PRODUCT & SERVICE CUSTOMIZATION MODEL FOR VEGETABLE MARKETING IN THE CONTEXT OF PERI-URBAN AGRICULTURAL SYSTEM UNDER KRISHI BHAVAN, KAZHAKUTTOM, THIRUVANANTHAPURAM

By

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MAJOR PROJECT REPORT

Submitted in partial fulfillment of the requirement for the post graduate degree of

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Kerala Agricultural University

COLLEGE OF CO-OPERATION, BANKING AND MANAGEMENT

VELLANIKKARA, THRISSUR- 680656

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Declaration

DECLARATION

I hereby declare that this project entitled **"PRODUCT & SERVICE CUSTOMIZATION MODEL FOR VEGETABLE MARKETING IN THE CONTEXT OF PERI-URBAN AGRICULTURAL SYSTEM UNDER KRISHI BHAVAN, KAZHAKUTTOM, THIRUVANANTHAPURAM"** is a bonafide record of work done by me during the course of project work and that it has not previously formed the basis for the award to me for any degree/diploma, fellowship or other similar title, of any other university or society.

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Certificates

CERTIFICATE

Certified that the project report entitled **"PRODUCT & SERVICE CUSTOMIZATION MODEL FOR VEGETABLE MARKETING IN THE CONTEXT OF PERI-URBAN AGRICULTURAL SYSTEM UNDER KRISHI BHAVAN, KAZHAKUTTOM, THIRUVANANTHAPURAM"** is a bonafide record of project work done independently by Miss. Ranjini Thomas under my guidance and supervision and that it has not previously formed the basis for the award of any degree, fellowship or associateship to her.

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We, the undersigned members of the advisory committee of Miss. Ranjini Thomas, candidate for the degree of **MBA in Agribusiness Management**, agree that the project work entitled **"PRODUCT & SERVICE CUSTOMIZATION MODEL FOR VEGETABLE MARKETING IN THE CONTEXT OF PERI-URBAN AGRICULTURAL SYSTEM UNDER KRISHI BHAVAN, KAZHAKUTTOM, THIRUVANANTHAPURAM"** may be submitted in partial fulfilment of the requirement for the degree.

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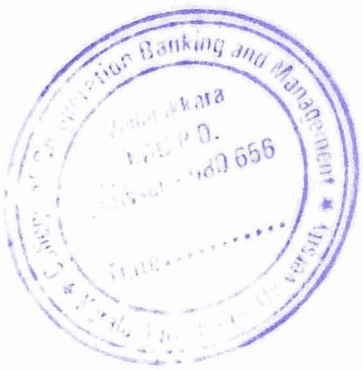

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TO WHOMSOEVER IT MAY CONCERN

This is to certify that Miss. Ranjini Thomas, a 2nd year student of MBA in Agribusiness Management from College of Co-operation, Banking and Management, Kerala Agricultural University, Thrissur has successfully completed her major project work in our organization on the topic titled, **"Product & Service Customization model for Vegetable Marketing in the context of Peri-Urban agricultural system under Krishi Bhavan, Kazhakuttom, Thiruvananthapuram"** from 28th March to 21st May, 2016.

During the period of her project work she was sincere and involved herself in learning. She has also shown keen interest and enthusiasm during the course of her project work. Her conduct and character have been found to be good. We wish her all success in her future endeavours.

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I also thank my beloved parents, friends and relatives for giving me great opportunities and nice experiences. Finally, I thank each and everyone who helped me for the successful realization of this report, as well as expressing my apology if I could not mention personally one by one.

For any errors or inadequacies that may remain in this work, of course, the responsibility is entirely my own.

Ranjini Thomas

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LIST OF ABBREVIATIONS

ADA	:	Assistant Director of Agriculture
FAO	:	Food and Agricultural Organisation
FRO	:	Farmer Retail Outlet
PPP	:	Public Private Partnership
PUA	:	Peri-Urban Agriculture
RKVY	:	Rashtriya Krishi Vikas Yojana
RM	:	Relationship Marketing
RUCV	:	Ready to Use fresh Cut Vegetables
SME's	:	Small and Medium Enterprises
VDP	:	Vegetable Development Programme
VIUC	:	Vegetable Initiative for Urban Clusters
UEIP	:	Urban Environment Improvement Programme

Chapter - 1

Design of the study

Chapter 1

DESIGN OF THE STUDY

1.1 Introduction

The phenomenon of urbanization has given birth to an increased demand for fresh fruits and vegetables, which needs to be met by new production areas combined with more intensified crop management in order to raise the productivity per unit of land and water. It has been forecast that the uncontrolled growth of cities will lead to poverty and malnutrition for more than 600 million people by 2025. The intensification of urban and peri-urban horticulture production systems to secure year-round supply of fresh horticultural produce to urban population is a component of FAO's interdisciplinary and multidisciplinary programme on 'Food for the Cities'. India is the second largest producer of vegetables with a production of 90 MT covering about 6m ha area which forms 3 percent of the total cropped area. Though the vegetable requirement is 300 g/day/person we are able to meet only 1/9th of the requirement. With the varied agro-climatic conditions in our country, the potential of vegetable cultivation is undisputed.

Kerala is a consumer state as far as vegetables are concerned. The decline of vegetable cultivation and a growing import bill is only a symbol of Kerala's food dependency. Major share of the vegetable supply for the state comes from neighbouring states which has been reported with high levels of pesticide residues. Promoting vegetable cultivation in the state coupled with suitable marketing mechanism will not only help to make the state self-reliant but also ensure year round availability of quality vegetables. Krishi Bhavans have been set up as the agricultural units for every panchayath, for enhancing the production and productivity of crops. These institutions are the guiding agents for farmers and provide technical advisory service and knowledge on what to grow, when to grow, where to grow and how to grow. Through this arrangement, provision of a single window approach for agricultural development in the State was enabled, by integrating and coordinating the existing agricultural development activities.

1.2 Background of the study

A peri-urban agricultural system is characterized by the farming activities in peripheral areas of city, i.e. the urban-rural interface. In Kerala, vegetable initiative for urban clusters (VIUC) under Rashtriya Krishi Vikas Yojana (RKVY) launched in 2011-12 for the first time which encouraged kitchen gardening, rooftop farming as well as organic farming in urban and peri-urban areas. Further the Government is implementing the Vegetable Development Programme (VDP) from 2012-13 till now. This scheme was characterised by the intense use of technology for the production of vegetables. Thus the initiative which has been envisaged against the backdrop of the reality that 'urbanization is taking away from agriculture' promoted an increase in vegetable production to some extent. But there are several factors to be noted in the peri-urban agricultural system. Being produced by commercial and small holder farmers, vegetable marketing in urban clusters is influenced by a number of factors that can be attributed to production, product and market characteristics. The dwindling area under cultivation risks peri-urban farming, creating uncertainties in the production of quality agricultural produce according to the seasonal variations and demands. Due to the perishable nature of the vegetables produced, there is difficulty of scheduling the supply of vegetables according to the market demand. The crops are subjected to high price and quantity risks with changing consumer demands and production conditions. Thus the farmers of these peri-urban clusters are in the dilemma of whether to restrain from farming to other business areas. In this aspect, the Krishi Bhavans should act as facilitating agents in creating sustainability in agricultural production and marketing.

1.3 Statement of the problem

The sustainable development of any sector calls for planned and optimum use of the available resources. Keeping this in view, the Krishi Bhavans were expected to ensure the best possible use of the resource endowments of each region by planning and implementing location- specific development programmes with the active involvement of the people. The review of literature reveals that Krishi Bhavan was acting as an information source for almost all the aspects except marketing. The marketing aspect is extremely significant to obtain better profitability from the agricultural produce. Though one of the major objectives of the Krishi Bhavan was securing of remunerative prices to farmers by providing better marketing facilities to them, Krishi Bhavans were not found playing any such function in majority of the areas. The marketing method has to be carefully planned and managed. It is important that

marketing conforms to local demands. Marketing systems should be fairly well adapted to prevailing production and consumption patterns. Changes to and improvements to marketing organization that do not consider local economic, social and cultural aspects will be destined to failure. Identifying the niche market wherein the market is composed of particular consumers and demand is focused on special or typical product offers better price for the farmers. Training in new agronomic practices is required, for example, in organic production, and safe to eat vegetable production allows for product differentiation and also a price differential for the farmers.

All these drawbacks could be minimized if Krishi Bhavan initiates a rejuvenating role by being more farmer-centric in agricultural developmental activities which could be possible through better transfer of agricultural technology, facilitating innovative product and service customization to cater to the changing consumer demands, improving the service delivery through better marketing information and conducting marketing research so that the farmers could make decisions on production and marketing. Cost-efficient production and marketing activities will achieve higher profits to farmers and encourage the expansion of vegetable growing and marketing. The government policy-makers and agricultural development personnel should recognize the opportunities that are available for producing and marketing quality vegetables. Creating an enabling environment for vegetable marketing is important. Upgrading and improving wholesale markets and retail markets, creating new ones, via public-private partnerships, training vegetable traders and encouraging vegetable traders with fiscal incentives, for example, are only some among the many options to support vegetable commercialization. Over the past decades, there has been a growing recognition among scholars and practitioners that product and service differentiation represents a source of competitive advantage. The core idea of differentiation is to identify profitable market segments and to design products and services to optimally satisfy the needs of the target segments. This research fills an important gap in the knowledge of customization outcomes in agriculture especially vegetable production and marketing, and clarifies under which circumstances service customization is most effective.

1.3.1 Envisaging a model for product and service customization for sustainability

This study is conducted with the special reference to Krishi Bhavan, Kazhakuttom under the Thiruvanthapuram Corporation where a service agency named 'Haritha Centre'

under the Urban Environment Improvement Project (UEIP) was established during November 2015 to deliver customised services to farmers as a novel business model. It is characterised by the door step delivery of 'farm support services' of technology and labour. With this initiative, the farmers are now being treated as customers rather than merely treating them as a community which needs further development. Within a short span of time this agency could be evolved as an acceptable preposition by the customers. Moreover, the scientific crop management is made possible which is resulting in the increased productivity which warranted better marketing channels.

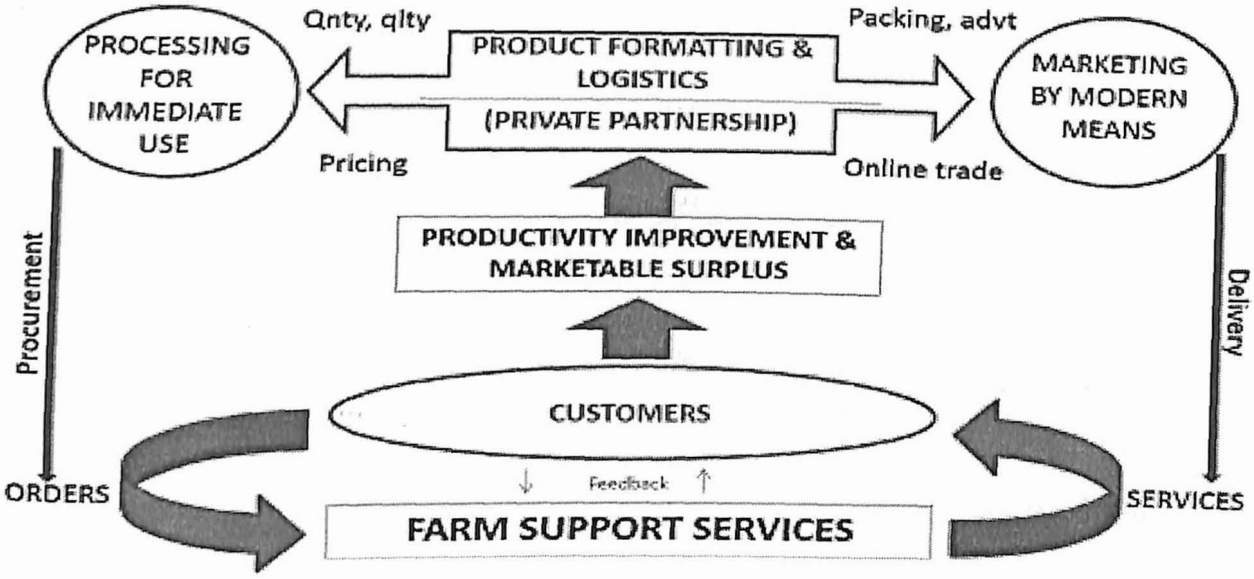
The initial step taken by the above institution with respect to marketing was the establishment of a Farmer Retail Market (FRO) which is run by the farmer representatives themselves. But, even then the spoilage and price volatility have raised their own threats in the sustainability of vegetable production.

Moreover, the rapid expansion of Technopark in Kazhakuttom has changed the entire human ecology of the capital and its suburbs thus enhancing the possibilities of exploring new marketing strategies especially for those who prefer quality and convenient vegetable and food products. This study intends to create an insight to know the potentialities of alternative product forms and service delivery options so as to develop a model for sustainable vegetable marketing that could be replicated in Krishi Bhavans all over Kerala.

The product and service customization in this model mean to provide customized service provision in peri-urban / urban agricultural situations where the Haritha Centre under Krishi Bhavan acts as the service agency for the Farm Support Services, production and distribution of bio agents and machinery operation at the field level and the launching of 'Safe to Eat' fresh Ready to Use fresh Cut Vegetables (RUCV) as a - A 'PPP' model initiative.

The Figure 1.1 shows the Model for service and product customization for sustainability

MODEL FOR SERVICE AND PRODUCT CUSTOMIZATION FOR SUSTAINABILITY



1.4 Objectives

1. To study the components of marketing unit in the peri-urban agricultural system which involves the farmers in cluster groups, suppliers, technology transfer agents in Krishi Bhavan and the customers.
2. To examine the present marketing practices being adopted for vegetables and find out the limitations if any, so as to examine the feasibility of the sustainable business model for the peri-urban agricultural system.
3. To identify the constraints experienced by the producers, agricultural development personnel in Krishi Bhavan and the people with respect to marketing activities in peri-urban clusters.
4. To find out the possibilities of improvement in service delivery of the farm support services offered by Krishi Bhavan to ensure better marketing opportunities for the farmers.

1.5 Methodology

1.5.1 Period of study

The study was conducted in 2016 (21st March to 21st May)

1.5.2 Design of study

An exploratory research design was adopted for the study.

1.5.3 Sampling design

There are two clusters under Krishi Bhavan, Kazhakkuttam viz. Chanthavila and Moozhinada. Out of which Chanthavila cluster was selected by lottery method. Data from 30 members of this cluster group were collected.

Also 30 customers were chosen for the opinion survey based on their willingness to accept customized products at their doorstep.

Census method was used for sampling of agricultural officers of 10 Krishi Bhavans coming under Assistant Director of Agriculture (ADA), Kazhakuttom.

1.5.4 Key observations made

1. Socio-economic profile of the farmers in peri-urban clusters.
2. Effect of services and inputs rendered to farmers through KrishiBhavan.
3. Existing marketing practices followed in peri-urban clusters.
4. Constraints experienced by farmers with respect to peri-urban marketing system.
5. Constraints of agricultural officers of the respective Krishi Bhavans under ADA, Kazhakuttom.
6. Customer preferences and satisfaction towards customized product forms and marketing services to be implemented on a pilot basis.

1.5.5 Data collection

The primary data were collected by conducting a survey of farmers in peri-urban cluster groups (Chanthavila cluster in Kazhakuttom selected) using semi-structured interview schedule and interviewing the suppliers in farmer retail outlets. An opinion survey was conducted to know the customer satisfaction level towards the new product forms and service delivery methods (Flat residents and households working in Techno Park) and interviewing the agricultural officers under ADA, Krishi Bhavan, and Kazhakuttom.

The secondary data were collected from registers, information source available in Krishi Bhavan, Kazhakuttom and other published and electronic sources.

1.5.6 Tools used for data collection

1. Focus group discussion
2. Interview schedule

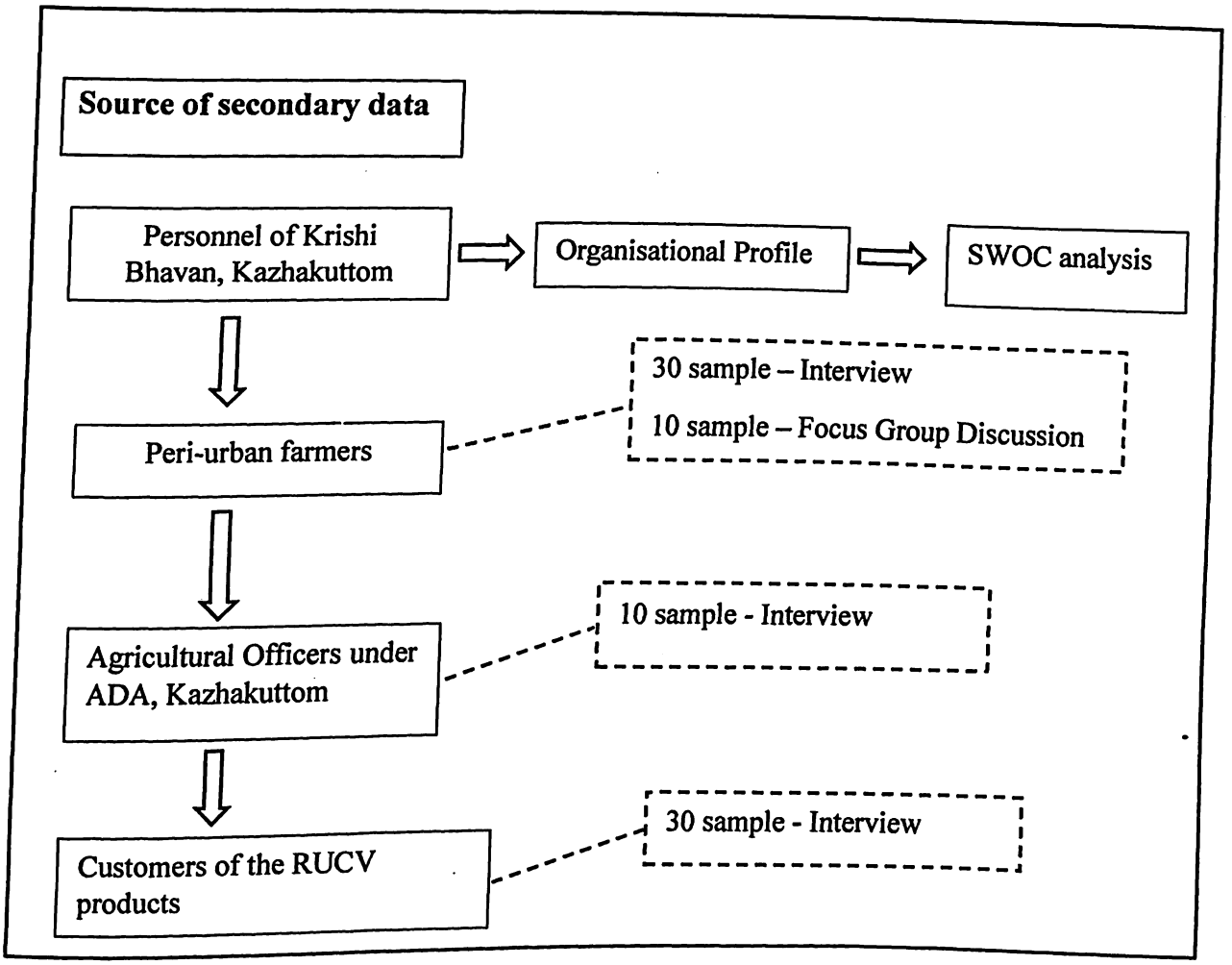


Figure 1.5.6 Tools used for Data Collection

1.5.7 Data analysis

Qualitative methods: narration and interpretation.

Customer preference and satisfaction are assessed using three point Likert scale.

SWOC Analysis for Krishi Bhavan, Kazhakuttom.

Quantitative methods: simple statistical tools like mean, frequency, percentage etc. are used.

Quantitative data analysis is done with the help of IBM, Statistical Package of Social Sciences (SPSS), Version 21.

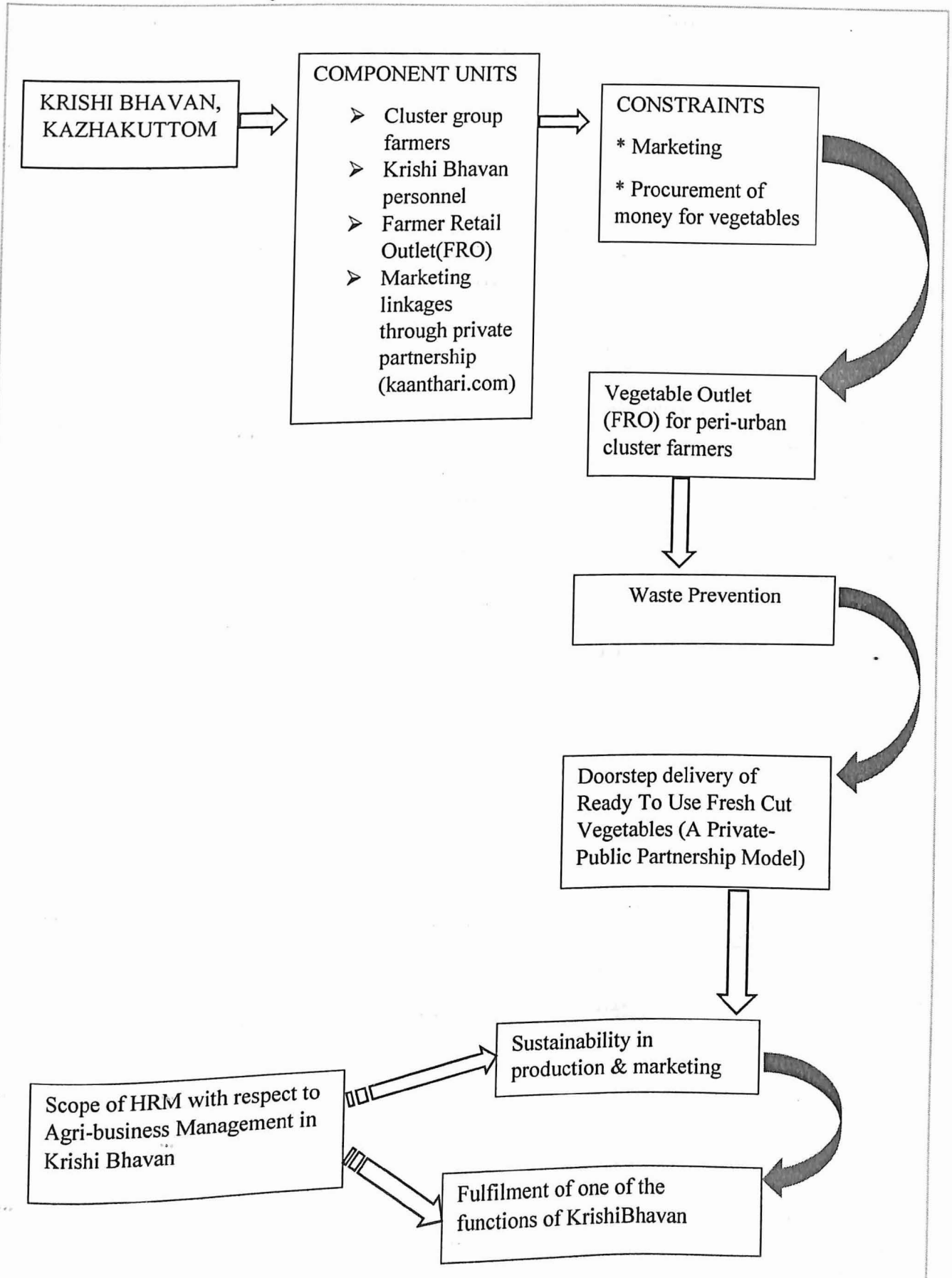
1.6 Scope of the study

This study helped in understanding the problems in existing marketing practices in peri-urban agricultural system. It also aims to assess the feasibility of new marketing strategies based on customization in product and service delivery through Krishi Bhavan and with public private partnership for creating a sustainable model. The research paper is of great value for service providers like Krishi Bhavan that face the decision whether to customize their offerings or not.This new initiative may in turn ensure sustainable production and marketing with increased people participation.

