

**SWOT ANALYSIS OF AGRO-CHEMICAL  
DISTRIBUTION SYSTEM IN  
THRISSUR DISTRICT**

**By  
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**THESIS**

**Submitted in partial fulfilment of the  
requirement for the degree of**

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KERALA, INDIA  
2004**

**Declaration**

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## DECLARATION

*I, hereby declare that this thesis entitled “SWOT Analysis of agro-chemical distribution system in Thrissur district” is a bonafide record of research work done by me during the course of research and that the thesis has not previously formed the basis for the award to me of any degree, diploma, fellowship or other similar title, of any other university or society.*

  
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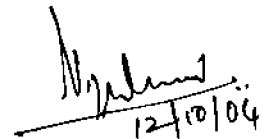
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## **LIST OF ABBREVIATIONS**

BASF	:	Badische Ailine and Soda Fabrik
FACT	:	Fertiliser and Chemicals of Travancore Limited
ha	:	hectare(s)
MT	:	Metric Tonnes
No.	:	number(s)
SPIC	:	Southern Petrochemical Industries Corporation Ltd
SWOT	:	Strength, Weakness, Opportunity and Threat
TOWS Matrix	:	Threat, Opportunity, Weakness and Strength Matrix



## Introduction

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## CHAPTER I

### INTRODUCTION

Food remains the most basic of all human necessities. Without food security, no economic or social development is feasible. History shows that under nutrition whether caused by war, drought etc caused widespread sufferings to humanity. Freedom from hunger and food security, therefore, remains a long cherished goal for the humanity even in the contemporary world.

Every nation must have short-term as well as long-term policies for ensuring food security for its people. Equally important is the sentiments of such efforts for the benefit of the people of the country at large. While short-term measure, may even include importing food in contingent situation to meet the requirements of the population of the country, the long-term policy must focus increase in farm production and productivity through the adoption of modern farm technologies, avoiding post-harvest losses through scientific storage and processing. Some of these efforts can make available adequate quantities of quality seeds, agrochemicals such as fertilizers, pesticides etc, water, storage, agro-processing facilities within a framework of suitable land tenure systems.

In pre-planning era, agriculture in India was highly depended on organic manures. The organic manures were not having sufficient impact in augmenting the agricultural production. But the ever-increasing demand for food produce made it necessary to go for better methods of cultivation utilizing more efficient inputs in the agricultural operations. It is this need along with technological improvements had paved the way for the use of agro-chemicals in agriculture. The commissioning of domestic firms and their intensive promotional efforts have also accelerated the increase in fertilizer consumption among the farmers. In addition to these, the plant protection chemicals also played a crucial role in limiting crop losses and raising the crop yield. These changes in the name of “Green Revolution” of the ‘sixties’ enabled the country to convert the nightmare “begging bowl” state to “self-sufficiency”. In the

past five decades a good correlation has been seen between food grain production and agro-chemical consumption in India. During the year 2001-2002, India achieved a record production of about 212 million tonnes of food production with 19.40 million tonnes of fertilizer and 64,135 MT of plant protection chemicals.

It is in this context, the agricultural input marketing, especially agro-chemical marketing becomes relevant. In an economy that is geared to accelerate industrial development, without efficient and effective distribution of resources, we cannot make full utilization of our limited resources. In order to strengthen the pace of agricultural development, it is imperative to assure an adequate supply of agricultural inputs through an effective marketing system in rural areas, as agriculture inputs occupy the prominent position in agricultural production.

### **1.1. Agro- chemical Marketing**

Marketing of agro-chemicals, including the marketing of fertilizers and plant protection chemicals such as insecticides, rodenticides, weedicides etc. differs in many respects from marketing of other products. Till the fifties, "marketing" in India means 'urban marketing'. But the tools and techniques that were applied in the marketing of consumer products in the urban setting could not be applied for the marketing of agro-chemicals to the farmers of rural India (Saxena, 1991).

The buyers for agro-chemicals in rural markets are mainly farmers. The majority of consumers are illiterate, poverty striven and tradition bound. Moreover, the consumer and the product are unique compared to urban marketing. The market is scattered and is extremely diverse and heterogeneous. The product is only an input and the satisfaction for the buyer is only indirect. Besides, the product should only be used along with other inputs. So the marketers also faced with the problem of selling not only a product but a whole new concept to the buyer-farmer.

## 1.2. Evolution of Agro-chemical Marketing System

Marketing of agro-chemicals dates back to the beginning of the twentieth century. A scrutiny of the history of agro-chemical marketing reveals that the process has evolved to its position through three distinct phases of development. The first phase is fixed as pre-independence period. An important feature of this phase is the setting up of Central Fertilizer Pool (1944), by the government, through which all the fertilizers, domestic as well as imported, were distributed all over the country at controlled prices in all provinces of the country (Anilkumar, 1990).

The second phase, started after independence with the launching of the first five year plan. During these period many programmes, viz., National Extension Schemes, Community Development Programme etc. were introduced and they have facilitated in augmenting agro-chemical consumption. But it is the advent of the Green Revolution that really triggered off a new era in agro-chemical marketing in India.

The most important characteristics of this phase were the active intervention of the government in the fertilizer and pesticide business. The declaration of fertilizers as an essential commodity under the Essential Commodities Act, 1956 was a major landmark in this phase. The fertilizer control order of 1957 regulated the quality, price and trading of fertilizers. It was well realized that increasing the domestic capacity of fertilizer production without merely depending on imports is the surest way of increasing the availability of fertilizer to the farmers. Thus the new fertilizer policy opened up the industry to the private sector including foreign sector. This decision was soon followed by the grant of partial freedom of marketing to the manufacturers. But it shall be noted that there was a reversal of policy with respect to marketing at a later stage.

In the third phase or the current phase fertilizers and pesticides is not a new product. There exists a variety of fertilizer and pesticide products manufactured by different firms. This phase is characterized by transition – from generic promotion to brand promotion, from distribution to creative selling, from shortage to surplus, and from coexistence to price war.

It was accepted that the government policies have greatly influenced the course of agro-chemical marketing in India. Agro-chemical being an important input in agriculture production, Government of India, introduced the system of administered pricing, popularly known as 'Retention Pricing Scheme' (RPS) in 1977 for nitrogenous fertilizer. It was further extended to phosphatic fertilizer in 1979.

The Retention Price, in fact, is nothing but a fair price to the manufacturer covering his cost of production and distribution and reasonable rate of return on the investment, subject to certain prescribed efficiency norms. The difference between the retention price and the selling price is paid as subsidy to the manufacturers. Initially during the RPS regime the fertilizer market grew by leaps and bounds but later the same scheme became a devil in disguise. The increasing demand caused the manufacturers to increase their capacity utilization in a similar proportion. Thus the subsidy on fertilizers: both indigenous and imported, led to a heavy burden to the Government finances.

The solution to this problem came in the form of partial and selective decontrol of phosphatic and potassic fertilizers announced in 1992 which brought in a plethora of uncertainties and distortions in the fertilizer market. Following decontrol, the price of potash fertilizers soared causing a paradigm shift in fertilizer consumption patterns. The decontrolled era has witnessed a large number of policy flip-flops since then. The Government made a policy announcement in 1998 giving manufacturers and importers the freedom to fix prices of all phosphorous and potassium fertilizers but later reverted the decision. In a nutshell the market for agro-

chemicals is be leaguered to the indecisive policy environment. Thus the Government's ever tentative decision have nipped the budding fertilizer and pesticide market leaving the sales people unsure of what to do next (Mukherjee,1999).

In fact, during the year 2002-2003, significant changes in the policy parameters were announced for the fertilizer sector. The New Pricing Scheme (NPS) for fertilizer manufacturing units was announced on 30<sup>th</sup> January 2003, which included replacement of unit-wise retention pricing scheme by group based concession scheme.

Under the policy, the group concession rates are calculated excluding the incidence of sales tax on inputs and compensated on the basis of the rates effective on 1.04.2002 for each manufacturing unit.

### **1.3. Agro-chemical distribution system**

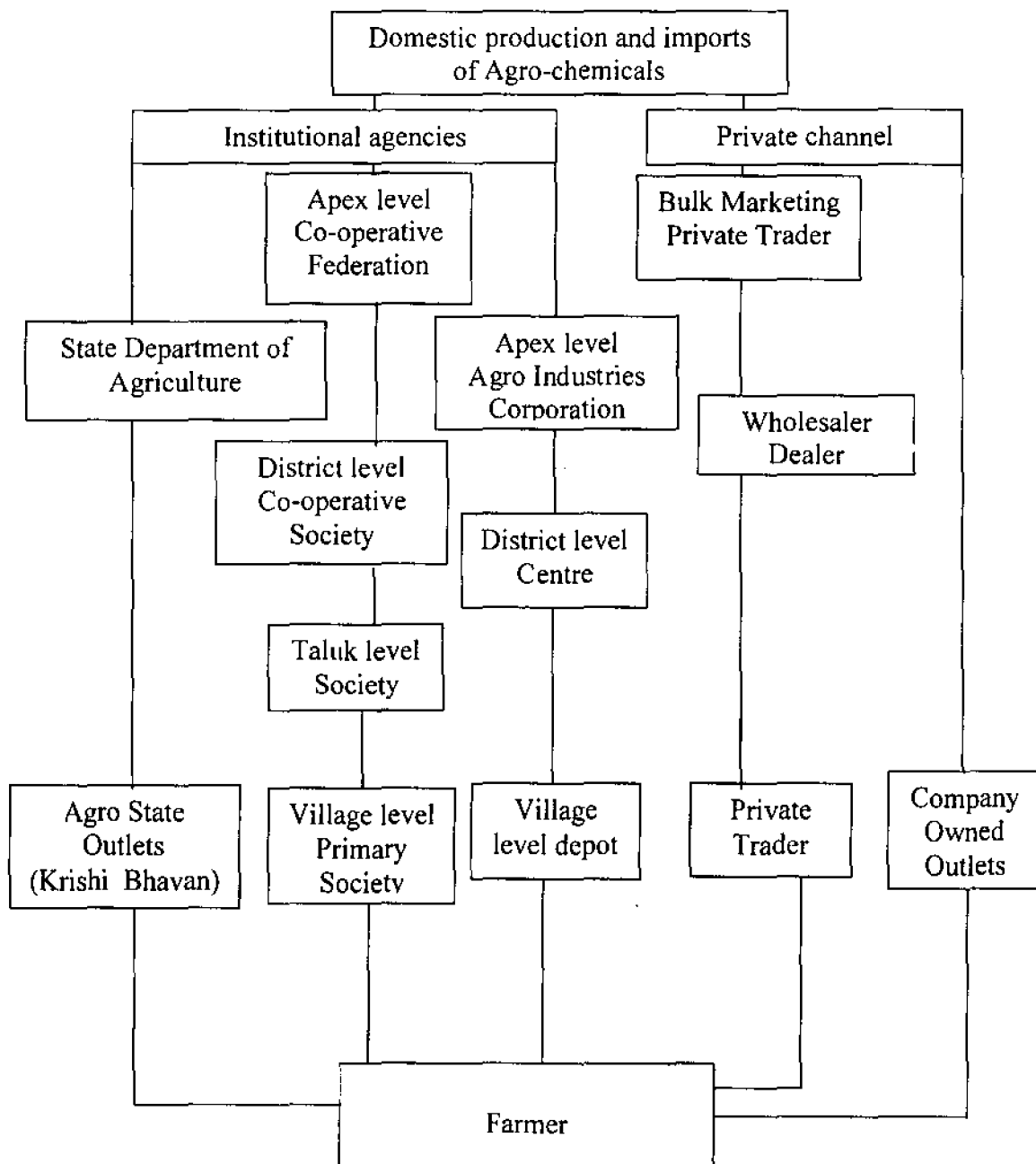
The role of agro-chemical distribution system is to ensure that the right product is available to the farmer at the right time, in the right place and at the right point of purchase.

The distribution channel for agro-chemical in India can be broadly classified into three categories:

- i) Institutional Agencies
- ii) Private Traders
- iii) Company Owned Outlets

The Figure 1 depicts the channel of distribution of agro-chemicals.

**Figure 1 Channel of distribution for agro-chemicals**



*Source: Agriculture Today, 1999*

### ***1.3.1. Institutional agencies***

Co-operatives are the main institutional agency in the country handling agro-chemicals. Presently, about 35 percent of the agro-chemical is distributed through this channel. At the State level, Apex Co-operative Marketing Federations act as wholesalers: Marketing societies at district / taluk levels act as sub-wholesalers while the village level co-operative societies at the grass root level act as retailers. Co-operative network, at present comprises of 29 state level marketing federations, 171 district level marketing societies and 69,098 village level co-operatives in the country (Rao and Punwar, 2004).

The other main institutional agencies engaged in the distribution of agro-chemicals include State Agro-Industries Development Corporations, State Department of Agriculture etc. they operate both through their own sales depots as well as through the private dealers' network. However, their share is only marginal.

In Kerala, there are 1235 co-operative outlets and institutional agencies which constitutes around 36 per cent of the total sale points in the state (Deshpande, 2003).

### ***1.3.2. Private traders***

The reach and volume of private trade channels make them indispensable for agro-chemical distribution. They operate as main marketers of agro-chemical manufacturers. The role of dealers in the promotion of any brand is well known and in case of agro-chemical marketing their role is the most important. This is because in the agro-chemical business it is the dealers who are the actual customers and the farmers are the ultimate customers.

Besides the retailers, there is a large network of wholesalers and sub-wholesalers in the country. The total number of private traders / dealers dealing in



agro-chemicals stood at 214003 accounting for nearly 60 percent of the total agro-chemical sale point in India (Rao and Punwar, 2004).

The number of private traders in Kerala comes around 2174 which constitutes 64 per cent of the total sale points (Deshpande, 2003).

### ***1.3.3. Company owned outlets***

In addition to the institution agencies and private traders, some manufacturers sell their products directly to the farmer through a network of their own retail outlets. This is not very common in India. However, these outlets carry credibility with the farmers with regard to the quality of the product.

Administratively, this is a very difficult arrangement for the manufacturers to maintain for a long time. The total number of manufacturer's own outlets in India are 14000 with a share of only five percent in the total number of agro-chemical outlets (Rao and Punwar, 2004). Similarly, the company owned outlets are rare in Kerala also.

Various studies conducted in this field revealed that farmers face a large number of problems in agro-chemical marketing in rural India. It includes inadequate sale point, inadequate stock and supply, non-availability of desired brands of agro-chemicals, charging of high price at high demand season, supply of adulterated products, lack of technical advice etc. These problems need to be analyzed both from the distributors as well as from the farmers point of view. In many instances the farmer is being exploited by the distributors with respect to the quality, quantity and price of the agro-chemical products. Hence, this study was undertaken with the following specific objectives:

1. To analyze the strengths, weaknesses, opportunities and threats of the agro-chemical distribution system,
2. To suggest a strategy for streamlining it as a farmer friendly agro-chemical distribution system.

#### **1.4. Practical/Scientific utility of the study**

The present study analyses the strength, weakness, opportunities and threats of agro-chemical distribution system in Thrissur district. The preference of the farmers towards various agencies and the factors influencing the source preference such as quality of the product, availability, credit facility, customer service, technical guidance etc of the dealers has been studied. The findings of the study would be useful for developing a strategy for streamlining the distribution system as a farmer friendly agro-chemical distribution system.

The agro-chemical distribution outlets, including co-operatives and private traders experience lacunae in the present system of distribution. This will help in identifying an effective strategy that maximizes the strengths and opportunities and minimizes the weaknesses and threats of the distribution system. Thus, this analysis will help to identify the existing gap in the agro-chemical distribution system in the district.

The strategy developed from the results and discussions of the study may be used as guidelines in distributing agro-chemicals at the right time, right place and in adequate quality to the ultimate buyer-farmer.

#### **1.5. Limitations of the study**

The limitations of the study are:

1. The study was restricted to 100 farmers and 45 distribution outlets as time was a major constraint.

2. Since the study is highly depended on farm-level data, the reliance had to be made on farmer's memory.
3. Farmers were used to buy the agro-chemicals as and when required and hence a quantitative analysis was quite difficult and could not be included.

## **1.6. Structure of the study**

The thesis is divided into five chapters including the present introductory chapter. The second chapter gives a comprehensive review of the available literature. The third chapter outlines the methodology used including the study area, study period, sample size, data base and statistical tools employed. This is followed by the presentation of results and discussions in the fourth chapter. The fifth chapter summarizes the findings of the study, followed by references, appendices and an abstract of the thesis report.

## Review of Literature

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## CHAPTER II

### REVIEW OF LITERATURE

Although a large number of studies relating to marketing of agricultural crops and their produces are available, studies relating to agricultural input marketing are comparatively less. In this chapter, an attempt is made for a critical survey of the available literature that can offer some guidelines to identify the strengths, weaknesses, opportunities and threats of agro-chemical distribution system in Thrissur District.

The studies and writings reviewed herein are classified under the four heads, viz,

- 2.1. Agricultural input marketing
- 2.2. Distribution system
- 2.3. Agro-chemical distribution system
- 2.4. SWOT Analysis.

#### **2.1. Agricultural input marketing**

An appropriate system of agricultural inputs includes technical inputs on one hand, and productive inputs like seeds, fertilizers and pesticides on the other. The latter group of inputs can be further classified under (a) seeds and planting materials (b) manure and fertilizers (c) plant protection chemicals (d) irrigation equipments (e) capital (f) labour and (g) training.

A study conducted by NIRD (1981) on Improving Delivery Systems examined the possible dimensions of delivery system in the context of rural development. A wide range of variation in operational problems was encountered by the agricultural input delivery systems. The study had identified high price, difficulty

in credit availability, untimely and inadequate supply, malpractices/bad quality and transporting problem as the factors that affected the delivery of inputs.

Jalan (1987) in his study on marketing of agricultural inputs observed that a proper delivery of agricultural inputs was essential for the growth of Indian Agriculture. The study gave an account of the distribution pattern of agricultural inputs-seeds, fertilizers, pesticides, machinery and implements in the district of Gorakhpur. He suggested that all the inputs should be produced based on their demand, and the infrastructure facilities should be expanded in rural areas also. Farmers should be educated on various channels, uses of inputs and their availability.

