CHAPTER - I

INTRODUCTION

A. The Problem

The importance of vanaspati in the country like India, which is facing population explosion can never be over emphasized where vanaspati contributes about 70% to 80% of the needs for the preparation of foods and dishes. In India, vanaspati is the second largest food processing industry ranked after the sugar industry. The importance of vanaspati may be gauged from the fact that, it is used in nearly all the eatables except fruits (including dry fruits).

The demand for cooking medium in India is continuously increasing. There are various mediums for cooking. In the forefront is desi ghee, but its production is not increasing because of the milch cattle not getting enough grazing land and thus not enough milk being available for conversion to desi-ghee. Secondly the direct use of edible oils for cooking and frying is not suitable. Thirdly, the consumption of refined oil is increasing, but it is more expensive than vanaspati. Thus vanaspati remains an important low cost cooking medium.

Thus, as the nation adopts the use of vanaspati for the preparation of food and dishes, the importance of vanaspati production and hence marketing is bound to grow manifold in the country. So far as production of vanaspati is concerned, the Indian vanaspati scene has continuously been expanding. This becomes clear when one examines the development of this industry in the country over the years.
The story of production of vanaspati in India goes back to almost 65 years. In 1930, the first vanaspati factory was set up by the Indian Vegetables Products Ltd., Bombay, with an installed capacity of 300 MTs. p.a.. Before 1930, India was the principal supplier of edible oils to the European countries which manufactured margarine. But, it was considered by the British rulers more economical to establish a vanaspati factory in India itself instead of exporting vegetable oils and oil seeds and then importing processed oils from the same countries. This is the reason why, when the whole world was involved in the thick clouds of the Great Depression in the thirties, two vanaspati factories came into existence in India in 1930 - one being Indian Vegetable Products Ltd. Bombay as already mentioned, and the second being Ganesh Flour Mills Ltd., Lyallpur (now in Pakistan). These two factories had a total installed capacity of 10,000 MTs. These factories were followed by the Tata Manufacturing Co. Ltd. and the Hindustan Vanaspati Manufacturing Company Ltd. owned by Hindustan Lever Ltd., at Ernakulam and Bombay respectively. Uttar Pradesh had its first vanaspati factory in Kanpur in 1934 owned by Ganesh Flour Mills Ltd.

As the production of vanaspati gradually increased, the imports of vanaspati declined. Where as in 1928-29, 22909 MTs. of vanaspati were imported, in 1939-40, the total imports were only 279 MTs.

In the immediate post-war period (after the second World War), there was a rush to establish new vanaspati factories because there was a "glow of gold" about every vanaspati factory during the war. The post war reconstruction committee estimated that, the demand for vanaspati would rise three times in five years. That is why the committee encouraged, through
licensing, the establishment of new factories of varying sizes in all parts of the country. In 1950, vanaspati was declared to be a wholesome food fit for consumption as a fat.

At the beginning of the First Five Year Plan (1951), there were 49 vanaspati factories in production. Ten factories were under construction. This number rose to 58 at the end of the First Five Year Plan.

During the course of the Second Five Year Plan period, the number of units actually went down to 55, because three factories which were producing vanaspati in the First Five Year Plan, suspended production during the second plan.

During the Third Five Year Plan period the number of factories also went down. There were only 52 factories producing vanaspati in the country as on 31st March 1966.

Although, the government reimposed licensing for vanaspati units in February 1970, mainly because of the apprehension of an inadequate supply of edible oils, as many as 47 requests were received from different parts of the country by the Directorate of Sugar and Vanaspati for setting up new factories as well as enhancing production capacity of existing vanaspati industry. As a result, 28 more factories were set-up. In addition, seven old manufacturers were given licenses for expansion of their existing plants in January 1971.