1.7 Limitations of the study

1. A more detailed enquiry is required to evaluate the feasibility of the proposed business model in other areas also.
2. The present study was not able to ensure hundred percent feasibility of the proposed model because the research was conducted soon after the launching of the product. Further research preferably after one year of its launch is required to ensure the feasibility of the model.
3. The study is focusing only on vegetable production and marketing options within a single peri-urban cluster under Krishi Bhavan, Kazhakuttom assuming that the outcome from the study can be replicated to similar areas also.

1.8 Flow chart of the study



1.9 Chapter plan

The research report is organized in six chapters.

Chapter 1 – Design of the study

Chapter 2 – Review of Literature

Chapter 3 – Conceptual and Theoretical Framework of study

Chapter 4 – Krishi Bhavan - A profile

Chapter 5 – Product and Service Customization Model-Analysis

Chapter 6 – Summary of findings, Suggestions, Implications and Conclusion

Bibliography

Appendix

Chapter - 2

Review of literature

Chapter 2

REVIEW OF LITERATURE

Literature review is an essential part of research programme. It identifies studies, models and case studies supporting researcher's topic. Through the review of literature, a researcher identifies the theory that the other research works say, the methodology used to carry out the research studies and the gap that researcher intends to fill. With all these purposes in mind, in order to undertake a good research, review of literature relevant to the research problem is carried out and presented in this chapter under the following sub headings:

2.1 Studies on Peri-Urban agricultural system

2.2 Studies on Krishi Bhavan and agricultural development in Kerala

2.3 Studies on product and service customization model in relationship marketing

2.1 Studies on Peri-Urban agricultural system

2.1.1 Farm adaptations in peri-urban area

In the literature, Bryant and Johnston(1992) indicates two imperative farm adaptation scenarios in the urban peripheries where the 'off-farm diversification', of which generally involves increased reliance of farmers on non-farm employment in the urban peripheries, and "on-farm diversification", characterized by 'changes in production practices or management approaches. In similar vein, Smithers and Jhonson (2004) describes four possible farm level trajectories – especially "growth and decline", "intensification", "persistence" and "de intensification" as a consequence of changing pattern of land, labour and capital use. "Growth and decline" describes a scenario in which aggregate increase or decrease in scale of production occurs, without a fundamental restructuring of the relationship between the main agricultural inputs and the intensity of production process. 'Intensification' defines a scenario in which the main agricultural inputs, such as labour and capital are increased. 'Persistence' refers to a status quo -preserving condition. Finally, 'de-intensification' characterizes a situation in which agriculture is no longer competitive with other sector uses, and farmers react by reducing their main agricultural inputs, eventually leading to farm closures.

Jhonston and Bryant (1987) proposed three divergent types of farm changes in the urban-rural interface considering the internal and external farm conditions. These changes include "positive adaptations that enhance farm production" (e.g. urban oriented direct marketing, or intensifying traditional production), another farm change include "normal or

managerial adjustments" (farm changes consistent with changes occurring across the agricultural sector including the adoption of new agricultural technologies to increase efficiency) and finally " negative adaptations" (such as reducing production intensity or farm investments, perhaps in anticipation of a future sale to developers). The adaption models developed by Johnston and Bryant (1987) and Smithers and Jhonson (2004) observes the farm adaptation strategies that emerge from complex interplay between farm household and farm business in rural-urban interface. In addition, Smithers and Jhonson (2004) distinguishes the role of 'farmer agency' in managing change and impart credence to the farm family acting and contributing to farm decision making. Pierce (1994) indicated a diverse range of "survival" strategies of farmers' response to structural change and uncertainty in the urban fringes. One prominent path in his opinion could represent a typical accumulation strategy pursued by "highly capital intensive enterprises". He further indicates another adaptive strategy involving some form of "diversification" with some changes in production strategies including few petrochemical inputs and processing inputs. There are numerous examples of these kinds of development indicating development and marketing of specialized crops and direct sales of produce. Another common adaption represents "selling of the farms for conversion to urban use or amenity". This has something to do with opportunity cost and location of the farmland. Furthermore an alternative adaptation is "redeployment of farm resources –hobby farms, golf courses, amenity agriculture". Another option could be "conservational reserves" particularly to preserve biological resources in the urban fringes. Other strategy represents "a dramatic shift in culture of production from agro-industrial mode towards sustainable and organic mode of production".

2.1.2 Sustainability and farmers' perceptions

Bennett (1968) emphasizes that social structure is articulated in farming practice where the economic behaviour of farmers is not only restricted to market, but also to the exchange of goods and services among themselves that enhances the social connections. The urbanization triggers certain trade-offs among the farmers' when making day to day decisions. The adoption of particular farming system in these areas is seen as the expressions of farmers' participation in the social discourses about agricultural production. These discourses eventually verbalize into different perceptions through possible actions that could enable them to strategically adopt a particular farming system in the peri-urban area.

2.1.3 Social innovations and community participation

Peri-urban agriculture could significantly represent most widespread human environmental interactions in the rural- urban continuum. The enduring crisis in the peri-urban farming prompt the need for novel approaches to address these challenges. They should allow the society to innovate, participate and do things according to their choice. Agriculture requires an ethic that discriminates the human obligation (a moral claim) in manner that acknowledges the human-ecological and social relations that makes farming a sustainable (Krischenmann 2004). Comparably, literature indicates that when "Social innovations" are combined with concepts of social empowerment, inclusion, social capital and cohesion could fairly enhance the people's participation towards more sustainable development. Thus theoretically social innovations are based on collective action which forms the central core element for any social innovation to happen. They are unique outcome of a collaborative action among the network of actors associated with similar interests and are highly related to the existence of social capital available (Neumier 2011).

2.1.4 Challenges & prospects in peri-urban farming

The studies on peri-urban smallholders in developing countries reveal that the land shortages in these areas stipulate distress diversification into agricultural wage work. While the market access, endowments and finance access drives farmers into higher degree of diversification with higher incomes. Although a high rate of urbanization and a high incidence of rural poverty are two distinct features of many developing countries, there is little understanding on the effects of the former on the latter (Bigsten and Tengstam, 2011).

Bon *et al.* (2011) elucidate that the major challenge for the peri-urban farmers is producing high quality products amongst highly populated areas under conditions of an often disproportionately polluted environment. Connected to this discussion another argument by Bryant (2010) in which it is argued that developing producers' adaptive capacity could be one of the key contributing factors to alleviating urban food insecurity. He suggests that the introduction and consideration of multifunctional attributes of agriculture could help strengthen peri-urban communities and local organizations and to design more appropriate and integrative policies and therewith substantially strengthen the quality of life and food production in peri-urban areas. Crop production in peri-urban areas is extensively market driven and often constrained by tenure insecurity and non-agricultural land demands (Drechsel and Dongus, 2010). Moreover the common phenomenon that distinguishes peri-

urban areas is that the agriculture is affected by the cost of urban expansion. In a case study from India it has been was argued that about 77 percent of available land in the peri-urban areas cannot be managed sustainably because of the unclear planning of land use (Dutta, 2013). Additionally land speculations make peri-urban farming unsustainable when farm owners actively seek investors or developers for their land or even cease farming in search of a suitable buyer (Berry 1978). Dunk *et al.* (2011) describes six considerable peri-urban land use conflicts namely "noise-pollution, visual-blight, health hazards, nature conservation, preservation and changes to the neighbourhood."

In contrast, Bryant (1984) states that urbanisation may have positive influence to peri-urban farming. For example access to major urban centres may provide farmers with income alternatives outside agriculture. Those may complement farming activities and stabilize semi-professional peri-urban agriculture (Deichmann *et al.*, 2009). Furthermore, other scholars have argued that peri-urban residents including farmers may have a more advantageous geographical position for selling their labour and agricultural products which in turn may help to sustain their agricultural livelihoods (Buciga et al. 2012). Literature indicates that the peri-urban areas are the regions where there is more dynamic interaction between the urban and the rural (Tacoli 2006; Diaz Caravantes 2012). The urban fringe land supports the urban areas through supply of natural resources such as land and produce food to feed the cities.

2.1.5 Global studies on peri-urban agricultural development

The literature review on the developed world shows that key drivers of peri-urban agricultural development are the reform measures after instigation of Common Agricultural Policy (CAP) in Europe and a massive emphasis towards supporting peri-urban agriculture in USA where in some cities development of peri-urban agriculture went hand in hand with the application of concepts of multi functionality, social farming and community development. Alternative Food Networks and Amenity led development in North America, along with a movement to hobby farming in America give examples of these trends (Daniels 1986; Renting 2009; Zasada 2011; Paul 2013; Olson 2012) In contrast, food security, growing population and huge in-migration into the peri-urban areas has prompted international donors to integrate respective projects into development programs (Lanjouw 2001; Lynch 2013; Makita 2010; Rogerson 2011). At the same time, in rapidly urbanizing regions in Asia where sustainable peri-urban development has not become a top priority of the development agendas. This is particularly true for the so called mega cities of Asia (Ooi 2009). The recent developments in China reveal the adoption of massive tourism development approaches in

the peri-urban areas (Qian *et al.*, 2012) by the Chinese government. This kind of development is highly motivated to improve the quality of agricultural products and services, while actively developing multiple functions of agro-tourism which have wider economic, environmental and social benefits (Yang, 2010). Similar development approaches have been identified in Australia with exclusive emphasis on strengthening the multi functionality of agriculture in peri-urban spaces (Henderson, 2005). However, in Asia, sustainability claims can be easily become disappointed in close proximity to megacity market opportunities and facing competition with other sectors on the land market.

2.1.6 Urban and peri-urban agriculture in India

In India, central governments major emphasis on peri urban planning seems to be pretty much focus on making "world class cities through market liberalization" (Goldman, 2011). Indian cities with their peri-urban spaces highly rely on new forms of industrialization as part of peri-urban development that indeed represents an "infrastructure led development model" through information technology revolution and urban agglomeration. This approach provides an example of how powerful language and the social discourse on urbanisation and the urban peripheries can play a leading role in bringing or not bringing peri-urban farmers on the agenda of developers. A closer examination of Indian urbanisation strategies reveals that the focus of development seems to be on "infrastructure led development" (Kennedy 2007). This kind of development approach where the disregard for peri-urban farming in research and policy has to do with the view that the mass of peasants' have become the final obstacle, preventing India from attaining globally integrated economic prosperity. Apparently the urban planners' evident emphasis in India on the development of "world-class" infrastructure for "model enclaves" in the metropolitan peripheries is considerably represents a case for "degenerated peripheralisation" (Goldman 2011).

2.1.7 Various paths of peri-urban agricultural development

Bowler (1992) following earlier research of Whatmore et al. (1987) identifies six paths of development in response to farm crisis which are pursued individually or in combination.

- Extension of the industrial model of farm business development based on traditional products and services
- Redeployment of farm resources (including human capital) into new agricultural products or services
- Redeployment of farm resources (including human capital) into new non-farm products and services

- Redeployment of human capital into off-farm occupation
- Maintenance of traditional farm production and services with either reduced inputs and/ or reduced income
- Hobby or part-time (semi-retired) farming

2.1.8 Agricultural development theories and associated discourses

In Asia and the developing world, technological innovation was long described as the main driver of structural change in agriculture (Hayami and Ruttan, 1985) that indicates the choice of technology and production strategy is a product of resource endowments and economic forces. In order to understand the development with close association to technical change, afterwards this model has been revised and the role of institutional change and innovation in affecting agricultural development (Ruttan 1989) has been incorporated. Buttel extends the technological perspective on agricultural change speaking of a "technological treadmill" in which a globalizing food system marginalizes small producers (Buttel 1989). More recently, the influence of concentration and internationalization of processors and retailers and the subsequent vertical integration of agro-food systems have also been described as important drivers of structural change in developing countries (Goodman and Watts, 1997; Reardon et al. 2004). The nature of forces influencing the speed of change in agriculture and corresponding effect on resource management in a given location may vary. Bryant and Jhonston (1992) claim that to understand the post-industrial agricultural landscape in the urban fringe, the system of exchange in which farms operate needs to be considered together with lifecycles of the farm family, proximities to the market, and policy related factors, in short they content that the complexity of changes in the agricultural landscape (.e.g. degeneration, adaptation and development) is the product of different modes of production (industrial and post-industrial), each inclined to respond differently to the same external stimuli at a variety of spatial scales.

2.1.9 Community approaches and innovations

Various studies have shown the positive aspects of 'Multi-functionality in agriculture'. It is suggested that the notion of a 'multifunctional agricultural regime' better encapsulates the diversity, non-linearity and spatial heterogeneity that can currently be observed in modern agriculture and rural society (Wilson, 2001). The studies related to multifunctional nature of agriculture includes various community based approaches and innovation in the European context. At the same time literature indicates a growing phenomenon related to urban farming associations around the world. These kinds of

developments fuelled to examine the upsurge of cooperative activities, knowledge and perceptions of the actors involved in urban farming associations due to growing demand for urban and peri-urban agriculture in Freetown (Maconachie, 2012). This study highlights how urban and peri-urban agriculture activities are currently driving revival of community-based cooperation, which could be a development approach that could play an important role in safeguarding urban and peri-urban farmer's livelihoods. In addition Cazaux *et al.* (2007) characterize urban outskirts as multidimensional production and consumption areas (Potter and Tilzey 2005) that has to fulfil different functions in particular. The infusion of the 'Multi-functionality' concept with better implication on societal transformation processes has significantly influenced research and policy approaches in different ways amongst countries and disciplines (Renting *et al.* 2009). Many studies have considered diversification, recreational and environmental farming, landscape management and specialization together with direct marketing (Zasada 2011).

2.1.10 Cluster farming approach in peri-urban areas

Agricultural clusters often form geographic and sectoral agglomerations of enterprises. The most dynamic clusters spring up spontaneously, without direct intervention by external actors. Moreover agro-based cluster growth seems to have positive spill-over effects on local and rural development. Cluster initiatives may be one of the potential options to solve the multiple problems of agriculture, particularly small farmers. Such initiatives should be designed to engage participants in a well-coordinated manner. With experience and capital gain, this group action should introduce vertical integration and value addition. Following real spirit of cluster initiatives, this may start with simple things but may end up in modern and sophisticated agro industry. The success of this system demands real spirit and the sense of togetherness, at the start with supervision and support from public sector. This practice may turn farmers into entrepreneurs because they have characteristics which may enable them to enjoy benefits of niche market that exists in many developing countries. Accordingly, central and local governments have discovered that cluster promotion is a valuable tool to support agricultural enterprises in their territory and help them link to global agricultural value chains in a more efficient and sustainable manner (Nogales, 2010).

2.1.11 Potential Benefits of cluster farming

Rubzen *et al.* (2013) recorded the benefits of clusters as an improvement in productivity as well as farmer income. Further they also proposed spill over effect in the form of increased farm employment, increased productivity (through specialized inputs, access to

information, synergies, and access to public goods), more rapid innovation (through cooperative research and competitive striving), and new business formation (filling in niches and expanding the boundaries of the cluster map). Other benefits reported are; i) Better and more efficient access to infrastructure, specialized human resources, and inputs, including capital - Firms readily obtain access to vital inputs such as suppliers, information, technology, financing institutions, and institutions of higher education.

ii) Reduction of costs - Transaction costs are considerably lowered because of proximity in the cluster. Proximity offers vital advantages for the agricultural sector in developing countries, in particular for SMEs. Often firms can source products and services from inside the cluster and forgo the (greater) cost of having to develop or produce the product or service. Costs are also being reduced through economies of scale and scope, as in the case of joint marketing and bulk purchasing. Costs related to hiring talented employees are reduced as well, provided talent is made available in the cluster.

iii) Access to information and services - Being in a cluster provides members with preferred access to extensive market, technical, and competitive information that accumulates in the cluster. For example, through a close relationship with sophisticated buyers within a cluster, suppliers are more attuned to their specific needs. Business organizations and also business fairs function as information and service hubs; informal day-to-day contact with similar companies plays an equally important role.

iv) Better recognition and marketing - For small and developing businesses, locating in a cluster within near competitors and related industries may help them to grow, gain recognition, and attain status more rapidly the market.

Felzensztein *et al.* (2009) reported enhanced reputation or credibility of the firms and products, buying intermediate goods from other firms, providing access to better specialised suppliers, and finding new customers in new markets as the main externalities that the respondent's firms found more useful as benefits of geographical co-location. Farmers and small and medium-sized agribusiness can benefit from participating in agricultural clusters as it allows them to achieve scale economies and share costs related to training, info-sharing, and certification and technology application. Participation in agricultural clusters affects farm management, new technology adoption and environmental practices, profitability and smallholder farmers' access to markets. However, finally, the progress and growth of agricultural clusters seem to have many spill over benefits on local and rural development. Agricultural clusters can contribute to create national/regional brand identity. In the current

competitive marketplace where product differentiation is essential to agribusiness' prosperity. Agricultural clusters are crucial to creating national or regional brand identities.

2.1.12 Need for external assistance in Agro- based cluster development

In most developing countries, it is doubtful that agricultural clusters will evolve naturally owing to lack of managerial competence and information. Additionally, the generally precarious financial position of farmers and a built-in bias against risk-taking and innovation are likely to preserve the rural status quo in the absence of outside intervention. As a consequence, clustering in the agricultural sector will most likely need to be induced by an external agent, which according to the research undertaken could be the government, large local firms and international investors (FDI), or a mix of these three types of actors (Nogales, 2010).

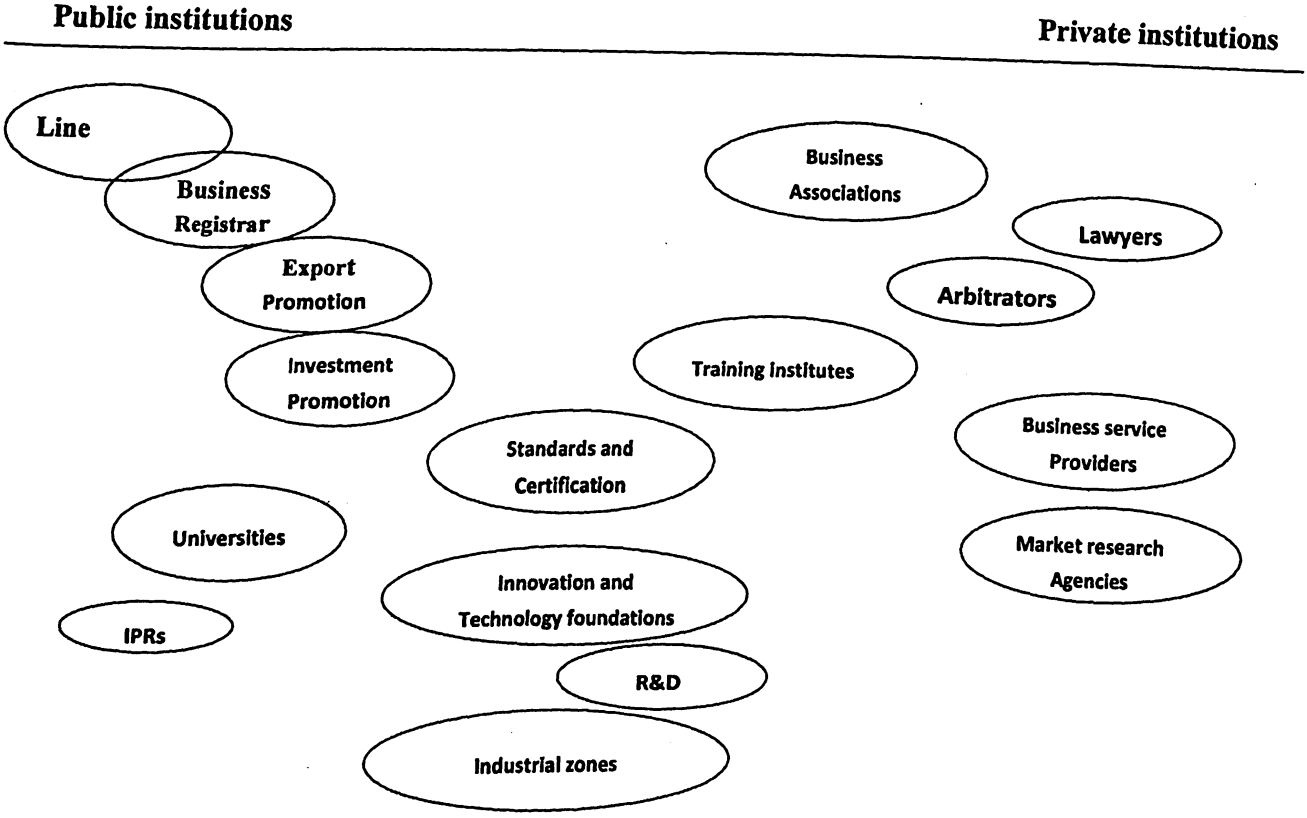
In Western Africa, Competitive Agricultural Systems and Enterprises, CASE approach which advocates agribusiness cluster coordination among various stakeholders, including small farmers, local entrepreneurs, business development services, traders, bankers, research and extension services and market information systems has been found to be effective in fostering agro-based clusters (Alidou *et al.*, 2010).