Acharya and Agarwal (1994) had emphasized the need for timely supply of farm inputs to the farmers at reasonable prices and the existence of an efficient marketing system for them.

Mani and Jose (2000) analysed the performance of agricultural input supply system in Kerala and observed that even after the existence of multiple agencies for distributing agricultural inputs, the farmers were largely dependent on private traders and other non-formal sources for acquiring sufficient inputs in the right time and right place. The paper also revealed that even though the Indian agriculture was supported with huge package of subsidies, the advantages of subsidy was not reaching the farmers in the most appropriate time.

Awasti *et al.* (2003) opined that the major essential agri-inputs are pre-requisites for successful crop cultivation namely, land, technology, quality seeds, fertilisers, pesticides, agricultural implements, credit and insurance and irrigation. Timely and adequate availability of good quality inputs at a reasonable price, at the desired location and proper knowledge of its application are the major requisites for increasing agricultural production.

## 2.2. Distribution System

Distribution means to distribute, spread out or disseminate. In the field of marketing, channels of distribution indicate routes or pathways through which goods and services flow, or move from producers to consumers. There are several components in the distribution system, these components from the producer to consumer are interrelated and it forms the total distribution systems. (Sherlekar, 1990).

As the committee on Definitions of the American Marketing Association (1966) observed, a channel of distribution or marketing channel is a structure of intra-company organisation and extra-company agents and dealers, wholesale and retail, through which a commodity, product or service is marketed.

Bannerjee (1981) opined that distribution is a key external resource and as much important as the internal operations of research, engineering and production, although it does not receive as much attention as it deserves.

According to Guiltinan and Paul (1988) marketers can employ four basic types of sales and distribution system such as direct response system, direct personal selling system, trade system and missionary selling system. In which, in trade system products are distributed only through wholesalers and retailers and in others products are distributed directly to the final buyer.

Sherlekar et al (1990) observed that there are different channels for distribution of different products in India. Agricultural products have a peculiar distribution system, normally, not permanent, it varies from season to season and product to product and it includes large number of brokers and agents. While industrial goods have less number of channels of distribution, normally they prefer sales branches, sales agents and industrial distributors.

Kaudinya (1992) identified that a delivery system is a set of interacting activities/agencies which moves the input from the place of production to the ultimate consumer. The objective of the delivery system should be to deliver the input to the ultimate consumer at the right time, through the right channel and at optimal cost.

Bhargava (1992) in his study on management of channel in agricultural input industry found out that distribution channel comprises a vital link between manufacturers and consumers in any industry. It is the manufacturer's key source of information about market trends, changes being anticipated in the market, as well as, all news related to the developments and changes in the area. Likewise, to the consumer, the channel conveys up-to-date information pertaining to production and availability of different products.

Narus and Anderson (1995) in their article on strengthening distribution performance through channel position, they advanced the concept of channel positioning as a coherent, strategic framework for strengthening distributor performance and thus the manufacturer's performance in the market place. This approach precedes strategic thinking about strengthening distribution system and leads to the formulation of the concepts of channel position and channel offering.

According to Skinner (1998) distribution is often the least flexible element of the marketing mix, and marketing channel decisions are a key component of the marketing mix. Once a channel is established it is difficult and costly to change. At the same time it is important to recognise the different types of marketing channels and marketing intermediaries to serve various target markets.

Govindarajan (1999) opined that distribution channels create utility, improve exchange efficiency, and help to match supply and demand. He further stated that marketing channel do not stay static but are characterized by continuous and sometimes dramatic change. A good distribution channel design should proceed with



a classification of channel objectives, alternatives and likely pay offs. And the objectives are conditioned by the particular characteristics of customer, products, middlemen, competitors and environment.

### **2.3. Agro-chemical Distribution system**

There are mainly two channels of distribution for agro-chemicals in our country. The first one is the institutional agencies and second is the private trade channels. The complexity of the distribution system increases due to the fact that the buyer base is highly widespread and diversified.

The marketing system for distribution of fertilizer, insecticides and other agricultural inputs in El Salvador was studied by Baker and Smith (1975) to establish its strengths, weaknesses, consumption trends, costs, regulatory policies and the overall influence of government in the system. They identified that the private sector marketing system for fertilizer is efficient in the country and they further suggested the need for infrastructure facilities for handling and storing of fertilizers and other agricultural inputs.

Vittal (1986) in his article on growth of fertilizers, in Gujarat emphasised that instead of depending only on the rail and road as the mean of transportation, the other natural advantage such as minor ports should be fully exploited for transporting a significant part of fertilizers to the consuming centres. At present, they are being used for handling of imported fertilizers.

According to Chauhan (1987) to get a positive response from farmers, adequate support of other inputs such as seeds, pesticides, micro-nutrient, soil amendments, implements etc is necessary. Further, fertilizer being a seasonal business, provision of these inputs at the retail points sustains their viability. Thus the

development of integrated input distribution outlets and farmers service centres will bring all essential farm inputs at one window.

Ali (1988) in his study on marketing of fertilizers identified the problems of fertilizer marketers and the attitude of the consumer regarding the usage of fertilizers. The study also revealed that the farmers are only less aware of fertilizers during the peak demand period and the market showed shortage in supply also.

Anilkumar (1990) has conducted a study in the buyer behaviour of farmers towards selected type and brands of fertilizers and observed that private traders and co-operatives were the major sources of supply in fertilizer distribution. Further he identified that consumers' preference of the source of purchase is based on certain factors like availability of desired product, good relation with the dealer, accessibility to the retail outlet etc.

Gupta (1990) expressed that the product as well as its price should be within the farmers' reach and remunerative to them. The input pricing should be related with the prices of agricultural output.

Selvakumar (1990) has conducted a study on promotional efforts of Neyveli Lignite Corporation Limited in marketing of Urea and buying behaviour of farmers towards fertilizer. He identified that private traders were the major source of supply for fertilizers in the study area. Non-availability of preferred brand made the farmer to switch over to other brands. He suggested that dealers should assess the demand and stock well in advance and the needed quantity of each brand so as to make the farmer brand loyal.

Saksena (1991) in his study on fertilizer dealer development in India identified that in order to make fertilizer a vital agricultural input, available at the right place, time and price, the services of an agent – like fertilizer dealer is

necessary. He further explained that the growth of a dealer depends on the effort made by the company to develop his skills as well as his own initiative.

Varadarajan and Venkataraman (1992) in their study on fertilizer buying behaviour of farmers aimed at determining the preference of farmers towards various types of fertilizers and factors that influence the choice of a particular sale point. A sample of 90 farm households was randomly selected from the Thoivalai block in Kanyakumari District. In addition to this all the fertilizer retail sale points in the block were also contacted.

The result of the study showed that the farmers have a wide choice in selection of fertilizers. Among the various fertilizers, the complex fertilizers are preferred most. Majority of the farmers purchased fertilizers from private sellers and the factors influencing them are the size of farm, credit and preferences of farmers to specific type of fertilizers.

Singh et al (1992) has conducted a study in fertilizer distribution system and factors affecting their demand in Punjab. The study brought out that the fertilizer use has become very intensive in Punjab agriculture. Hence, the fertilizer demand is increasing and there is a need to strengthen the existing distribution system by opening more sale points.

Naidu and Sukanya (1992) has conducted a study in marketing of fertilizers in Anaka palle Mandal of Vishakhapatnam District. This study identified three major channels for the marketing of Urea.

- Channel I - Factory - Markfed - District Co-op Marketing society - P.A.C.S-Farmer.
- Channel II - Factory - District Co-op Marketing Society- PACS - Farmer.
- Channel III - Factory - wholesaler - Retailer - Farmer.

They also found out that the marketing of the Urea fertilizer directly through the Co-operative Marketing Society and Primary Agricultural Co-operative Society to the ultimate buyer is the more efficient marketing channel.

Singh (1992) in his study in marketing of chemical fertilizers in Rajouri District of Jammu and Kashmir aimed to estimate distribution costs of different chemical fertilizers marketed through Co-operative societies and private traders and to study the problems faced by farmers in obtaining fertilizer supplies through co-operative societies and private traders.

The findings of the study revealed that the higher distribution costs for private traders was primarily due to the higher margin which they retained at the retailer's level, particularly when the fertilizers was in short supply. The study further revealed that a higher percentage of farmers obtaining supplies through the private traders experienced difficulties, than those who obtained their supplies through co-operative societies.

Rangadu and Raju (1992) has conducted a study on distributive channels of pesticides in Guntur District of Andhra Pradesh and identified three important distributive channels for pesticides in the district. They are:

Channel I - Manufacturer/Formulator – Wholesales – Farmer.

Channel II - Andhra Pradesh State Agro-Industries Development Corporation Ltd's  
Pesticide Manufacturing Unit/ Private Manufacturers – APSAIC's  
Agro-chemical Division (Guntur)- Agro-service centre – Farmer.

Channel III - Private Wholesaler/APSAIDC- Agro-chemical Division (Guntur) -  
Co-operative Societies – Farmer.

Channel I is preferred mainly due to the credit sales of pesticides that too in time and adequate quantity, in spite of adulteration and high prices noticed in this channel. Inadequate supply of fertilizers is the major problems in channel II. In order to streamline pesticide distribution, the Government should enforce stringent measures on dealers who resort to adulterations of pesticides.

Subramanian (1994) in his study on purchase management of pesticides by dealers suggested that retail firms may be encouraged to purchase directly from the manufacturing firms. The factors, which may influence retail firms to affect direct purchase, are larger margin for the retailers and reputation of manufacturing firm, and hence, manufacturing firm may incorporate these suggestions in their future policies and programmes.

Nwosu (1994) in his paper on fertilizer supply and distribution policy in Nigeria noted that the low rate of fertilizer application in Nigeria is due to supply and distribution problem and problem associated with Government policies, than from lack of awareness. He also highlighted some of the problems of fertilizer application, including fertilizer supply, import, fertilizer supply to states, cross border trade in fertilizer, fertilizer demand and associated problems of fertilizer pricing and subsidy.

Gupta (1995) highlighted that under the decontrolled scenario, co-operatives will have to improve their operation to secure their survival in the fertilizer business. And he suggested that innovative systems like private traders inviting bids from manufacturers and manufacturers inviting bids for ex-factory disposal of their material may be introduced in the market.

Mahapatra (1995) identified that to make the fertilizer distribution system more cost effective and service oriented, stock should be placed nearest to the

consuming centre. This will help in making the stock readily available to customers and in making substantial savings in godowning costs.

Soeun (1995) in his study on fertilizer marketing and distribution system in Cambodia opined that the distribution system are inefficient as a result of road and rail distributions. However, demand is greater than import supply. So the import, marketing and distribution sectors need to be improved with investment from government.

Dhor (1996) found out that Indian pesticide market is bound to go for metamorphic changes. He suggested that small scale units should strengthen themselves with effective distribution system, quality products and with scientific selling; which will help to grow under the present scenario.

Kumar (1996) highlighted certain constraints like State interference in the fixation of prices of decontrolled fertilizers, delay in forwarding the claims to the Government of India and not allowing subsidy to the private trade etc. act as an impediment for the manufacturers to operate in the states having these constraints. Therefore, their removal will help the industry in rationalizing the marketing of fertilizers in the country.

According to Singh (1996) poor decision making, poor management and lack of professionalism, poor communication and lack of single window approach are the constraints of co-operative distribution channel in fertilizer marketing. Taking into consideration of the above constraints, manufacturers of fertilizers should also give preference to co-operatives in the matter of fertilizer distribution.

Gupta (1997) conducted a critical analysis on the effectiveness of the co-operative fertilizer distribution system and the direct supply system, and he identified that PACS are the backbone of the co-operative distribution in India and they are

increasing more and more their share in the system. With time the direct supply system has also emerged as a strong alternative and today both systems co-exist.

Jaim and Islam (1997) analysed the reasons behind the shortfall of Boro rice production in Bangladesh in 1995. It was generally alleged that the defective fertilizer distribution systems was mainly responsible for the shortfall of rice production. And his findings indicated that even under a privatised distribution system, government intervention may be needed to ensure fertilizer supply at the right time, in the right quality and at the right price.

Lekshminarayanan (1997) opined that to become a vibrant force in fertilizer marketing through co-operative retail outlets should be made economically viable by allowing them to deal directly with manufacturers or importers.

Rajendran (1997) opined that the co-operative systems have to play a more significant role in the future in fertilizer handling and distribution. Because fertilizer has been identified as the single important input towards maximising yield in order to sustain food security in the face of growing population.

A study on the market potential for Kothari Fertilizers was undertaken in Coimbatore District by Raju (1998) and he found that dealer influence, easy availability and quality were the most important influencing factors of brand preference while brand loyalty, sales promotion, credit availability and packaging were the least influencing factors. Among the dealers credit availability, easy availability, high profit margin and good brand image were the factors which influence the brand preference, while high sales, special incentives, quality and promotional support were the least influencing factors.

In an article on fertilizer logistics, Shukla (1998) identified that in the wake of the economic reforms and restructuring in India, both fertilizer distribution system

and the transportation/logistics systems are undergoing vital changes. There will be transient changes in the primary and secondary markets of the fertilizer companies leading to fluctuations in leads and modal-mix.

Mahapatra (1999) in his study on challenges in fertilizer marketing observed that the industry should be pro-active and restrictive in their businesses to spread the risk which occurred due to the fertilizer policy of the government. Diversion to synergic areas like crop protection chemicals, seeds, micro-nutrients will add to turnover and profit at a nominal cost addition.

Mukherjee (1999) observed that the complexity of the fertilizer distribution systems increases due to the fact that the consumer base is highly widespread and diversified. Moreover, the role of dealers in the promotion of any brand is important because in the fertilizer business it is the dealers who are the actual customers and the farmers are the ultimate customers.

Raghuram and Chowdary (1999) judged the services rendered by both private traders and co-operatives and they opined that private outlets were expert in timely supply of desired products with adequate quantities, credit sale and extension of technical know-how. The co-operatives helped to maintain certain levels of prices by providing some competition to private traders.

In a study of Padmanabhan and Sankaranarayanan (1999) on farmers' loyalty to dealer for pesticides brought to light that farmers were highly sensitive towards price of product and credit facilities. When credit facilities are made available to the farmers by the dealers coupled with the reasonable pricing of products, farmers become more and more loyal to dealers. This study also underlined the importance of crucial role played by the dealers in pesticide marketing.



Rao (1999) in his study on man-power development in fertilizer marketing highlighted that the manpower engaged in the marketing activity of fertilizer industry has got to be highly skilled, professional and dedicated to ensure that they service their consumers properly by importing the necessary agronomic knowledge, supplying the right products at the right time, right place and in right quantities at the least possible cost. To achieve these objectives, fertilizer companies have to devote full attention in developing their manpower in marketing function, involving rural marketing skills.

Another study conducted by Sankaranarayanan and Padmanabhan (1999) on market structure for pesticides revealed that pesticide retailing was concentrated with a few dealers and the nature of competition was primarily through non-pricing factors such as good personal contact with farmers, credit with more number of credit days for repayment and at lesser interest, availability of products from a single outlet etc.

Singh *et al.* (1999) identified customer satisfaction as a scale to measure efficiency of fertilizer marketing. According to them fertilizer marketing has become more competitive, and it is expected to become further more competitive in next millennium.

A study on cost effectiveness to improve profitability in fertilizer marketing by Tandon (1999) highlighted the financial components of fertilizer marketing. And he concluded that with total deregulation of fertilizers in the coming years, cost effectiveness will play a dominant role in fertilizer marketing.

Deshpande (2000) in his article on fertilizer marketing identified some peculiarities of fertilizer distribution system. the peculiarities are: wide and multi-locational spread, multi-point system of sale, large scale and multi-locational warehousing in off season and in case of inter-state sales, multi-product high volume but low margin business, subsidy management and accounting, multi-locational

payment/collection centres, high degree of farmers' educational or promotional needs, multi-lingual customers base-dealers and farmers presence of several competing firms.

Lakshminarayanan (2000) identified that fertilizer industry has been exercising great control on transportation and handling costs. These firms follow the system of identifying two or three supply points for each retail centre on least cost basis and co-ordinating supply to such points accordingly.

Mittal and Sudhakar (2000) opined that in fertilizer marketing, information technology can play a major role in logistics, efficient sales operations, checking the marketing costs, safeguarding market share and providing efficient customer services.

Shrotriya (2000) in his study on role of fertilizer industry to improve agriculture productivity in subsidy-free environment suggested that fertilizer industry should also shift towards low fertilizer consumption areas and the fertilizer sales point have to be upgraded to agro-sales point cum service centres.

According to Vijayaraghavan (2000), the success or failure of a fertilizer company in a market place will depend on the ability to forecast requirements, get accurate information on quantities and deliver the product in time. Similarly, lower availability and delayed deliveries will result in loss of sales.

Chandra (2001) suggested that commonality of interest among fertilizer industry, distributors and farmers and they have to understand and each one has to act as a partner for the furtherance of mutual interest. This calls for more active role on the part of industry/distributors to guide and goad farmers for judicious and proper use of fertilizers.

Lakshminarayanan (2001) conducted a SWOT analysis on fertilizer industry, he identified the following factors as the strengths, weaknesses, opportunities and threats of the industry. The identified strengths are: essential commodity, politically sensitive and fairly well insulated from violent fluctuations in demand supply equation, pricing etc., best production efficiency, largest pool of technically trained manpower Governments understanding of the need to extend support to ensure survival of the domestic units. The weaknesses are: escalating costs and cost plus reimbursement being on its way out, credibility with the Government on nameplate capacity as declared by manufacturers, unhealthy rivalry within the industry resulting in steep increase in trade terms, increased credit exposure and dwindling profits, unable or unwilling to recognise the wind of change blowing in the economic, political and policy environment.