Kerala Oil and Soap Ltd., was the first Public sector company established for vanaspati production. In 1972, the government of India took over the management of Ganesh Flour Mill Company Ltd. In 1984, three vanaspati factories were nationalized under the name 'Hindustan Vegetable
Oils Corporation Ltd.' (HVOC). So, at present there are 4 public sector companies which are producing vanaspati. These are in the states of Punjab, Delhi, Uttar Pradesh and Kerala. Amrit Banaspati Company Ltd. (ABC), Sriram Foods and Fertilisers Ltd., Lipton India Ltd. have grown into a giant, managing a substantial proportion of the total vanaspati capacity in the country.

During the past few years, many units have entered the vanaspati industry and exiting units have also undergone a rapid expansion. At present, there are about 160 factories producing vanaspati, out of which four factories are in public sector. The installed capacity in 1994-95 was 2630175 Mts. It has been observed that, India satisfies its demand for vanaspati from domestic production only, and is also making very nominal exports to neighbouring countries.

With the rapid increase in production and consumption of vanaspati, marketing of vanaspati has gained new importance. However, in a fast expanding industry, the marketing aspect, particularly physical distribution may not be paid due attention. Physical distribution is the task of planning and implementing the flow of material and finished end products from the place of production to the place of consumption to meet the needs of customers at a profit. The term "Physical distribution"\(^1\) has been defined in

\(^1\) For Example:

(i) The process of physical distribution management is concerned with the movement of product to customers. In the chain of physical distribution the customers is viewed as the final step in the marketing channels. (Bowersox, D.J, *Logistical Management*, MacMillan Publishing company Inc. New York. 1978.)

(ii) 'Physical distribution Management' is concerned only with those flows which are from the end of production line to the customer (Christopher, Martin, *"Total distribution"* Gower Press, 1971.)
a number of ways by different authors. Further, some others have used the term "Logistics" in place of physical distribution. However, in common practice, physical distribution is taken to mean, the movement of finished products from the place of manufacture to the place of its ultimate use. Physical distribution system is the integrated system of various activities, which are necessary for the movement of the product from the producer to the customer. This system consists of the following activities or functions.

1. Transportation.
2. Warehousing or storage.
3. Inventory Management.
4. Packaging and Material handling.
5. Communication.

According to an estimate, physical distribution costs account for 8% of sales volume. Further it is also viewed by some writers that, physical distribution is the broad range of activities concerned with efficient movement of finished products from the end of the production line to the consumer and in some cases includes the movement of raw-material from the source of supply to the beginning of the production line. These activities include transportation, warehousing, material unloading, protective packaging, inventory control, plant and warehouse site selection, order processing, marketing, forecasting and customer service. (The National council of physical distribution Management, Chicago, Illinois.)

See for Examples:
distribution costs account for 25% to 33% of total cost borne by the manufactures for producing and distributing the product. But, it is generally believed that total physical distribution cost is anywhere between 15% and 30% of sales.\(^4\) Many experts have described "Physical distribution" as the "Last Frontier for Cost Economy". They opine that, substantial saving can usually be affected with the proper co-ordination between various activities of physical distribution function. Further, Peter Drucker views this area as "The Economy's Dark Continent."\(^5\) The main elements of the physical distribution costs are: "transportation (46%); warehousing (26%); inventory carrying costs (10%); receiving and shipping (6%); packaging (5%); administration (4%) and processing (3%)".\(^6\) The great marketing philosopher Philip Kotler is of the view that, "customer's attraction and satisfaction is highly influenced by the seller's physical distribution capabilities and decisions. But, no physical distribution system can simultaneously maximize customer service (customer satisfaction) and minimize distribution costs."\(^7\)

Physical distribution is the third largest category of cost, ranking after raw-material and labour cost. It is also a category of cost most responsive to reduction because, it has received less managerial attention than other costs.

All the activities of physical distribution are related to one another. No decision can be made by taking individual activity centre in isolation, because the decision in one area may lead to a change in another area. So, in

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\(^5\) Snyder, R.E., Physical Distribution Costs, Distribution Age, December 1963, pp. 35-42.
\(^7\) Peter Drucker, "The Economy's Dark Continent", Fortune, April 1962, pp. 103.
case the producer/distributor wants to commit any change in a particular activity centre, he must take into consideration the whole system.