The agro-based clusters need to be induced and fostered through public and private entities owing to lack of managerial competence and information among the stakeholders. Earning profit and ensuring welfare of small farmers are the two most important objectives for which three major pre-requisites should be harmonised. These include social, cultural and geographical harmony among the stakeholders. An important issue in management of such group activity is the reward and punishment system for improving working mechanism. The farmers who are producing good quality should be rewarded little higher than others. This incremental reward system should be well stated in agreement so that no member should have any objection on this. At the same time, punishment system should also be designed with the consent and participation of members. This may help in keep the system intact (Florian Theus, (World Bank Institute) & Douglas Zeng (World Bank), 2009).

2.1.13 The crucial role of institutions

Institutions are crucial in agricultural clusters. They may be public (state agencies, regional entities on competitiveness and innovation, and educational institutions, among others) or private (banks, business organizations, and companies) and formal or informal

(networks, learning through transactions with local and external agents, and so on). (World Bank, 2009)



* *Source:* World Bank 2009. Figure 2.1 Institutions with crucial role in agricultural clusters

2.2 Studies on Krishi Bhavan and agricultural development in Kerala

2.2.1 Agricultural Development in Kerala

The growth and development of the agricultural sector in Kerala is unique in many ways. The cropping pattern of the State has undergone a major shift from food crops towards commercial crops since 1960. Another major feature of Kerala agriculture is the homestead system of cultivation which has taken a variety of forms: Inter-cropping, mixed cropping of perennial and annual crops, and mixed farming of different types such as crop-livestock and crop-livestock-fish. In consequence, the income per unit area of cultivation remains high. The per capita availability of operational land in the State is small and declining rapidly. The farm holdings lie fragmented and subdivided due to high population density, rapid population growth, and the laws of inheritance in force. The land reforms legislation, which is believed to be one of the most radical and successful in India, has failed to achieve the objective of augmenting agricultural production, as most of the holdings remain economically unviable.

Moreover, absentee farming has become widespread, as, for most owners of land, cultivation is only a secondary source of income.

The concept of Krishi Bhavans in Kerala was envisaged in 1987 for facilitating a single window approach for agricultural development in the State, by integrating and coordinating the existing agricultural development activities which were scattered under different projects. Thus, the different individual projects for different crops were brought under one roof with the introduction of Krishi Bhavans. However, Krishi Bhavans could not perform all their designated functions. The major constraints identified in their functioning according to the study on Performance Evaluation of Krishi Bhavan set-up in Kerala (Jinraj P.V., 1999) are the following:

(i)The functioning of the Krishi Bhavans is confined largely to routine administrative work and implementation of schemes;

(ii) The extension activities of the Krishi Bhavans are of poor quality;

(iii)The activities of the Group Farming Samithis are not effective enough to encourage collective efforts among farmers;

(iv)The Karshika Vikasana Samithis do not serve the purpose for which they were constituted, namely to function as an advisory body in the reorganised Panchayat Raj System;

(v) The monitoring and evaluation of the schemes is not conducted properly;

(vi)The role that the Krishi Bhavans play in the credit-linked local level planning is not adequate;

(vii) The training given to the Agricultural Officers is neither adequate nor adequately need-oriented.

2.2.2 Tailoring agricultural extension to different production contexts: a user-friendly farm-household model to improve decision-making for participatory research

Bernet *et al.* (2000) in their study noted that farmers operate within specific natural and socio-economic settings. When those settings are very diverse, as in mountainous areas, agricultural extension services have often failed to tailor interventions to the specific needs of client farmers. In such settings, extension personnel need cost-efficient tools or a close link to researchers to evaluate potential strategies and activities to raise farmers' income. This need has become more critical as governments in developing countries downsize expenditure on

extension services and donors demand impact from their investments. The study outlines a flexible computer-based farm-household model designed to assist researchers, extension workers, and policy makers. The model allows the user to define specific production options and resource constraints under different socio-economic and biophysical settings. Model application in different regions has proven its flexibility to capture and analyze a variety of production systems. When used with site-related input data and effective dialogue on the results among researchers, extensionists, and farmers, the model can be a useful tool for participatory research and extension.

2.3 Studies on product and service customization models

Service customization as a possibly powerful management instrument, its impact on customer relationships as well as contingencies for its effective application are not well understood. Drawing from relationship marketing and exchange theory, Pedro Simões Coelhoa and Jörg Henselerb, (2012), developed a model of customer relationship outcomes of service customization and the efficacy of service customization. They used the methodology based on the European Customer Satisfaction Index framework and applied PLS path modelling to test the model. The major findings of their study were: Customization increases perceived service quality, customer satisfaction, customer trust, and ultimately customer loyalty toward a service provider. Customization has both direct and mediated effects on customer loyalty and interacts with the effects of customer satisfaction and customer trust on loyalty. The research delivers three important contributions to the marketing and service management literature. Firstly, it provides empirical support for several favourable relationship outcomes of customization: perceived quality, customer satisfaction, customer trust, and ultimately customer loyalty. Secondly, by means of quantifying the direct and indirect effects of customization, it will enable researchers and managers to compare the efficacy of service customization with that of other relationship marketing instruments. Thirdly, the paper demonstrates the effects of service customization on customer loyalty are contingent on relationship quality, i.e. the joint levels of customer satisfaction and trust. Overall, this paper provides assistance for managers of service firms in making a reasoned decision on the customization strategy – whether to customize the service offering at all, and if so, to what extent.

2.3.1 Creating customer loyalty through service customization

Service customization is a viable instrument for relationship marketing. Its efficacy depends on customer satisfaction and customer trust. Service providers can use service customization as an effective instrument for achieving not only higher customer satisfaction, but also higher customer loyalty. Service customization is most effective for organizations that have deficits in satisfying their customers, while at the same time their customer relationships are characterized by a high level of trust. These results help managers to decide upon resource allocation to enhance customer satisfaction, trust and loyalty. Customization aims at satisfying as many needs as possible for each individual customer, in contrast to conventional techniques, which try to reach as many customers as possible while satisfying a rather limited number of customer needs (Simonson, 2005; Fiore, Lee, & Kunz, 2004). Kotler (1989) and Pine (1993), among others, regard customization as an answer to the shifting nature of customer demand for greater variety, more features, and higher quality in products as well as services. Driven by its expected benefits, customization has become a cornerstone of customer relationship management. Clearly the developments in computing power and the dissemination of the Internet have offered new opportunities to marketers to customize offerings to ever demanding customers. Many researchers expect that corporate investment in customization technologies will continue to surge in the future.

So far, the predominant logic for using customization as a marketing instrument lies in its added benefit or value to the customer. Yet, customization does not automatically imply a benefit for the customer. Hart (1995) asserts that customers' demand for customized products and services may vary or even be non- existent – that is consumers do not regard customization as beneficial for them, or they associate it with high efforts. The benefits of customization may well be outweighed by the monetary and non-monetary costs that a customer encounters, such as the increased price of customized products, the delay in receipt of custom-made products, and the need for customers to invest time in specifying their preferences before the service can be brought.

The chances for service firms resulting from customization have well been recognized, as "service firms have been at the forefront of customer-centric marketing due to their greater ability to customize their offerings". In order to make use of service firms' customization abilities and to make deliberate decisions on customization strategies, it is indispensable that service firms are familiar with the effects that customization has on customer-firm

relationships. More specifically, "it is important to examine the impact of practicing customization on the customer's commitment to and long-term relationships with marketers" (Simonson, 2005).

2.3.2 Product and Service Customization: a creative model for enhancing marketing opportunities in peri-urban agricultural system

Agricultural marketing system: is a whole sequence of marketing functions, to facilitate the flow of products from producers to consumers and otherwise facilitate the flow of money, the product created by the productive activities undertaken by marketing agencies, from the hands of end consumers into the hands of producers early in a system of commodity. Complexity of the agricultural sector implies for the complexity of the marketing system of agricultural commodities. This is due to the nature of products, production systems, as well as market structure and characteristics of a typical agricultural product such as the nature prone to breakage and spoilage, especially for fruits and vegetables has the pile of large size and the quality varied. Seasonal nature, the supply of products varies and is not stable from time to time, the amount of production are difficult to determine and vary due to the production centres geographically (Gumbira and Intan, 2001).

Peter, Wim and Frank (2002) in their study to gain insights in the consumer decision-making process towards minimally processed vegetables and packaged fruits found that the most important motivation for purchasing minimally processed vegetables relates to convenience and speed. Their consumer research aimed at modelling the evolution of the quality of minimally processed vegetables and packaged fruits during storage. They found out that the search attributes emerge in terms of importance during the purchasing stage, while experience attributes gain importance after consuming the product.

One of the values of the organization is the relationship, and the relationship capital is the customers, employees, suppliers, distributors, dealers and retailers. In addition, the organization's relationship capital is the sum of knowledge, experience and credentials of the company towards its customers, employees, suppliers and distribution partners. The organization must operate with a mix of transactional and relational approach. Mc Garry (1951) argues that having long-term relationship, constantly between buyers and sellers develop a bond of common-interest, confidence and respect and reduce marketing costs between 10-20 percent. In this view, long-term co-operation and collaboration between buyers and sellers seen as a mechanism for improving marketing efficiency from the

perspective of the seller. He also discussed the functions of marketing contractual form the basis of co-operation and collaboration between the sellers and buyers.

Gummesson (1999) defines relationship marketing in terms of relationships, networks and interact, he identifies 30 types of relationships in certain markets, including relationships with customers, competitors, governments, investors, employees, media and other supply chain. In the industrial market a commitment to play an important role in building long term relationship with customers. In relationship marketing, trust is very important and the basis for the formation of strategic partnerships. Without trust, a relationship will not be able to walk in the end, because the relationship formed from the mutual trust that is very valuable to those who commit to it. Similarly, Sheith and Parvatiyar (1995) regard "relationship marketing as an orientation to develop close interactions with the selected customers, suppliers and competitors for value creation through co-operative efforts." Confidence is an important element in inter organizational relationships that contribute to launch the transaction, encourage co-operation between the larger organizational and reduce transaction costs. Commitment is influenced by trust, trust is the confidence in the reliability and integrity of the exchange partners. Each party must look at are last of interaction was good and confident that the actions of the partnership in the future can be more constructive. They must feel that they can be a harmonious partner, if the relationship develops the content build social norms that will guide the behaviour of partners.

The Table 2.1 shown below depicts the research findings for the fresh produce sector done by Martin Hingley (2005)

Table 2.1 Research findings for the fresh produce sector (Martin Hingley, 2005)

Research issue	Findings	Findings, continued	Findings, continued
Nature of relationship marketing	Relationship marketing terminology Widespread criticism of 'partnership'/ 'relationship' terms as lacking substance and a PR 'gimmick'. There is a belief that terms do not do justice to a genuine desire for close working relationship from suppliers.	Organisational size Larger suppliers are more desirable to buyers in partnership. However, large powerful buyers will form close relationships with small (SME) and specialist suppliers for reasons of securing exclusivity of product innovation/ service.	Trust There is recognition of the importance of mutual trust and displayed behaviour, e.g. involving shared confidential information. Suppliers are willing to commit, but buyers often still withhold commitment in order to hold the balance of power.

	Power-dependency Power is imbalanced in favour of retail buyers, but this is no barrier to entry to suppliers wanting to serve powerful multiple retailers. A relationship approach does create inclusive relationships, but these are not necessarily 'two-way'. Exclusivity Retail buyers desire exclusivity. Suppliers are keen to be selected for exclusive supply relationships. In reality what emerges is a product 'line' rather than whole company exclusivity.	Importance of sector type to relationship forming Suppliers believe fresh produce to be a 'special' sector due to its nature (highly perishable, and subject to the vagaries of climate and pests). However, many suppliers argue that it is this very nature, which realises close relationships.	Conflict There is evidence that partnerships in fresh produce allow a greater possibility of conflict resolution. However if 'flashpoint' issues of quality and service are not quickly resolved - the buyer may terminate a relationship. Satisfaction and social bonding Fresh produce is a 'people' industry, which relies on good 'social' relationships. However, either party does not encourage socialising.
Implementation of relationship marketing	Marketing communications Importance of electronic communications. Use as a two way relationship tool is developing. However, there is evidence that electronic communication has reduced both the important human interface and 'bargaining power' of the supplier. Product customisation Partnership allows development of 'exclusive' customised products and services to buyers. It facilitates innovation. There is a tendency towards 'sealed'	Product driven versus market driven A relationship approach has reduced production orientation in fresh produce. Network supply chains and a quality orientation provide a more even annual cycle of production, tailored to meet demand.	Internal marketing Enthusiasm 'at the top' of organisations for the theoretical base of relationship marketing is not always employed internally. Customer partnering Close and sometimes 'exclusive' partnerships exist between suppliers and buyers, driven by the initiative of retail buyers. However, 'contractual' agreements are rare.

	production sites dedicating product to a principal customer.	
Monitoring and measurement of relationship marketing	<u>Formal monitoring and measurement</u> Formalised relationships exist between 'partner' organisations, this takes the form of more regular and formal contact. However, written formalised 'partner' contracts are not prevalent. <u>Grading of supplier performance</u> Retail buyers have systems of formalised grading of performance of suppliers. Suppliers may also be graded in terms of relationship status and are treated differently.	<u>Returns on relationship marketing</u> A relationship marketing approach can be a 'fast track' and explosive growth. However, there is a downward pressure on profitability even for partner suppliers, with the burden of investment costs borne by the supplier. Benefits are in the stability of consistent payment from 'partner' buyers and reduction in supply chain costs associated with serving one or few partner customers.

IN A NUTSHELL: Thus, the literature review reveals the potentialities and challenges of cluster farming in peri-urban agricultural system and the need to revitalize the agricultural extension mechanism in Kerala through the implementation of sustainable models of product and service customization to foster better relationship marketing among the stakeholders which is very crucial for an organizational set-up like Krishi Bhavan.

PRESENT STUDY: This study is intended to examine the scope of the product and service customization model for vegetable marketing in the context of peri-urban agricultural system under Krishi Bhavan, Kazhakuttom, Thiruvananthapuram.

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Chapter - 3

Conceptual and Theoretical Framework of Research

Chapter 3

CONCEPTUAL & THEORETICAL FRAMEWORK OF RESEARCH

3.1 Conceptualisation

Customization: - Customization is the ability to efficiently and economically offer goods and services more tailored to individual consumers. As a more extreme form of differentiation, the concept of customization – that means the degree to which the firm's offering is tailored to meet heterogeneous customers' needs (Anderson, Fornell, & Rust, 1997) – has faced increasing popularity among firms (Kara & Kaynak, 1997). In theory, mass customization benefits consumers, manufacturers and retailers. Consumers receive a product fulfilling their needs better than a mass produced one. Manufacturer have fewer markdowns and returns from retailers. Retailers have fewer markdowns and less inventory investment. Most importantly, retailers and manufacturers have more customer loyalty. In addition, customization can remove some guesswork from doing business. Firms that mass customize know exactly what people buy and do not buy every day and can plan and reach accordingly. Thus it provides a sustainable competitive advantage. Customization is indeed an important means of building and sustaining customer relationship in any business.

Service Customization:-Service customization is a viable instrument for relationship marketing. Its efficacy depends on customer satisfaction and customer trust. Service providers can use service customization as an effective instrument for achieving not only higher customer satisfaction, but also higher customer loyalty. Service customization is most effective for organizations that have deficits in satisfying their customers, while at the same time their customer relationships are characterized by a high level of trust. These results help managers to decide upon resource allocation to enhance customer satisfaction, trust and loyalty.

Product customization:-In the fresh produce sector there is great pressure to differentiate in a fiercely competitive market. The innovative and often expensive product development (necessary to provide this differentiation) is best derived from exclusive relationships where a greater degree of control and privacy can be achieved. This innovation and product customization is often dealt with through production sites dedicated to exclusive customers. It is, beneficial for retailers to deal with fewer exclusive sources. But it also means that retailers are more reliant on these organisations in whom they place a great deal of trust, volume of

business and share sensitive new product development details. A further agenda for retailers in seeking exclusivity is to deprive the competition of a particular product source or product advantage and, thereby, achieve further market differentiation in matters of quality, source continuity, confidentiality and innovative new product development. (Martin Hingley, 2002)

Peri-urban agriculture (PUA) is defined as the agricultural land-use in proximity to, and the under influence of, nearby urban areas. Distinguished from agriculture in rural areas, PUA reflects the spatial framework conditions of peri-urban areas brought about by adapting the mode of farming activity being carried out. It has been found that PUA distinguishes itself by the prevalence of two elements – an intensified, high-value production on the one hand, and extensified, lifestyle and environmental-driven land-use on the other. High-income revenues, small-scale farm structures and the parallelism of horticulture and grassland cultivation represent typical characteristics. From the perspective of farm-holders, the opportunities attached to the peri-urban framework conditions outweigh the disadvantages, which have encouraged them to adopt activities that valorise the urban demand potential.

A renowned book on urbanization "The New Landscape" applies a historical perspective to the existing understanding of urban centres and peripheries. In this book the authors describe peri-urban areas as 'hermaphrodite landscapes'- because – they neither have traditional cores nor recognizable peripheries (Chatopadhyay 2010). Scholars working on developing countries often use the term-peri-urban development (Forsyth 2012). A significant number of papers on place based conceptualization of peri-urban areas and related topics starts from a "*nearby city*" perspective to explain related influences of cities on development. Pryor (1968) first used the term "rural-urban fringe "in the context of the analysis of "urban invasion".

Peri-urban cluster farming: An agro-based cluster (AC) is simply a concentration of producers, agribusinesses and institutions that are engaged in the same agricultural or agro-industrial subsector, and interconnect and build value networks when addressing common challenges and pursuing common opportunities (Nogales, 2010). Farmers and small and medium agro-enterprises can benefit from participation in agro based clusters as a well-developed concentration of related agribusiness spurs increased productivity through specialized inputs, access to information, synergies, and access to public goods and more rapid innovation through cooperative research and competitive striving. Also, clusters can

contribute to develop national or regional brand identity. Agricultural clusters often form geographic and sectoral agglomerations of enterprises (Schmitz 1992).

Krishi Bhavan: The concept of Krishi Bhavan was introduced by the Kerala State Government in 1987. The basic premise for the initiation of this concept was the realisation of the authorities about the need to make planning and agricultural development more location-specific by taking the panchayat as the basic unit for all development work. Under this principle, the Department of Agriculture was reorganised with the panchayat as the basic working unit. By establishing one agricultural unit for every panchayat, it was hoped that making production inputs and integrated services available to farmers in time, production and productivity of crops would be enhanced.

Relationship marketing is a concept to develop a sustainable long term contact with the clients or customers. The advantage of the suppliers is the repetition of the business. Partnership is one way of relationship marketing. The concept of partnership is the aiming of to develop appropriate marketing concept in B2B market, especially in the services sector. Relationship marketing can achieve this because it contains strategies that inform not only the sales process, but also the delivery of all contractual and management structure for a company.

Relationship Marketing- Some Definitions:-

"Attracting, maintaining, and—in multi-service organizations— enhancing customer relationships." Berry (1983)

"Process of identifying and establishing, maintaining, enhancing, and when necessary terminating relationships with customers and other stakeholders, at a profit, so that the objectives of all parties involved are met, where this is done by a mutual giving and fulfilment of promises." Gronroos (1997)

Based on synthesis of 26 definitions of relationship marketing: "organization engaged in proactively creating, developing and maintaining committed, interactive and profitable exchanges with selected customers [partners] over time." Harker (1999)

"Relationship marketing refers to all marketing activities directed toward establishing, developing, and maintaining successful relational exchanges." Morgan and Hunt (1994)

"Relationship marketing is the ongoing process of engaging in cooperative and collaborative activities and programs with immediate and end-user customers to create or enhance mutual economic value at reduced cost." Sheth and Parvatiyar (2000)

***Definition based on analysis of extant relationship marketing definitions*:** Relationship marketing is the process of identifying, developing, maintaining, and terminating relational exchanges with the purpose of enhancing performance.

***Relationship Marketing in Agricultural Products Marketing*:** In the 1980s and certainly in the 1990s, relationship marketing gained ground in marketing as a response to an increasing dissatisfaction with the 'classical' model of marketing based upon discrete marketing exchanges through manipulation of the marketing mix (i.e., the 4Ps: product, price, promotion and place). Relationship marketing is sourced from an eclectic mix of influencers, not only from academics in marketing and management disciplines but also from practitioners in business organisations (e.g., Brodie *et al.* 1997; Buttle 1996; Möller and Halinen-Kaila 1998; Sheth and Parvatiyar 2000). To some people, relationship marketing seeks to operationalise the acknowledged view of marketing and concerns servicing and satisfying existing customers through long-term, close, interactive and collaborative relationships, networks and interactions that are mutually beneficial and profitable (e.g., Berry 1983; Dodge and Fullerton 1997; Jüttner and Wehrli1994; Palmer 1994). To others, there has been a real paradigm shift in marketing (e.g.,Grönroos 1994; Gummesson 1999; Sharma and Sheth 1997). The long-term outcome of the relational approach to marketing has been seen as partnerships or alliances (e.g., Vlosky and Wilson 1997).