He also identified opportunities like industry members can come together and cut down cost in procurement of raw material, sharing of spare parts inventory, transportation, handling etc, prepare a systematic presentation to the political system, bureaucracy, opinion makers and farmers- the ultimate beneficiaries, on how the subsidy system works and that there is no other way farmers can get fertilizers at reasonable prices, jointly work towards an expensive entry barrier for imported fertilizers, create a separate body for coordinating sales terms and monitoring price movements in different markets. The pointed out threats are: government getting swayed away by cheaper imports, vested interests influencing the Government on the buying instead of the making option, shrinkage of market in case of removal of transport subsidy and group RPS bringing about further division among the members of the industry.

Prasad *et al.* (2003) opined that in agro-chemical distribution the marketers feel that the deployment of a good dealer/distribution network will take care of everything. The concept of direct marketing particularly for marketing of seed, pesticide, micronutrient and bio-fertilizer through trained field staff is becoming

increasingly important. Thus marketing should now be practiced with 3 tier network i.e., dealer, retailer and sales promoter.

In the opinion of Dhingra and Shukla (2003) the fertilizer marketing approach should focus on establishing stronger linkage with the existing infrastructure of co-operatives. He also pointed out that the private traders are concentrated in urban/sub-urban areas and rural areas are suffering on account of lesser number of fertilizer outlets.

According to Rao and Modi (2003) many of the Indian farmers are having small holdings. They do not have enough cash on hand for purchasing inputs. For this purpose, necessary credit availability should be ensured and the same should become operational immediately.

Deshpande (2003) found that the concept of marketing in fertiliser industry has evolved over a period of time. He suggested that the consumer of fertilisers should be the central point of all marketing strategies.

Chakraborty (2004) identified that in our country, farmers have maximum and intimate interaction with the dealers. Because the farmer often considers him as a friend, philosopher and guide and trusts him the most. Therefore, there is a drive need for a dealer to adapt to a new role and transform himself just from being a 'seller' to a 'change agent'.

Rao and Punwar (2004) revealed that the co-operatives as well as private traders have given less emphasis to develop themselves as an agri solution provider rather than merely selling inputs. Unlike in other sectors of business, the role of distribution channel in agro-input marketing is perceived in a very narrow way of selling goods only and does not show any responsibility for providing customer services.

## 2.4. SWOT Analysis

SWOT as an acronym stands for strength, weakness, opportunity and threat. These four attributes are also called SWOT parameters.

According to Goshory (1983), SWOT analysis is a successful tool for planning and deciding strategies for any of the activities of a group or community, be it deposit mobilisation, profit planning or manpower planning.

Speaking in the Indian context, Michael (1987) identified SWOT analysis as an important tool for the formulation of strategies includes identification of opportunities and threats on the one hand and estimating risk elements on the other. Strengths and weaknesses of the company should also be identified making use of the opportunities and in tackling emerging threats.

David (1989) suggested TOWS matrix as an important matching tool that helps managers to develop four types of strategies such as SO strategies, WO strategies, ST strategies and WT strategies. SO strategies use a firm's internal strengths to take advantage of external opportunities and WO strategies aim at improving internal weaknesses by taking advantage of external opportunities. While ST strategies use a firm's strengths to avoid or reduce the impact of external threats and WT strategies are defensive tactics directed at reducing internal weaknesses and avoiding environmental threats.

Certo and Peter (1990) also opined that SWOT analysis is a useful tool for analysing an organization's overall situation by the careful analysis of all the four parameters such as strength, weakness, opportunities and threat.

Kothari (1993) employed SWOT analysis on three development projects viz, Farm Clinic (FC), Sri Kshetra Dhamastala Rural Employment Project (SKDREF) and Integrated Rural Development Programme (IRDP) and indicated its importance for consolidation of strengths for harnessing the available potentials further.

Leonard *et al.* (1993) introduced SWOT concept on performance audit and contingent planning involving the development of specific action when lower-probability events occurred. Cook (1994) applied SWOT analysis for strategic planning. He also developed simple worksheets systematically to arrive at the pros and cons and enable taking appropriate decision for any type of organisation to overcome hurdles.

According to Venkateswaran and Katta (1996), strength is the basic asset of the organisation that would provide competitive advantage for its growth and development. Weakness is the liability of an organisation that can create a state of time and situation specific disadvantage for its growth and development. Opportunity is the ability of the organisation to grow and achieve its specific objectives in a given situation and threat is a situation that blocks the abilities of the organisation to grow and develop for meeting ultimate goal.

Smith (1997) defined SWOT Analysis more systematically, in a graphical way of summarizing a particular process, product, department or organization in terms of its strengths, weaknesses, opportunities and threats.

Pearce and Robinson (1997) identified SWOT analysis as a systematic identification of strengths, weaknesses, opportunities and threats and the strategy that reflects the best match between them. It is based on the logic that an effective strategy maximises a business's strengths and opportunities but at the same time minimises its weaknesses and threats. This simple assumption, if accurately applied, has powerful implications or successfully choosing and designing an effective strategy.

They further stated that strength is a resource, skill or other advantage relative to competitors. A weakness is a limitation or deficiency in resources, skills and capabilities that seriously impedes effective performance. Environmental analysis provides the information to identify key opportunities and threats. An opportunity is a major favorable situation in the firm's environment and a threat is a major unfavorable situation in the firm's environment.

Bent (1998) suggested that SWOT Analysis is a useful tool in developing a business or industry strategy. In this, the participants were asked to identify the strengths and weaknesses of the controllable factors and opportunities and threats posed by the external factors affecting the industry.

Francis (1998) opined that strategic management involves an analysis of the organizational factors such as strengths and weaknesses and the environmental factors such as opportunities and threats. For him SWOT Analysis is one of the prime and primary steps in strategic management.

Awasthi *et al.* (2003) conducted SWOT Analysis for Indian agriculture. By using this technique he identified the strengths, weaknesses, opportunities and threats of Indian agriculture. From this analysis he formulated strategies for effective use of agricultural input such as seed, plant nutrients, credit and insurance, irrigation etc.

## Materials and Methods

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## CHAPTER III

### MATERIALS AND METHODS

The present study is a field enquiry into the distribution of agro-chemicals both from the buyer's as well as the distributor's point of view. This chapter provides the analytical framework for the conceptualized research problem. The methods and tools of analysis adopted in examining the strengths, weaknesses, opportunities and threats are included here. The study was conducted on the distribution of agro-chemicals in Thrissur district.

#### **3.1. Conceptual exposition and operational definitions**

Various terms and concepts are used in this study to analyze the objectives. They are briefly explained below:

##### ***Product***

Product here means, agro-chemicals produced by different manufacturing companies for distribution and sales.

##### ***Agro-chemicals***

A term used to designate chemical materials used in agriculture such as fertilizers, pesticides, insecticides, fungicides etc.

##### ***Distribution system***

Those activities involved in physically transferring goods from the point at which they are produced to the point of their consumption. Here the distribution system consists of agro-chemical distribution outlets / distributors and the selected farmer-respondents in Pazhayannur and Wadakkanchery block.

***Awareness***

In this study awareness was operationally defined as the respondent-salesman's state of having knowledge about different agro-chemicals and its usage pattern.

***Strategy***

In the marketing context, strategy refers to the long-range plan of action calculated to achieve the objectives of an organisation. Here strategy refers to the long-range plan of action which has to be used by the distribution outlets to streamline the distribution system as a farmer friendly agro-chemical distribution system.

***Strength***

Basic asset of the system that would provide competitive advantage for its growth and developments.

***Weakness***

Liability of the system that can create a state of time and situation specific disadvantage for its growth and development.

***Opportunity***

Ability of the system to grow and develop in a given situation.

***Threat***

Factor which blocks the ability of the system to grow and develop.

**3.2. Sampling Procedure**

A three stage sampling procedure was adopted for sample selection.

### **3.2.1. Study Period**

The field level investigation was conducted during the months of September and October, 2002.

### **3.2.2. Study Area**

Among the 17 block in Thrissur district, the Pazhayannur block was selected for conducting survey among rice farmers, as it is having the highest area of rice cultivation ie., 8729 ha (Table 3.1.). Similarly, Wadakkencherry block was selected for conducting survey among banana and vegetable farmers, as it is having the highest area of 3733.5 ha of banana and vegetable cultivation (Table 3.1.). A 'Padasekharam' having highest area of rice cultivation and a 'Harithasangam' and a 'Self help group' having the highest area of vegetable and banana cultivation were selected from these blocks. Thus, the 'Pazhayannur Padasekhara Samiti' from Pazhayannur Panchayat in Pazhayannur block, Malakom Harithasangam and a KHDP self help group from Thekkumkara Panchayat in Wadakkancherry block were selected for the study.

### **3.2.3. Selection of respondents**

The sample size of the farmers was fixed at 100 due to limitations of time and other resources. For this, a group of farmers were identified on the basis of having more than one acre of cultivating area. Thus, a sample group of 40 farmers from a 'Padasekharam' and 30 farmers each from a 'Harithasangam' and a 'Self help group' were selected as respondents.

In addition to the farmer-respondents, 25 Co-operative Outlets and 20 Private Traders from the selected blocks were also covered for conducting survey among distribution outlets.

The total number of agro-chemical distribution outlets (block-wise) in Thrissur district is given in Table 3.2.

**Table 3.1. Area under rice, banana and vegetable in Thrissur district (Block-wise)**

Sl. No.	Blocks	Area under rice cultivation (ha)	Area under banana cultivation (ha)	Area under vegetables cultivation (ha)	Total area under banana and vegetable cultivation (ha)
1	Anthikad	2544.16	24	41	65.00
2	Chavakkad	714.15	81.5	51	132.50
3	Chalakkudy	5118.96	2932	181	3113.00
4	Cherpu	2462.82	305	100	405.00
5	Chowannur	4665.26	168.5	88	256.50
6	Irijalakuda	4603	400	90	490.00
7	Kodakara	4668	1549	235	1784.00
8	Kodungallur	200	-	35	35.00
9	Mala	5248	632	49	681.00
10	Mathilakom	900	18	50	68.00
11	Mullassery	2069	51	22	73.00
12	Ollukkara	42.62	991	487.72	1478.72
13	Pazhayannur	8729	409	221	630.00
14	Puzhakkal	6981	407	138	545.00
15	Thalikkulam	-	34.5	59.5	94.00
16	Velangallur	2739	60	82	142.00
17	Wadakkancherry	8265	3452	281.5	3733.50

Source : Agriculture Statistics 2000-2001 Department of Agriculture.

**Table 3.2. Total Number of agro-chemical depots in Thrissur District (Block-wise)**

Blocks	Fertilizer and plant protection chemical depots		Total
	Co-operative depots	Private depots	
Anthikad	9	5	14
Chavakkad	10	5	15
Chalakkudy	6	8	14
Cherpu	9	13	22
Chowannur	9	16	25
Irijalakuda	4	8	12
Kodakara	18	5	23
Kodungallur	4	4	8
Mala	18	11	29
Mathilakom	9	2	11
Mullassery	7	7	14
Ollukkara	23	19	42
Pazhayannur	9	11	20
Puzhakkal	16	17	33
Thalikkulam	8	7	15
Velangallur	7	8	15
Wadakkancherry	16	9	25

Source: Agriculture Statistics 2000-2001. Department of Agriculture.

### 3.3. Methodology

#### 3.3.1. Data Base

The study was mainly based on primary data collected by field level investigation. The data for the study were collected from respondents through personal interview method by using pre-tested structured schedule.

#### 3.3.2. Statistical tools used for the study

Bivariate tables and simple percentages formed the basis of analysis. The other tools and techniques used for the analysis are described below:

##### 1. Kendall's Co-efficient of Concordance

Kendall's Co-efficient of Concordance was used to rank the parameters that influenced the decision making of the respondents relating to the type and quantity of agro-chemicals to be purchased, factors influencing the source of purchase etc. The procedure for finding out the Kendall's Co-efficient of Concordance has been given below:

- a) Let 'N' be the number of objects to be ranked and let 'K' be the number of judges assigning ranks.
- b) Cast the observed ranks, in K N tables for each object,
- c) Determine the sum of ranks ( $R_j$ ) assigned to the character by all the 'K' judges.
- d) Determine the sum of ranks ( $R_j$ ), square the deviations and sum the square to obtain 'D'.
- e) Compute the value 'W'. If  $N > 7$ , the sample is treated as large sample. In that case

$$W = \frac{\sum D}{1/12 K^2 (N^3 - N)}$$

- f) Compute  $\chi^2$  in the case of large sample;  $\chi^2$  is defined as  $\chi^2 = K(N-1)W$
- g) Test the significance of  $\chi^2$

The sum of ranks assigned to each character is found out implementing the first three steps. The parameters are then ranked on the basis of the sum of ranks obtained by each parameter. The parameter for which the sum of ranks is minimum is identified as the most influencing factor and ranked first. The parameter that obtained maximum sum of ranks is ranked last among the various parameters.

Kendall's Coefficient of Concordance is calculated to find out whether there is perfect agreement among the judges.

If the calculated  $\chi^2$  value is greater than the table value it shows perfect agreement among K judgments.

## 2. *Likert's Scale of Summated Ratings*

To identify the strengths, weaknesses, opportunities and threats of the agro-chemical distribution system, Likert's scale of summated rating was adopted.

The statements selected under strengths, weaknesses, opportunities and threats were given in the interview schedule and the respondents were asked to express their agreement or disagreement to the given statement on a five point scale. The five categories of response are 'strongly agree', 'agree', 'no opinion', 'disagree' and 'strongly disagree' and the respective scores are +2, +1, 0, -1 and -2 in case of positive worded statements and -2, -1, 0, +1 and +2 in case of negative worded statements.

The next step is to compute the total scale of response for each statement by using the following formula:

$$\text{Index value of a statement} = \frac{(f_1 \times 2) + (f_2 \times 1) + (f_3 \times 0) + (f_4 \times -1) + (f_5 \times -2)}{N \times 2} \times 100$$

Where,  $f_1, f_2, \dots$  = number of respondents on each categories of response and 'N' was the total number of respondents.

The maximum value obtained will be 100 and the minimum value will be -100. The scale of response obtained can be interpreted as follows:

Index value	< 33.33	-	least favorable
	33.33 to 66.66	-	medium favorable
	> 66.66	-	highly favorable

### ***3.3.3. Strategy formulation-matching tool***

#### ***1. TOWS Matrix***

The TOWS Matrix, profounded by Heinz wehrich, is an important strategy formulation and matching tool.

This matrix postulates the following four alternative strategies. It is presented in Table 3.3.



**Table 3.3. TOWS Matrix**

Factors	Strength (S)	Weaknesses (W)
	1. 2. 3.	1. 2. 3.
Opportunity (O) 1. 2. 3.	SO (maxi-Maxi) Strategy (maximize strengths and opportunity)	WO (Mini-Maxi) Strategy (Minimise weakness and opportunities)
Threats (T) 1. 2. 3.	ST (Maxi-Mini) Strategy (Maximise strengths and minimize threats)	WT (Mini-Maxi) Strategy (Minimise weaknesses and threats)

*a) SO Strategy*

The SO or maxi-maxi strategy, which is the most desirable and advantageous strategy, seeks to mass up the strengths to exploit the opportunities..

*b) ST Strategy*

The ST or maxi-mini strategy attempts to use the organisations strengths to deal with the threats.

*c) WO Strategy*

The WO or mini-maxi strategy aims at minimising the weaknesses and maximizing the opportunities.

*d) WT Strategy*

The WT or the mini-mini strategy seeks to minimize the weaknesses and threats.

## Results and Discussion

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## CHAPTER IV

### RESULTS AND DISCUSSION

The data collected through the survey were subjected to statistical analysis and the results are presented in seven sections. The first section deals with the distribution practices of agro-chemical distribution outlets i.e., co-operative outlets and private traders. The socio-economic profile of farmers, type of agro-chemicals used by the farmers, reasons for using agro-chemicals, source of information, source preference and factors influencing such preferences are presented in the second section. Strengths, weaknesses, opportunities and threats of co-operative distribution outlets and private traders are explained in the third and fourth section. In the fifth section, a comparison between distributors' response and farmers' response is included. In the last section, the strategies developed from the SWOT analysis are discussed.

#### **4.1. Distributors' response towards agro-chemical distribution**

The distribution practices of co-operative outlets and private traders in the study area with respect to agro-chemicals are analysed and presented in this section. For the purpose of analysis a survey was conducted among all private and co-operative outlets of Pazhayannur block and Wadakkenchery block.

##### ***4.1.1. Agricultural inputs distributed through the selected outlets***

Agricultural inputs distributed through the outlets were fertilizers, plant protection chemicals, organic manures, micro-nutrients, plant growth promoters and agricultural implements. The agricultural inputs distributed through these outlets are presented in Table. 4.1.

agricultural implements. The agricultural inputs distributed through these outlets are presented in Table. 4.1.

**Table 4.1. Agricultural inputs distributed through the selected outlets**

Sl. No.	Agricultural inputs	Co-operative outlets (n = 25)	Private Traders (n = 20)
1.	Fertilisers	25	20
2.	Plant protection chemicals	25	20
3.	Organic manures	19	20
4.	Micro - nutrients	4	20
5.	Plant growth promoters	-	20
6.	Agricultural implements	-	10

All the selected outlets were distributing fertilizers and plant protection chemicals. Moreover, all the private traders were distributing organic manures, micronutrients and plant growth promoters. While in case of co-operative outlets they were not distributing plant growth promoters and agricultural implements.

It may be inferred that the private traders were distributing the different types of inputs comparing with co-operative outlets.

#### ***4.1.2. Distributors of agro-chemicals to the selected outlets***

The major manufacturers identified by the distributors are presented in the Table 4.2. They have identified FACT, IFFCO, Madras Fertilizers, Shriram fertilizers, SPIC and T. Stanes and Co as the major manufacturers who were supplying agro-chemicals in the study area. The most popular fertilizer manufacturers

among co-operative outlets were FACT and T. Stanes and Co. and the least popular was Madras fertilizers.

