coconut Chips making unit	Rs 20 lakhs /unit	5	2.5
iv.	Banana ripening chamber	Rs 2 crore /unit	1	2
v.	Tapioca starch making unit	Rs 25 crore/unit	1	25
<b>12.Common infrastructure</b>				
i.	Rural Roads			50
ii.	Food safety and quality infrastructure			25
iii.	Spices markets	Rs 50 lakhs per market.	10	5
		<b>Total investment (1-12)</b>		<b>1267</b>

## 6. SUMMARY AND CONCLUSIONS

Agricultural and Agricultural marketing is a state subject; it is the responsibility of respective State Governments to take requisite steps for reforming agricultural marketing structure to move away from controlled markets to regulation, creating competition and promoting investment in markets as per the model act. Now, many states have introduced various aspects of agricultural marketing reforms and some states are in the process of amending their APMC act. But, there is no APMC act in Kerala. Keeping the lack of APMC act, Kerala State was selected as suggested by Ministry of agriculture for this study.

Kerala state lack well developed agricultural market and market related infrastructure and also having poor market information and market intelligence system. There is an apprehension that due to lack of APMC act in Kerala, agricultural market related investments are not coming up. Keeping the above facts in view, the present study was conducted to enlighten the various aspects of **“Investment in agricultural marketing and market related infrastructure and agricultural marketing system in the absence of APMC act - A case study of Kerala”** with the following objectives:

1. To analyze the investment made in agricultural marketing and market related infrastructure in Kerala after implementation of model APMC act.
2. To find out the factors responsible for lack of investment in agricultural marketing and market related infrastructure in Kerala.
3. To study the perception of different stakeholders about agricultural marketing investment in agricultural marketing infrastructure.
4. To suggest ways and means to promote investment in agricultural marketing and market related infrastructure in Kerala.

Four districts of Kerala viz. Idukki, Cochin, Kozhikode and Wayanad were purposively selected for this study. From the selected districts, a total of 120 stakeholders were randomly selected. For assessing the existing situation of Kerala, data was collected through primary as well as secondary source of information. The agricultural marketing and market related infrastructure and investment made was collected from secondary data. The perception of different stakeholders about investment in agricultural marketing infrastructure, investment made in agricultural marketing and factors responsible for lack of investment in

agricultural marketing and market related infrastructure in Kerala was analyzed by using tabular analysis method.

The total investment made for development of Agricultural Marketing Infrastructure in Kerala stood at 10132.69 lakhs during 2005-06 to 2010-11 for different categories of projects. The overall per cent rise in investment in the end of 2010-11 as compared to 2005-06 recorded an extraordinary increase of 265.18 per cent. It was found that the major share of investment was for Cleaning, Grading, Storage and Packaging unit category of projects (30.07 per cent), followed by Establishment of private markets/ Purchase Centres/ Collection Centres/ Market Yards category of projects (27.97 per cent), Market User Common Facility projects (21.31 per cent) and least amount of investment was for mobile infrastructure ( 3.97 per cent) projects under the Scheme for Development and Strengthening of Agricultural Marketing Infrastructure, Grading and Standardization during the period 2005-06 to 2010-11 in Kerala.

Total investment of Rs 440395.35 lakhs was made in agricultural market and market related investment in different states, the selected state of Kerala was accounted for Rs19001.22 lakhs nearly meager 4.31 share. In the total investment, the Maharashtra alone accounted for nearly 17 per cent, followed by Andhra Pradesh (16.72 per cent) and Madhya Pradesh (16.71 per cent) and the remaining states accounted for 45 per cent of investment under AMIGS scheme since inception.

Kerala was accounted for (Rs1148.56 lakhs) too little (0.32 per cent ) share in rural godown investment. In the total investment under rural godown scheme, the Andhra Pradesh alone accounted for nearly 18 per cent, followed by Madhya Pradesh (14.02 per cent) , Maharashtra (11.48 per cent) , Gujarat (10.31 per cent) ,Karnataka (8.95 per cent ) and Haryana ( 8.74 per cent ) and remaining states accounted for around 27 per cent of investment .