According to the Marketing Science Institute (1999), one of the pressing priorities in marketing is to identify marketing activities for building relationships and to quantify the effectiveness of customer loyalty initiatives. At this stage, different types of marketing activities have thus been suggested as being part of a relationship marketing programme: customising product and market communications, caring for customers, partnering with customers, internal marketing and loyalty programmes (e.g., Brodie *et al.* 1997; Snehota and Söderlund 1998).

***Agricultural marketing system*:-**is a whole sequence of marketing functions, to facilitate the flow of products from producers to consumers and otherwise facilitate the flow of money, the product created by the productive activities undertaken by marketing agencies, from the

hands of end consumers into the hands of producers early in a system of commodity (Gumbira and Intan, 2001).

3.2 Theoretical framework

3.2.1 Evolution of Relationship Marketing Theory

Period	Theory and/or Source Discipline	Key Contribution
1950s & 1960s	Institutional economics, sociology & psychology	Integrated sociological and psychological factors into prevalent institutional economic perspective of rational economic actors.
1970s	Exchange Theory (sociology)	Redirected marketing thought by applying "exchange theory" to two key questions in marketing theory: (1) Why do people and organizations engage in exchange relationships? and (2) How are exchange created, resolved, or avoided?
1970s & 1980s	Power and dependence theory (sociology)	Consistent with the criticality of "middlemen" to business during this period, offered power/dependence among channel partners as the critical factor in understanding exchange relationship and performance.
1980s & 1990s	Relational contracting theory (political science) and social exchange theory (sociology)	Integrated relational contracting theory with social exchange theory in a dynamic relationship framework. Proposed that relational norms have important roles in guiding relationship behaviour in business exchanges.
1990s	Transaction cost economics	Demonstrated that relationship governance can serve many of the same functions as vertical integration from a transaction cost perspective by suppressing opportunistic behaviours, reducing transaction costs (e.g., safeguarding and monitoring costs), and promoting performance-enhancing investments.

1990 to 2000	Commitment-trust theory of relationship marketing (sociology and psychology)	Extended relationship marketing beyond customer seller interactions to offer a well-argued theory of relationship marketing (sociology marketing that revolves around trust and commitment. This framework provided the default theoretical basis for the majority of relationship marketing research for the next decade.
Emerging Relationship Marketing Theory		
2000s	Resource-based view of inter firm	Integrated multiple theoretical perspectives within a resource-based view of inter-firm exchange by demonstrating that relationship marketing's impact on performance is affected by relational bonds (e.g., trust, commitment), as well as investments (e.g., training, communication) that enhance the efficacy or effectiveness of the relational asset.
2000s	Inter firm relationship marketing based on social exchange and network theories (sociology)	Integrated social network theory to develop an inter firm-specific relationship marketing framework, which shows that in addition to relationship quality (trust, commitment), two other relational drivers are key to understanding the impact of inter firm relationships on performance: contact density and authority.
2000s	Micro-theory of interpersonal relationships (evolutionary psychology and sociology)	Integrated gratitude, guilt, and norms of reciprocity into a dynamic model of intrapersonal relationship marketing based on an evolutionary or quasi-Darwinian perspective of relationships and cooperative behaviour.

Source: Robert W. Palmatier, Relationship Marketing, 2008

3.2.2 Inter firm Relationship Marketing Theory

A theory of inter firm Relationship Marketing (RM) should acknowledge that relationships typically entail groups of employees on both side of the exchange dyad. Thus, firm-to-firm relationships involve multiple interactions among many people or, in effect, a

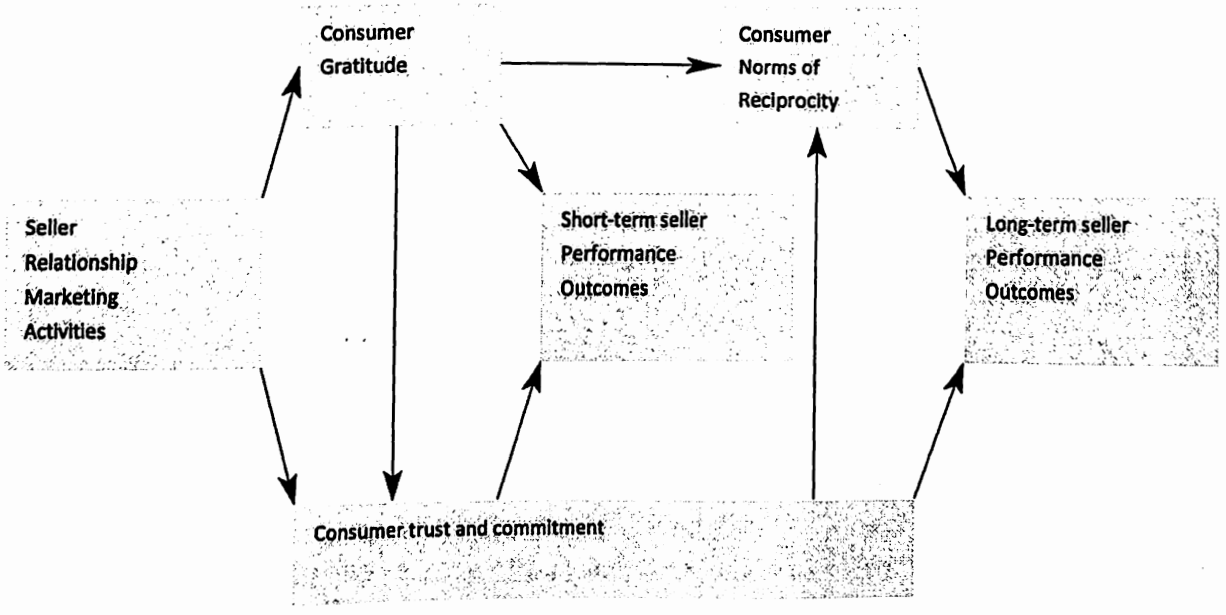
network of relationships. Network theory developed in sociology provides valuable insights into the impact of the structural characteristics of interaction among multiple entities (e.g., individuals, firms) within an overall network (Borgatti and Foster 2003; Houston et al. 2004;Van Den Bulte and Wuyts 2007), and this network perspective recently has been applied to inter firm relationships to show that not only relationship quality (e.g., trust, commitment) but also relationship breadth (network density) and relationship composition (network diversity/attractiveness) notably influence exchange performance (Palmatier 2008; Palmatier 2007).A seller's RM activities influence three fundamental drivers of RM effectiveness—relationship quality, breadth, and composition—each of which captures a different and important aspect of inter firm relationships and has a positive impact on the seller's performance outcomes. Moreover, these fundamental drivers appear to work synergistically to enhance relational outcomes. The figure shows a model for understanding the five drivers of inter firm relationship performance.

3.2.3 Inter personal Relationship Marketing Theory

Allowing a consumer to reciprocate a feeling of gratitude converts a short-term emotion into a long-lasting relational norm. Relationship marketing goes beyond the short-term effects of gratitude; otherwise, customers could easily repay their debt and dismiss their obligation to the seller. Instead, because gratitude entails psychological pressure that leads to social conformity pressures, norms of reciprocity emerge and create persistent behavior cycles. That is, people engage in reciprocation cycles because they always have and because social norms support that action. Gratitude and reciprocity also operate at the lowest level (or below) of awareness (i.e., emotions and peer pressure), but social exchange theory focuses on "higher" cognitive processing levels. Some researchers argue that the two constructs actually help explain the effectiveness of relationship marketing (Palmatier et al. 2007b), such that including reciprocity and gratitude as mediators in the RM paradigm provides a "micro"-theoretical explanation of the underlying association between RM investments and outcomes. Interpersonal trust and commitment (e.g., relationship quality) mediate interpersonal relationships, just as they do inter firm relationships, but a true explanation of interpersonal RM effectiveness must include gratitude and norms of reciprocity, whereas relationship breadth and composition become largely irrelevant in dyadic interpersonal relationships. Figure 3.2.3 provides an overall conceptual model of interpersonal RM that encompasses the

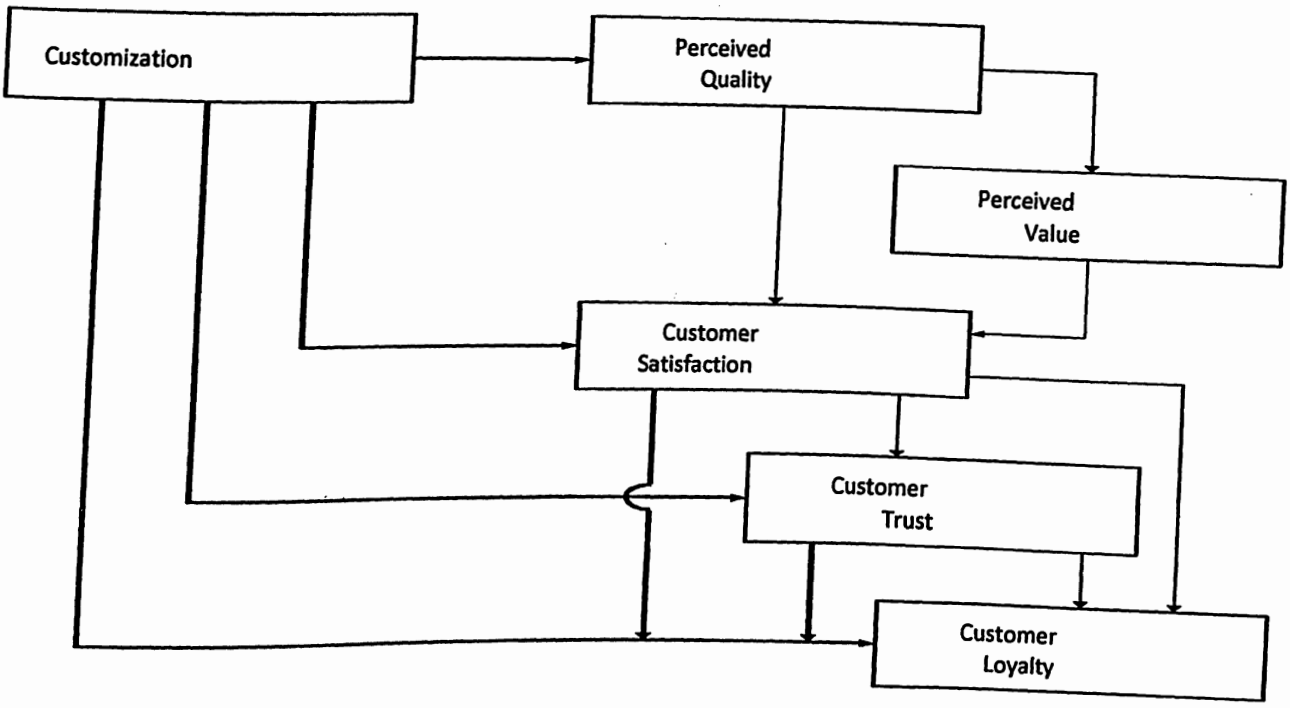
roles of consumer gratitude and norms of reciprocity; the next section further outlines their effects on short- and long-term returns on RM investments.

Figure 3.1 Model of Interpersonal Relationship Marketing



3.2.4 Product & Service Customization

Conceptual model:-



Basically, there are two explanations for a relationship between service customization and service quality. Firstly, customization can signal high quality (Ostrom & Iacobucci, 1995), i.e. customization plays the role of a quality endorser. Secondly, customization is a driver of service quality. The idea of service customization underlies several of the original ten determinants of service quality (Parasuraman, Zeithaml, & Berry, 1985). There is also empirical support for the notion that customization in the service delivery process is a dimension of service quality (Ennew & Binks, 1996). An effect from customization to quality can thus be expected to emerge: **'Higher service customization leads to a higher perceived quality.'**

Depending on the type of service, service customization can provide a solution to consumers' need for uniqueness (Tian, Bearden, & Hunter, 2001). With the exception of Surprenant and Solomon (1987), who report that customization does not necessarily lead to greater customer satisfaction with the service offering, the large majority of empirical studies confirm a substantial positive relationship between service customization and customer satisfaction (Ostrom & Iacobucci, 1995; Devaraj, Fan, &Kohli, 2006; Meuter, Ostrom, Roundtree, & Bitner, 2000; Srinivasan, Anderson, & Ponnavolu, 2002; Bettencourt & Gwinner, 1996). One explanation for this finding is delivered by **role theory**: through

adjusting their behavior for different customers (customization of their behavior), frontline employees can better meet individual consumer's expectations and thereby create customer satisfaction (Solomon, Surprenant, Czepiel, &Gutman, 1985). Bettencourt and Gwinner (1996) conclude that consumers who experience customized treatment will be more satisfied with the interaction than those who experience a standard treatment. Based on the conceptual deliberations and the overall empirical evidence it is identified that **a higher level of service customization leads to higher customer satisfaction.**

As customization decreases customer uncertainty and vulnerability, it creates customer trust (Moorman, Deshpande, & Zaltman, 1993). Several empirical studies have confirmed a significant effect of customization on customer trust (Coulter & Coulter, 2002; Komiak & Benbasat, 2007; Moorman et al., 1993).Another explanation for the customization-trust effect is that the customer may see the time and effort involved in customizing services as a signal of the benevolence of the firm. Customization fulfils the three criteria for signalling (Singh & Sirdeshmukh, 2000): (1) it is clearly visible for the consumer, (2) it unambiguously signals high quality, and (3) customers perceive it as an investment that is committed and cannot be salvaged. As a specific form of trustworthy behaviour, the customization of services may encourage the customer to believe in the benevolence of the firm, thus increasing his/her trust (Sirdeshmukh et al., 2002).Thus **a higher level of service customization leads to increased customer trust.**

A highly regarded theory to explain why customers stay loyal in exchange relationships is Thibaut and Kelley's (1959) **social exchange theory.** In its very essence, it states that individuals maintain a relationship as long as the attractiveness of alternatives does not exceed the attractiveness of the current offer for more than the switching costs induced from switching relationship partner. Ideally, customization creates switching costs and increases the attractiveness of the current exchange relationship in comparison to alternatives. Firstly, customization requires a mutual investment into the exchange relationship. Customers spend time and effort expressing their needs and wishes; companies examine these needs and wishes and tailor the product, implying a renunciation of economies of scale. The exchange relationship partners' investments constitute relationship-specific assets (Heide& John, 1988), which are positively associated with a continuation of relationships (Levinthal & Fichman, 1988). Secondly, the higher attractiveness of a customized offer means at the same time a decrease in the attractiveness of competing offerings ceteris paribus. Ultimately, the combination of an increase in switching costs and a reduction in attractiveness of alternatives

that are associated with service customization is expected to have the following effect: A **higher service customization leads to a higher customer loyalty.**

Berry and Parasuraman (1991) remark that "effective services marketing depends on the management of trust because the customer typically must buy a service before experiencing it." This finding holds particularly true for service customization, where typically the service is tailored after it has been ordered. Trust is likely to become an important factor when the service offer is less predefined, as in case of high customization. Besides the theoretical grounding of an interaction effect of customer trust and service customization on customer loyalty, there is also empirical evidence: the role of customization differs for "real relationships", which are based on trustful interactions, and pseudo-relationships, which are characterized by repeat-patronage only (Gutek, 1999).

3.2.5 The Parasuraman, Zeithmal and Berry model of service quality

Service quality is becoming an increasingly important differentiator between competing businesses. It leads the businesses and researches to study and find ways to improve the service quality. A multiple-item instrument, SERVQUAL is developed for measuring customer perceptions on service quality. Service quality is considered as the difference between customer's expectations and perceptions of a delivered service.

$$Q = P - E$$

Where, Q is the quality of the service; P is the perception of the delivered service and E is the customer's expectations of the service. A good perceived quality is obtained when the experienced quality meets the expected quality of customer. If the customer's expectations are unrealistic, the total perceived quality will be low, even if the customer experienced acceptable quality. The Figure 3.2.5.1 depicts the model of perceived service quality.

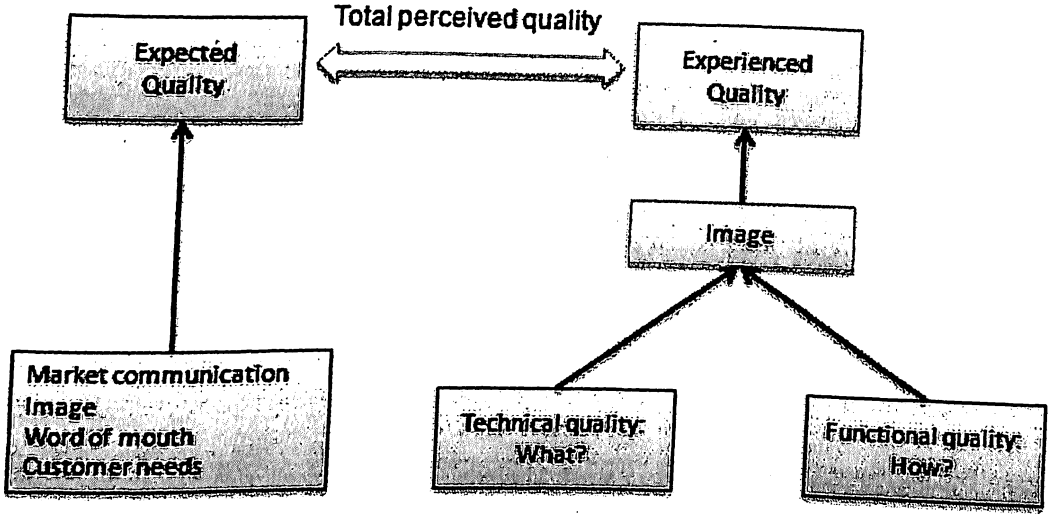


Figure 3.2 Perceived Service Quality

Parasuraman, Zeithaml, and Berry (1985) proposed a conceptual model of service quality which works like a framework for understanding, measuring and improving service quality. They identified five discrepancies in the service delivery process affecting the consumer's evaluation of the service experience. The model highlights the main requirements for a service provider delivering the expected service quality. From the model five gaps may be identified that could lead to unsuccessful service delivery. By understanding this model, it is possible to provide greater management control over retail customer service relationships. This could lead to an improved realisation of the key points at which the marketer can influence the satisfactions of the consumer. The marketer is then in a better position to be able to reduce or close the gaps. Thus, the gap analysis model is a guide for determining the service quality problems and discovering appropriate ways to remove the gaps.

The five 'Gaps' identified in service delivery process are:

Gap 1: Ignorance of the consumer's expectations - The gap between consumer's expectations and those perceived by management to meet the consumer's expectations.

Gap 2: Requirement of service design standards - The gap between management's perceptions of consumer expectations and the firm's service quality specifications.

Gap 3: Not delivering to service design standards - The gap between service quality specifications and service delivery.

Gap 4: Inconsistent between performance and standards - The gap between service delivery and external communication

Gap 5: The service shortfalls - The perceived service quality gap, the difference between expected and perceived service.

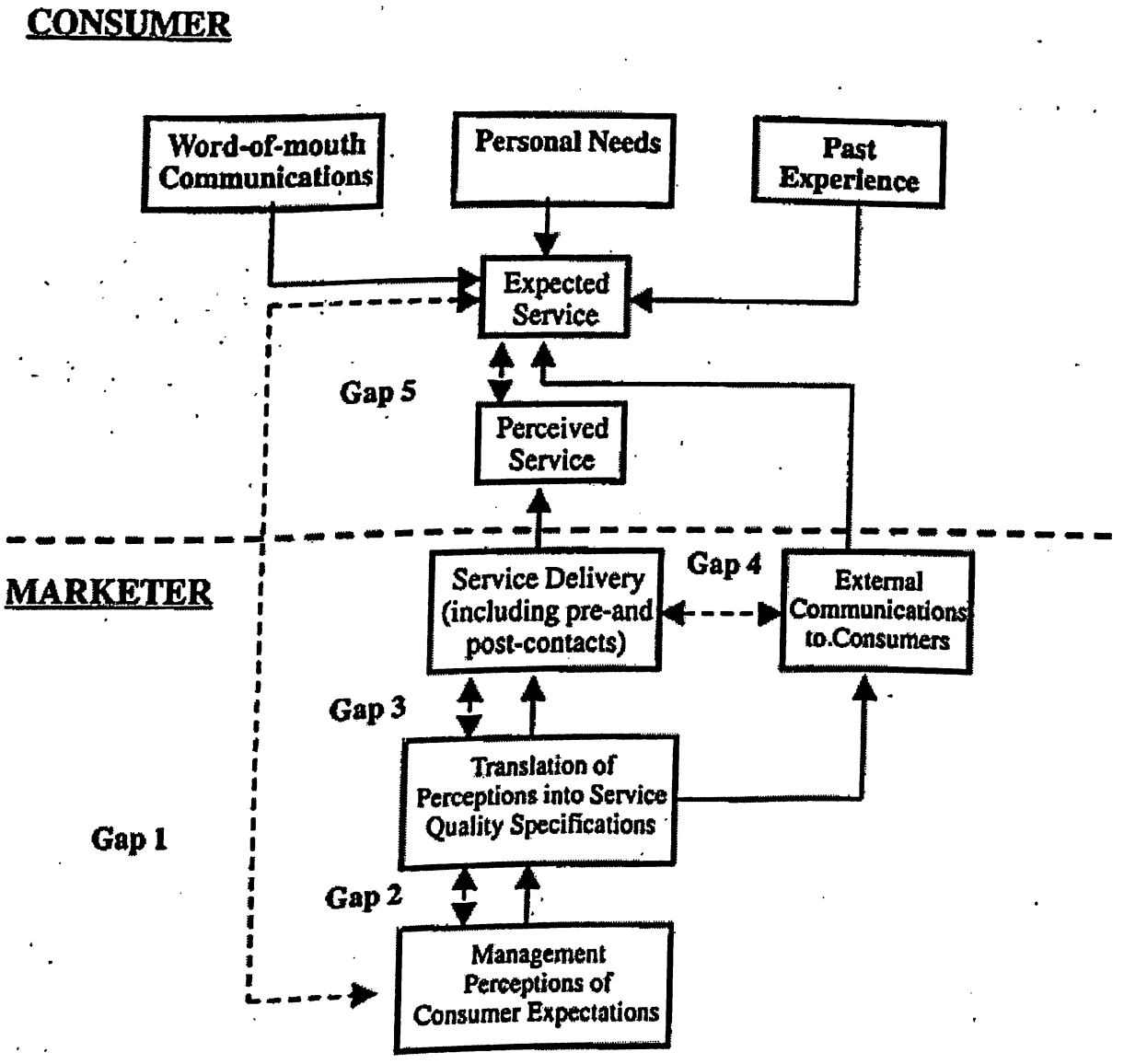


Figure 3.3 The Service Quality Delivery Model

SERVQUAL's five dimensions

Parasuraman, Zeithaml, and Berry defined five service quality determinants (1988). All five dimensions are related to the importance of people in the service organization.