**Table 4.2. Distributors of agro-chemicals to the selected outlets**

Sl. No	Agro-chemical manufacturers	Co-operative outlets (n = 25)	Private Traders (n = 20)
1	Fertilisers		
	a. FACT	25	20
	b. IFFCO	9	-
	c. Madras Fertilisers	4	20
	d. Shriram Fertilisers	-	12
	e. SPIC	5	20
	f. T. Stanes and Co.	25	20
2	Plant Protection chemicals		
	a. Rallis India	25	20
	b. Bayer India	20	20
	c. BASF	25	20
	d. Eid Parry	-	20
	e. Syngenta	-	20
	f. Cheminova	-	14
	g. Wochardt	-	9
	h. T. Stanes & Co.	25	20

Among the private traders the most popular fertilizer manufacturers were FACT, Madras fertilizers, SPIC and T. Stanes & Co. The least popular fertilizer manufacturer for private trader was Shriram fertilizers.

In case of plant protection chemicals, the most popular manufacturers irrespective of co-operative outlets and private traders were Rallis India, Bayer India,

BASF and T. Stanes & Co. In addition to this, all private traders were distributing Eid Parry and Syngenta.

The result from the above table also supports that multiple brands of products were available in the private distribution outlets than the co-operative outlets in case of plant protection chemicals.

It is due to the fact that the private traders are highly business oriented and they are interested to provide the required and desired type and brand of agro-chemicals to the farmers.

#### 4.1.3. Fast moving agro-chemicals in selected outlets

Agro-chemical distributors have recalled FACT, Madras fertilizers, SPIC and T. Stanes & Co as the fast moving fertilizer manufacturers and BASF, Rallis India and Syngenta as the fast moving plant protection chemical manufacturers. Fast moving agro-chemicals of different manufacturers are presented in Table 4.3.

**Table 4.3. Fast moving agro-chemicals in selected outlets**

Sl. No.	Agro-chemical Manufacturers	Co-operative outlets		Private traders	
		Total No. of outlets	Percentage to total	Total No. of outlets	Percentage to total
1	Fertilizers				
	a. FACT	25	100	20	100
	b. Madras fertilizers	4	100	20	100
	c. SPIC	5	100	20	100
	d. T. Stanes & Co	25	100	20	100
2	Plant Protection Chemicals				
	a. BASF	25	100	20	100
	b. Rallis India	25	100	20	100
	c. Syngenta	-	-	20	100

From the table it is clear that fertilizers supplied for FACT, SPIC and T. Stanes & Co and plant protection chemicals of BASF, Rallis India and Syngenta and found to be fast moving.

#### 4.1.4. Margin offered by manufacturers

Margin offered to distribution outlets differ from manufacturers to manufacturers. A comparison is made to identify the rate of margin offered.

The table 4.4 depicts the high margin offering manufacturers for co-operative outlets and private traders.

**Table 4.4. Margin offered by manufacturers**

Sl. No.	Agro-chemical Manufacturers	Rate of margin offered		
		High	Moderate	Low
		(n = 45)		
1	Fertilisers			
	a. FACT	-	-	45 (100)
	b. Madras Fertilizers	-	4 (16.67)	20 (83.33)
	c. SPIC	-	5 (20.00)	20 (80.00)
	d. T. Stanes & Co	45 (100)	-	-
2.	Plant protection chemical			
	a. T. Stanes & Co	45 (100)	-	-
	b. Rallis India	-	-	45 (100)
	c. Syngenta	-	-	45 (100)

*Note: Figures in parentheses shows percentage*

It is clear from Table 4.4. that T. Stanes & Co. was giving high margin for both fertilizers and plant protection chemicals, when compared to other manufacturers.

#### 4.1.5. Regular customers of selected outlets

The regular customers of selected outlets consists of 'small farmers, 'medium farmers' and 'large farmers'. The opinion of the selected outlets were collected to identify their category of customers and presented in Table 4.5.

**Table 4.5. Regular customers of selected outlets**

Sl. No.	Category of farmers	Co-operative outlets (n = 25)	Private Traders (n = 20)
1	Small farmers	25 (100)	20 (100)
2	Medium farmers	21 (84)	14 (70)
3	Large farmers	-	20 (100)

*Note: Figures in parentheses show percentages*

The Table 4.5. clearly states that the 'large farmers' were approaching private traders while the small and medium farmers depend on both co-operative outlets and private traders.



#### 4.1.6. Additional services offered by the distribution outlets

As the co-operative outlets and private traders are the different distribution outlets for agro-chemicals in the study area, the farmers will expect help and support from these outlets.

**Table 4.6. Services offered to farmers (other than the supply of agro-chemicals)**

Sl. No.	Services offered to farmers	Co-operative outlets (n = 25)	Private Traders (n = 20)
1	Hiring facility such as agricultural implements and tractors	8 (32)	-
2	Credit facility in purchasing inputs	25 (100)	20 (100)
3	Information about new products	17 (68)	15 (60)
4	Marketing facility for farmers' produce	25 (100)	-

*Note: Figures in parentheses show percentages*

The various services offered by the distributors are presented in Table 4.8. As far as co-operative outlets are concerned the most common services offered by them were 'marketing facility for farmers' produce' and 'credit facility in purchasing inputs' and the least common service was 'hiring facility for agricultural implements and tractors'.

This table also illustrates the most common services offered by private traders as 'credit facility in purchasing inputs' followed by 'information about new products'.

Eventhough co-operative outlets and private traders were giving credit facility to farmers, the formalities and procedures for providing credit by co-operatives were high.

#### **4.1.7. Storage facility**

Storage is defined as the act of storing goods, that means storage function includes receiving, storing and issuing materials.

Different types of godowns which were used by the distribution outlets is depicted in Table 4.7.

**Table 4.7. Storage facility**

Sl. No.	Type of godowns	Co-operative outlets (n = 25)	Private Traders (n = 20)
1	Own godown only	14 (56)	7 (35)
2	Hired godown only	-	-
3	Own and hired godown	11 (44)	13 (65)

*Note: Figures in parentheses show percentages*

The study revealed that among the co-operative outlets 56 per cent were having own godown and 44 per cent were having own and hired godowns. The data regarding private traders showed that 65 per cent of private traders were having 'own and hired godowns' and 35 per cent were having 'own godowns' only. While none of the distribution outlets were having 'hired godown only'.

#### **4.1.8. Recommendation of products to farmers by sales man/sales persons**

Information regarding the recommendation of products to farmers is presented in Table 4.8.

**Table 4.8. Recommendation of products to farmers**

Sl. No.	Distribution outlet	Whether recommending		Total outlets	Basis of recommendation		
		Yes	No		Quality of products	Availability of products	High Margin
1	Co-operative outlet (n = 25)	18 (72)	7 (28)	25 (100)	4 (22.22)	14 (77.77)	-
2	Private traders (n = 20)	16 (80)	4 (20)	20 (100)	2 (12.5)	11 (68.75)	3 (18.75)

*Note: Figures in parentheses show percentages*

72 per cent of co-operative outlets and 80 per cent of private traders were used to recommend products to farmers. While a comparatively small number of co-operative outlets (28%) and private traders (20%) were not used to recommend products to farmers. 'Availability of products' (22.22%) and 'Quality of the products' (77.77%) were the basis of recommendation for the co-operative outlets who were recommending products to farmers. For the private traders who were recommending products to farmers, the basis of recommendation were 'availability of products' (68.75%), 'high margin' (18.75%) and quality of products (12.50%).

This shows that the majority of the distributors were recommending the available products in their outlets to farmers. Because the distributors were unable to provide the desired products to the farmers and they are forced to recommend the available products in their outlets.

#### **4.1.9. Educational qualification of salesperson**

Capability of the salesperson is one of the major factors in recommending the products to farmers. To an extent, it can be assessed from the educational qualification and awareness of the salesperson about agro-chemicals. The educational qualification of the salespersons in the outlets is given in table 4.9.

**Table 4.9. Educational qualification of salespersons**

Sl. No.	Distribution outlets	Educational qualification				Technical knowledge	Total sales persons
		< SSLC	10 <sup>th</sup> – 12 <sup>th</sup>	Degree	PG		
1	Co-operative outlets	30 (79)	8 (21)	-	-	-	38
2	Private Traders	24 (70.5)	10 (29.5)	-	-	-	34

*Note: Figures in parentheses show percentages*

It is clear from the table that a lion share of salespersons (79%) in co-operative outlets were having qualification below SSLC followed by a comparatively small group of salespersons (21%) who were having qualification between SSLC and Plus-2.

Among the salespersons in private distribution outlets, 70.5 per cent of salespersons were having qualification below SSLC and 29.5 per cent of salespersons were having SSLC –Plus 2 qualification.

Another important factor the table revealed is that salespersons were not having any technical knowledge regarding agro-chemicals/agriculture.

#### **4.1.10. Awareness of the Salesperson**

Farmers in the rural area are illiterate and unaware of the changing cultivation practices, dosage of agro-chemicals and other inputs and about the new products coming in the market ( Varadarajan and Venkataraman, 1992). This finding underlines the fact that awareness of sales person/distributor is an unavoidable factor.

Here, the awareness of the sales person about the different types of agro-chemicals, new products coming in the market, cultivation practices etc. were assessed by using the responses given by the salesperson for different statements.

The statements included are 'details about different agro-chemicals distributing through their outlets' (S<sub>1</sub>), 'details about other inputs such as micro-nutrients, plant growth promoters etc' (S<sub>2</sub>), 'Current dosage of agro-chemicals and other inputs' (S<sub>3</sub>), 'about the new products coming in the market' (S<sub>4</sub>) and about the cultivation practices' (S<sub>5</sub>).

For the analysis, the salespersons were asked to give their opinion as 'aware', 'some what aware' or 'not at all aware'. These three points constituted a scale. Each point on the scale carries a score or a value. Response indicative of the 'not at all aware' is given the lowest score of -1, while the one conveying 'aware' is given the highest score of +1. 'Some what aware' carries the score of neutral.

The data regarding their opinion is given in table 4.10.

**Table 4.10. Awareness of the Salespersons**

Sl. No.	Statements	Opinion			Scale of response
		A	SA	NA	
1	Details about different agro-chemicals distributing through their outlet (S <sub>1</sub> )	45	-	-	100
2	Details about other inputs such as micro-nutrients, plant growth promoters etc. (S <sub>2</sub> )	20	17	8	63.33
3	Current dosage of agro-chemicals and other inputs (S <sub>3</sub> )	31	14	-	84.44
4	About the new products coming in the market (S <sub>4</sub> )	24	12	9	66.66
5	About the cultivation practices (S <sub>5</sub> )	14	24	7	57.77

*A - Aware*

*SA - Some what aware*

*NA - Not at all aware*

It is observed that the statements S<sub>1</sub> (100%), S<sub>3</sub> (84.44%) and S<sub>4</sub> (66.66) have obtained a scale of response greater than 66.66 and hence fell in 'highly favourable'

response and the statements  $S_2$  (63.33 %) and  $S_5$  (57.77%) have obtained a scale of response between 33.33 and 66.66. Hence that two statements fell under the category of 'medium favourable' response.

It is obvious from the data that the awareness of the salesperson about the different agro-chemicals distributing through their outlet is positive in nature. Among the statements the comparatively insignificant statement was 'about the cultivation practice' ( $S_5$ ) which is in the 'medium favourable' response. Hence in their own opinion salespersons has the required awareness about the different agro-chemicals and related aspects.

#### **4.2. Farmer's response towards agro-chemical distribution**

This section explains the socio-economic profile, purchasing pattern of agro-chemicals, preference of agro-chemicals, preference towards the distribution outlets of the selected farmers in the study area etc. The selected group of farmers include 40 rice farmers from Pazhayannur block and 30 banana farmers and 30 vegetable farmers from the Wadakkencherry block of Thrissur District.

##### ***4.2.1. Age of the respondents***

The age-wise classification of the farmers is given in table 4.11. It reveals that the majority of the respondents belonged to the age group of 40-60 years (52%) followed by the age group of below 40 years (28%). The remaining 20 per cent of the total respondents belonged to the age group of above 60 years.

**Table 4.11. Age of the respondents**

(n = 100)

Sl. No.	Classification of age	Number of respondents
1	Below 40 years	28 (28)
2	40 – 60 years	52 (52)
3	Above 60 years	20 (20)
	Total	100

*Note: Figures in parentheses show percentages*

This data shows that new generation people are not coming to the field of agriculture compared with the age group of 40-60 years who are continuing with their involvement in agriculture.

#### **4.2.2. Educational status of the respondents**

The classification of the respondents on the basis of their educational qualification is shown in Table 4.12.

**Table 4.12. Educational status of respondents**

(n = 100)

Sl. No.	Educational qualification	Number of respondents
1	Below SSLC	44
2	SSLC – Plus 2	33
3	Degree	17
4	Post Graduation	6

It can be observed that around 44 respondents were having education 'below SSLC' followed by 33 respondents were having education between 'SSLC and plus 2'.

Among the farmers a comparatively small group of respondents (17) acquired 'degree' and only a 6 respondents were accounted by the 'post graduates'.

It is clear from the table that educational levels of the farmers were low. Majority of the respondents were having education below SSLC level. Hence it underlines the fact that highly qualified persons were reluctant in accepting agriculture as an occupation.

#### 4.2.3. *Income level of the respondents*

Annual per capita income, of the respondent from agriculture is given in Table 4.13. The respondents were classified on the basis of annual per capita income as below Rs.2500, between Rs.2500 – Rs. 5000, between Rs. 5000 – Rs. 7500 and above Rs. 7500.

**Table 4.13. Income level of the respondents**

(n = 100)		
Sl. No.	Annual per capita income from agriculture (in Rs.)	Number of respondents
1	Below 2500	20
2	2500 – 5000	60
3	5001 – 7500	17
4	Above 7500	3

The table indicates that around 60 respondents were in the income group of 'Rs.2500 – 5000' and 20 were in the income group 'below Rs. 2500'. There were 17 respondents in the income group between 'Rs. 5001- 7500' and only 3 respondents in the income group 'Above Rs. 7500'.



It may be noted that the annual per capita income disclosed by the farmers were the income from agriculture only.

#### **4.2.4. Area of land cultivated**

Here the respondents were classified on the basis of area of land used for cultivation. It is depicted in table 4.14.

**Table 4.14. Area of land cultivated**

(n = 100)		
Sl. No.	Area of land (in area)	Number of respondents
1	1-2 acres	69
2	2-4 acres	25
3	Above 4 acre	3

From the table, it is clear that the majority of the respondents were in the category of small farmers (69) and a comparatively less number of respondents belonged to medium farmers (25). A minute group of 6 farmers were large farmers.

The fragmentation of land holdings and the breaking down of joint family system may have resulted in the increased number of small farmers in the state. Cent per cent of the respondents in the study area were practicing individual farming.

#### **4.2.5. Usage of agro-chemicals**

Farmers in the study area were using chemicals and organic materials for increasing the crop yield and protecting the crops. The table 4.15 clearly shows the usage of agro-chemicals by the farmers.

**Table 4.15. Usage of agro-chemicals**

(n = 100)		
Sl. No.	Materials used by the farmers	Number of respondents
1	Organic materials	-
2	Agro-chemicals	32 (32)
3	Both	68 (68)
	Total	100

*Note: Figures in parentheses show percentages*

It was observed from the study that 68 per cent of the farmers were using organic materials and agro-chemicals. While 32 per cent were using only agro-chemicals in their field.

This shows that in addition to the application of agro-chemicals in the field, a majority were using the indigenous practices to increase the crop yield and also to protect the crops.

#### **4.2.6 Reasons for using agro-chemicals**

Farmers are using agro-chemicals based on certain reasons such as to increase yield, non-availability of organic materials, less expensive, adopting scientific method of cultivation and they believe that it is good for soil.

**Table 4.16. Reasons for using agro-chemicals**

Sl. No.	Reasons	Response from farmers
1	Increase in yield	93
2	Non-availability of organic materials	42
3	Less expensive	-
4	Scientific cultivation	12
5	Good for soil	8

The various reasons for preferring agro-chemicals by farmers in the study area are presented in Table 4.16. The total response of farmers in the table has exceeded the number of farmers, it is due to the multiple response towards the reasons.

It is observed that 93 farmers were considered 'increase in yield' as the major reason for using agro-chemicals and for 42 farmers 'non-availability of organic materials' was the reason behind their preference towards agro-chemicals. Only 8 respondents were identified agro-chemical use is 'good for soil'.

It should be noted that no farmer has remarked agro-chemicals as 'less expensive' instead they are giving preference to increase in production.

#### 4.2.7 Type of chemical fertilizer used by farmers.

Chemical fertilizer which normally used by the farmers include straight fertilizers, mixture of fertilizers and complex fertilizers. The Table 4.17 shows the different types of chemical fertilizers used by farmers and number of respondents using various types of chemical fertilizer.

**Table 4.17. Type of chemical fertiliser used by farmer**

(n = 100)		
Sl. No.	Types of chemical fertilizer	Number of respondents
1	Straight fertilizer	11
2	Mixture of fertilizer	43
3	Complex fertilizer	46

Majority of the farmers among the respondents (46) were using complex fertilizers' closely followed by 'mixture of fertilizers' (43). Only 11 per cent of farmers were using 'straight fertilizers'.

#### 4.2.8 Decision regarding the quantity of agro-chemicals to be applied

The different factors which influence the decision regarding the quantity of agro-chemicals to be applied in the field is given in Table 4.18.

**Table 4.18. Factors influencing the quantity of agro-chemicals to be applied**  
(n = 100)

Sl. No.	Factors	Number of respondents
1	Based on soil testing	4
2	Advice of extension worker/Agricultural officer	37
3	Recommendation of salesman	55
4	Applying the available quantity	4

From the table it is clear that the respondents were highly influenced by the factor 'recommendation of salesman' (55) followed by 'advice of extension worker/agricultural officer' (37), 'based on soil testing' (4) and 'applying the available quantity' (4) were the least important factors which influence the quantity of agro-chemicals to be applied in the field.

This result clearly states that the salesman has an important role in the quantity of agro-chemicals to be applied in the field. Similarly agricultural officers and extension workers also have their own role in advising the farmers about the quantity to be applied in the field.

The farmers are influenced by the salesman because they might be more approachable and accessible.

#### 4.2.9. Decision regarding the type of agro-chemicals to be applied.

The various parameters which influence the selection of type of agro-chemicals to be applied in the field is depicted in Table 4.19.