It was found that among the various factors influencing investment in agricultural marketing infrastructure, 100 percent of respondents reported that processing and value addition was highly influencing agricultural marketing infrastructure investment, followed by lack of APMC act, very less exports, lack of public -private partnership in market infrastructure , less public sector investment and other factors like lack of regulatory environment for agricultural markets, access to finance / financial institutions , market rate of interest , lack of availability of state government subsidy schemes ,state government policies, farmers involvement in marketing is less and traders involvement is more ,poor management

of local self-government markets and less market development activities, lack of awareness about central government subsidy, strong trade unions and labour problems were influencing investment in agricultural marketing infrastructure.

It was concluded from above analysis that Kerala was attracting less investment (only 4.31 per cent) under AMIGS scheme since inception. Under Rural Godown scheme only 0.32 per cent of investment was attracted by Kerala. In addition to that, investment in agricultural marketing infrastructure in Kerala was influenced by so many factors and found that APMC act or lack of market regulation was one of the important factor (93 per cent respondents reported) influencing investment in agricultural market infrastructure.

## **6.1 SUGGESTED/RECOMMENDED AGRICULTURAL MARKET AND MARKET RELATED INFRASTRUCTURE INVESTMENT FOR KERALA**

- For Directorate of Agriculture Markets (Six wholesale markets ) :Major renovation of existing infrastructure like buildings and market roads should be carried out, Cool rooms /Controlled atmospheric storage with supporting reefer trucks, pack houses, ripening chamber, retail markets, E- auction facility, Shops-Mall concept facilities should be established. Construction of training hall and staying facilities including dormitories, theme park with food courts, scientific waste management facilities should be created. Auction platforms for grain market, resting space for animals, processing unit facilities should be created. Electricity problem, Drinking water problem, canteen problem should be rectified in Sultan Bathery market. Farmers / traders rest house facility, Electronic Weigh Bridge should be set up. Food safety and hygienic practices should be followed in the market. In addition to that one agricultural officer and one agricultural assistant /market may be posted to meet out shortage of human resources.
- Paddy procurement centres should be set up for Civil supplies Corporation paddy procurement.
- Kerafed, Market fed and Consumer fed should procure green nuts (Coconut) through their member societies and drying facilities should be provided, selected large scale private copra dealers can also be promoted and farm level primary processing for coconut should be created.

- For 12<sup>th</sup> plan period, Price stabilization and market intervention fund @Rs 10 crores per year for 5 years for market intervention operations can be provided for agricultural commodities.
- Market Information and Market intelligence system should be strengthened for linking more number of agricultural markets to www.agmarknet.nic.in and Market intelligence facility is available for 3 major crops like Coconut, Cardamom and Pepper and it may be extended to other crops and commodity boards may be involved in market intelligence activities for their respective crops . Kerala agricultural university / NIAM should provide training for the same.
- More staff has to be recruited for Kerala Prices Board for analysis of prices data for effective price dissemination of agricultural commodities.
- Infrastructure like cold storage, cool chamber and concrete floors for fruits and vegetables handling facility should be created in Vegetable fruit promotion council Keralam (VFPC) markets.
- Five hundred retail outlets should be set up , more staff and transportation facility and working capital should be provided and wholesaling activity at RAWM , Muattupuzha may be promoted for Kerala State Horticultural Products Development Corporation (HORTICORP).
- State Warehousing Corporation should be provided with more warehousing facility.
- Local markets like Panchayat markets, Municipality markets and Municipal Corporation markets are operating without sufficient and poor infrastructure and renovation and modernization of all these markets is essential .
- For Exporters : Steam sterilization facilities should be created for export oriented spices like Pepper, Ginger and Nutmeg and Export testing labs should be set up . Focus group subsidy should be given to exporters of Pepper and Chilli by APEDA, Duty entitlement pass book scheme (DEPB ) should be started again, Uniform VAT structure and Proper tax structure should be implemented for exporters.
- For Spice Crops: Primary level processing should be created for cleaning of Pepper, Washing of Ginger and Turmeric at field level, Industrial units should be set up for Oleoresin and Oil extraction for Ginger and turmeric , Drying yard for Ginger, Turmeric and Nutmeg, Primary level processing i.e. powdering of Ginger and Pepper facility may be created for farmers at field level. In addition to that Cardamom grading machine , Cardamom curing device and Cardamom processing unit should

be set up, Nutmeg artificial drying chamber, Polythene sheets and bamboo mats for drying should be provided for farmers, Quality control labs, Storage godowns should be set up for Black pepper, Dried ginger and Turmeric, Organic certification units should be set up for Organic Pepper and Coffee, and Coffee dehusking, dehulling machine and drier may be provided.