1. Reliability:

The ability to provide the promised service dependably and accurately. Reliable service performance is a customer expectation and means that the service is accomplished on time on each occurrence, in the same manner and without errors.

2. Responsiveness:

The willingness to help customers and provide prompt service. In the event of a service failure, the ability to recover quickly with professionalism can create very positive perception of service.

3. Assurance:

The knowledge and curtsey of the employees and their ability to inspire trust and confidence.

4. Empathy:

The provision of caring, individual attention the organization providing to customers.

5. Tangibles:

The appearance of the physical facilities, equipment, personnel, and communication materials.

3.2.6 Total Food Quality Model

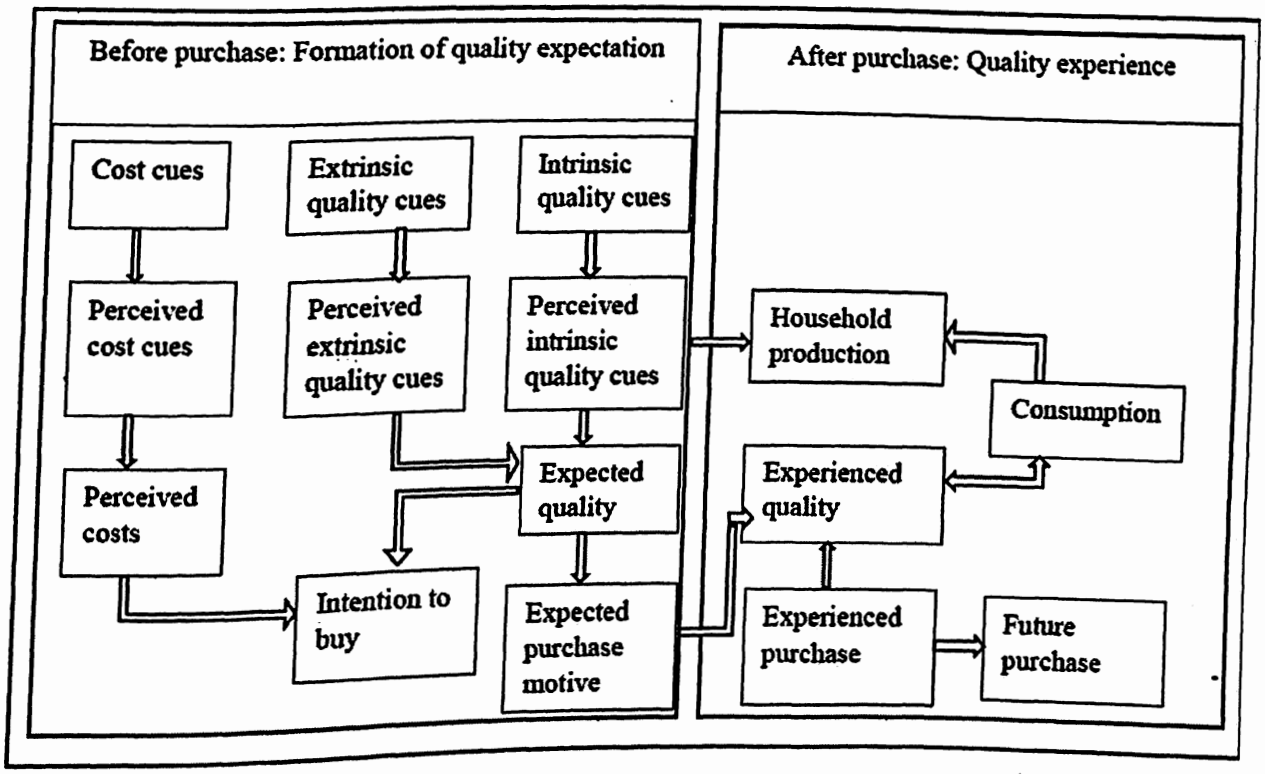
A relevant approach to distinguish attribute importance at purchase versus after consumption, a distinction was conceptualised by Grunert *et al.* (1996) in their Total Food Quality Model. During their decision-making process, consumers rely on different attributes or cues before deciding whether or not to buy and which product to choose. Attribute scan be divided into intrinsic and extrinsic ones. The factors that influence consumers' perception regarding food quality and in turn intentions to purchase are;

Intrinsic cues: Physical qualities of the product

Pre-purchase: Appearance & smell

Post-purchase: Taste, texture and the like

Extrinsic cues: Cost cues and aspects of meal purchase



Source: Grunert, 1996

Figure 3.4 Total Food Quality Model

Chapter – 4

Krishi Bhavan – A profile

Chapter 4

KRISHI BHAVAN-A PROFILE

4.1 Krishi Bhavan and Agricultural development in Kerala

The growth and development of the agricultural sector in Kerala is unique in many ways. Over the years, the State has transformed itself from a producer State into a consumer State with respect to major essential agricultural commodities like food grains and vegetables. It is estimated that Kerala depends on the neighbouring states for nearly 60 percent of the rice and 80 percent of the vegetables consumed annually. The major distinguishing features of Kerala agriculture are the following:- i)dominance of cash and commercial crops like spices and plantation crops; homestead system of cultivation with mixed cropping of perennial and annual crops and / or integrated farming with combinations such as crops-livestock-fish; ii) rice cultivation in areas of extreme unfavourable production environments like lands below sea level and subjected to inundation by sea water and extreme salinity as seen in Kuttanad and Pokkali lands of Thrissur; iii)(a) coconut-based cropping systems (i.e. coconut cultivated with a number of inter-crops like pepper, turmeric, cocoa, cardamom, and banana); iii)(b) rice-based cropping systems (e.g. single cropping and double cropping; iv) crop rotation and rice-cum-fish farming; and (v) predominance of small and scattered holdings and absentee farming.

4.2 Evolution of Agricultural Extension Service in Kerala

The first coordinated effort for agricultural development was the establishment of the Department of Agriculture in the 1950s. Since then, the pivotal role in the development of the primary sector in the State has remained with this department. Its efforts were supplemented by various agencies like Kerala Agricultural University, Soil Conservation Department, Plantation Corporation, Farming Corporation, Krishi Vigyan Kendras of Indian Council of Agricultural Research (ICAR), and different financial institutions - rural and urban. A series of schemes sponsored and implemented by the Government tried to achieve the transfer of technology to farmers, which was aimed at augmenting agricultural production and productivity like the Community Development Programme, The Ela Programme , also called the Integrated Paddy Development Programme (IPDP), launched in 1971, the Kerala Agricultural Extension Programme (KAEP) based on the Training and Visit (T and V) system of extension, prepared by the Government of Kerala with the assistance of the World

Bank. Simultaneous with the implementation of the IPDP and KAEP, some other programmes were also initiated by the Government of Kerala such as Kerala Agricultural Development Project (KADP) in 1977 and IDA-assisted Multi-State Cashew Programme (MSCP) from 1981 onwards. Agricultural development calls for matching progress in the research front also. Increased agricultural production and productivity enhancement will become a reality only if technical solutions for the problems in crop husbandry are developed on a location-specific basis and transferred to the field. The research system in Kerala Agricultural University was reorganised under the National Agricultural Research Project (NARP) during the early eighties to conduct location-specific studies on agro-climatic conditions in the State. The research projects are categorised into various cropping and farming systems to understand the realities at the grassroots level. The outcome of these deliberations is published periodically as POP (Package of Practices) of crops by Kerala Agricultural University, which serves as a guide to the field extension functionaries of the State.

4.3 Krishi Bhavans – Genesis

The Krishi Bhavan was introduced by the State Government in 1987 to make planning and agricultural development more location-specific by taking the panchayat as the basic unit for all development work. Under this principle, the Department of Agriculture was reorganised with the panchayat as the basic working unit. By establishing one agricultural unit for every panchayat, it was hoped that making production inputs and integrated services available to farmers in time, production and productivity of crops would be enhanced.

All agricultural activities covering extension and development were included under the jurisdiction of these base units. Through this arrangement, provision of a single window approach for agricultural development in the State, by integrating and coordinating the existing agricultural development activities which were scattered under different projects like KADP, MSCP, KAEP and CRS, was also aimed at. Thus, the different individual projects for different crops were brought under one roof with the introduction of Krishi Bhavans.

The integrated approach had also aimed at providing adequate credit to the farmers. Budgetary resources available for agricultural development were quite meagre considering the magnitude of demand. It was realised that the strategy of agricultural development should focus on credit-linked programmes, and provision of credit was accepted as a major activity

of the Department. For this purpose, it was decided to utilise the strong rural credit structure available in the State.

The sustainable development of any sector calls for planned, optimum use of the available resources. Keeping this in view, the Krishi Bhavans were expected to ensure the best possible use of the resource endowments of each region by planning and implementing location specific development programmes with the active involvement of the people. People's participation implied participation at all stages of the programme, viz planning, formulation, implementation, decision-making, sharing the benefits of development, monitoring, and evaluation.

4.4 Functions of Krishi Bhavan

1. Planning and implementing programmes for agricultural development, taking the panchayat as the basic unit;

2. Involving the farmers in planning and implementation of agricultural programmes;

3. Creating the basic infrastructure necessary for improving the production and productivity of crops;

4. Planning optimum use of available land, water, and solar energy;

5. Formulating location-specific programmes for agricultural development and channelling institutional finance;

6. Ensuring the timely availability of relevant technology, inputs, and credit to farmers and organising community efforts among them for agricultural operations;

7. Bestowing special interest in the case of crops under cultivation in certain pockets of the State which have not received adequate priority and attention;

8. Changing the style of functioning of the field officers and the farmers through recognition of outstanding performance;

9. Enabling the farmers to secure remunerative prices for their produce by promoting collection, storage, processing, and marketing on co-operative basis through organised efforts; and

10. Monitoring the progress of agricultural development in each panchayat based on physical achievement on regular basis.

4.5 Organisational Set-up

In the re-organised set-up, each Krishi Bhavan was supposed to be under the control of an Agricultural Officer assisted by three Agricultural Demonstrators. This staff pattern was prescribed for 803 panchayats in which the total number of families were 2,800 or above. In the case of the remaining 198 panchayats, where the total number of families was less than 2,800, the staff pattern would be one Agricultural Officer assisted by two Agricultural Demonstrators. The Municipalities (87) and Municipal Corporations (6) were also supposed to have an agricultural unit with an Agricultural Assistant in charge and one Agricultural Demonstrator to assist him.

The Agricultural Officer was entrusted with the following responsibilities:

1. Transfer of technology relevant to the crops and conditions obtaining in the area;
2. Organising programmes for the development of infrastructure facilities to improve productivity of the crops;
3. Arranging the supply of inputs including decentralised production of planting materials in his/her area with the active involvement of farmers and organisations;
4. Identifying, formulating, and implementing location-specific agricultural development projects availing institutional finance. The objective of such projects will be to increase production, productivity, income, and employment in the crop production sector;
5. Organising community efforts;
6. Educating the farmers about primary processing of agricultural commodities and motivating them for co-operative marketing;
7. Implementation of Plan schemes;
8. Quality control of inputs;
9. Establishing model gardens and demonstration plots in farmer's fields, including the conduct of farm trials (adaptive trials);
10. Assessment of crop situation from time to time and reporting of crop losses due to natural calamities and disbursement of assistance;

11. Revitalising existing farmers' organisations like co-operatives and organising new ones for agricultural development;

12. To ensure public participation by organising Karshika Vikasana Samithis;

13. To keep close surveillance of the pest and disease incidence on crops in the panchayat area and take steps to bring under control the pest and disease outbreaks by providing effective plant protection services; and

14. To study the marketing problems and associating with marketing surveys; to bring tangible progress in agricultural production and productivity in his/her jurisdiction by setting targets for production of each crop and taking stock of the base year levels of production and productivity.

The Agricultural Demonstrator worked under the Agricultural Officer in all the agricultural activities organised in the panchayat. His/her responsibility was to visit the farmers' groups according to a fixed schedule and to educate as many farmers as possible on new techniques and innovative ideas gathered from the fortnightly training courses.

The major functions of **Karshika Vikasana Samithis** as envisaged at the time of their formation were the following:

(i) Help the Department of Agriculture in implementing the agricultural programmes successfully;

(ii) Offer suggestions to prepare location-specific projects identified by the Agricultural Officer for the development of agriculture in the area and help in the implementation of such projects;

(iii) Render necessary assistance for production and distribution of seeds and seedlings, looking into the availability of and the demand for seeds, fertilisers, pesticides etc;

(iv) Ensure public participation in agriculture through voluntary services wherever necessary;

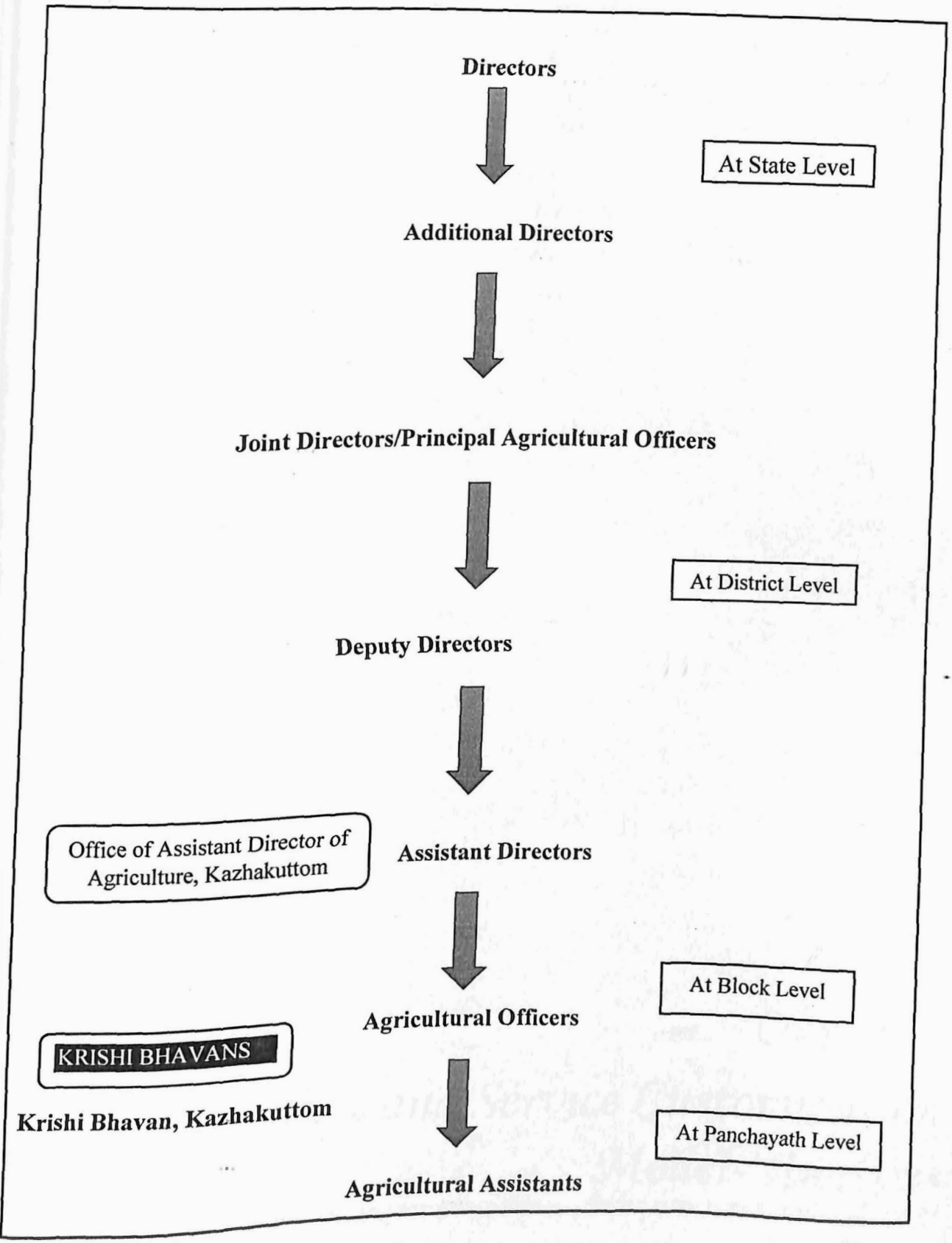
(v) Organise seminars, melas, exhibitions etc. and help in the disbursement as well as repayment of loans;

(vi) Suggest minor irrigation and other infrastructural development works required in the area and help in their implementation.

Thus the Krishi Bhavans act as a link between the research organisations like Kerala Agricultural University and farmers through a number of farmers' organisations like the different crop-based samithis.

The Agricultural Officers attend the zonal workshops of the Kerala Agricultural University, thus keeping in touch with the latest findings in the research sector and taking back to the scientists the feedback from the farmers. The Karshika Vikasana Samithis act as the major advisory body of the Krishi Bhavans. Direct contact with the farmers also exists through the distribution of subsidies, implements, etc. The reorganised set-up of the Department of Agriculture was introduced with the Director of Agriculture at the helm of affairs (Figure 4.5).

Figure 4.1 Department of Agriculture - Organigram



Chapter - 5

Product and Service Customization Model- Analysis

Chapter 5

PRODUCT & SERVICE CUSTOMIZATION MODEL – ANALYSIS

Product & Service Customization Model

This study is conducted with special reference to Krishi Bhavan, Kazhakuttom which comes under Thiruvananthapuram Corporation. The product and service customization in this model mean to provide customized service provision in peri-urban / urban agricultural situations where the Haritha Centre under Krishi Bhavan acts as the service agency for the Farm Support Services, production and distribution of bio agents and machinery operation at the field level and the launching of 'Safe to Eat', Ready to Use fresh Cut Vegetables (RUCV) as a - A 'PPP' model initiative for enhancing the marketing opportunities for farmers especially among the urban consumers who generally prefer good quality and convenient food products.

This chapter presents the data analysis (quantitative and qualitative) and interpretation of the results obtained for the following research objectives.

1. To study the components of marketing unit in the peri-urban agricultural system which involves the farmers in cluster groups, suppliers, technology transfer agents in Krishi Bhavan and the customers.
2. To examine the present marketing practices being adopted for vegetables and find out the limitations if any, so as to examine the scope of the sustainable business model for the peri-urban agricultural system.
3. To identify the constraints experienced by the producers and agricultural development personnel in Krishi Bhavan with respect to marketing activities in peri-urban agricultural clusters.
4. To find out the possibilities of improvement in service delivery of the farm support services offered by Krishi Bhavan to ensure better marketing opportunities for the farmers.

5.1 Peri-urban cluster farmers under Krishi Bhavan, Kazhakuttom

5.1.1 Socio-economic profile of the cluster group farmers under Krishi Bhavan, Kazhakuttom

The Table 5.1 depicts the socio-economic profile of the cluster group farmers under Krishi Bhavan, Kazhakuttom. Majority (86.7 percent) of them are male belonging to the age group of 55-65 years old. Most of them are indigenous farmers who still continue the farming activity and, some of them have adopted farming as their post retirement engagement. More than half of the farmers (60 percent) had completed high school education and 26.7 percent had done pre-degree. The number of family members in the farm households range from 3 to 7, with the majority (43.3 percent) having four members.

Table 5.1 Socio-economic profile of the cluster group farmers

Sl. No.	Variables	Particulars	Number	Percentage
1.	Gender	Male	26	86.7
		Female	4	13.3
2.	Age group	< 45 years old	2	6.7
		45-55 years old	9	30.0
		55-65 years old	14	46.7
		>65 years old	5	16.7
3.	Educational qualification	Primary education	1	3.3
		High school	18	60.0
		Higher secondary	8	26.7
		Degree	3	10.0
4.	No. of family members	3	1	3.3
		4	13	43.3
		5	12	40.0
		6	3	10.0
		7	1	3.3
5.	Size of agricultural land holding	≤ 0.5 acre	1	3.3
		0.5 acre-1.0 acre	17	56.7
		1.0 acre-2.0 acre	8	26.7
		≥2.0 acre	4	13.3

6.	Agricultural Income	Rs. 10,000 – Rs.30,000	14	46.7
		Rs. 30,000 - Rs.50,000	10	33.3
		Rs. 50,000 - Rs.1,00,000	5	16.7
		More than Rs. 1,00,000	1	3.3

Source: Primary data

Note: Cluster studied: Chanthavila, No. of farmers: 30

The agricultural land holding of the majority cluster group farmers (56.7 percent) ranges from 1 acre to 2 acre which clearly depicts the dwindling nature of agricultural land in peri-urban areas due to the rapid conversion for non-agricultural purpose like housing and different industrial business. Most of the farmers are marginal, small scale and medium farmers with an annual agricultural income ranging from Rs. 10,000 to Rs. 1,00,000 out of which a majority(46.7 percent) fall in the income range of Rs.10,000-Rs.30,000. The mean agricultural income is about Rs. 36,533.

5.1.2 Cluster group farming- nature and characteristics

Table 5.2 Age group of farmers in cluster group v/s Farming activity

Age group of farmers in cluster group	Farming activity		Total
	Full time	Part time	
Less than 45 years old	1	1	2
45-55 years old	9	0	9
55-65 years old	12	2	14
Above 65 years old	3	2	5
Total	25	5	30

Source: Primary data

Out of the thirty members in the peri-urban cluster, 25 are full time farmers and 5 re part time farmers. Out of the 25 full time farmers, 12 of them belong to the age group of

55-65 years old. Five farmers belong to the age group of 'above 65 years old'. Only two farmers belong to the age group of 'Less than 45 years old'. This indicates that most of the cluster farmers are old aged. There is an absence of young farmers in the cluster. The Table 5.2 and Figure 5.1 shows the different age group of farmers in cluster group and their farming activity.