**Table 4.19. Factors influencing the type of agro-chemicals to be applied**

(n = 100)

Sl. No.	Factors	Number of respondents
1	Based on crop and soil	6
2	Advice from friends/neighbours	8 (8)
3	Use what is available at hand	-
4	Recommendations from salesman	46 (46)
5	Based on the advice of extension worker/agricultural officer	40 (40)
6	Casual selection	-
7	Availability in the market	-
	Total	100

*Note: Figures in parentheses show percentages*

The table indicates that 46 per cent of the farmers were selecting the type of agro-chemicals to be applied in the field on the basis of 'recommendation from the salesman'. While for a 40 per cent of farmers 'advice of agricultural officer/extension worker' was the basis for the type of agro-chemical to be selected. Only a minute per cent of respondents opined that 'advice from friends/neighbors' (6) and 'crop and soil' in the field (8) as their influencing factor behind the selection of type of agro-chemicals.

As in the case of decision regarding the quantity of agro-chemicals to be applied in the field, the salesman and agricultural officer/extension worker has their own role in recommending or giving advice to farmers. This shows that the farmers were highly influenced by the salesman and agricultural officers.

#### 4.2.10. Awareness of farmers about agro-chemical manufactures

Farmers were asked to recall the manufacturers who are distributing agro-chemicals in Pazhayannur and Wadakkencherry Blocks. They listed out the manufacturers from their memory.

Agro-chemical manufacturers recalled by the respondent-farmers in the study area are given table 4.20.

**Table 4.20. Agro-chemical manufacturers recalled by the farmers**

(n = 100)

Sl. No.	Agro-chemical Manufacturers	Number of respondents
1	Fertilizers	
	a. FACT	100
	b. IFFCO	100
	c. Madras Fertilizers	100
	d. Shriram	18
	e. SPIC	94
	f. T. Stanes & Co.	19
2	Plant protection chemicals	
	a. Rallis India	88
	b. Bayer India	93
	c. EID Parry	26
	d. Syngenta	92
	e. T. Staves & Co	19
	h. Cheminova	7

It is evident from the table that among the fertilizers FACT, IFFCO, Madras Fertilizer were the most popular manufacturer among the respondents. It was closely followed by SPIC also. Though selected distribution outlets identified T. Stanes & Co.'s products are fast moving, only few respondents recalled its name as the popular one. The name of Shriram Fertilizer is also found least popular among the respondents.

The 'company image' of the manufacturers and the availability of the product in the study area may be the reason behind the popularity of 'FACT', Madras fertilizers' and 'SPIC' among the farmers. Eventhough 'IFFCO' products were not commonly distributed in the study area the farmers were highly aware about the 'IFFCO' products.

In case of plant protection chemicals, according to the order of popularity 'Bayer India' was in the first position closely followed by Syngenta and Rallis India. The least popularity is showed by Cheminova among the other manufacturers.

As in the case of fertilizer manufacturers, the 'company image and the availability of the product in the study area may be the reason behind the popularity of Bayer India, Syngenta and Rallis India among the farmers.

#### **4.2.11. Source of information about agro-chemicals**

The sources which are providing information about the agro-chemicals in the study area is presented in Table 4.21.

**Table 4.21. Sources of information about agro-chemicals**

(n = 100)		
Sl. No.	Sources of information	Number of respondents
1	Print Media	2 (2)
2	Radio	15 (15)
3	Television	8 (8)
4	Krishi Bhavan	27 (27)
5	Co-operative outlets	13 (13)
6	Private Traders	30 (30)
7	Fellow farmers/Neighbours	5 (5)

*Note: Figures in parentheses show percentages*

It may be inferred from the table that the advertisements of products through the paid media has no serious role in providing information to farmers while they are approaching private traders and Krishi bhavan for getting necessary information about agro-chemicals.

#### *4.2.12. Accessibility of farmers to distribution outlets*

Distribution outlets play an important role in distribution, marketing and promotion of fertilizers and plant protection chemicals and they serve as an effective change agents of communication of modern fertilizer use technology from the agricultural scientists to the farmers. The different agro-chemical distribution outlets accessible to farmers in the study area are given in table 4.22.

**Table 4.22. Accessible outlets for farmers**

(n = 100)

Sl. No.	Agro-chemical distribution outlets	Number of respondents
1	Private trader only	40
2	Co-operative outlet only	-
3	Co-operative outlets and private traders	60

The table reveals that 60 per cent of the respondents were having both co-operative outlet and private traders for purchasing agro-chemicals while 40 per cent of the respondents were having private trader only.

It may be inferred that 40 percent of the farmers did not had a co-operative distribution outlet in their area for purchasing agro-chemicals.



#### 4.2.13. Distance to the nearest agro-chemical distribution outlet.

Distance to the nearest agro-chemical distribution outlet was obtained to check whether the outlets are distributed adequately in the study area or not.

Distance to the nearest distribution outlet from the field of the farmers are given in table 4.23.

**Table 4.23. Distance to the nearest agro-chemical distribution outlet**

(n = 100)

Sl. No.	Distance in Kilometre	Co-operative outlet	Private Trader
1	< 2 Kms	11	33
2	2-4 Kms	32	36
3	4-6 Kms	15	19
4	> 6 Kms	42	12

Among the 100 respondents, 42 opined that their co-operative outlet was at a distance of more than 6 Kms. For 32 respondents their nearest co-operative outlet was within a distance of 2-4 Kms. Only 11 respondents had the co-operative outlet within a distance of less than 2 Kms.

In case of private traders, 36 farmers were in the opinion of having the distribution outlet within a distance of 2-4 Kms followed by a 33 farmers were having the outlet in a distance of less than 2 Kms. While only 12 farmers have reported that their private trader was at a distance of more than 6 Kms.

It can be inferred that only 44 respondents were having a distribution outlet within 2 kms.

#### 4.2.14. Necessity of the opening of additional outlet.

Opinion of the respondents regarding the opening of additional outlets is given in Table 4.24.

**Table 4.24. Farmers response towards the opening of an additional outlet**

(n = 100)

Sl. No.	Distribution outlet	Necessary outlets		Not Necessary	Total
		One	Two		
1	Co-operative outlet	48	-	52	100
2	Private trader	34	-	66	100
	<b>Total</b>	<b>82</b>	<b>-</b>	<b>118</b>	

The table shows that 48 respondents were positively responded to opening of an additional co-operative outlet in their area while only a 34 farmers among the total respondents were in the need of having one more private trader in their area. The total responses exceeded the total number of respondents due to the multiple response of farmers.

Comparing with Table 4.26, the farmers who were having the outlets at a distance more than 2 kms. might have demanded for one more necessary outlet for co-operatives and private traders.

It may be inferred that a total of 82 respondents have demanded for either a co-operative outlet or private trader in their area.

#### 4.2.15. Agricultural inputs distributing through the outlet

Table 4.25 depicts the different types of agricultural inputs distributing through the outlets.

**Table 4.25. Agricultural inputs distributing through the outlet**

(n = 10)

Sl. No.	Agricultural inputs	Rice farmers	Banana farmers	Vegetable farmers
1	Fertilizers	40	30	30
2	Plant protection chemicals	40	30	30
3	Organic manures	40	30	30
4	Micro-nutrients	-	-	30
5	Plant growth promoters	-	30	-
6	Agricultural implements	-	-	30

It is evident from the table that all the farmers were getting fertilizers, plant protection chemicals and organic manures from the distribution outlets.

It may be inferred from the table that micro-nutrients and plant growth promoters are supplied only to the needed farmers and agricultural implements are available in the area where the vegetable farmers were surveyed.

#### **4.2.16. Source of purchase of agro-chemicals**

The source preferences of farmers for agro-chemical purchase are given in Table 4.26.

**Table 4.26. Source preference of farmers for agro-chemical purchase**

(n = 100)

Sl. No.	Sources of agro-chemicals	Number of respondents
1	Co-operative outlet	45
2	Private Traders	55

From the farmer's point of view, co-operative outlets and private traders are the two reliable distribution outlets in the study area. 55 respondents preferred private traders as their main point of purchase and the remaining 45 respondents preferred co-operative outlet as their main source for purchasing agro-chemicals.

#### 4.2.17. Preference towards the source of purchase

Factors influencing the source of purchase of agro-chemicals are given in table 4.27. The factors which were influenced by the respondents are 'availability of desired/preferred product ( $f_1$ )', 'quality of the product ( $f_2$ )', 'Price ( $f_3$ )', 'Credit availability ( $f_4$ )', 'Supply of other agri-inputs' ( $f_5$ ), Good customer service/technical advice ( $f_6$ )', 'Convenient working hours ( $f_7$ )', 'Distance from farm' ( $f_8$ ), 'Influence by Agricultural officers/extension workers ( $f_9$ )' and 'lack of alternative agency' ( $f_{10}$ ).

**Table 4.27. Factors influencing the selection of source of agro-chemical purchase**

Sl. No.	Factors	Sum of Ranks	Aggregate Ranks
1	Availability of desired/preferred products ( $f_1$ )	200	II
2	Quality of the product ( $f_2$ )	502	IV
3	Price ( $f_3$ )	600	VI
4	Credit availability ( $f_4$ )	100	I
5	Supply of other agricultural inputs ( $f_5$ )	685	VII
6	Good customer service/technical advice ( $f_6$ )	547	V
7	Convenient working hours ( $f_7$ )	847	X
8	Distance from farm ( $f_8$ )	448	III
9	Influence by Agricultural Officers/ Extension Workers ( $f_9$ )	778	VIII
10	Lack of alternative agency ( $f_{10}$ )	793	IX
W = 0.68		$\chi^2 = 612$	

It is clear from the table that the respondents identified 'Credit availability' (f<sub>4</sub>) as the important factor influencing the selection of source of agro-chemical purchase. Availability of desired/preferred product (f<sub>1</sub>) comes next. Factors like 'convenient working hours' (f<sub>7</sub>) and 'lack of alternative agency' (f<sub>10</sub>) were the least important factors among the respondents.

The table value of  $\chi^2$  at five percent level of significance is 18.31 and at one percent level is 23.21. Here the calculated value of  $\chi^2$  is significantly higher than the table value i.e., 612. This shows the perfect agreement among judges.

#### **4.3. SWOT Analysis of Co-operative Distribution Outlets**

SWOT Analysis is a systematic identification of strengths, weaknesses, opportunities and threats and the strategy that reflects the best match between them.

This section of the study explains the strengths, weaknesses, opportunities and threats of co-operative distribution outlets. A detailed analysis of the opinion of the respondents towards each statement given under the headings strengths, weaknesses, opportunities and threats are carried out.

The aim is to find out the percentage of respondents having 'favourable', 'neutral' and 'unfavourable' attitude towards each statement. For this purpose, it is assumed that the respondents who 'strongly agreed' or 'agreed' to a statement had a favourable attitude towards the statement; the respondents who were not having any opinion had a 'neutral' attitude and the respondents who 'strongly disagreed' or 'disagreed' to the statement had an unfavourable attitude. The attitude of the respondents towards the selected items were measured on a five point scale and the respective scores are +2, +1, 0, -1 and -2.

The maximum value obtained will be 100 and the minimum value will be -100. The scale of response obtained can be interpreted as follows:

Index value	< 33.33	-	least favorable
	33.33 to 66.66	-	medium favorable
	> 66.66	-	highly favorable

The result generated from this analysis are presented in Table 4.28 to Table 4.31.

#### ***4.3.1. Strength of Co-operative distribution outlets***

The strength of a co-operative distribution outlet means a basic asset of the system that would provide competitive advantage for its growth and developments.

The statements which can be the strengths of the co-operative distribution outlets have been identified and included in Table 4.28.

From the table it is clear that the statements 'credit facility is provided' (S<sub>4</sub>), 'good farmer-supplier relationship' (S<sub>6</sub>) and 'helps the farmer in marketing their produce' (S<sub>7</sub>), obtained a high positive index among the statements.

This shows that S<sub>4</sub>, S<sub>6</sub> and S<sub>7</sub> are the existing strengths of the co-operative distribution outlets. Hence, these strengths are to be maintained in the co-operative distribution outlets.

The analysis also revealed that the statements 'price of the products are low' (S<sub>2</sub>) and 'rebates and discounts offered for bulk purchase' (S<sub>3</sub>) were least favourable to the respondents as these obtained a high negative index.

This means the strengths S<sub>2</sub>, S<sub>3</sub>, S<sub>11</sub>, S<sub>8</sub> and S<sub>10</sub> are strengths which are not prevailing in the co-operative distribution outlets. Hence these strengths are to be incorporated in the co-operative distribution outlets.

**Table 4.28. Strengths of co-operative distribution outlets**

(n = 25)

Sl. No.	Strengths	SA	A	NO	D	SD	Scale of response (%)
1	Multi-brands are available (S <sub>1</sub> )	9	12	4	-	-	60.00
2	Price of the products is low (S <sub>2</sub> )	-	-	-	10	15	80.00
3	Discounts/rebates are offered for bulk purchase (S <sub>3</sub> )	-	-	-	13	12	74.00
4	Credit facility is provided (S <sub>4</sub> )	25	-	-	-	-	100.00
5	Quality products are supplied (S <sub>5</sub> )	17	8	-	-	-	84.00
6	Good farmer-supplier relationship (S <sub>6</sub> )	25	-	-	-	-	100.00
7	Helps the farmer in marketing their produce (S <sub>7</sub> )	25	-	-	-	-	100.00
8	Distributors have agricultural or technical knowledge (S <sub>8</sub> )	-	8	4	2	11	32.00
9	Ready to consider farmer complaints (S <sub>9</sub> )	13	12	-	-	-	76.00
10	Adequate storage facility to the outlet (S <sub>10</sub> )	-	10	-	15	-	10.00
11	Inform the farmer about new products (S <sub>11</sub> )	2	3	-	15	5	36.00

SA – Strongly agree

A – Agree

NO – No Opinion

D – Disagree

SD – Strongly disagree

### 4.3.2. Weaknesses of co-operative distribution outlets

Weakness or liability of a distribution outlet can create a state of time and situation specific disadvantage for the growth and development of the particular outlet.

Table 4.29 throws light on the weaknesses of co-operative distribution outlets.

**Table 4.29. Weaknesses of co-operative distribution outlet**

(n = 25)

Sl. No.	Weaknesses	SA	A	NO	D	SD	Scale of response (%)
1	Lack of knowledge of distributors about the application of agro-chemicals (W <sub>1</sub> )	17	5	-	3	-	72.00
2	Ignoring farmer complaints and queries (W <sub>2</sub> )	-	-	-	20	5	60.00
3	Considering a particular category of farmers only (W <sub>3</sub> )	-	-	-	15	10	70.00
4	Supply of subsidised products only (W <sub>4</sub> )	25	-	-	-	-	100.00
5	Usual stock out position (W <sub>5</sub> )	20	-	-	5	-	70.00
6	Lack of promotional efforts (W <sub>6</sub> )	25	-	-	-	-	100.00
7	Lack of sufficient staffs (W <sub>7</sub> )	-	-	-	18	7	64.00
8	Delay in getting the products for supply (W <sub>8</sub> )	19	6	-	-	-	88.00
9	Area of operation is large (W <sub>9</sub> )	21	4	-	-	-	92.00
10	Supply of date expired products (W <sub>10</sub> )	-	14	2	9	-	10.00
11	Lack of sales point personnel training (W <sub>11</sub> )	16	9	-	-	-	82.00

SA – Strongly agree  
A – Agree

NO – No Opinion  
D – Disagree

SD – Strongly disagree



The statements which were non-significant among the listed out weaknesses are 'ignoring farmer complaints and queries' (W<sub>2</sub>), 'considering a particular category of farmers only' (W<sub>3</sub>), 'lack of sufficient staffs' (W<sub>7</sub>) and 'supply of date expired products' (W<sub>8</sub>).

It may be inferred that the co-operative outlets are facing a number of weaknesses in the agro-chemical distribution system.

#### 4.3.3. Opportunities of Co-operative distribution outlet

Opportunity of a co-operative distribution outlet means the ability of the system to grow and develop in a particular situation. In this study, the co-operative distribution outlets have identified certain opportunities for the development of their business.

**Table 4.30. Opportunities of co-operative distribution outlet**

(n = 25)

Sl. No.	Opportunities	SA	A	NO	D	SD	Scale of response (%)
1	Advice about balanced fertilizer application (O <sub>1</sub> )	11	7	2	4	1	46.00
2	Field visits for handling farmer complaints (O <sub>2</sub> )	-	-	-	-	25	100.00
3	Insurance scheme for farmers to cover risk (O <sub>3</sub> )	25	-	-	-	-	100.00
4	Timely information about nursery management and control measures (O <sub>4</sub> )	-	9	4	12	-	76.00
5	Training to farmers to adopt new technology in agriculture (O <sub>5</sub> )	13	12	-	-	-	76.00
6	Bio-fertiliser supply (O <sub>6</sub> )	25	-	-	-	-	100.00
7	Sale of other inputs such as implements, seeds etc. (O <sub>7</sub> )	7	18	-	-	-	64.00
8	Door to door delivery of inputs (O <sub>8</sub> )	-	8	-	-	17	52.00

SA – Strongly agree  
A – Agree

NO – No Opinion  
D – Disagree

SD – Strongly disagree

It is evident from Table 4.30 is that 'insurance scheme for farmer' (O<sub>3</sub>) and 'bio-fertiliser supply' (O<sub>6</sub>) were the major opportunities of co-operative outlets. While 'field visits for handling farmer complaints' (O<sub>2</sub>), 'timely information about nursery management and control measures' (O<sub>4</sub>) and 'door-to-door delivery of inputs' were the non-significant statements among the opportunities.

#### 4.3.4. Threats of Co-operative distribution outlet

A threat can be considered as a factor which blocks the ability of the distribution outlet to grow and develop.

The Table 4.31 reveals the threats of co-operative distribution outlets.