This view of physical distribution leads to an important concept of "Total Cost Approach" (TCA) to physical distribution. The distribution problem is a system problem, and it must be solved by taking the whole system into account.

By using "Total Cost Approach" (TCA), one can determine the best possible level of customer service at least cost. This concept deals with the impact of physical distribution decision on the total cost of the business.

The Concept of TCA Involves the following Steps:-

1. Identify all the activity centres, and the factors affecting these activity centres.
2. Develop the data required to measure the impact of alternative distribution systems upon the total cost and level of customer service.
3. Determine the best combination of distribution activities which will minimize the total cost at a pre-determined service level.

The total cost approach aims at the optimisation of total system i.e. finding best solution overall, even at the expense of sub-optimization performance of an individual activity centre or more activity centres.

The present study makes an attempt to examine the state of physical distribution system in the vanaspati industry. An effort has been made to find out if the over all total cost in this industry can be reduced by applying the TCA concept to physical distribution of vanaspati.
The TCA under the Present Study helps in:-

i. Reviewing and finding out weaknesses in the present physical distribution system of vanaspati.

ii. Providing efficient method for the distribution of vanaspati.

iii. Reducing the total cost of vanaspati by reducing the overall total cost of distribution which will in turn help in reducing and controlling prices of vanaspati.

B. Rationale of the Study

Very few studies have been undertaken on physical distribution in India. The bulk of academic research has been focused on other marketing mix elements. Physical distribution, however, has been relegated to the sidelines. But in the present day economic scenario of liberalization and globalization, physical distribution would give the competitive edge to any organization.

Though some material on physical distribution exists, it pertains to individual activity centre of physical distribution and is conceptual in nature. Topics covered by earlier researcher pertain to transportation, inventory, physical distribution information system, packaging and material handling. See for Example:


In this sense, the nature of the present research, which works at the activity centre in an integrated manner, is more comprehensive in its scope.

Further more, most of the published work on physical distribution is conducted in industrially advanced and economically well off countries like; U.S.A., Japan and U.K. Obviously, these countries are much ahead of India in technology, management policies, work culture and infrastructural facilities. Thus, these studies are hardly apt in the Indian industrial set-up.

C. Objectives of the Study

In making complex marketing decisions, involved in the distribution policy, a decision-maker finds himself faced with a number of problems which cannot be solved independently of each other. Which marketing channel should be used? How many middlemen should there be at each level of distribution? How large should the inventory level be? How should the inventory be deployed geographically? How many branch warehouses should be? And where should these be located? Should public warehouses or branch warehouses be used? What mode of transportation should be used? These decisions are interlocking, and a decision-maker cannot afford to make any of them independently. In this study an attempt has been made to


consider the conceptual nature of these problems and the basis for taking decisions on them.

The Objectives of the Present Study are:

1. To examine the physical distribution system of vanaspati in the states of Punjab and Haryana.

2. To study the activity centres viz. transportation, warehousing, inventory management, Packaging and material handling and communication for the vanaspati industry with particular reference to selected companies.

3. To assess the level of inter-relationship between the different activity centres for the selected companies.

4. To compare the cost of activity centres for the selected companies.

5. To suggest the Total Cost Approach (TCA) for decision making.

The present study first considers the possibility of cost reduction in each activity centre. This relates to the operational aspect of physical distribution like inventory control, optimisation of transportation network, optimisation of warehousing location, simplification and speed of order processing and choice of packaging and material handling system etc.

The second aspect of this study relates to finding out best combination of these activity centres, where the inter-relationship between different activity centres is considered for major decisions like number, size and location of warehouses, mode of transport, size of inventory and level of customer service. For this purpose TCA has been adopted. The study would consider, whether TCA has been adopted by the selected companies or not.
The study would also identify the existing level of customer service in the selected companies. The study would attempt to suggest a framework for establishing a customer service level. For a particular level of customer service, different combinations of activity centres are possible. From these different combinations, the least cost combination would be suggested. Lastly, organizational structure and its suitability to the application of TCA would also be discussed.