Figure 5.1 Age group of farmers in cluster group & Farming activity

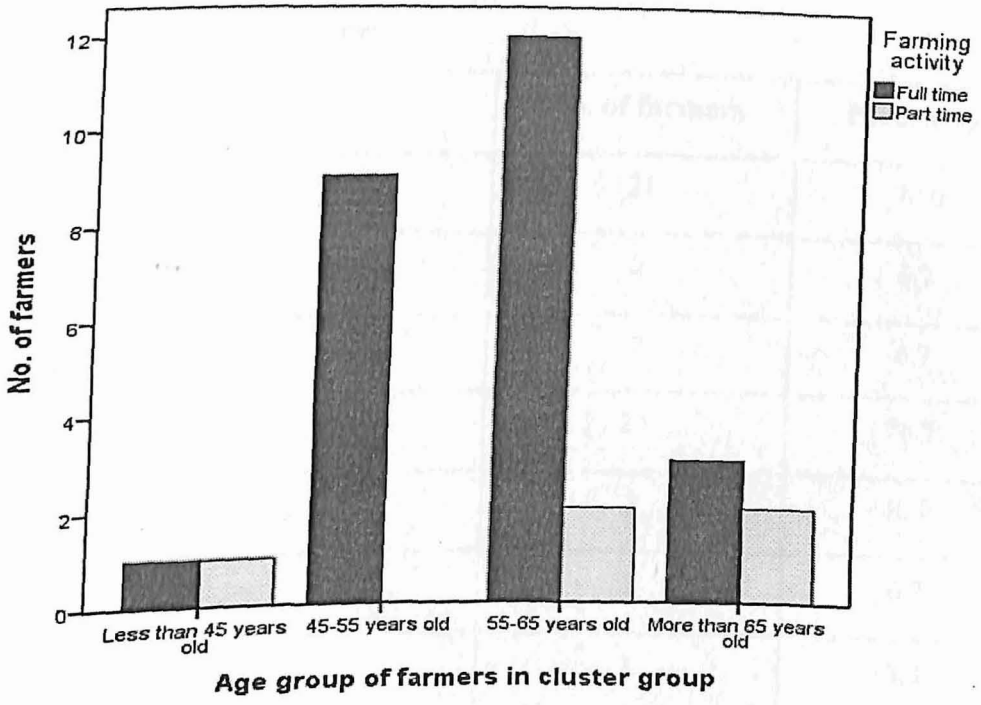


Table 5.3 Cropping pattern (Major crops cultivated in the area)

Type	*Crops*
Vegetables	Cucumber, Snake gourd, Bitter gourd, Amaranthus, Ladies finger, Cowpea, Chilli
Tubers	Tapioca, , Elephant foot yam, Colocasia,
Plantation	Coconut, Rubber, betel vine
Fruits	Plantain, Banana, water melon
Spices	Black pepper

Source: Primary data

The Table 5.3 shows 'The cropping pattern' among the cluster group farmers. The cropping pattern in cluster farming is characterized mainly by the vegetables like cucumber, snake gourd, bitter gourd, amaranthus, ladies finger, cowpea, chilli etc. Thus vegetable farming finds immense potential and therefore necessary steps for increasing the productivity and marketing opportunities need to be explored to make more sustainable livelihood for the farming community.

Table 5.4 Different Farming practices

Farming Practices	No. of farmers	Percentage
Organic Farming	21	70.0
Poly house cultivation	2	6.7
Modern irrigation system	2	6.7
Mixed cropping	23	76.7
Mushroom cultivation	3	10.0
Vermi compost	2	6.7
Nursery	1	3.3
Animal husbandry & poultry	12	40.0

Source: Primary data

From the Table 5.4, it is evident that 70 percent of the cluster group farmers practise organic farming and use bio-inputs in their farm. They practise mixed cropping and indigenous cultivation techniques. The modern farming techniques are not being implemented. This may be due to the shortage of funds, shrinking land area for cultivation etc. Some of them (40 percent) practise animal husbandry and poultry which fetch them a good source of income. Mushroom cultivation has also been emerged as a potential source of rural income and some of the farmers (10 percent) have adopted that in their area.

5.1.3 Participation in the cluster group farming activities

Table 5.5 Number of years as a member in cluster group

No. of years	No. of farmers	Percentage
1	4	13.3
2	8	26.7
3	16	53.3
10	2	6.7
Total	30	100.0

Source: Primary data

Table 5.6 Frequency of participation in cluster group activities

Frequency of participation in cluster group activities	Number of farmers	Percentage
Rarely	1	3.3
Occasional	3	10.0
Regular	26	86.7
Total	30	100.0

Source: Primary data

From the Table 5.5 and 5.6, it is clear that, most of the farmers are members in cluster group for above 3 years. The cluster group farmers are participating in the group activities on a regular basis (86.7 percent). This shows that all of them are actively involved in the group activities and their individual interests are not neglected in the group activities especially in the group decisions. Thus clusters help them to improve the efficiency in agricultural production.

5.1.4 Role of Krishi Bhavan in peri-urban agricultural development

Krishi Bhavan has played a remarkable role for increasing the agricultural production and productivity through the implementation of various location specific schemes and projects under the assistance of various government agencies and NGO's. In the peri-urban farming system, the Krishi Bhavan acts as an important institutional link between the farmers and the agricultural extension officers thereby transferring the requisite technology from lab to farm. The cluster farmers under Krishi Bhavan, Kazhakuttom are having very good opinion regarding the functioning of Krishi Bhavan as they could avail of requisite farm

benefits and services to a great extent. Table 5.7 depicts the farmers' rating on the benefits and services availed from Krishi Bhavan.

Table 5.7 Farmers' rating on the Benefits & Services availed from Krishi Bhavan

Rating of Benefits/Services	PERCENTAGE				
	Very Good	Satisfactory	Average	No opinion	Bad
Advisory support for crop production, protection & better management	53.3 (16)	36.7 (11)	6.7 (2)	3.3 (1)	0
Availability of agri-inputs at subsidized rates & better quality	33.3 (10)	43.3 (13)	6.7 (2)	13.3 (4)	3.3 (1)
Better marketing facilities through FRO	53.3 (16)	36.7 (11)	0	6.7 (2)	3.3 (1)
Enhanced participation in extension activities, training programmes, skill development etc	56.7 (17)	30 (9)	6.7 (2)	6.7 (2)	0

Source: Primary data
No. of respondents shown in brackets

Providing advisory support for crop production, protection and better management is an important function of Krishi Bhavan and majority of the farmers (53.3 percent) have very good opinion regarding this aspect. About 43.3 percent of the farmers are satisfied with the availability of quality agri-inputs at subsidized rates through Krishi Bhavan. The Farmer Retail Outlet (FRO) is a new venture adopted by the Krishi Bhavan, Kazhakuttom to create a platform for the farmers to directly sell their produce at a better price without the influence of middle men. More than half (53.3 percent) of the farmers have very good opinion regarding FRO as it could help them to enhance their marketing opportunities and could fetch better price. Also, most of the farmers (56.7 percent) are having very good opinion regarding the extension activities, training programmes and other skill development programmes conducted by Krishi Bhavan. The Figure 5.1.3.1 depict the rating of Krishi Bhavan services and benefits by the farmers.

Figure 5.5 Farmers' rating on benefits and services availed from Krishi Bhavan

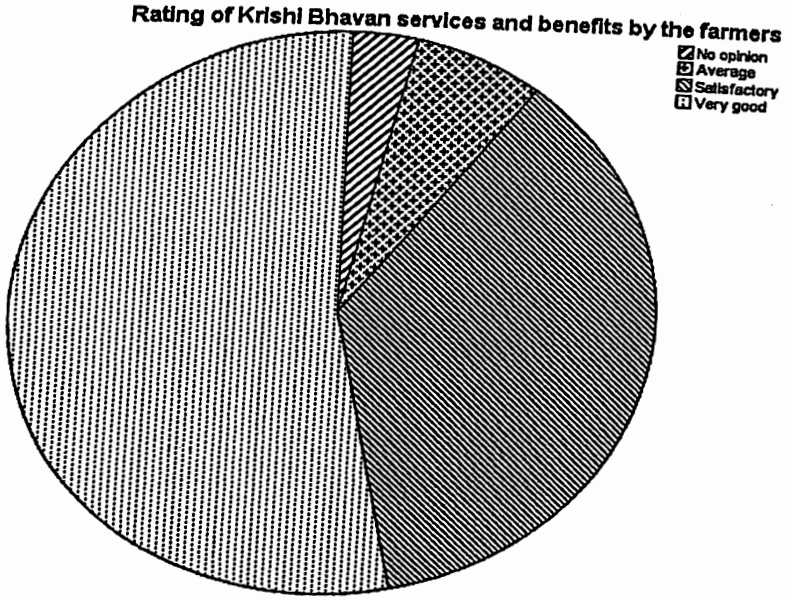


Table 5.8 Effect of cluster group farming practices through Krishi Bhavan

Effect	Percentage & No. of farmers out of 30		
	Good	Bad	No change
Improvement in agricultural production	90% (27)	0	10% (3)
Income from agriculture	100% (30)	0	0
Reduction in risks from crop failures	100% (30)	0	0
Savings from agricultural income	100% (30)	0	0
Debt clearance	86.7% (26)	0	13.3% (4)

ource: Primary data

The Table 5.8 shows the effect of cluster group farming practices co-ordinated ough Krishi Bhavan. Cluster initiatives may be one of the potential options to solve the

multiple problems of agriculture, particularly small farmers. Being in a cluster provides members with preferred access to extensive market, technical, and competitive information that accumulates in the cluster. For example, through a close relationship with sophisticated buyers within a cluster, suppliers are more attuned to their specific needs. This is very evident in the farmers' perception regarding the effect of cluster group farming practices. All of them have regarded cluster initiative as good and conducive to improving agricultural production, enhanced agricultural income, and are aware that the same could reduce risks to crop failure to a considerable extent. Besides, they could increase agricultural savings and clear the debts in time.

Table 5.9 Constraints faced by cluster group farmers

Constraints	Number of farmers	Percentage
Marketing constraints	24	80
Demand-supply uncertainties	30	100
Not getting expected market price for the produce	23	76.7
Insufficient facilities for storage/processing/transportation etc.	27	90.0

Source: Primary data

The Table 5.9 depicts the constraints faced by the cluster group farmers. Some of the major constraints faced by the cluster group farmers due to the unique characteristics of agricultural commodities are demand-supply uncertainties (cent percent), insufficient facilities for storage, processing, transportation etc. (90 percent), marketing constraints (80 percent) and the farmers not getting better price for their produce (76.7 percent).

5.2 Enhancing the marketing opportunities for cluster group farmers through Farmer Retail Outlet (FRO) in Krishi Bhavan

The agro-based clusters need to be induced and fostered through public and private entities owing to lack of managerial competence and information among the stakeholders. The success of this system demands real spirit and a sense of camaraderie, at the start with

supervision and support from public sector like an organisational support from Krishi Bhavan where the farmers believe they can safely sell their produce. This practice may turn farmers into entrepreneurs because they have characteristics which may enable them to enjoy benefits of niche market.

Table 5.10 Number of farmers selling their produce through FRO in Krishi Bhavan

Frequency of supply	Number of farmers	Percentage
Never	9	30.0
Occasional	17	56.7
Regular	4	13.3
Total	30	100.0

Source: Primary data

The Table 5.10 depicts that most of the farmers (56.7 percent) are occasionally selling through FRO and 13.3 percent are regular sellers. But 30 percent of them are not opting the FRO.

Table 5.11 Cross tab showing the reasons for choosing FRO and distribution of farmers supplying agricultural produce

Reasons for choosing FRO for selling agri. Produce	Frequency of supplying agri. produce through FRO		Total
	Occasional	Regular	
Better price	9	0	9
Convenience	3	2	5
Credibility	3	2	5
Group decision	2	0	2
Total	17	4	21

Source: Primary data

The Table 5.11 shows the reasons for choosing FRO by the farmers. Out of the 30 cluster group farmers, 21 sell their produce through FRO. They report the reasons like better price (42.8 percent), convenience (23.8 percent), credibility (23.8 percent) and group decision (9.5 percent) for opting FRO in Krishi Bhavan.

Table 5.12 Crosstab showing the reasons for not choosing FRO regularly

Reasons for not choosing FRO	No. of farmers
Transportation difficulties	3
Not getting better price	2
Transportation problem & not getting better price	3
Less price and all vegetables are not taken	1
TOTAL	9

Source: Primary data

The Table 5.1.4.3 shows the reasons for not choosing FRO among the nine farmers. Some of the reasons that hinder the farmers from the supply of agricultural produce through FRO outlet are transportation difficulties 33.3 percent), not getting better price as other means of marketing (22.2 percent) and all their produce are not taken in FRO (11.1 percent).

5.2.1 Other marketing means adopted by the cluster group farmers

The farmers in cluster group adopt a mix of different methods for selling their agricultural produce like selling through terminal market in their area (Pothencode) (36.7 percent), direct selling (10 percent), retail market (6.7 percent), wholesale market (3.3 percent) and combination of these marketing means. Farmers are always in search of ready access for selling their produce and so they use different means so as to get a better price. The perishability of the vegetables, constraints in storage and processing facilities also force them to sell their produce at any means which they consider profitable.

Table 5.13 Marketing means adopted by farmers

Marketing means adopted	No. of farmers	Percentage
Wholesale market	1	3.3
Terminal market	11	36.7
Retail market	2	6.7
Direct selling	3	10.0
Direct selling & Terminal market	8	26.7
Terminal market & wholesale markets	4	13.3
Through FRO only	1	3.3
Total	30	100.0

Source: Primary data

5.2.2 Most preferred means of marketing

Table 5.14 Most preferred means of marketing

Most preferred means of marketing	No. of farmers	Percentage
Terminal market	16	53.3
Direct selling	5	16.7
Both FRO & Terminal market	8	26.7
FRO	1	3.3
Total	30	100

Source: Primary data

The Table 5.14 shows that Terminal market is the most preferred means of marketing for 53.3 percent of the farmers.

5.2.3 *Profit from different means of marketing other than FRO*

Table 5.15 Profit obtained from different means of marketing

Opinion regarding profit from other means of marketing	No. of farmers	Percentage
More	17	56.7
No difference	12	40.0
Total respondents	29	96.7
Non- respondent	1	3.3
Total	30	100.0

Source: Primary data

From the Table 5.15 it is clear that 56.7 percent consider that adopting different means of marketing is more profitable than through FRO only. While 40 percent of them feel that there is no difference and they get more or less the same price.

5.3 Focus Group Discussion with peri-urban farmers

Researchers often depend on focus groups to collect data from several individuals at the same time. Focus group research is a way of collecting qualitative data, which essentially involves engaging a small number of people in a group discussion or group discussions focused around a particular topic or set of issues (Wilkinson, 2004). Focus group can provide information about variety of ideas and feelings that individuals have about certain issues. Moreover, focus groups reveal the differences in perspective between groups of individuals. Group dynamics is one of the distinct features of focus group discussion. A well designed focus group usually lasts between one to two hours and consists of six to twelve participants (Morgan, 1997).

Date: 21st April 2016, Wednesday

Time: 3.30 to 4.30 p.m.

Venue: Conference Hall, Office of the Assistant Directorate of Agriculture, Kazhakuttom

No. of members present: 10 (Main farmers of Chanthavila and Moozhinada clusters)

OBJECTIVE: To gather data related to the issues of selling vegetables among the peri-urban cluster farmers

The researcher initiated the discussion and requested the farmers to speak openly about their problems related to agriculture and marketing of vegetables. The following issues came up in the discussion:

1) Farmers bring large quantities of particular vegetables like cowpea, snake gourd, bitter gourd, cucumber etc. Therefore there arises difficulty in taking the whole lot at a time for the sale at FRO. This makes distress among farmers and they complain that they could not sell their all produce through FRO only, since selected items are only taken here.

2) The farmers face transportation problem for making fresh vegetables available to the retail market.

3) Some of the farmers prefer to take all the items to terminal market (Pothencode) where they claim to get a better price.

4) Daily fluctuation of prices

SOLUTION:

The discussion after enlisting the problems was projected for finding out the problem solving measures. After clarification, a consensus was arrived upon to arrange for common transportation facility (a van from Haritha Centre, Krishi Bhavan, Kazhakuttom) which can be utilised by all the farmers for which they are ready to pay the required amount. If the farmers are willing to produce varied range of vegetables, the FRO could use the whole lot for sale and the farmers would not face any difficulties. This strategy will ensure availability of greater quantity of vegetables at the Farmer Retail Outlet in Krishi Bhavan which can also be channelized for the novel model of customized ready to cook fresh cut vegetable products like sambhar, aviyal, thoran etc. with private partnership for selling to different consumers in the city area. This initiative could help in finding marketing opportunities for the peri-urban farmers especially in the urban niche markets.

5.4 Agricultural Officers under Assistant Director of Agriculture (ADA), Kazhakuttom

5.4.1 General details of Agricultural Officers under ADA, Kazhakuttom

Table 5.16 General details of Agricultural Officers

Particulars	Category	No. of respondents
Gender	Male	6
	Female	4
Age group	< 45 years old	3
	45 – 50 years old	6
	≥ 50 years old	1
Educational qualification	MSc Agriculture	5
	BSc Agriculture	4
	VHSE, BCom	1
Duration of service	≤ 20 years	5
	>20 years	5

Source: Primary data

Note: Total No. of respondents=10

The Table 5.3.1 shows the general details of the Agricultural Officers working under the jurisdiction of ADA, Kazhakuttom. Ten Agricultural Officers were interviewed including the Assistant Director of Agriculture, Kazhakuutom. The data reveals the following main points: Sixty percent of the officials are male respondents and 60 percent belong to the age group of 45-50 years old. Fifty percent of the respondents are post graduates with specialisation in Horticulture, Agricultural Extension, Agronomy etc. and 40 percent are graduates. Also duration of service of up to 20 years was reported by half of the respondents and more than 20 years by another half.

5.4.2 Krishi Bhavans under ADA, Kazhakuttom

KRISHI BHAVAN	AGRICULTURAL OFFICERS
1. Kazhakuttom	Manoj S.
2. Andoorkonam	Deepa V.
3. Attipra	Sreekala S.
4. Kadakampally	Sreekala
5. Kadinamkulam	Sasikala
6. Mangalapuram	Sukumaran Nair
7. Pothencode	Salahudeen A.
8. Sreekariyam	V. Vijayachandran
9. Ulloor	P. K. Sukumari
10. ADA, Kazhakuttom	Bindukumari A.

5.4.3 Main Activities conducted in Krishi Bhavans under ADA, Kazhakuttom

- Extension activities
- Demonstrations
- Field Trials
- Training programmes
- Implementation of various schemes under Vegetable Development Programme (VDP), State Horticulture Mission (SHM), Janeekeeyasoothranam etc of Department of Agriculture, Government of Kerala.

5.4.4 Major Achievements

- Effective use of barren land for vegetable cultivation
- Increased awareness among farmers about recent agricultural technologies and crop management practices
- Created work force for agriculture
- Promotion of terrace farming, mushroom cultivation etc.
- Use of bio-inputs for organic farming

5.4.5 Major constraints faced in agriculture

The Table 5.17 and Figure 5.3 shows the constraints as reported by agricultural officers in the relevant area regarding the issues hindering agricultural production and marketing.

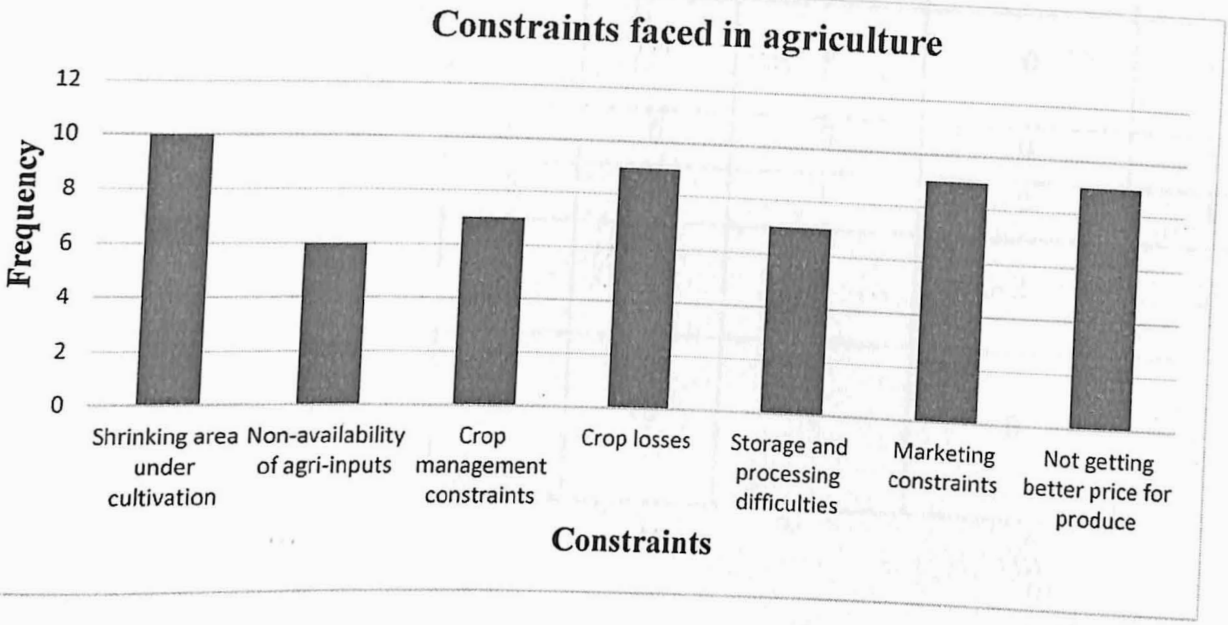
Table 5.17 Major constraints faced in agriculture

Constraints	No. of respondents (Agricultural Officers)	Percentage
Shrinking area under cultivation	10	100
Non-availability of agri-inputs	6	60
Crop management constraints	7	70
Crop losses	9	90
Storage and processing difficulties	7	70
Marketing constraints	9	90
Not getting better price for produce	9	90

Source: Primary data

Shrinking area under cultivation is a major constraint reported by farmers according to cent percent of the Agricultural Officers. The other major problems reported were crop losses, marketing constraints, not getting better price, storage and processing difficulties, non-availability of bio-inputs etc.