**Table 4.31. Threats of co-operative distribution outlets**

(n = 25)

Sl. No.	Threats	SA	A	NO	D	SD	Scale of response (%)
1	Supply of adulterated products (T <sub>1</sub> )	7	8	3	-	-	44.00
2	Recent advances in agricultural technology (T <sub>2</sub> )	-	-	-	25	-	50.00
3	Interest is to earn high margin (T <sub>3</sub> )	19	2	4	-	-	80.00
4	Difficult to handle certain agro-chemicals (T <sub>4</sub> )	-	-	-	-	25	100.00
5	Health hazards out of agro-chemicals (T <sub>5</sub> )	-	-	20	5	-	10.00
6	Unhealthy competition (T <sub>6</sub> )	17	3	2	3	-	68.00

SA – Strongly agree  
A – Agree

NO – No Opinion  
D – Disagree

SD – Strongly disagree

The table clearly shows that 'interest is to earn high margin' (T<sub>3</sub>), 'unhealthy competition' (T<sub>6</sub>) and 'supply of adulterated products' (T<sub>1</sub>) were the threats of the co-operative distribution outlets. The other statements such as 'difficult to handle certain agro-chemicals' (T<sub>4</sub>), 'recent advances in agricultural technology' (T<sub>2</sub>) and 'health hazards out of agro-chemicals' (T<sub>5</sub>) were the non-significant threats for the co-operative outlets.

#### **4.4. SWOT Analysis of Private Traders**

SWOT Analysis of private traders is conducted in this study by using the same methodology of SWOT Analysis of co-operative distribution outlets.

The result generated from this analysis is presented in Table 4.32 to Table 4.35.

##### **4.4.1. Strengths of Private traders**

Similar to the co-operative outlet, the strength of the private traders means a basic asset of the system that would provide competitive advantage for its growth and development. The table 4.32 gives the strengths of the private traders.

The table reveals that 'credit facility is provided' (S<sub>4</sub>), 'good farmer-supplier relationship' (S<sub>6</sub>) and 'inform the farmer about new products' (S<sub>11</sub>) were the major strengths of private traders followed by 'multiple brands are available' (S<sub>1</sub>) and 'discounts and rebates are offered for bulk purchase' (S<sub>3</sub>).

It can be inferred that S<sub>4</sub>, S<sub>6</sub>, S<sub>1</sub> and S<sub>3</sub> are the existing strengths for the private traders and thus, these strengths are to be retained and maintained in the private distribution outlets.

The least significant statement among the strength was 'helps the farmer in marketing their produce' (S<sub>7</sub>). This shows that no private trader has identified it as a strength for them, hence this strength has to be developed and incorporated in the private distribution outlets.

**Table 4.32. Strengths of private traders**

(n = 20)

Sl. No.	Strengths	SA	A	NO	D	SD	Scale of response (%)
1	Multiple brands are available (S <sub>1</sub> )	17	3	-	-	-	92.50
2	Price of products is low (S <sub>2</sub> )	-	-	-	20	-	50.00
3	Discounts/rebates are offered for bulk purchase (S <sub>3</sub> )	16	4	-	-	-	90.00
4	Credit facility is provided (S <sub>4</sub> )	20	-	-	-	-	100.00
5	Quality products are supplied (S <sub>5</sub> )	11	9	-	-	-	77.50
6	Good farmer-supplier relationship (S <sub>6</sub> )	20	-	-	-	-	100.00
7	Helps the farmer in marketing their produce (S <sub>7</sub> )	-	-	-	-	20	100.00
8	Distributors have agricultural or technical knowledge (S <sub>8</sub> )	11	-	-	9	-	32.50
9	Ready to consider farmer complaints (S <sub>9</sub> )	14	6	-	-	-	85.00
10	Adequate storage facility to the outlets (S <sub>10</sub> )	10	10	-	-	-	75.00
11	Inform the farmer about new products (S <sub>11</sub> )	20	-	-	-	-	100.00

SA – Strongly agree

A – Agree

NO – No Opinion

D – Disagree

SD – Strongly disagree

The other least significant strengths were 'price of products are low' (S<sub>2</sub>) and 'distributor have agricultural or technical knowledge' (S<sub>8</sub>). Hence these strengths are also to be incorporated and maximised in the private distribution outlets.

#### 4.4.2. Weaknesses of Private traders

Weakness or liability means a disadvantage for a system to grow and develop. The table 4.33 shows the weaknesses of private traders.

**Table 4.33. Weaknesses of private traders**

(n = 20)

Sl. No.	Weaknesses	SA	A	NO	D	SD	Scale of response (%)
1	Lack of knowledge of distributors about the application of agro-chemicals (W <sub>1</sub> )	16	-	-	4	-	70.00
2	Ignoring farmer complaints and queries (W <sub>1</sub> )	-	-	-	13	7	67.50
3	Considering a particular category of farmers only (W <sub>3</sub> )	-	-	-	15	5	62.50
4	Supply of subsidised products only (W <sub>4</sub> )	-	-	-	-	20	100.00
5	Usual stock out position (W <sub>5</sub> )	-	-	-	7	13	82.50
6	Lack of promotional efforts (W <sub>6</sub> )	-	-	-	10	10	75.00
7	Lack of sufficient staffs (W <sub>7</sub> )	-	-	-	20	-	50.00
8	Delay in getting the products for supply (W <sub>8</sub> )	9	11	-	-	-	72.50
9	Area of operation is large (W <sub>9</sub> )	-	-	-	20	-	50.00
10	Supply of date expired products (W <sub>10</sub> )	-	-	2	4	14	80
11	Lack of sale point personnel training (W <sub>11</sub> )	20	-	-	-	-	100.00

SA – Strongly agree  
A – Agree

NO – No Opinion  
D – Disagree

SD – Strongly disagree

It is obvious from the table that 'lack of sale point personnel training' ( $W_{11}$ ) was the major weakness identified by the private traders followed by 'delay in getting the products for supply' ( $W_8$ ) and 'lack of knowledge of distributors about the application of agro-chemicals' ( $W_1$ ).

'Supply of subsidised products' ( $W_4$ ) was the least significant statement among the weaknesses for the private traders because private traders are not distributing the subsidised products.

#### 4.4.3. Opportunities of Private traders

The opportunities of private traders are given in Table 4.34.

**Table 4.34. Opportunities of private traders**

(n = 20)

Sl. No.	Opportunities	SA	A	NO	D	SD	Scale of response (%)
1	Advice about balance fertiliser application ( $O_1$ )	12	8	-	-	-	80.00
2	Field visits for handling farmer complaints ( $O_2$ )	-	-	-	20	-	50.00
3	Insurance scheme for farmers to cover risk ( $O_3$ )	20	-	-	-	-	100.00
4	Timely information about nursery management and control measurers ( $O_4$ )	-	-	-	5	15	87.50
5	Training to farmers to adopt new technology in agriculture ( $O_5$ )	6	14	-	-	-	65.00
6	Bio-fertilizer supply ( $O_6$ )	20	-	-	-	-	100.00
7	Sale of other inputs such as implements, seeds etc. ( $O_7$ )	5	5	10	-	-	37.50
8	Door-to-door delivery of inputs ( $O_8$ )	13	3	4	-	-	72.50

SA – Strongly agree  
A – Agree

NO – No Opinion  
D – Disagree

SD – Strongly disagree

It is evident from the table that 'insurance scheme for farmer' (O<sub>3</sub>) and 'bio-fertilizer supply' (O<sub>6</sub>) were the major opportunities pointed out by the private traders. While 'timely information about nursery management and control measures' (O<sub>4</sub>) and 'field visits for handling farmer complaints' (O<sub>2</sub>) were the least significant opportunity for the private traders.

#### 4.4.4. Threats of Private traders

The threats of private traders are presented in table 4.35.

**Table 4.35. Threats of private traders**

(n = 20)

Sl. No.	Weaknesses	SA	A	NO	D	SD	Scale of response (%)
1	Supply of adulterated products (T <sub>1</sub> )	8	10	2	-	-	65.00
2	Recent advances in agricultural technology (T <sub>2</sub> )	-	-	-	20	-	50.00
3	Interest to earn high margin (T <sub>3</sub> )	10	10	-	-	-	75.00
4	Difficult to handle certain agro-chemicals (T <sub>4</sub> )	-	-	-	-	20	100.00
5	Health hazards out of agro-chemicals (T <sub>5</sub> )	-	-	10	10	-	25.00
6	Unhealthy competition (T <sub>6</sub> )	-	-	-	11	9	72.50

SA – Strongly agree  
A – Agree

NO – No Opinion  
D – Disagree

SD – Strongly disagree

The table reveals that 'interest is to earn high margin' (T<sub>3</sub>) was the major threat identified by private traders followed by 'supply of adulterated products' (T<sub>1</sub>). It should also be noted that the other listed out threats were not significant to the private traders.

#### 4.5. SWOT Analysis of Agro-chemical Distribution System (in farmers view)

The selected group of farmers for the study includes 40 rice farmers, 30 banana farmers and 30 vegetable farmers from the Pazhayannur and Wadakkencherry block of Thrissur district. Opinion of these 100 farmers regarding the strengths, weaknesses, opportunities and threats of the distribution system has been explained here.

##### 4.5.1. Strengths of Agro-chemical distribution system (in farmer's view)

The strengths of agro-chemical distribution system as identified by the respondent-farmers are given in Table 4.36.

**Table 4.36. Strengths of agro-chemical distribution system (in farmer's view)**

(n = 100)

Sl. No.	Strengths	SA	A	NO	D	SD	Scale of response (%)
1	Multiple products are available (S <sub>1</sub> )	45	28	-	11	16	37.5
2	Price of the products are low (S <sub>2</sub> )	-	10	-	34	56	68.0
3	Discounts/rebates are offered for bulk purchase (S <sub>3</sub> )	60	18	-	4	18	49.0
4	Credit facility is provided (S <sub>4</sub> )	60	31	-	9	-	71.0
5	Quality products are supplied (S <sub>5</sub> )	6	43	11	35	5	5.0
6	Distributors help in marketing the produce (S <sub>6</sub> )	-	24	16	26	34	35.0
7	Good farmer-supplier relationship (S <sub>7</sub> )	65	25	8	9	1	72.0
8	Ready to handle farmer complaints (S <sub>8</sub> )	80	11	-	2	7	77.5
9	Distributors have agriculture/technical knowledge (S <sub>9</sub> )	33	27	14	6	20	23.5
10	Distributors give information about the new products in the market (S <sub>10</sub> )	8	39	2	34	17	6.5

SA – Strongly agree  
A – Agree

NO – No Opinion  
D – Disagree

SD – Strongly disagree



The table clearly shows that 'ready to handle customer complaints' (S<sub>8</sub>), 'good farmer-supplier relationship' (S<sub>7</sub>) and 'credit facility is provided' (S<sub>4</sub>) were the major strengths of the agro-chemical distribution system in farmer's view. The statements which were highly rejected by farmers on the strengths are 'price of the products are low' (S<sub>2</sub>), 'distributors helps in marketing the produce' (S<sub>6</sub>) and 'distributors give information about the new products in the market' (S<sub>10</sub>).

#### 4.5.2. Weaknesses of Agro-chemical distribution system (in farmer's view)

Following table gives the weaknesses of agro-chemical distribution system as pointed out by the respondent-farmers.

**Table 4.37. Weaknesses of agro-chemical distribution system (in farmer's view)**

(n = 100)

Sl No.	Weaknesses	SA	A	NO	D	SD	Scale of response (%)
1	Lack of knowledge of distributors about the application of agro-chemicals (W <sub>1</sub> )	75	6	-	19	-	68.5
2	Ignoring your complaints and queries (W <sub>2</sub> )	7	2	-	15	71	70.5
3	Considering a particular category of farmers only (W <sub>3</sub> )	48	31	-	7	14	46.0
4	Lack of promotional efforts (W <sub>4</sub> )	39	23	17	18	5	36.5
5	Supply of subsidised products only (W <sub>5</sub> )	-	-	-	19	81	90.5
6	Usual stock out position (W <sub>6</sub> )	44	35	4	17	3	50.0
7	Supply of date expired products (W <sub>7</sub> )	-	24	16	26	34	35.0
8	Area of operation is large (W <sub>8</sub> )	80	11	-	2	7	77.5
9	Lack of sales point personnel training (W <sub>9</sub> )	60	18	-	4	18	49.0

SA – Strongly agree  
A – Agree

NO – No Opinion  
D – Disagree

SD – Strongly disagree

The major weakness of agro-chemical distribution system revealed by the respondents was 'lack of knowledge of distributors about the application of agro-chemicals' (W<sub>2</sub>) followed by 'usual stock out position' (W<sub>7</sub>) and 'considering a particular category of farmers only' (W<sub>4</sub>).

#### 4.5.3. Opportunities of Agro-chemical distribution system (in farmer's view)

Distributors identified opportunity factors in the distribution system which is favourable to them. Similarly, farmers also identified certain opportunities which are useful and helpful to them for doing agricultural practices.

The various opportunities of the distribution system in the view of farmers are presented in Table 4.38.

**Table 4.38. Opportunities of agro-chemical distribution system (in farmer's view)**  
(n = 100)

Sl. No.	Opportunities	SA	A	NO	D	SD	Scale of response (%)
1	Need for advice about balanced fertiliser application (O <sub>1</sub> )	51	16	6	17	-	50.5
2	Field visits of technical staff of the distribution outlets (O <sub>2</sub> )	3	7	12	63	15	-40.0
3	Insurance scheme for farmer to cover risk of crop failures (O <sub>3</sub> )	100	-	-	-	-	100.0
4	Need for timely information about nursery management and control measures (O <sub>4</sub> )	49	31	-	10	10	49.5
5	Need for training to adopt new technological changes in agriculture (O <sub>5</sub> )	79	21	-	-	-	89.5
6	Need for bio-fertilizer supply through the outlet (O <sub>6</sub> )	61	-	33	-	6	55.0
7	Other inputs such as seeds, implements etc. may be provided (O <sub>7</sub> )	93	7	-	-	-	96.5
8	Door-to-door delivery is preferable(O <sub>8</sub> )	74	2	-	-	24	51.0

SA – Strongly agree

A – Agree

NO – No Opinion

D – Disagree

SD – Strongly disagree

It is obvious from the table that 'insurance scheme for farmers' (O<sub>3</sub>) was the most important opportunity of distribution system for the respondent - farmers.

According to farmers the least important opportunity was 'field visits of technical staff to the distribution outlets' (O<sub>2</sub>).

#### 4.5.4. Threats of Agro-chemical distribution system (in farmer's view)

The threats of agro-chemical distribution system are identified by the respondent farmers are given in Table 4.39.

**Table 4.39. Threats of agro-chemical distribution system (in farmer's view)**

(n = 100)

Sl. No.	Threats	SA	A	NO	D	SD	Scale of response (%)
1	Supply of adulterated products (T <sub>1</sub> )	11	3	20	42	24	32.50
2	Interest is to earn high margin (T <sub>2</sub> )	54	13	-	27	6	41.00
3	Dealers acting as consultants without basic knowledge (T <sub>3</sub> )	79	-	-	21	-	68.50
4	Difficult to handle certain agro-chemicals (T <sub>4</sub> )	24	3	-	10	63	42.50
5	Health hazards out of agro-chemicals (T <sub>5</sub> )	42	7	33	13	5	34.00

SA – Strongly agree

A – Agree

NO – No Opinion

D – Disagree

SD – Strongly disagree

According to farmers, the major threat of the distribution system was 'dealers acting as consultants without basic knowledge' (O<sub>5</sub>) and the least significant statement was 'difficult to handle certain agro-chemicals' (T<sub>4</sub>).

#### **4.6. SWOT Analysis – Comparison between distributor’s response and farmer’s response**

A comparison between distributor’s response towards the strengths, weaknesses, opportunities and threats of the agro-chemical distribution system is depicted in Table 4.40.

Among the strengths, ‘discounts/rebates offered for bulk purchase’ (S<sub>3</sub>) was a significant strength for private traders and the farmers were also identified this statement as a strength while the co-operative outlets revealed that it is not a strength for them.

Private traders and co-operative outlets opined that they were supplying quality products. But in farmer’s response ‘quality products are supplied’ (S<sub>5</sub>) has got only insignificant response.

‘Helps in marketing the produce’ (S<sub>6</sub>) was a significant strength of co-operative outlet while private traders pointed it as a insignificant strength for them. Eventhough co-operative outlet identified S<sub>6</sub> as a strength the farmers also responded it as a insignificant strength.

In case of weaknesses ‘supply of subsidised products only’ (W<sub>4</sub>) was a significant statement for co-operative outlets ‘only because agro-chemicals with subsidy is distributing through co-operative outlets only. Hence, the private traders and the farmers rejected (W<sub>4</sub>) as a weakness.

Co-operative outlets and farmers responded that ‘lack of promotional effort’ was a weakness for the distribution system while private traders rejected it as a weakness.

Private traders pointed out ‘usual stockout position was a significant weaknesses for them. But co-operatives response showed that it was not their weakness and it was supported by farmers also.