- Cleaning, Grading, pulping and drier machine, Threshing machine, Bamboo mats and Steam sterilization units should be provided for Pepper.
- Paddy Processing unit for Scented variety, Drying yards for paddy, Combined harvester and Storage godown facilities may be created for Paddy farmers.
- Commodity Specific infrastructure like Pine apple processing plant, Existing Mango processing plant at Punalur may be modernized, Coconut Chips making unit at small scale level, Banana ripening chamber and Tapioca starch making unit facilities should be created. In addition to that Commodity specific market yards should be created.

Hence, total investment requirement for all the suggested infrastructure items is Rs 1267 crores. The above suggested investment can flow from RIDF (Rural infrastructure development fund), funds from State Government of Kerala, Local self of Government of Kerala, Central government assistance and from private sector etc.

## **6.2 MAJOR POLICY RECOMMENDATIONS**

### **6.2.1 LONG TERM POLICY MEASURES**

- i. This research study recommended that development of Agricultural market and market related infrastructure in several areas for Kerala. The development of Kerala agricultural markets would require huge investment resources. Kerala government and Central government alone cannot provide these resources and we need to mobilize private sector investments. So, Public Private Partnership should be promoted and private sector participation may bring in the much needed investment and contribute significantly to process of development of market infrastructure in Kerala. In addition to that funds can flow from RIDF (Rural infrastructure development fund), State Government of Kerala and Local self of Government of Kerala to meet out all the suggested investment.
- ii. More number of markets were controlled by Local self-government. Poor management and less market development activities of local self govt. markets by owners of the markets except market cess collection. So, Kerala government may bring all these Local self of Government markets under the control of Department of

Agriculture, Government of Kerala and also may set up separate agricultural marketing department under Department of Agriculture.

#### **6.2.2 MEDIUM TERM POLICY MEASURES**

- i. Training should be given in the area of agricultural marketing infrastructure and awareness should be created about central government schemes for market and market related infrastructure like AMIGS scheme and Rural godown scheme etc. to avail subsidy and promote market investment under various central government schemes.

#### **6.2.3 SHORT TERM POLICY MEASURES**

- i. Tax concessions /Tax incentives should be given for market related investment projects for market stakeholders and tax structure should be rationalized.
- ii. Financial Institutions should fix less Interest rate for market and market infrastructure related projects.

## BIBLIOGRAPHY

- Andrew W. Shepherd (2004) Financing agricultural Marketing - The Asian experience, Agricultural Management, Marketing and Finance Service (AGSF), Agricultural Support Systems Division, Food And Agriculture Organization Of The United Nations, Rome, AGSF Occasional Paper .
- GOI (2007). “Report of the working group on agricultural marketing infrastructure and policy required for internal and external trade”, For the XI Five Year Plan 2007-12, Agriculture Division, Planning Commission, Government of India.
- GOI (2011) Directorate of marketing and Inspection, Ministry of agriculture, Faridabad.
- Govt. of Kerala (2006) Report of Survey on markets in Kerala , Directorate of Economics and Statistics ,Kerala .
- Govt. of Kerala (2011), “Economic review-2010-11”, Directorate of Economics and Statistics, Trivandrum.
- Govt. of Kerala (2011). Directorate of Economics and Statistics, Trivandrum.
- M.S.Jairath (2008), Rural infrastructure: Spread, Investment and Benefit from Grameen BhandaranYojana , The ICFAI University Journal of Infrastructure, Vol.VI,No.3, 2008, pp :22-33.
- M.S.Jairath (2008), Trends in Private and Public Investments in Agricultural Marketing Infrastructure in India, Agricultural Economics Research Review, Vol. 21 (Conference Number), pp:371-376 .
- Maurice R. Landes, Mary E. Burfisher (2009 ), Growth and Equity Effects of Agricultural Marketing Efficiency Gains in India, United States Department of Agriculture, Economic Research Service.
- Ramesh Chand (2000) , Emerging Trends and Regional Variations in Agricultural Investments and their Implications for Growth and Equity, NCAP Policy Paper No.11, published by Director, NCAP.