Figure 5.3 Major constraints faced in agriculture



5.4.6 Constraints faced by agricultural officers

The Table 5.18 and Figure 5.4 shows the constraints faced by the agricultural officers as reported by the ten Agricultural Officers working under ADA, Kazhakuttom.

Table 5.18 Constraints faced by agricultural officers

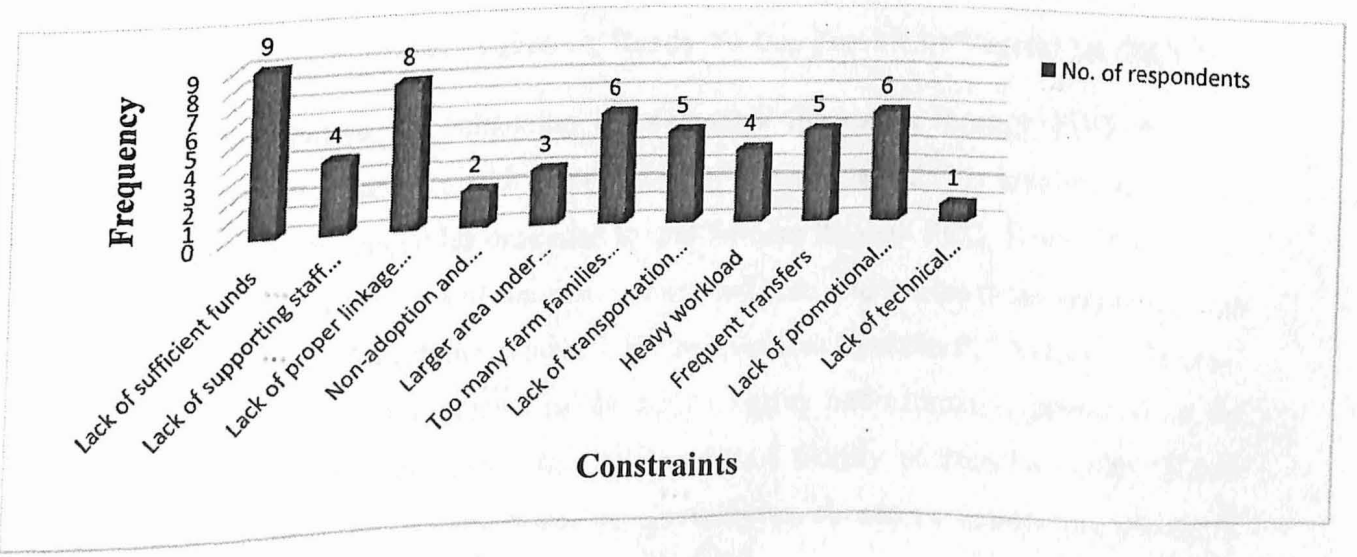
Constraints	No. of respondents		Level of difficulty		
	YES	NO	Very difficult	Somewhat difficult	Difficult
Lack of sufficient funds	9	1	3	3	3
Lack of supporting staff in Krishi Bhavan	4	6	0	3	1
Lack of proper linkage and co-ordination between various agencies (input, credit etc.)	8	2	0	3	5
Non-adoption and inhibition shown by conventional farmers	2	8	0	1	1
Larger area under jurisdiction	3	7	0	1	2

Too many farm families to contact	6	4	0	0	6
Lack of transportation facilities in remote areas	5	5	0	0	5
Heavy workload	4	6	0	0	4
Frequent transfers	5	5	1	0	4
Lack of promotional opportunities, incentives etc.	6	4	1	2	3
Lack of technical facilities, skill training and expertise in new areas.	1	10	1	0	0

Source: Primary data

Ninety percent of the respondents reported that lack of sufficient funds as one of the major constraints. Out of them, three of them each reported it as very difficult, somewhat difficult and difficult as shown in the table above. Another constraint reported was the lack of proper linkage and co-ordination among various input and credit agencies (80 percent). The other constraints are large number of farm families to contact (60 percent), lack of promotional opportunities and sufficient incentives (60 percent), frequent transfers (50 percent), Lack of transportation facilities (50 percent), heavy workload (40 percent) etc.

Figure 5.4 Constraints faced by Agricultural officers



5.4 SWOC ANALYSIS OF KRISHI BHAVAN KAZHAKUTTOM

Table 5.19 SWOC Analysis

STRENGTHS	WEAKNESSES
➢ Encouraging the participation of new farmers ➢ Establishment of FRO for enabling the sale of produce by the peri-urban farmers. ➢ Private marketing partnership for new product development ➢ Linking different groups for creating facilities for processing and value addition.	➢ Less number of technically competent staff ➢ Lack of proper linkage and co-ordination between various agencies for input and credit facilities
OPPORTUNITIES	**CHALLENGES**
➢ The marketing opportunities facilitated by the urban hub helps in the development of peri-urban vegetable production and marketing opportunities. ➢ Could develop production and marketing plan according to the needs and demands of market ➢ In the development of a new product brand creation and marketing.	➢ Lack of sufficient area for cultivation due to rapid conversion of agricultural land for other purposes. ➢ Inhibition shown by youngsters to participate in farming activities and training programmes.

5.6 Consumer Opinion Survey regarding Ready To Use Fresh Cut Vegetables (RUCV)

An initiative for enhancing the vegetable marketing through FRO in Krishi Bhavan was taken by partnering with kaanthari.com, a private firm. This involves the unique idea of collecting fresh vegetables produced by the farmers through FRO, Krishi Bhavan and pertaining to the quality norms and standards, kaanthari.com customize these vegetables into Ready to Use Fresh Cut Vegetable products for recipes like 'Sambhar', 'Aviyal' , 'Thoran' etc. with all the necessary ingredients in the right quantity and ultimately providing at the doorstep of the customers by using the transportation facility at Haritha centre, Krishi Bhavan, Kazhakuttom. The customers for the products are chosen by conducting necessary marketing research and opinion survey in different niche areas of the city. During the

launching stage of the model, flat residents near Technopark, Kazhakuttom were selected for supplying the different product kits according to their preference. A consumer opinion survey among the selected thirty consumers was conducted by the researcher to know their preference, acceptability and satisfaction regarding new product, RUCV. The details collected are presented accordingly.

5.6.1 Socio-economic profile of the respondents

Table 5.20 shows the gender of the respondents. The female respondents (63.3 percent) were found to be more than male respondents.

Table 5.20 Gender of the respondents

Gender	No. of respondents	Percentage
Male	11	36.7
Female	19	63.3
Total	30	100.0

Source: Primary data

The Table 5.21 depicts the age group of the respondents. From the table, it is clear that 43.3 percent belong to the age group of 35-45 years old. Among the respondents only 3.3 percent belong to less than 25 years old.

Table 5.21 Age group of the respondents

Age group	No. of respondents	Percentage
Less than 25 years old	1	3.3
25-35 years old	7	23.3
35-45 years old	13	43.3
45 years and above	9	30.0
Total	30	100.0

Source: Primary data

The Table 5.22 shows the marital status of the respondents. From the Table 5.22, it is evident that ninety percent of the respondents were married and only 10 percent were unmarried. This indicates the more preference of ready to cook fresh uncut vegetables among married members of the society.

Table 5.22 Marital status of the respondents

Marital status	No. of respondents	Percentage
Single	3	10.0
Married	27	90.0
Total	30	100.0

Source: Primary data

Table 5.23 shows the educational qualification of the respondents. From the table, it is found that among the respondents, 76.7 percent are graduates and 23.3 percent are pre-graduates.

Table 5.23 Educational qualification of the respondents

Educational qualification	No. of respondents	Percentage
Pre-graduation	7	23.3
Graduation	23	76.7
Total	30	100.0

Source: Primary data

Table 5.24 Occupational status of the respondents

Occupation	Gender		Total
	Male	Female	
Govt employee	1	8	9
Bank employee	0	4	4
IT/Software	7	4	11
Housewife	0	3	3
Business	3	0	3
Total	11	19	30

Source: Compiled from primary data

Among the respondents 36.6 percent are employed in IT/Software industry whereas 30 percent are government employees. There were 13.3 percent bank employees and 10 percent of them were doing own business. Among the 63.3 percent of the female respondents, 10 percent were housewives. Table 5.4.5 depicts the occupational status of the respondents.

Table 5.25 Occupational status of family members

Occupational status	No. of respondents	Percentage
Husband only working	4	13.3
Both Husband & wife working	23	76.7
Not applicable	3	10.0
Total	30	100.0

Source: Primary data

The Table 5.25 depicts the occupational status of the family members. It has been found that 76.7 percent of respondents belong to the category of "both husband & wife working". This indicates that in the working class, because of their busy and hectic job schedule may prefer quick and accessible ways of food options like ready to cook fresh vegetables for preparing sumptuous food dishes in their own way.

Table 5.26 Number of family members

Number of family members	No. of respondents	Percentage
2 to 4	21	70
>4	9	30
Total	30	100.0

Source: Primary data

The Table 5.26 shows the number of family members of the respondents. From the Table 5.4.7 it is clear that seventy percent of the respondents were having 2 to 4 members in their family.

The Table 5.27 shows the residing status of the respondents. It was found that 83.3 percent of the respondents were residing with their family whereas 16.7 were with friends.

Table 5.27 Residing with:

	No. of respondents	Percentage
With friends	5	16.7
With family	25	83.3
Total	30	100.0

Source: Primary data

Table 5.28 Monthly Income

Monthly Income	No. of respondents	Percentage
Rs.20,000-40,000	11	36.7
Rs.40,000-50,000	15	50.0
Above Rs.50,000	4	13.3
Total	30	100.0

Source: Primary data

The Table 5.6.9 shows the monthly income of the respondents. Fifty percent get a monthly income in the range of Rs.40, 000 to Rs.50, 000 and 13.3 percent get above Rs.50, 000.

5.6.2 Food preference of the respondents

From the Table 5.29, it is clear that seventy percent of the respondents prefer both vegetarian and non-vegetarian food. While 10 percent prefer non-veg only. Twenty percent of the respondents are vegetarians only.

Table 5.29 Food preference of the respondents

Food preference	No. of respondents	Percentage
Veg. only	6	20.0
Non-veg. only	3	10.0
Both veg. & non-veg.	21	70.0
Total	30	100.0

Source: Primary data

5.6.3 Consumer opinion regarding the Ready To Use Fresh Cut Vegetable products (RUCV) - Sambhar, Aviyal, Thoran etc.

The Table 5.30 shows the consumer satisfaction level regarding the various ready to cook fresh cut vegetable products supplied through a PPP model (Krishi Bhavan& a private firm named, Kaanthari.com) at the doorstep of the consumers. The number shows the distribution of respondents out of the total 30 respondents in each category. All of the respondents were satisfied with the products supplied like fresh cut vegetables with all the ingredients for dishes like sambhar, aviyal and thoran. It is found that 56.6 percent of the respondents were 'very satisfied' with the freshness of 'Sambhar' kit and 63.3 percent were 'satisfied with the proportion of its ingredient mix. Also, sixty percent approved that the price was also reasonable for example in thoran kit and other products too.

Table 5.30 Consumer opinion regarding RUCV products

Product Characteristics	PRODUCTS					
	Sambhar		Aviyal		Thoran	
SATISFACTION LEVEL	Very Satisfied	Satisfied	Very Satisfied	Satisfied	Very Satisfied	Satisfied
Freshness of product	17	13	16	14	15	15
Quantity of product	16	14	6	24	8	22
Proportion of ingredient mix	11	19	14	16	15	15
Nutritive value	15	15	13	17	16	14
Price	17	13	13	17	12	18

Source: Primary data

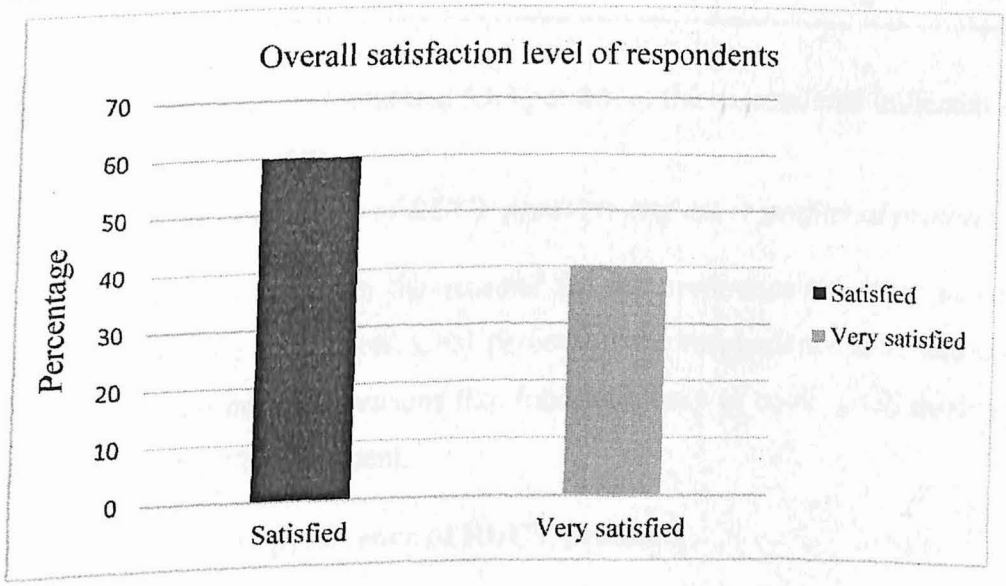
Table 5.31 Overall satisfaction level of respondents

	No. of respondents	Percentage
Satisfied	18	60.0
Very satisfied	12	40.0
Total	30	100.0

Source: Primary data

From the Table 5.31 and Figure 5.5, it is clear that all the respondents opined that they liked the products very much. This is evident from their indication of satisfaction level. Forty percent of the respondents were 'very satisfied' and sixty percent were 'satisfied'. There was no indication of dissatisfaction among the respondents.

Figure 5.5 Overall satisfaction level of respondents



5.6.3.1 Preference for future delivery

The Table 5.4.13 shows the preference for future delivery among the customers. Among the respondents, 73.3 percent preferred future delivery which indicates their satisfaction and intention to continue the purchase of the products.

Table 5.32 Preference for future delivery

	No. of respondents	Percentage
Yes	22	73.3
No	8	26.7
Total	30	100.0

Source: Primary data

Table 5.33 Preferred time of delivery

	No. of respondents	Percentage
Morning	12	40.0
Evening	16	53.3
Morning & Evening	2	6.7
Total	30	100.0

Source: Primary data

From the Table 5.33, it is found that 53.3 percent of the respondents indicated evening as the preferred time of delivery.

5.6.3.2 Reasons for the preference of RUCV products and other preferred products

The Table 5.34 indicates the reasons for the preference of ready to cook fresh vegetable products by the consumers. Cent percent of the respondents indicated convenient and time saving as reasons while reasons like freshness, easy to cook, good quality and less waste were indicated by 28 respondents.

Table 5.34 Reasons for the preference of RUCV products

Reasons	No. of respondents	Percentage
Convenient	30	100.0
Time-saving	30	100.0
Freshness	28	93.3
Safe To Eat	26	86.6
Easy To Cook	28	93.3

Good quality	28	93.3
Less waste	28	93.3

Source: Primary data

Table 5.35 Other products preferred to buy

Products	No. of respondents	Percentage
Fish	5	16.7
Milk	6	20.0
Meat products	2	6.7
Chicken	6	20.0
Desi egg	9	30.0
Flour and dough mix for breakfast items	2	6.7
Total	30	100.0

Source: Primary data

From the Table 5.35 it is clear that thirty percent of the respondents indicated that they also prefer desi egg in future delivery of service. Twenty percent also indicated milk as their preferred product.

Table 5.36 Whether recommend to others or not?

	No. of respondents	Percentage
Definitely yes	25	83.3
Perhaps	5	16.7
Total	30	100.0

Source: Primary data

From the Table 5.36, it is clear that among the respondents, 83.3 percent indicated that they will recommend this product to their friends, colleagues and relatives.

CONCLUSION

This indicates the need for such customized and fresh products, among the urban consumers who will not compromise the indicators like quality, quantity and price for different products and service.

Chapter - 6

Summary of Findings, Suggestions, Implications and Conclusion

Chapter 6

SUMMARY OF FINDINGS, SUGGESTIONS, IMPLICATIONS & CONCLUSION

The major findings of the study are presented in this chapter. This research fills an important gap in the knowledge of customization outcomes in agriculture especially vegetable production and marketing, and clarifies the circumstances under which product and service customization is most effective.

An exploratory research design was adopted for the study. Out of the two clusters under Krishi Bhavan, Kazhakuttom, the cluster farmers of 'Chanthavila' unit was selected by lottery method and data from the 30 members of this cluster were collected. Also, 30 customers (flat residents, near Technopark) were chosen for the opinion survey based on their willingness to accept customized products at their doorstep. Census method was used for sampling the Agricultural Officers of 10 Krishi Bhavans under ADA, Kazhakuttom. Focus Group Discussion and interview were used as the tools for data collection. Qualitative methods (narration and interpretation, Likert scale and SWOC Analysis) and Quantitative methods mean, frequency, percentage etc.) were used for data analysis.

The findings are summarized based on the objectives of the study:

1. To study the components of marketing unit in the peri-urban agricultural system which involves the farmers in cluster groups, suppliers, technology transfer agents in Krishi Bhavan and the customers.
2. To examine the present marketing practices being adopted for vegetables and find out the limitations if any, so as to examine the scope of the sustainable business model for the peri-urban agricultural system.
3. To identify the constraints experienced by the producers and agricultural development personnel in Krishi Bhavan with respect to marketing activities in peri-urban agricultural clusters.
4. To find out the possibilities of improvement in service delivery of the farm support services offered by Krishi Bhavan to ensure better marketing opportunities for the farmers.

6.1 Major Findings

6.1.1 Peri-urban agricultural system

1. ***Socio-economic profile of the farmers***: Majority (86.7 percent) of the farmers are male belonging to the age group of 55-65 years old. Most of them are indigenous farmers who still continue the farming activity and some of them adopt farming as their post retirement engagement. More than half of the farmers (60 percent) had completed high school education and 26.7 percent had done pre-degree. The number of family members in the farm households range from 3 to 7 with the majority (43.3 percent) of four members. The agricultural land holding of the majority cluster group farmers (56.7 percent) ranges from 1 acre to 2 acre which clearly depicts the dwindling nature of agricultural land in peri-urban areas due to the rapid conversion for non-agricultural purpose like housing and different industrial business. Most of the farmers are marginal, small scale and medium farmers with an annual agricultural income ranging from Rs. 10,000 to Rs. 1,00,000 out of which a majority(46.7 percent) fall in the income range of Rs.10,000-Rs.30,000. The mean agricultural income is about Rs.36, 533.

2. ***Farming activity & cropping pattern:*** Out of the thirty members in the peri-urban cluster, 25 are full time farmers and 5 are part time farmers. Out of the 25 full time farmers, 12 of them belong to the age group of 55-65 years old. Five farmers belong to the age group of above 65 years old. Only two farmers belong to the age group of 'Less than 45 years old'. This indicates that most of the cluster farmers are old aged. There is an absence of young farmers in the cluster. Most of the farmers are members in cluster group for above 3 years. The cluster group farmers are participating in the group activities on a regular basis (86.7 percent). This shows that all of them are actively involved in the group activities and their individual interests are not neglected in the group activities especially in the group decisions. Thus clusters help them to improve the efficiency in agricultural production.

The cropping pattern in cluster farming is characterized mainly by the vegetables like cucumber, snake gourd, bitter gourd, amaranthus, ladies finger, cowpea, chilli etc. Thus vegetable farming finds immense potential and the steps for increasing the productivity and marketing opportunities should be explored to make more sustainable livelihood for the farming community. Most of the cluster group farmers practice organic farming and use bio-inputs in their farm. They practice mixed cropping

and indigenous cultivation techniques. The modern farming techniques are not being implemented. This may be due to the shortage of funds, shrinking land area under cultivation etc. Some of them (40 percent) practice animal husbandry and poultry which fetch them a good source of income. Mushroom cultivation has also been emerged as a potential source of rural income and some of the farmers (10 percent) have adopted this in their area.

6.1.2 Role of Krishi Bhavan in peri-urban agricultural development

1. Farmers' rating on the Benefits & Services availed from Krishi Bhavan

Krishi Bhavan has played a remarkable role for increasing the agricultural production and productivity through the implementation of various location specific schemes and projects under the assistance of various government agencies and NGO's. In the peri-urban farming system, the Krishi Bhavan acts as an important institutional link between the farmers and the agricultural extension officers thereby transferring the requisite technology from lab to farm. The cluster farmers under Krishi Bhavan, Kazhakuttom are having very good opinion regarding the functioning of Krishi Bhavan as they could avail requisite farm benefits and services to a great extent. Providing advisory support for crop production, protection and better management is an important function of Krishi Bhavan and majority of the farmers (53.3 percent) have very good opinion regarding this respect. About 43.3 percent of the farmers are satisfied with the availability of quality agri-inputs at subsidized rates through Krishi Bhavan. The Farmer Retail Outlet (FRO) is a new venture adopted by the Krishi Bhavan, Kazhakuttom to create a platform for the farmers to directly sell their produce at a better price without the influence of middle men. More than half (53.3 percent) of the farmers have very good opinion regarding FRO as it could help them to enhance their marketing opportunities and could fetch better price. Also, most of the farmers (56.7 percent) are having very good opinion regarding the extension activities, training programmes and other skill development programmes conducted by Krishi Bhavan.