**Table 4.40. SWOT Analysis – Comparison between distributors response and farmers response**

Sl. No.	Strengths (S)	Scale of response of co-operative outlets	Scale of response of private traders	Scale of response of farmers	Sl. No.	Weaknesses (W)	Scale of response of co-operative outlets	Scale of response of private traders	Scale of response of farmers
1	S <sub>1</sub>	60.00	92.50	37.50	1	W <sub>1</sub>	72.00	70.00	68.50
2	S <sub>2</sub>	-80.00	-50.00	-68.00	2	W <sub>2</sub>	-60.00	-67.50	-70.50
3	S <sub>3</sub>	-74.00	90.00	49.00	3	W <sub>3</sub>	-70.00	-62.50	46.00
4	S <sub>4</sub>	100.00	100.00	71.00	4	W <sub>4</sub>	100.00	-100.00	-90.50
5	S <sub>5</sub>	84.00	77.50	5.00	5	W <sub>5</sub>	100.00	-75.00	36.50
6	S <sub>6</sub>	100.00	-100.00	-35.00	6	W <sub>6</sub>	-64.00	-50.00	-
7	S <sub>7</sub>	100.00	100.00	72.00	7	W <sub>7</sub>	88.00	72.50	-
8	S <sub>8</sub>	76.00	85.00	77.50	8	W <sub>8</sub>	70.00	-82.50	50.00
9	S <sub>9</sub>	-32.00	32.50	23.50	9	W <sub>9</sub>	92.00	-50.00	77.50
10	S <sub>10</sub>	-10.00	75.00	-	10	W <sub>10</sub>	10.00	-80.00	-35.00
11	S <sub>11</sub>	-36.00	100.00	-6.50	11	w <sub>11</sub>	82.00	100.00	49.00
Sl. No.	Opportunities (O)				Sl. No.	Threats (T)			
1	O <sub>1</sub>	46.00	80.00	50.50	1	T <sub>1</sub>	44.00	65.00	-32.50
2	O <sub>2</sub>	-100.00	-50.00	-40.00	2	T <sub>2</sub>	80.00	75.00	41.00
3	O <sub>3</sub>	100.00	100.00	100.00	3	T <sub>3</sub>	-100.00	-100.00	-42.50
4	O <sub>4</sub>	-6.00	-87.50	49.50	4	T <sub>4</sub>	-10.00	-25.00	34.00
5	O <sub>5</sub>	76.00	65.00	89.50	5	T <sub>5</sub>	-	-	68.50
6	O <sub>6</sub>	100.00	100.00	55.00	6	T <sub>6</sub>	68.00	-72.50	-
7	O <sub>7</sub>	64.00	37.50	96.50	7	T <sub>7</sub>	-50.00	-50.00	-
8	O <sub>8</sub>	-52.00	72.50	51.00					

Co-operative outlets and farmers opined that the 'area of operation is too large (W<sub>9</sub>) for the distribution outlet. For private trader it was not a weakness.

Among the identified opportunities, much variation was not seen in the response of distributors and farmers. Both distributors and farmers opined that 'insurance scheme for farmers' (O<sub>3</sub>) and 'bio-fertiliser supply' (O<sub>6</sub>) were the common opportunities.

In case of threats, variations were seen in the response of distributors and farmers. Distributors identified 'supply of adulterated products' (T<sub>1</sub>) as a 'significant threat while farmers' response showed that it is an insignificant threat. 'Interest is to earn high margin' (T<sub>2</sub>) was a highly significant threat identified by both distributors and farmers among the other threats.

#### **4.7. Strategy formulation**

After identifying the strengths, weaknesses, opportunities and threats of agro-chemical distribution system the next step is to formulate an appropriate strategy to develop the present agro-chemical distribution system into a farmer-friendly agro-chemical distribution system.

Strategy formulation involves relating the strengths and weaknesses to threats and opportunities. The TOWS matrix, profounded by Heinz Wehrich, is an important strategy formulation matching tool. This matrix postulates four alternative strategy such as SO or maxi-maxi strategy, WO or mini-maxi strategy, ST or maxi-mini strategy and WT or mini-mini strategy.

SO or maxi-maxi strategy which is the most desirable and advantages strategy, seeks to mass up strength to exploit the opportunities.

WO or mini-maxi strategy aims at minimising the weaknesses and maximising the opportunities.

ST or maxi-mini strategy attempts to use the strengths to deal with the threats while WT or mini-mini strategy seeks to minimise the weaknesses and threats.

Since co-operative distribution outlets and the private traders are two different type of distribution outlets in the agro-chemical distribution system we cannot suggest a common strategy to these outlets. Hence separate strategy has identified by using the SWOT parameters from the analysis.

#### 4.7.1. Suggested Strategy for Co-operatives Outlets

Strategy refers to the long-range plan of action which has to be used by the distribution outlets to streamline the distribution system.

The strengths, weaknesses, opportunities and threats identified through the SWOT analysis is presented in Table 4.41.

**Table 4.41. TOWS Matrix of Co-operative outlets**

Factors	Strengths		Weaknesses (W)	
	To be maximised	To be maintained		
	1. S <sub>2</sub> S <sub>10</sub> 2. S <sub>3</sub> 3. S <sub>11</sub> 4. S <sub>8</sub>	5. S <sub>1</sub> 6. S <sub>1</sub> 7. S <sub>9</sub> 8. S <sub>5</sub>	1. S <sub>4</sub> 2. S <sub>6</sub> 3. S <sub>7</sub>	1. W <sub>4</sub> 2. W <sub>6</sub> 3. W <sub>9</sub> 4. W <sub>8</sub> 5. W <sub>11</sub> 6. W <sub>1</sub> 7. W <sub>5</sub>
Opportunities (O)	SO (Maxi-Maxi) Strategy		WO (Mini-Maxi) strategy	
1. O <sub>3</sub> 2. O <sub>6</sub> 3. O <sub>5</sub> 4. O <sub>7</sub> 5. O <sub>1</sub>	(Maximise strengths and opportunities)		(Minimise weakness and maximise opportunities)	
Threats (T)	ST (Maxi-Mini) strategy		WT (Mini-Mini) strategy	
1. T <sub>3</sub> 2. T <sub>1</sub>	(Maximise strengths and minimise threats)		(Minimise weaknesses and threats)	

It is clear from the TOWS Matrix of co-operative outlets that the co-operative outlets are facing a number of weaknesses in addition to their strengths. Similarly,

they identified opportunities and threats also. While suggesting a strategy the threat aspect cannot be taken since it is external and uncontrollable factors.

As in the view of providing better services to farmers, the best strategy to streamline the present agro-chemical distribution system should consider the strengths, weaknesses and opportunities.

Hence the suggested strategy is to maximise strengths and opportunities and to minimise weaknesses. i.e., SO-W (maxi-maxi-mini) strategy. The strategy which has to be used by the co-operative outlets is given in table 4.42.

Among the strengths, 'low priced products' (S<sub>2</sub>), discount and rebates offered for bulk purchase (S<sub>3</sub>), 'inform the farmer about new products' (S<sub>11</sub>), 'agricultural or technical knowledge of distributors' (S<sub>8</sub>), adequate storage facility to the outlet' (S<sub>10</sub>), 'multi-brands distribution' (S<sub>1</sub>), 'ready to consider farmer complaints' (S<sub>9</sub>), and 'supply of quality products' (S<sub>5</sub>) are the strengths which are to be maximised. Because these strengths were not adequately existing in the co-operative distribution outlets. 'Credit facility to farmers' (S<sub>4</sub>), 'good farmer-supplier relationship' (S<sub>6</sub>) and 'helps the farmer in marketing the produce' (S<sub>7</sub>) are the strengths which were existing at the maximum in the distribution system. Hence, these strengths are to be retained and maintained in the system.

As per the opinion of the co-operative distributors the opportunities which are to be tapped by the co-operative distribution outlets includes 'insurance scheme for farmers' (O<sub>3</sub>), 'bio-fertiliser supply' (O<sub>6</sub>), 'training to farmers to adopt new technology' (O<sub>5</sub>), 'sale of other inputs such as seeds, implements etc.' (O<sub>7</sub>) and 'advice about balanced fertilizer application' (O<sub>1</sub>).



**Table 4.42. Suggested strategy for co-operative distribution outlets**

<i>Strength to be maximised</i>	<i>Opportunities to be maximised</i>	<i>Weaknesses to be minimised</i>
1. Low priced products (S <sub>2</sub> )	1. Insurance scheme for farmers (O <sub>3</sub> )	1. Supply of subsidised products only (W <sub>4</sub> )
2. Discounts/rebates offered for bulk purchase (S <sub>3</sub> )	2. Bio-fertiliser supply (O <sub>6</sub> )	2. Lack of promotional efforts (W <sub>6</sub> )
3. Inform the farmer about new products (S <sub>11</sub> )	3. Training to farmers to adopt new technology (O <sub>5</sub> )	3. Large area of operation (W <sub>9</sub> )
4. Distributors have agricultural or technical knowledge (S <sub>8</sub> )	4. Sale of other inputs such as seeds, implements etc. (O <sub>7</sub> )	4. Delay in getting the products for supply (W <sub>8</sub> )
5. Adequate storage facility to the outlet (S <sub>10</sub> )	5. Advice about balanced fertilizer application (O <sub>1</sub> )	5. Lack of sales point personnel training (W <sub>9</sub> )
6. Multi-brands distribution (S <sub>1</sub> )		6. Lack of knowledge of distributors about agro-chemical application (W <sub>1</sub> )
7. Ready to consider farmer complaints (S <sub>9</sub> )		7. Usual stock out position (W <sub>5</sub> )
8. Supply of quality products (S <sub>5</sub> )		
<i>Strengths to be maintained</i>		
1. Credit facility to farmers (S <sub>4</sub> )		
2. Good farmer-supplier relationship (S <sub>6</sub> )		
3. Helps the farmer in marketing the produce (S <sub>7</sub> )		

In the suggested strategy, the existing weaknesses in the system are to be minimised. Weaknesses in the co-operative distribution system which are to be minimised includes 'supply of subsidised products only' ( $W_4$ ), 'lack of promotional efforts' ( $W_6$ ), 'large area of operation' ( $W_9$ ), 'delay in getting the products for supply' ( $W_8$ ), 'lack of sales point personnel training' ( $W_9$ ), 'lack of knowledge of distributors about agro-chemical application' ( $W_{11}$ ) and 'usual stock out position' ( $W_5$ ).

If the suggested strategy i.e., to maximise strengths and opportunities and to minimise weaknesses the existing co-operative agro-chemical distribution can be streamlined to a farmer friendly agro-chemical distribution system.

#### 4.7.2. Probable strategy for private traders

SWOT parameters identified from the SWOT analysis has been used to develop a strategy for co-operative outlets. Similarly, a probable strategy can be suggested for the private traders also.

The strengths, weaknesses and opportunities were identified and is presented in Table 4.43 for deriving a probable strategy for private traders.

**Table 4.43. TOWS Matrix of private traders**

Factors	Strengths		Weaknesses (W)
	To be maximised	To be maintained	
	1. $S_7$ 2. $S_2$ 3. $S_8$ 4. $S_{10}$	5. $S_5$ 6. $S_9$ 7. $S_3$ 8. $S_1$	1. $W_{11}$ 2. $W_8$ 3. $W_1$
Opportunities (O)	SO (Maxi-Maxi) Strategy		WO (Mini-Maxi) strategy
1. $O_3$ 2. $O_6$ 3. $O_1$ 4. $O_8$ 5. $O_5$	(Maximise strengths and opportunities)		(Minimise weakness and maximise opportunities)
Threats (T)	ST (Maxi-Mini) strategy		WT (Mini-Mini) strategy
3. $T_3$ 4. $T_1$	(Maximise strengths and minimise threats)		(Minimise weaknesses and threats)

It is clear from the table that the private traders were also facing a number of strengths, weaknesses, opportunities and threats. It should be noted that in case of weaknesses the private traders were facing less weaknesses comparing with co-operative outlets which is given in the TOWS matrix of co-operative outlets.

Since the private traders are business oriented and independent in nature, the strategy of the private trader will differ from one trader to another. Hence a probable strategy is developed for providing better services to the farmers and also to streamline the agro-chemical distribution system to a farmer friendly distribution system.

The probable strategy for private traders is to maximise strengths and opportunities and to minimise weaknesses i.e., SO-W (maxi-maxi-mini) strategy. The strategy is presented in Table 4.44.

As per the strategy, the strengths of the private traders which are to be maximised includes 'helps the farmer in marketing the produce' (S<sub>7</sub>), 'low priced products' (S<sub>2</sub>), 'agricultural or technical knowledge of distributors' (S<sub>8</sub>), 'adequate storage facility to the outlets' (S<sub>10</sub>), 'supply of quality products' (S<sub>5</sub>), 'ready to consider farmer complaints' (S<sub>9</sub>), 'discounts/rebates offered for bulk purchase' (S<sub>3</sub>) and 'multi-brands distribution' (S<sub>1</sub>). The strengths such as 'credit facility to farmers' (S<sub>4</sub>), 'good farmer-supplier relationship' (S<sub>6</sub>) and 'inform the farmer about new products' (S<sub>11</sub>) were existing at maximum in the private distribution system. Hence these strengths are to be maintained in the systems.

The opportunities which are to be utilised by the private traders are 'insurance scheme for farmers' (O<sub>3</sub>), 'bio-fertiliser supply' (O<sub>6</sub>), 'advice about balanced fertiliser application' (O<sub>1</sub>), 'door-to-door delivery of inputs (O<sub>8</sub>) and 'training to farmers to adopt new technology in agriculture' (O<sub>5</sub>).

Comparing with the co-operative distribution outlets, the private traders were having a limited weaknesses. It includes 'lack of sale point personnel training' (W<sub>11</sub>),

**Table 4.44. Probable strategy for private traders**

<i>Strength to be maximised</i>	<i>Opportunities to be maximised</i>	<i>Weaknesses to be minimised</i>
1. Helps the farmer in marketing the produce (S <sub>7</sub> )	1. Insurance scheme for farmers (O <sub>3</sub> )	1. Lack of sale point personnel training (W <sub>11</sub> )
2. Low priced products (S <sub>2</sub> )	2. Bio-fertiliser supply (O <sub>6</sub> )	2. Delay in getting the products for supply (W <sub>8</sub> )
3. Agricultural/technical knowledge of distributors (S <sub>8</sub> )	3. Advice about balance fertiliser application (O <sub>1</sub> )	3. Lack of knowledge of distributors about the application of agro-chemicals (W <sub>1</sub> )
4. Adequate storage facility to the outlet (S <sub>10</sub> )	4. Door-to-door delivery of inputs (O <sub>8</sub> )	
5. Supply of quality products (S <sub>5</sub> )	5. Training to farmers to adopt new technology in agriculture (O <sub>5</sub> )	
6. Ready to consider farmer complaints (S <sub>9</sub> )		
7. Discounts/rebates offered for bulk purchase (S <sub>3</sub> )		
8. Multiple brands distribution (S <sub>1</sub> )		
<i>Strengths to be maintained</i>		
1. Credit facility to farmers (S <sub>4</sub> )		
2. Good farmer-supplier relationship (S <sub>6</sub> )		
3. Inform the farmer about new products (S <sub>11</sub> )		

'delay in getting the products for supply' ( $W_8$ ) and 'lack of knowledge of distributors about the application of agro-chemicals' ( $W_1$ ).

If the private traders will maximise the strengths and opportunities and minimise the weakness based on the SO-W strategy the private distribution outlets can also be a farmer friendly agro-chemical distribution outlets.

**Summary**

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## CHAPTER V

### SUMMARY OF FINDINGS AND CONCLUSION

Marketing of agro-chemicals differs in many respects from marketing of other products. Because the buyers of agro-inputs are mainly farmers and the potentiality of agro-chemical market depends on the expectations and needs of farmers. The role of agro-chemical distribution system is to ensure that the right product is available to the farmer at the right time, in the right place and at the right point of purchase. Hence, it is necessary for the distributors to identify the drawbacks in the distribution system in rendering services to farmers by the agro-chemical manufacturers and distributors. The drawbacks of the distribution system can be rightly pointed out by the farmers only. Because they are the actual beneficiaries from the distribution system.

Thus, SWOT Analysis of the distribution system will be helpful to the agro-chemical manufacturers and the distributors in developing or improving the distribution activities and also to offer better service to farmers.

It was in this context that the present study was undertaken with the following objectives:

1. To analyze the strengths, weaknesses, opportunities and threats of the agro-chemical distribution system; and
2. To suggest a strategy for streamlining it as a farmer friendly agro-chemical distribution system.

The study was conducted in Thrissur district. Two block (Pazhayannur and Wadakkanchery) were selected, on the basis of highest area under rice cultivation and the highest area under vegetable and banana cultivation. A 'Padasekharam' having highest area of rice cultivation and a 'Harithasangam' and a 'self help group' having the highest area of vegetable and banana cultivation were selected from these blocks.

The sample size of the farmers was fixed at 100, in which 40 farmers from a 'Padasekharam' and 30 each from a 'Harithasangam' and a 'self help group'.

In addition to the farmer-respondents, 25 co-operative outlets and 20 private traders from these block were also surveyed. The study was mainly based on primary data collected from the farmers and the distributors through personal interview method by administering a pre-tested structured schedule.

The data thus obtained were analyzed by using relevant statistical tools and techniques. Bivariate tables and simple percentages formed the basis of analysis. Kendall's coefficient of concordance was used to rank the factors that influence the selection of source of purchase. The strengths, weaknesses, opportunities and threats of agro-chemical distribution was identified from the opinion of respondents on a five point scale.

## **5.1. Summary of Findings**

### ***5.1.1. Distributor's response towards agro-chemical distribution***

1. All the distributor-respondents were distributing fertilizers and plant protection chemicals.
2. The most popular fertilizer manufacturers among co-operative outlets and private traders were 'FACT' and among plant protection chemicals 'Bayer India' 'Rallis India' and 'BASF' were the most popular manufacturers.
3. 'FACT' was identified as the manufacturer whose products are fast moving in the study area in the opinion of co-operative outlets and private traders. For plant protection chemicals 'BASF' and 'Rallis India' were identified as the common fast moving products.
4. T. Stanes and Co. was the high margin offering manufacturer in agro-chemicals for co-operative outlets and private traders.



5. In the opinion of co-operatives 'small farmers' and 'medium farmers' were the regular customers while for private traders 'small farmers' and 'large farmers' were the regular customers.
6. Cent percent of the distribution outlets pointed out that they were providing 'credit facility in purchasing inputs' to farmers. While in the opinion of co-operative outlets they were helping the farmers in the 'marketing of their produce also.
7. Majority of the co-operative outlets were having 'own godown only while majority of private traders were having both 'own and hired go downs'.
8. Majority of the distribution outlets were recommending products to farmers. The major factor behind the recommendation was the 'availability of products'.
9. Majority of the sales persons in distribution outlets were having qualification 'below SSLC' level.
10. Sales persons in the outlets were highly aware about the 'different agro-chemicals distributing through their outlets'.

#### ***5.1.2. Farmer's response towards agro-chemical distribution***

1. Age-wise classification of respondents showed that majority of them belongs to the age group between 40 and 60 years.
2. Classifications of respondents based on their education level revealed that majority of them were having the qualification below SSLC level.
3. Majority of the respondents had an annual per capita income between Rs. 2500 to Rs. 5000.
4. Majority of the respondents were small farmers having cultivating area below 2 acres of land.