**ANNEXURE 1 QUANTITY OF FRUITS AND VEGETABLES PROCURED AND MARKETED (MT ) AND VALUE TRADED (CRORES ) BY VFPCCK MARKETS FROM 2002-2010**

YEAR	Quantity of fruits & vegetables procured and marketed (MT )	Value Traded	
		Rs	Crores
2002	20998	201308106.6	20.13
2003	NA*	295225023.9	29.52
2004	41288	375317818	37.53
2005	55315	509125737	50.91
2006	65323	734976189.5	73.50
2007	49032	760720928.1	76.07
2008	41776	802154771.4	80.22
2009	76075	1270672918	127.07
2010	100060	1578052806	157.81
<b>GRAND TOTAL</b>	<b>449867</b>	<b>6527554298</b>	<b>652.76</b>

\*NOT AVAILABLE

**ANNEXURE 2 PROCUREMENT AND DISTRIBUTION OF FRUITS AND VEGETABLES BY HORTICORP FROM KERALA (2006-07 TO 2010-11 )**

YEAR	Procurement		Distribution	
	Financial (Rs)	Physical (MT )	Financial (Rs)	Physical (MT )
2006-07	60146402.93	4626.65	73866579.1	5276.18
2007-08	75920134.15	5061.34	90332588.08	5645.79
2008-09	114743799.9	7171.49	135720979.5	7983.59
2009-10	131102863.9	7711.93	154453411.8	8129.13
2010-11	155008427.1	8158.34	178660314.8	8933.02
<b>TOTAL</b>	<b>536921628</b>	<b>32729.75</b>	<b>633033873.3</b>	<b>35967.71</b>

**ANNEXURE 3 COPRA PROCUREMENT BY KERAFED ( 2005-06 to 2010-11 )**

<b>COPRA PROCUREMENT</b>	
<b>YEAR</b>	<b>QUANTITY IN (MTONS)</b>
2005-06	7621
2006-07	9502
2007-08	10890
2008-09	16379
2009-10	14995
2010-11 (UPTO DEC 31, 2010 )	16124
<b>Total</b>	<b>75511</b>

**ANNEXURE 4 PRODUCTION OF COCONUT OIL BY KERAFED (MTONS) (2005-06 TO 2010-11 )**

<b>NAME OF CENTRE</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>	<b>2009-10</b>	<b>2010-11 (DEC 31, 10)</b>	<b>CENTREWISE TOTAL (MTONS )</b>
<b>KARUNAGAPALLY</b>	3229	3618	4656	6330	7706	7504	33043
<b>NADUVANUR</b>	1847	2359	2422	3277	2980	2693	15578
<b>YEARLY TOTAL (MTONS )</b>	5076	5977	7078	9607	10686	10197	48621

**ANNEXURE 5 SALE OF KERA COCONUT OIL (MTONS) BY KERAFED  
( (2005-06 TO 2010-11 )**

<b>Year</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>	<b>2009-10</b>	<b>2010-11 (DEC 31, 10)</b>	<b>Total (MTONS )</b>
<b>KERA OIL SOLD</b>	4768	5655	7359	9957	10310	10202	48251