2. Effect of cluster group farming practices through Krishi Bhavan

Cluster initiatives may be one of the potential options to solve the multiple problems of agriculture, particularly small farmers. Being in a cluster provides members with preferred access to extensive market, technical, and competitive information that accumulates in the cluster. For example, through a close relationship

with sophisticated buyers within a cluster, suppliers are more attuned to their specific needs. This is very evident in the farmers' perception regarding the effect of cluster group farming practices. All of them have regarded cluster initiative as good and helped in improving agricultural production, agricultural income and could reduce crop risks to considerable extent. Also, they could increase agricultural savings and clear the debts in time.

6.1.3 Enhancing the marketing opportunities for cluster group farmers through Farmer Retail Outlet (FRO) in Krishi Bhavan

The agro-based clusters need to be induced and fostered through public and private entities owing to lack of managerial competence and information among the stakeholders. The success of this system demands real spirit and the sense of togetherness, at the start with supervision and support from public sector like an organisational support from Krishi Bhavan where the farmers believe they can safely sell their produce. This practice may turn farmers into entrepreneurs because they have characteristics which may enable them to enjoy benefits of niche market.

Most of the farmers (56.7 percent) are occasionally selling through FRO and 13.3 percent are regular sellers. Out of the 30 cluster group farmers, 21 sell their produce through FRO. They report the reasons like better price (42.8 percent), convenience (23.8 percent), credibility (23.8 percent) and group decision (9.5 percent) for opting FRO in Krishi Bhavan.

But 30 percent of them are not opting the FRO. Some of the reasons precluding the farmers from marketing their agricultural produce through FRO outlet are transportation difficulties (33.3 percent), not getting better price as other means of marketing (22.2 percent) and inability to sell bulk quantities of certain vegetables through FRO only(11.1 percent).

The farmers in cluster group adopt a mix of different methods for selling their agricultural produce like selling through terminal market in their area (Pothencode) (36.7 percent), direct selling (10 percent), retail market (6.7 percent), wholesale market (3.3 percent) and combination of these marketing means. More than half of the farmers (53.3 percent), sell through terminal market. Farmers are always in search of ready access for selling their produce and so they use different means so as to get a better price. The perishability of the vegetables, constraints in storage and processing facilities also force them to sell their produce at any means which they consider profitable. About 56.7 percent consider that adopting different means of marketing is more profitable than

through FRO only. While 40 percent of them feel that there is no difference and they get more or less the same price.

6.1.4 Constraints faced by farmers

The farmers face some constraints regarding agricultural production and marketing. The constraints of farmers as reported by the agricultural officers in relevant area are:

1. Shrinking area under cultivation is a major constraint reported by farmers according to cent percent of the Agricultural Officers.
2. The other major problems reported were crop losses, marketing constraints, storage, processing and transportation difficulties, spoilage and waste of produce etc.
3. Uncontrolled conversion of cultivable land due to IT boom (Techno park) and associated real estate business
4. Not getting good market price for their produce.
5. Non-availability of sufficient bio-inputs at the right time.
6. Improper irrigation facilities
7. Lack of timely and location-specific schemes and subsidies
8. Young farmers are not willing to participate in training programmes

6.1.5 Constraints faced by agricultural officers

Ninety percent of the respondents reported that lack of sufficient funds as one of the major constraints. Out of them, three of them each reported it as very difficult, somewhat difficult and difficult. Another constraint reported was the lack of proper linkage and co-ordination among various input and credit agencies (80 percent). The other constraints are large number of farm families to contact (60 percent), lack of promotional opportunities and sufficient incentives (60 percent), frequent transfers (50 percent), Lack of transportation facilities (50 percent), heavy workload (40 percent) etc.

6.1.6 Possibilities of improving the service delivery of the farm support services offered by Krishi Bhavan to ensure better marketing opportunities for the farmers

An initiative for enhancing the vegetable marketing through FRO in Krishi Bhavan was taken by partnering with kaanthari.com, a private firm. This involves the unique idea of collecting fresh vegetables produced by the farmers through FRO, Krishi Bhavan and pertaining to the quality norms and standards, kaanthari.com

customize these vegetables into Ready to Use Fresh Cut Vegetable products for recipes like 'Sambhar', 'Aviyal' , 'Thoran' etc. with all the necessary ingredients in the right quantity and ultimately providing at the doorstep of the customers by using the transportation facility at Haritha centre, Krishi Bhavan, Kazhakuttom. The customers for the products are chosen by conducting necessary marketing research and opinion survey in different niche areas of the city. During the launching stage of the model, flat residents near Techno Park, Kazhakuttom were selected for supplying the different product kits according to their preference. A consumer opinion survey among the selected thirty consumers was conducted by the researcher to know their preference, acceptability and satisfaction regarding new product, RUCV.

1. The female respondents (63.3 percent) were found to be more than male respondents.
2. Most of the respondents (43.3 percent) belong to the age group of 35-45 years old. Among the respondents only 3.3 percent belong to less than 25 years old.
3. Ninety percent of the respondents were married and only 10 percent were unmarried. This indicates the more preference of ready to cook fresh uncut vegetables among married members of the society. Seventy percent of the respondents were having 2 to 4 members in their family. It was found that 83.3 percent of the respondents were residing with their family whereas 16.7 were with friends.
4. Among the respondents, 76.7 percent are graduates and 23.3 percent are pre-graduates. Among the respondents 36.6 percent are employed in IT/Software industry whereas 30 percent are government employees. There were 13.3 percent bank employees and 10 percent of them were doing own business. Among the 63.3 percent of the female respondents, 10 percent were housewives. Fifty percent get a monthly income in the range of Rs.40, 000-50,000 and 13.3 percent get above Rs.50, 000. This indicates that the likelihood of buying minimally processed, ready to use fresh cut vegetables tends to be higher among better educated consumers and among consumers with young children.
5. It has been found that 76.7 percent of respondents belong to the category of "both husband & wife working". This indicates that in the working class, because of their busy and hectic job schedule may prefer quick and accessible ways of food options like ready to cook fresh vegetables for preparing sumptuous food dishes in their own way.
6. Seventy percent of the respondents prefer both vegetarian and non-vegetarian food. While 10 percent prefer non-veg only. Twenty percent of the respondents are vegetarians only. Thirty percent of the respondents indicated that they also prefer desi egg in future

delivery of service. Twenty percent also indicated milk as their preferred product. This indicates the ways of opening new marketing opportunities for supplying products like egg, milk etc. directly from farmers who have adopted animal husbandry and poultry in their farming system.

7. All of the respondents were satisfied with the products supplied like fresh cut vegetables with all the ingredients for dishes like sambhar, aviyal and thoran. It is found that 56.6 percent of the respondents were 'very satisfied' with the freshness of 'Sambhar' kit and 63.3 percent were 'satisfied' with the proportion of its ingredient mix. Also, sixty percent approved that the price was also reasonable for example in thoran kit and other products too.
8. All the respondents opined that they liked the products very much. This is evident from their indication of satisfaction level. Forty percent of the respondents were 'very satisfied' and sixty percent were 'satisfied'. There was no indication of dissatisfaction among the respondents.
9. Among the respondents, 73.3 percent preferred future delivery which indicates their satisfaction and intention to continue the purchase of the products. It is found that 53.3 percent of the respondents indicated evening as the preferred time of delivery.
10. Cent percent of the respondents indicated convenient and time saving as reasons while reasons like freshness, easy to cook, good quality and less waste were indicated by 93.3 respondents. This indicates that the most important motivation for purchasing ready to use fresh cut vegetable products relates to convenience and speed especially for the fast-paced urban consumers.
11. Among the respondents, 83.3 percent indicated that they will recommend this product to their friends, colleagues and relatives. This indicates the need for such customized and fresh products, among the urban consumers who will not compromise the indicators like quality, quantity and price for different products and service.

6.2 Suggestions

1. Creating more marketing opportunities for the farmers for selling their produce. Partnership and co-ordination among various public and private agencies should be enhanced so as to make available necessary resources for facilitating marketing. The farmers should be oriented to make a swift forecast of the demand for various commodities and exploit the opportunities. There is good scope for setting up market

outlets to reach the customers without involving too many middlemen. Business houses can establish a direct link with farmers' organisations for procuring raw materials. Such agencies can support farmers with seeds of improved varieties, finance and other critical inputs for optimising their crop yield.

2. To prevent the usurpation of peri-urban agricultural lands by the growing city, the Government should launch advocacy and educative efforts to put in place appropriate regulatory and incentive frameworks.
3. There is a remarkable absence of youngsters in peri-urban clusters. The presence of young farmers could have made a significant improvement in the agricultural production and marketing opportunities in this area. Initiatives must be taken to build professional skills among urban youth for growing indoor plants, interior and exterior landscape, avenue plantation and landscape planning, turf grass management, mushroom production, post-harvest management, including packaging storage and transport, and overall entrepreneurial and agribusiness skills.
4. Customize products based on region and crop specific studies and provide complimentary package of practices for convenience of farmers.
5. Identify suitable IT platforms with optimal human intervention for service delivery so that enhanced IT solutions can be designed for development and integration within the overall framework of product and service delivery of agri-inputs and products.
6. Increasing the networking and information database using the capabilities of internet and social media platforms among the Krishi Bhavans in Kerala for sharing various location specific activities, models and strategies for agricultural development. Also, build a data warehouse to archive farmer profiles for development of new targeted product and service offerings.
7. Encourage contract/ cooperative farming in peri-urban areas with concept of technology-led development, which allows the farmers and investors to adopt contract farming. Establish producers companies and involve local self-government systems in the management of peri-urban agriculture value chain.
8. Ensure safe practices by farmers and consumers in producing different agricultural crops in urban areas.
9. Critically document, establish and strengthen role of women in peri-urban agriculture and promote their leadership role in food production, processing and distribution.

10. Krishi Bhavan should adopt a HR policy that aimed at systematic assessment and capacity building of existing staff and a mechanism to recruit, and retain talent to ensure service level sustainability and high motivation in service delivery.

6.3 Implications of the study

6.3.1 Implications of the study to the field of Agribusiness

One of the challenges facing agriculture today is the shortage of people who view it as a business. Essentially, the definition and concept of 'agriculture' hasn't been made clear among those involved in the industry, including the producers themselves. We shouldn't speak in a roundabout way about agriculture; rather by shifting it to the category of 'food manufacturing industry' we can see more business-centric perspectives, job creation in local communities and agriculture developing into a key industry for future generations. To catch up with other manufacturing industries, agriculture must establish a stable distribution network for domestic markets and at the same time strive to open new international markets. Agribusiness Management has enormous potential to address key national and global challenges of inclusive growth, and food and nutritional security. With increasing incomes, the demand for value added agricultural products will also increase, driving the demand for Agribusiness Managers. This study is an attempt to explore the feasibility of a model for increasing the Agribusiness marketing opportunities for the farmers.

6.3.2 Implications of the study to the field of Agribusiness research and education

The agribusiness research should pave the way for developing the right crop for the right land so as to achieve unrivalled competiveness. It should also involve in planning and providing forward-looking, exciting products that meet the needs of consumers. It is important to focus on how to develop a successful business model with little burden in a speedy and responsive manner. It is crucial to have a system that allows agribusiness-persons to effectively access and utilize the business structure and know-how developed by other industries. The Agribusiness Management Education System in India is uniquely placed to meet the demand for professional agribusiness managers across the globe. The common constraints that shackle this sector and prevent the realisation of its full potential are a chasm between positive and constructing interlinking of input, output, marketing and their management. The work of competent agri-business

managers will contribute substantially to the development of diverse activities in this sector.

6.3.3 *Implications of the study to Agricultural Policy and Agricultural Extension activities*

Optimum utilization of urban and peri-urban resources requires land use planning which views agriculture as an integral component of the urban natural resources and balances the competitive and synergistic interactions among its users. With urbanisation and change in dietary habits and needs and appreciation for harmony with nature, there has been added interest in peri-urban agriculture, not only to utilise the space but also for social, economic and environmental reasons. The entire "food environment" of peri-urban agriculture will thus address the entire value chain, trade and market access, food safety, and ecosystem health. Yet, national policy and strategy options do not adequately reflect the role and importance of peri-urban agriculture in national plan documents and there is little reflection of allocation of specific technical and financial resources for the purpose. Peri-urban agriculture is truly a multi-stakeholder and multidisciplinary task. As several ministries, such as Ministries of Agriculture, Food, Rural Development, Urban Development, and Health will be involved varyingly in different aspects of peri-urban agriculture, a coordination cell may be established in the Ministry of Agriculture and Cooperation to synergistically converge the various programmes. The State Government should initiate necessary location-specific programmes and schemes for supporting the agricultural development in peri-urban areas. Identifying and allocating sufficient funds and subsidies to the beneficiaries will surely help in this regard.

6.3.4 *Implications of the study for the Human Resource Management in agriculture through Krishi Bhavan*

In order to sustain agriculture as an industry, we need to increase the number of people that engage in agriculture with a business management perspective where they take on risk and seek out returns. The role of human resources in agribusiness expansion is focused on recruiting and managing staff composed of both highly specialized professionals, semi-skilled labourers and unskilled labours. Agribusiness expansion, therefore, requires HR departments to conduct proper planning of workforce requirements in all sectors of crop and livestock production. A critical input for successful agri-business is dedicated personnel with managerial skills. The managers should be familiar with the local agricultural laws and socio-economic conditions of the

region. The real challenge is to bring small farmers into the network of efficient producers, for ensuring their share in the success. The Krishi Bhavan personnel should be better equipped for the effective human resource management in Agribusiness. Managing knowledge involves facilitating employees to enhance their agricultural skills and work capabilities through employee mentoring programs, research and development in new animal breeds and crop species and education advancement opportunities in agricultural fields of specialization such as agricultural engineering. The dynamic nature of agribusiness requires a personnel team capable of adjusting and living up to expectations of the ever-changing business environment. There should be a good HR team in Agricultural Departments/ Krishi Bhavan to spearhead the efforts of supporting and keeping track of the knowledge management initiatives to ensure that personnel are continuously exposed to learning opportunities on work processes and agricultural technological developments.

6.4 Conclusion

This study has examined one of the key functions of Krishi Bhavan, 'enabling the farmers to secure remunerative prices for their produce by promoting collection, storage, processing, and marketing on co-operative basis through organised efforts'. This study is conducted with special reference to Krishi Bhavan, Kazhakuttom with regard to the prospects and problems of marketing vegetables produced by peri-urban farmers. The model of Ready To Use Fresh Cut Vegetables (RUCV) in the form of different products like 'Sambhar', 'Aviyal', 'Thoran' etc. has been launched by Krishi Bhavan, Kazhakuttom with the partnership of a private enterprise, 'kaanthari.com'. The scientific enquiry has been conducted soon after the launching stage and a preliminary assessment of customer satisfaction and preference for continuing the service has been enquired into. Further research is required preferably after a year of launching, which would ensure the feasibility of the model.

6.5 Scope of future research

Future research studies may be conducted in the following areas:

1. Strategy formulation for effective HR management for sustaining agricultural marketing in peri-urban agricultural system.
2. Developing a HR model for business boosting in peri-urban agricultural system.

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Appendix

INTERVIEW SCHEDULE FOR FARMERS

1. Name:
2. ☐ Male ☐ Female
3. Age:
4. Educational qualification:
   ☐ Primary education ☐ High school ☐ Pre-degree ☐ Degree ☐ P.G & above
5. Number of family members:
6. Farming activity: ☐ Full time ☐ Part time
7. Land ownership: ☐ Own ☐ Lease
8. Type of land: ☐ Agricultural ☐ Non-agricultural
9. Agricultural land area:
10. Type of crops cultivated:
11. Annual agricultural production:
12. Annual agricultural income:
13. Farming techniques practised:
    ☐ Organic farming ☐ Poly-house cultivation ☐ Hi-tech farming ☐ Modern irrigation techniques ☐ Terrace farming ☐ Mixed farming ☐ Animal husbandry ☐ Poultry ☐ Aquaponics ☐ Vermicomposting ☐ Mushroom cultivation ☐ Others
14. Number of years since as a member in the cluster group?
15. How often are you participating in cluster group activities?
    ☐ Regularly ☐ Occasionally ☐ Rarely ☐ Never
16. As a member of cluster group, how would you rate the benefits and services availed from Krishi Bhavan?

Benefits/Services	Very good	Satisfactory	Average	Bad	No opinion
Complete information and guidance regarding the production, protection and management of agricultural crops.					
Availability of good quality seeds, fertilizers, plant protection chemicals etc. at subsidized rates.					
Marketing facilities facilitated through FRO					
Better performance achieved through training programmes					

17. Effect of cluster group farming activities:

	Before		After	
	Good	Bad	Good	Bad
Agricultural production				
Agricultural income				
Crop losses				
Savings from agriculture				
Debt clearance				
Others				

18. As a member of cluster group, have you experienced any constraints in production and marketing of agricultural commodities?

☐ Yes ☐ No

If yes, please mention.

- Individual interests and preferences are not considered
- Constraints in marketing
- Less price
- Difficulty for processing, value addition and distribution
- Fluctuations in demand and supply
- Any other

19. Are you giving the agricultural produce for sale through FRO in Krishi Bhavan?

☐ Yes ☐ No

If yes, type of crops given?

How often do you bring the produce for sale?

☐ Regularly ☐ Occasionally ☐ Rarely ☐ Never

Why do you prefer FRO?

☐ Better price ☐ Convenience ☐ Credibility ☐ Group preference ☐ Other reasons

20. Other marketing means adopted?

☐ Direct selling ☐ Terminal market ☐ Wholesale market ☐ Retail market

Which means of marketing do you prefer the most?

21. Profit/Income from different marketing means?(Indicate average price obtained for each commodity)

Crops	FRO	Other marketing means

INTERVIEW SCHEDULE FOR AGRICULTURAL OFFICERS

1. Name:
2. Gender: ☐ Male ☐ Female
3. Age:
4. Educational Qualification:
5. Duration of service:
6. Krishi Bhavan under your jurisdiction:
7. Monthly income:
8. Specify the characteristics of your Krishi Bhavan under the following heads:-

Activities conducted	Strengths/Key achievements

9. A) According to you, what are the specific problems faced by farmers in your area?

.....

.....

.....

B) Could you specify some of those problems (if any) from the list given below.

Problem	Solution (Specify Yes or No. If Yes, mention the strategy implemented as solution. If No, what are the reasons?)				Effect of the strategy implemented			
	Yes	Strategy	No	Reasons	Improvement			Drawbacks (if any)
					Very Good	Satisfactory	Poor	
Shrinking area under cultivation								
Non-availability of quality agri inputs								
Crop management constraints(pest/ disease)								
Crop losses								
Storage & processing difficulties								
Marketing constraints								
Not getting better price for produce								

Any other, Please mention.....								

10. Do you face any constraints? Please mention and rank accordingly.

Constraints	YES	NO	Ranking		
			Very Difficult	Somewhat difficult	Difficult
Lack of sufficient funds					
Lack of technical facilities, skill training and expertise in new areas					
Lack of supporting staff in Krishi Bhavan					
Lack of proper linkage and co-ordination between various agencies (input, credit etc.)					
Non-adoption and inhibition shown by conventional farmers					
Larger area under jurisdiction					
Too many farm families to contact					
Lack of transportation facilities in remote areas					
Heavy workload					
Frequent transfers					
Lack of promotional opportunities/incentives/insufficient remuneration					
Any other, please mention.....					

11. Requesting your valuable suggestions for sustaining agricultural production and marketing opportunities for the farmers through the efficient functioning of Krishi Bhavans in Kerala.

.....
.....
.....
.....
.....
.....
.....

Thank you very much for sparing your valuable time.

Interview schedule for customers preferring RUCV products

1. Occupational status of family members:
   ☐ Husband working ☐ Husband & wife working ☐ Any other

2. Number of family members: .....
3. Number of young children (below 3 years old): .....

4. Monthly income: ○ Below Rs.20,000 ○ Rs.20,000 - 40,000
   ○ Rs.40, 000 - 50,000 ○ Above Rs.50,000

5. Presently residing with: * As single * Friends *Family
6. Indicate your food preference :
   ○ Veg. only ○ Non-veg only ○ Both veg. & non-veg.

7. Indicate your opinion on the products and service offered by kaanthari.com.

	Sambhar			Aviyal			Thoran		
	Very satisfied	Satisfied	Not satisfied	Very satisfied	Satisfied	Not satisfied	Very satisfied	Satisfied	Not satisfied
Freshness of products									
Quantity of products									
Proportion of ingredient mix									
Nutritive value									
Price									

8. On average, how satisfied you are with the products and service delivery of kaanthari.com?
   ○ Very satisfied ○ Satisfied ○ Not satisfied ○ No opinion

9. Do you prefer the future delivery of our products? ☐ Yes ☐ No

10. When do you want the vegetables to be delivered? Please indicate the expected time slot of delivery.
    - o Morning -Time: * 5 – 6 a.m. *..... (Please mention preferred time)
    - o Evening -Time: * 6 – 7 p.m. *..... (Please mention preferred time)
    - o Morning & Evening

11. Do you prefer our present mode of doorstep delivery of Fresh Cut Vegetable products?
    ☐ Yes ☐ No

If yes, what are the reasons? ○ Convenient ○ Time-saving ○ Freshness
○ Safe To Eat ○ Easy to cook ○ Good quality ○ Less waste

◯ Any other.....

If not, why? .....

12. Which mode of order do you prefer for our future delivery of service?
◯ Online ◯ Mobile app ◯ Phone call ◯ Any Other

13. If we offer the following products also, which products would you like to buy?

• Fish • Milk • Meat products • Chicken • Desi Egg

• Flour and dough mix for breakfast items • Any other..... (Mention)

14. Considering your experience with kaanthari.com, would you recommend this to your friends or colleagues?
• Definitely yes • Perhaps • Definitely not • No opinion

15. Do you have any comments/suggestions for improvement in our future delivery of service?

.....
.....
.....
.....
.....
.....

Thank you very much for sparing your valuable time.

HARITHA CENTRE services

FARMER RETAIL OUTLET, KRISHI BHAVAN

173831

Ready To Use Fresh Cut Vegetable Products RUCV)