5. In the opinion of farmers, majority of them were using both organic materials and agro-chemicals for increasing crop yield and protecting the crops.
6. The major reasons behind preference of agro-chemicals by farmers were 'increase in yield'.
7. Majority of the farmers were using 'complex fertilizer' in their field which is followed by 'mixture of fertilizers.
8. Decisions regarding the quantity of agro-chemicals to be applied in the field were taken by the majority of farmers on the basis of 'recommendation' from the salesman.
9. The decisions regarding the type of agro-chemicals to be applied were taken by the majority of farmers by receiving recommendation from the salesman.
10. 'FACT' 'IFFCO' and 'Madras Fertilizers' were the names of fertilizer manufacturers recalled by all the farmers. 'Bayer India' was the plant protection chemical recalled by majority of the farmers.
11. Among the different sources of information about agro-chemicals to farmers, 'Private traders' was pointed out by majority of the respondents followed by 'Krishi Bhavan'.
12. Majority of the respondents from the study area were having both co-operative as well as private traders for purchasing agro-chemicals.
13. Majority of the respondents revealed that co-operative outlets were at a distance of more than 6 km while private traders were at a distance between 2 - 4 km.
14. Majority of the respondents opined that additional outlet in their area was not necessary.
15. In the opinion of majority of the respondents all the distribution outlets were distributing fertilizers, plant protection chemicals and organic manures.

16. Majority of the farmers were preferred private traders as their preferred source of purchase for agro-chemicals.
17. 'Credit availability' was the major factor that influenced the source preference of farmers towards agro-chemical distribution outlets. 'Availability of desired/preferred product' was the next important factor for source preference among the farmers.

#### **5.1.3. SWOT Analysis of co-operative distribution outlets**

1. The strengths of co-operative distribution outlets were credit facility to farmers, good farmer-supplier relationship and helps the farmer in marketing their produce.
2. The weaknesses were supply of subsidised products only and lack of promotional efforts
3. The identified opportunities were insurance scheme for farmers and bio-fertiliser supply
4. The threats of the distribution systems were interest to earn high margin, unhealthy competition and supply of adulterated products.

#### **5.1.4. SWOT Analysis of Private Traders**

1. The strengths of private traders were credit facility to farmers, good farmer-supplier relationship and inform farmer about new products.
2. The major weakness was lack of sale point training.
3. The identified opportunities were insurance scheme for farmers and bio-fertiliser supply.
4. The threats were interest is to earn high margin followed by supply of adulterated products.

### ***5.1.5. SWOT Analysis – comparison between farmers response and distributors response***

1. Among the strengths, weaknesses, opportunities and threats of distributors response and farmers response, variations and agreements to the statements can be identified.

### ***5.1.6. Strategy formulation***

1. The suggested strategy for co-operative outlets is to maximise strengths and opportunities and to minimise weaknesses ie., SO-W (maxi-maxi-mini) strategy.
2. The probable strategy for private traders is to maximise strengths and opportunities and to minimise weaknesses ie., SO-W (maxi-maxi-mini) strategy.

To conclude, the study made a detailed search into the strengths, weaknesses, opportunities and threats of agro-chemical distribution systems. The study revealed that FACT, IFFCO, Madras Fertilizers and SPIC were the important agro-chemical manufacturers distributing products in the study area. In addition to the above listed fertilizer companies, Bayer India, Syngenta and Rallis India were the plant protection chemical manufacturers who were distributing products in the study area.

The distributors were aware about the different additional services needed by the farmers. They openly accepted that they were not providing additional services like 'marketing facility for the farmer's produce' from private traders. Even though co-operative outlets and private traders were available to the farmers in the study area, majority of farmers preferred private trader as their main source of purchase. This clearly shows that co-operative distribution system lacks many services in agro-chemical distribution system. Thus the strengths, weaknesses, opportunities and threats of co-operative distribution outlets were identified and a suitable and

appropriate strategy was suggested for streamlining the agro-chemical distribution system.

Coming to the strengths, weaknesses, opportunities and threats of agro-chemical distribution system, the distributors should utilize the strengths and opportunities to overcome the weaknesses in the distribution system. By removing the weaknesses and maximising strengths and opportunities from the present agro-chemical distribution system it can be changed into a farmer friendly agro-chemical distribution system.

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**SWOT ANALYSIS OF AGRO-CHEMICAL  
DISTRIBUTION SYSTEM IN  
THRISSUR DISTRICT**

**By  
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**ABSTRACT OF THE THESIS**

**Submitted in partial fulfilment of the  
requirement for the degree of**

***Master of Science in Co-operation & Banking***

**Faculty of Agriculture  
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## ABSTRACT

The study on 'SWOT Analysis of agro-chemical distribution system in Thrissur district' was undertaken with the following objectives:

1. to analyse the strengths, weaknesses, opportunities and threats of agro-chemical distribution system, and
2. to suggest a strategy for streamlining it as a farmer friendly agro-chemical distribution system.

The study was conducted in Pazhayannur and Wadakkencherry blocks in Thrissur district. Pazhayannur block was having the highest area under rice cultivation and the Wadakkencherry block was having the highest area under banana and vegetable cultivation. A 'Padasekharam' having highest area of rice cultivation and a 'Harithasangam' and a 'Self help group' having the highest area of banana and vegetable cultivation were selected respectively from these blocks. Thus, the 'Pazhayannur padasekhara samiti' from Pazhayannur panchayath in Pazhayannur block, Malakom Harithasangam and a KHDP Self Help Group from Thekkumkara panchayath in Wadakkencherry block were selected for the study. The sample group of farmers was fixed to 100, in which 40 farmers from a 'Padasekharam' and 30 each from a 'Harithasangam' and a 'Self Help Group'. 25 co-operative outlets and 20 private traders from these blocks were also surveyed.

The study made an explorative search in to the strengths, weaknesses, opportunities and threats of agro-chemical distribution system. Based on the distributors response towards agro-chemical distribution, the most popular fertiliser manufacturers among co-operative outlets and private traders were 'FACT' and among plant protection chemicals 'Bayer India', 'Rallis India' and 'BASF' were the most popular manufacturers. All the distribution outlets pointed out that they were providing credit facility to farmers for purchasing inputs. While the co-operatives were helping the farmers in marketing their produce. The distribution outlets used to recommend products to farmers and the major factor behind the recommendation was the availability of products in the outlets.

In the opinion of farmers, majority of the respondents were using both organic materials and agro-chemicals for increasing crop yield and protecting the crops. Decision regarding the quality and type of agro-chemicals to be applied in the field was taken by the influence of the salesman. The major source of information to the respondents was private trader followed by Krishi bhavan. The farmers preferred private traders as their source of purchase and the major factor influenced the source preference of farmers towards the distribution outlet was credit availability. Majority of the respondents revealed that co-operative outlets were at a distance of more than 6 kms. while private traders were at a distance between 2 - 4 kms.

SWOT Analysis of co-operative distribution outlets revealed that the major strengths which were existing in the system are credit facility to farmers, good farmer-supplier relationship and helps the farmer in marketing their produce. The major weaknesses were supply of subsidised products only and lack of promotional efforts. The identified opportunities which have to be tapped were insurance scheme for farmers and bio-fertiliser supply. The threats for the co-operative distribution outlets in their view were interest is to earn high margin and supply of adulterated products.

Strengths, weaknesses, opportunities and threats were identified for private traders also. The major strengths were credit facility to farmers, good farmer-supplier relationship and inform farmer about new products. Lack of sale point training was the major weakness to private traders among the other weaknesses. The identified opportunities were insurance scheme for farmers and bio-fertiliser supply and the threats were interest is to earn high margin and supply of adulterated products.

From the results obtained from the SWOT Analysis, suitable strategies are formulated for both co-operative distribution outlets and private traders. The suggested strategy for co-operative outlets is to maximise strengths and opportunities and to minimise weaknesses i.e., SO-W (maxi-maxi-mini) strategy. Similarly, probable strategy is suggested for private traders by taking into consideration of their strengths, opportunities and weaknesses. The strategy for the private traders is also SO-W strategy (maxi-maxi-mini) strategy, i.e. to maximise strengths and opportunities and to minimise weaknesses.



## Appendices

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**KERALA AGRICULTURAL UNIVERSITY**  
**COLLEGE OF CO-OPERATION, BANKING & MANAGEMENT**

**Title: SWOT Analysis of Agro-chemical Distribution System**

**Interview schedule for data collection from distribution outlets in Thrissur district**

1. Name of the agency :
2. Year of establishment :
3. Type : Co-operative/private agency
4. Area of operation : Ward/Panchayat Block:
5. What are the different types of inputs distributed in your agency?
  - a) Seeds
  - b) Planting materials
  - c) Fertilizers
  - d) Plant-protection chemicals
  - e) Agri-implements
  - f) Micro-nutrients
  - g) Plant growth promoters
6. Recall the different brands of fertilizers and pesticides distributing through your agency.

Sl.No.	Fertiliser brands	Sl.No.	Pesticide brands
i.	FACT	i.	Rallis India Ltd.
ii.	IFFCO	ii.	Bayer India Ltd.
iii.	Madras Fertilisers	iii.	E.I.D. Parry
iv.	Shriram	iv.	T.Stanes & Co.
v.	SPIC	v.	Syngeta Ltd.
vi.	T.Stanes & Co.	vi.	Cheminova
vii.	Others (specify)	vii.	Others (specify)

7. List out the brands of agro-chemicals, which are fast moving

Fertilisers	Manufacturers	Pesticides	Manufacturers

8. List out the manufacturers which are offering highest margin

Fertiliser manufacturer			Pesticide manufacturer		
High	Moderate	Low	High	Moderate	Low

9. Who is your regular customers?

Small farmers/medium farmers/large farmers/voluntary organization

10. Mention the services offered by your outlet other than the supply of agro-chemicals.

- i)
- ii)
- iii)
- iv)
- v)

11. What are the storage facilities available?

- i) Own godown only
- ii) Hired godown only
- iii) Own and hired go down
- iv) Others (specify)

12. Do you recommend agrochemicals to farmers? Yes/No

If Yes, What is the basis of your recommendation?

- i) High margin
- ii) Quality of products
- iii) Availability of the products
- iv) Others (specify)

13. Details of sales persons in the outlets

Number

Educational qualification

14. Awareness of the salesman about different aspects relating agro-chemicals and other inputs.

Sl. No.	Statements	Aware (A)	Somewhat aware (SA)	Not at all aware (NA)
1	Details about different agro-chemicals distributing through the outlet.			
2	Details about other inputs such as micronutrients, plant growth promoters.			
3	Current dosage of agro-chemicals and other inputs.			
4	About the new products coming in the market.			
5	About the cultivation practice.			

**Strengths**

Sl. No.	Strengths	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
1	Desired type of products are available					
2	Price of the products is low.					
3	Credit facility is offered to farmers					
4	Rebates and discount are offered for bulk purchase.					
5	Good farmer-supplier relationship					
6	Help the farmer in marketing their produce.					
7	Distributors have agricultural knowledge.					
8	Ready to consider farmer complaints.					
9	Adequate storage facility					
10	Quality products are supplied					

### *Weaknesses*

Sl. No.	Weaknesses	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
1	Lack of knowledge of distributor about cultivation practices and control measures.					
2	Ignoring farmer-complaints and queries.					
3	Considering a particular category of farmers.					
4	Supply of subsidized products only.					
5	Usual stock out position.					
6	Lack of promotional efforts.					
7	Lack of sufficient staff					
8	Delay in getting the products for supply					
9	Area of operation is large					
10	Supply of date expired products					
11	Lack of sales point personnel training					
12	Others, if any (Specify)					

### *Opportunities*

Sl. No.	Opportunities	Strongly	Agree	No Opinion	Disagree	Strongly Disagree
1	Advice about balanced fertilizer application					
2	Field visits for handling farmer complaints.					
3	Insurance scheme for farmers to cover risk.					
4	Timely information about nursery management and control measures.					
5	Training to farmers to adopt new technology in agriculture.					
6	Bio-fertiliser supply.					
7	Sale of other inputs such as					

8	implements, seeds etc. Door-to-door delivery of inputs.					
9	Others, if any (Specify)					

**Threats**

Sl. No.	Threats	Strongly Agreed	Agree	No Opinion	Disagree	Strongly Disagree
1	Supply of adulterated products					
2	Recent advances in agricultural technology					
3	Interest is to earn high margin					
4	Difficult to handle certain fertilizers.					
5	Health hazards out of pesticides.					
6	Unhealthy competition					
7	Others, if any (Specify)					

**KERALA AGRICULTURAL UNIVERSITY**  
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**SCHEDULE FOR FARMERS**

**Title : SWOT Analysis of Agro-chemical Distribution System in Thrissur District.**

1. Name of the respondent :

2. Address :

Panchayat/Ward

Block

3. Age :

4. Sex :

5. Religion :

6. Educational status :

7. Occupation :

8. Annual income (per head) :

9. Family details :

Sl. No	Name of the member	Sex	Age	Relation with head of the family	Education status	Occupation	Annual Income
1							
2							
3							
4							

10. Type of farming practicing in your field : Individual/Group farming

11 Class of fertilizer you normally use in your field : Organic/Chemical/Both

12. What are the Various reason for using chemical fertilizers?

- a) Increase in yield
- b) Non-availability of organic fertilizers
- c) Less expensive
- d) Scientific cultivation
- e) Good for the soil
- f) Others (specify)

13. Type of chemical fertilizers used in your field :

- a) Straight fertilizer
- b) Mixed fertilizers
- c) Complex fertilizers
- d) Others (specify)

14. Recall the various brands of fertilizers and pesticides known to you

SI.No.	Fertilizers	SI.No.	Pesticides
1	FACT	1	Rallis India
2	IFFCO	2	Bayer India Ltd
3	T.Stanes & Co	3	E.I.D Parry
4	Madras Fertilizers	4	T.Stanes & Co
5	Shriram	5	Syngeta Ltd
6	SPIC	6	Wochardt
7	Others specify	7	Cheminova
		8	Others specify



15. Where do you get the information relating to type/brands of fertilizers and pesticides?

Sl. No.	Particulars	
1	<b>Print Media</b> a. Newspaper b. Periodicals <b>Broadcast Media</b> a. Radio b. Television Krishi Bhavan Co-operatives Private Traders Fellow farmers/Neighbours Others (specify)	

16. How do you decide upon the quantity of fertilizer/pesticides to be used?

Sl. No	Particulars	
1	Based on soil testing	
2	Advice of extension worker/agricultural officer	
3	Recommendation of the salesman	
4	Applying the available quantity in hand	
5	Other reasons specify	

17. How do you decide upon the type of fertilizer to be used ?

Sl. No.	Particulars	
a)	Based on crop and soil	
b)	Advice from friend/relatives/neighbours	
c)	Use what is available at hand	
d)	Recommendations from sales men	
e)	Based on the advice of extension worker	
f)	Casual selection	
g)	Based on the availability in the market	
h)	Others (specify)	

18. Different sources which are distributing agrochemicals in your area

- a. Cooperatives
- b. Private Traders
- c. Government Agencies
- d. Krishi Bhavan
- e. Others (specify)

19. Different products which are distributing through these outlets

- a. Fertilisers
- b. Pesticides
- c. Micronutrients
- d. Seeds
- e. Agri-implements
- f. Plant growth hormones
- g. Others (specify)

20. Source preference for fertilizer and pesticide purchase

SI. No	Particulars	
1	Fellow Farmer	
2	Cooperative Outlet	
3	Private Agencies	
4	Others (specify)	

21. Factors influencing the selection of source for fertilizer/pesticide purchase (rank in order of preference)

Sl. No	Factors	
1	Availability of desired/preferred product	
2	Quality of the product	
3	Price of the product	
4	Credit Availability	
5	Supply of other agri-inputs	
6	Good customer service/Technical advice	
7	Convenient working hours	
8	Distance from farm	
9	Influence by agricultural officers/extension workers/fellow farmers	
10	Lack of alternative agency	
11	Others specify	

22. Distance to the nearest agro-chemical distribution outlet

Co-operatives					Private Agencies				
<1km	1-2	2-3	3-4	4-5	<1km	1-2	2-3	3-4	4-5

23. Opinion regarding the opening of additional outlet in your area

Private Agencies		Co-operatives	
Necessary/not necessary		Necessary/not necessary	
If necessary desired number of outlets		If necessary desired number of outlets	

24. Perception of farmers about the distribution outlets

**Strengths :**

SI. No	Strengths	Strongly Agree	Agree	No opinion	Disagree	Strongly Disagree
1	Desired type of products are available.					
2	Price of the products are low.					
3	Discounts/Rebates are offered for bulk purchase.					
4	Credit facility is provided.					
5	Quality products are supplied.					
6	Distributors helps in marketing the produce.					
7	Good farmer-supplier relationship					
8	Ready to handle customer complaints.					
9	Distributors have agricultural/technical					
10	Distributors give information about the new products in the market.					
11	Adequate storage facility.					
12	Others if any (specify)					

**Weaknesses:**

Sl. No.	Weaknesses	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
1	Lack of knowledge of distributor about the application of agro-chemicals.					
2	Ignoring your complaints and queries.					
3	Considering a particular category of farmers only					
4	Lack of promotional efforts					
5	Supply of subsidized products only					
6	Usual stock out position					
7	Supply of date expired products					
8	Area of operation is large					
9	Lack of sales point personnel training					
10	Others if any (specify)					

**Opportunities:**

Sl. No.	Opportunities	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
1	Need for advice about balanced fertilizer application					
2	Requires field visit of technical staff of the outlets.					
3	Insurance Scheme for farmers to cover risk of crop failures.					

4	Need for timely information about nursery management and control measures.					
5	Need for training to adopt new technological changes in agriculture					
6	Need for bio-fertiliser supply through the outlet.					
7	Other inputs such as seeds, implements etc. may be provided.					
8	Door-to-door delivery is preferable					
9	Other if any (specify)					

**Threats :**

Sl. No	Threats	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
1	Supply of adulterated products					
2	Interested to earn high margin					
3	Dealers acting as consultants without basic knowledge					
4	Difficult to handle certain agro-chemicals					
5	Health hazards out of agro-chemicals					
6	Others if any (specify)s					