The study would also examine, whether the size of the unit has any impact on cost and management of the physical distribution function. It would also examine, whether the type of ownership of any unit has any effect on the distribution systems or not.

D. **Scope of the Study**

There were about 160 vanaspati units in the year 1994-95 spread all over India. These units are basically manufacturing vanaspati, industrial hard oils, refined oils, margarine etc. The production of these units depends both upon the domestic and imported oils. These units belong to large, medium and small-scale sectors. The large and medium size units have adequate resources and they are having wide network of distribution channels for distribution of vanaspati all over the country. On the other hand, small units are supplying only to the local market, due to inadequacy of resources.

The vanaspati units in India can be categorized into four-trade sectors viz. public sector, co-operative sector, joint sector and private sector. In North India, Agro Tech India Ltd. is the only vanaspati unit under the joint sector and it started its production very recently. However, this unit does not have adequate database for the present study. So this unit was not considered
for inclusion in the present study. Thus, the present study is a comparative study of the only three trade sectors. The firms selected for the study have well-established distribution network. Markfed Vanaspati and Allied Industry Khanna (MARKFED), has been selected as it is the only unit producing vanaspati in co-operative sector in northern India. Obviously, no other unit qualified for selection. Similarly, in the public sector Hindustan Vegetable Oils Corporation Ltd. (HVOC) is the only company producing vanaspati in India. There is no other company in India producing vanaspati in the public sector. As regards Amrit Banaspati Company Ltd. (ABC), this is one of the three big units producing vanaspati in the private sector. This unit has been selected, as it is one of the largest suppliers of vanaspati in the states of Punjab and Haryana.

The present study would be limited to the geographical areas of Punjab and Haryana. These states have been selected because they constitute about 35% to 40% of the total consumption and production of vanaspati in India.

Thus, 'Hindustan Vegetable Oils Corporation Ltd.' (HVOC) was selected from the Public sector, where as 'The Punjab State Co-operative Supply and Marketing Federation Ltd.' (MARKFED) and 'Amrit Banaspati Company Ltd.' (ABC) were selected from the co-operative and private sectors respectively.

All the companies selected under the present study have, Punjab and Haryana as their major markets.
E. **Methodology**

The data for the study was collected from both primary and secondary sources. The primary data was collected by administering a structured questionnaire (Appendix IV) to the various officials concerned with the physical distribution activities in the selected units. Information and data was also collected by interviewing some of the officials of the respective organisations. It may be added that sometimes it was not possible to get the cost data for all the activity centres.

Secondary data was collected from the annual reports of the concerned organizations. Secondary data was also collected from a number of other sources like the Directorate of sugar and Vanaspati, New Delhi; Indian Vanaspati Producers Associations (IVPA), New Delhi; Vanaspati Manufacturers Association of India (VMAI), the Railway authorities etc.

**F. Plan of Study**

The study consists of eleven chapters. The first chapter deals with the problem, objectives, and scope of the study and the research methodology. The second chapter reviews the literature on the subject. The third chapter considers the production, consumption and distribution pattern of vanaspati in India with special reference to selected units. The fourth chapter examines the marketing channels for distribution of vanaspati in India. The next five chapters make an analysis of different activity centres viz. transportation, warehousing, inventory management, packaging and material handling, and communication. In all the five chapters the focus is on an analysis of costs of each activity centre of the selected units. The tenth chapter is concerned with TCA as applied to finding out the optimum solution for different activity centres.
centers. Thus, this chapter provides solution to the physical distribution problem among different activity centres. Further, the chapter analyses decisions of selection of the transportation mode and the establishment of optimum number of warehouses/depots. In this chapter, not only the application of the total cost approach has been analyzed, but also the relationship between the total cost approach and the organizational structure has been established. The last chapter deals with conclusions and suggestions for the improvement in the physical distribution system of vanaspati.