**ANNEXURE 6 PURCHASE AND SALES DETAILS FOR THE YEAR BY RUBBER MARK , INTERMIX FACTORY (2010-11 )**

MONTHS	PURCHASE				TOTAL PURCHASE		SALES	
	RAW MATERIALS	VALUE (RS)	NATURAL RUBBER	VALUE (RS)	QTY (KG)	VALUE (RS)	QTY (KG)	VALUE (RS)
APRIL , 2010	42898.00	4718701.00	0.00	0.00	42898.00	4718701.00	31020.75	3591905.00
MAY , 2010	53700.00	3897977.00	10850.00	1638350.00	64550.00	5536327.00	52026.70	5816420.00
JUNE , 2010	30400.00	2286617.00	10000.00	1698200.00	40400.00	3984817.00	59087.00	7045680.00
JULY , 2010	56750.00	4028308.00	16050.00	2893900.00	72800.00	6922208.00	27695.20	3551412.00
AUGUST , 2010	7505.00	735718.00	7000.00	1278000.00	14505.00	2013718.00	23816.40	2968946.00
SEPTEMBER , 2010	39236.00	4178806.00	17000.00	2790000.00	56236.00	6968806.00	35507.90	4496743.00
OCTOBER , 2010	22990.00	1278348.00	10600.00	1883800.00	33590.00	3162148.00	41876.90	5356117.00
NOVEMBER , 2010	54260.00	4331582.00	19250.00	3767000.00	73510.00	8098582.00	62342.00	7692479.00
DECEMBER , 2010	23099.00	2208007.00	9990.00	2058970.00	33089.00	4266977.00	51010.60	6808393.00
JANUARY , 2010	26151.00	2517509.00	10000.00	2135000.00	36151.00	4652509.00	55309.80	7757854.00
FEBRURAY , 2010	65450.00	4916097.00	11250.00	2539525.00	76700.00	7455622.00	51674.60	7430125.00
MARCH , 2010	80859.70	8074763.00	11950.00	2708500.00	92809.00	10783263.00	39885.80	6043655.00
<b>TOTAL</b>	503298.70	43172433.00	133940.00	25391245.00	637238.00	68563678.00	531253.65	68559729.00

**ANNEXURE 7 RUBBER PURCHASE 2010-11 BY RUBBER MARK , INTERMIX  
FACTORY (2010-11 )**

MONTHS	SOCIETIES		DEALERS		BRANCHES		GRAND TOTAL	
	QUANTITY (MT )	VALUE (RS)	QUANTITY ( MT)	VALUE (RS)	QUANTITY (MT)	VALUE (RS)	QUANTITY (MT)	VALUE (RS)
APRIL , 2010	52796	8401761	0	0	240270	3873969	293066	12275730
MAY , 2010	49350	8023673	20756	3437061	167131	25696705	237237	37157339
JUNE , 2010	90683	14606394	28600	4765400	236673	38450132	355956	57821926
JULY , 2010	131383	22698085	190782	33245677	167259	28868510	489424.6	84812272
AUGUST , 2010	21000	3400500	80000	13296500	157070	26147620	258070	42844620
SEPTEMBER , 2010	29000	4717500	157582	24912765	192646	30467500	379228	60097765
OCTOBER , 2010	44000	7549125	168465	29235875	155571	26528275	368036	63313375
NOVEMBER , 2010	74996	14235692	120582	23651095	214367	40720580	409945	78607367
DECEMBER , 2010	89000	17699175	40020	8124160	200146	388246778	329166	414070113
JANUARY , 2010	103381	21755880	30490	6720900	178436	38070430	312307	66547210
FEBRURAY , 2010	60500	13761900	2000	440000	112802	25242726	175302	39444626
MARCH , 2010	131992	29556684	9000	1509000	103720	22205671	244712	53271355
<b>TOTAL</b>	<b>878081</b>	<b>166406369</b>	<b>848277</b>	<b>149338433</b>	<b>2126091</b>	<b>694518896</b>	<b>3852449.6</b>	<b>1010263698</b>

**ANNEXURE 8 PURCHASE AND SALES DETAILS FOR THE YEAR RUBBER  
MARK CRUMB RUBBER FACTORY, CHENAPPADY**

MONTH	PURCHASE		SALES	
	QUANTITY (KG)	VALUE (RS)	QUANTITY (KG)	VALUE ( RS)
Apr-10	196090	23103894	162180	23921514
Mar-10	196090	23103894	162100	23929634
Jun-10	196084	23103187	162045	23941443
<b>TOTAL</b>	<b>588264</b>	<b>69310975</b>	<b>486325</b>	<b>71792591</b>

**ANNEXURE 9 KERALA STATE CO-OP MARKETING FEDERATION LTD .  
MARKETFED, KOCHIN (PURCHASE AND SALES DETAILS)(FROM  
2001-02 To 2010-11 )**

Commodity	TOTAL PURCHASE (MT)	VALUE (LAKHS )	SALES (MT)	VALUE (LAKHS )
SPICES	484.569	719.018	1438.036	2745.592
COPRA	6846.772	11909.544	23819.09	47638.18
MIS COPRA	2935.3	3870.6	6805.9	13611.8

**ANNEXURE 10 PRODUCTION & SALE DETAILS OF KERALA AGRO FRUIT PRODUCTS, PUNALUR (MAY 2010-JAN-2011)**

<b>PRODUCT</b>	<b>TOTAL PRODUCTION</b>	<b>TOTAL SALES</b>
MANGO RTS 250 ML (CRATES )	206	178.5
LEMON PICKLE 300 GM (NO)	3946	1335
CUT MANGO PICKLE 300 GM (NO)	3481	3665
COCONUT CRISPY (NO)	1067	1067
PINE APPLE FRUIT SYRUP 700 ML (NO)	1032	807
PINE APPLE JAM 400 GM (NO)	3125	1155
MIXED JAM 400 GM (NO)	854	508
RTS 250 ML PET BOTTLE (NO)	100	55
RTS 500 ML PET BOTTLE (NO)	120	68
RTS 1000 ML PETBOTTLE (NO)	30	12
RTS 200 ML PET BOTTLE (CRATES )	7.5	2

**ANNEXURE 11 OIL PALM PRODUCTION AND CRUDE PALM OIL PRODUCTION ( IN MTONS ) BY OIL PALM INDIA LTD. (2001-02 to 2010-11 )**

<b>PRODUCTION</b>	<b>FFB (FRESH FRUIT BUNCHES )</b>		<b>GRAND TOTAL (IN MTONS )</b>	<b>CRUDE PALM OIL (IN MTONS)</b>
	<b>OWN ESTATES (TOTAL )</b>	<b>OTHERS (TOTAL )</b>		
2001-02	31560.16	28.85	31589.00	6117.55
2002-03	32615.52	376.12	32991.04	6572.00
2003-04	32157.79	139.88	32297.57	6732.75
2004-05	29082.97	665.58	29748.55	5792.74
2005-06	29798.32	3610.53	33408.85	6478.28
2006-07	30521.14	3377.77	33898.91	6773.00
2007-08	26038.56	3291.25	29329.81	5732.40
2008-09	31597.01	6780.88	38377.89	7370.60
2009-10	29438.51	5723.09	35161.60	6604.50
2010-11	33904.16	7154.14	41058.30	6881.00
<b>Total</b>	<b>306714.14</b>	<b>31148.09</b>	<b>337861.52</b>	<b>65054.82</b>

**ANNEXURE 12 EXPORT OF AGRICULTURE COMMODITIES FROM KERALA  
(2006-07 to 2010-11 )**

YEAR	Commodities			
	Vegetables/Fruits		Plants &flowers	
	QTY (MT)	C&F VALUE (RS IN LAKHS )	QTY (MT)	C&F VALUE (RS IN LAKHS )
2006-07	18946	16797	32	151
2007-08	20935	16745	47	377
2008-09	19111	15288	52	413
2009-10	20935	16745	47	377
2010-11	23381	18705	39	310
<b>Total</b>	103308	84280	217	1628

**ANNEXURE-13: INFRASTRUCTURE NEEDED IN AN IDEAL MARKET**

<p><b>Core Facilities</b></p> <p>Platforms for Automatic weighing  Auction Platforms  Packaging &amp; Labeling Equipments  Drying Yards  Loading, Unloading &amp; Dispatch facilities  Grading facilities  Standardisation facilities  Price Display Mechanism  Information Centres  Storage / Cold Rooms  Ripening Chambers  Public Address System  Extension and Training to Fanners</p>	<p><b>Support Infrastructure</b></p> <p>Water Supply  <i>Power</i>  Veterinary Services  Sanitary Facilities  Posts &amp; Telephones  Banking  Input supply und Necessity Outlets  POL  Repair / Maintenance Service  Office  Computerised systems  Rain Proofing</p>
<p><b>Service Infrastructure</b></p> <p>Rest Rooms  Parking  Sheds for Animals  Market Education  Soil Testing Facilities  Drainage</p>	<p><b>Maintenance Infrastructure</b></p> <p>Cleaning and Sanitation  Garbage Collection &amp; Disposal  Waste Utilisation  Vermi Composting  Bio-gas Production / Power</p>

Source: GOI (2007). "Report of the Working Group on Agricultural Marketing Infrastructure and Policies Required for Internal and External Trade", for the 11<sup>th</sup> Five Year Plan 2007-12, Agriculture Division, Planning Commission, Govt. of India, pp-114