CHAPTER I

INTRODUCTION

1. Prologue

The agriculture is the prime industry of India providing, the largest section of our society with food and employment and raw materials to a number of industries. The subsistence nature of farming has been instrumental in the retarded growth of this sector till independence and hence, the foodgrain crops occupied the premier position in the crop schedule of the farmers. Despite of the fact that the largest part of the gross cropped area was devoted to cultivation of foodgrain crops the imports of foodgrains were inevitable in order to meet the domestic demand for foodgrains. The self sufficiency in foodgrain production had been one of the principal objectives of planned economic development in the agriculture sector. The main objectives of the food policy inter alia are (1) to achieve self reliance in foodgrains production through increasing domestic production of foodgrains and substituting imports.
(ii) creating buffer stocks and stabilising cereal prices and (iii) maintaining a supply to the consumers, especially from certain segments of the society, at a reasonable price.

The distribution and pricing of foodgrain have been subject of Government policy even during British rule. A number of regulatory measures like compulsory procurement, delineation of surplus and deficit regions, fixation of ceiling prices, distribution of foodgrains at fair prices and complete or partial rationing were introduced from time to time. The objective of such policies during British rule was to maintain popular support for colonial rule and not the long range development of Indian agriculture.

The Governmental interference in the foodgrains distribution receded after second world-war and a gradual shift towards free trade was brought about with a view to overcoming the procurement difficulties and

1. The objectives of the food policy are " to achieve self reliance in production, to ensure equitable distribution and to bring about price stability in the context of both production and distribution ".
   (Government of India, Planning Commission)
   Fourth Five Year Plan, 1969-74  F-171

2. Sir Henry Knight, " Food Administration in India"
   Stanford University Press
   Stanford, California, 1954
increasing domestic food production within shortest time to solve the Indian food problem.\(^3\)

The good harvests of foodgrains in early fifties did not call for any Governmental intervention in foodgrain trade. However, the failure of two successive crops of 1955-56 and 1956-57 resulted in shortages and sharp rise in prices of foodgrains. The Foodgrains Enquiry Committee, appointed in 1957, considered the traders to be responsible for such shortages and recommended 'Socialisation of Wholesale Trade' in foodgrains as a solution to check the increasing prices. The State Trading in foodgrains was also suggested by the All India Congress Committee in 1958 as a measure to reduce the price spread between the producer and the consumer.

The regulatory measures in foodgrains trade, like partial procurement of cereals, fair price distribution, formation of wheat and Rice zones and passing of Rice Milling Industry (Regulation) Act\(^4\) etc. were again introduced from 1958 onwards. The controls on distribution of foodgrains were further intensified.


\(^4\) The Rice Milling Industry (Regulation) Act was passed in 1958 to prohibit the establishment of new rice mills, expansion of existing rice mills or reopening of deficit mills except under permits from Government.
during mid-sixties. The Government even undertook the wholesale trade of wheat during early seventies although the results of such takeover were not much applauded.

The Governmental interference in the foodgrains trade after independence was devised with a view to ensuring prompt and uninterrupted supply of foodgrains to the people all over the country and rationalising the whole business in favour of large number of poor consumers. Despite efforts for monitoring the foodgrains trade through Government machinery, the Central and State Governments had not succeeded in procuring major portion of marketed surplus of foodgrains at procurement prices and substituting the existing channel of private trade in foodgrains.

2. Foodgrains Market Structure

The largest quantity of the foodgrains surplus in India is handled by traders operating at various stages of marketing. The various marketing functions like assembling, transport, wholesaling, retailing and processing of foodgrains etc. are undertaken by the traders with a view to making foodgrains available to the consumers at desired place, at desired time and in desired form. Although the traders form the strongest and widest
channel of foodgrains marketing in the country, their performance is often looked upon with suspicion in the context of social welfare. It is a popular view that markets for foodgrains do not operate efficiently and there is a great deal of difference in the prices paid by the consumers and that received by the producers both over time and space, due to imperfections of the market. A large number of middlemen existing between producers and ultimate consumers increase the cost of marketing through their high margins which ultimately leave a small part of the consumer's Rupee in the hands of producers. The marketing system which is characterised by high margins lead to price distortions and hence the prices show a great deal of difference during different years.

The research in marketing of agricultural commodities was not given much importance in the country before fifties due to (i) large proportion of farmers living on subsistence farming, (ii) lack of realisation of the importance of marketing efficiency in development of agriculture and (iii) slow rate of industrial growth and urbanisation.

However, with commencement of economic planning the academic interests in marketing of farm- products were aroused, atleast for the sake of choice of a marketing
system, which had become an integral part of the agricultural price policy in India⁵.

A number of studies were carried out after mid-sixties regarding efficiency of the traditional market structure. The difference in behaviour of prices during immediate post harvest months i.e. peak season of arrival and lean season was considered to be an indicator of inefficient marketing. The prices of foodgrains used to be at their lowest in the post harvest period and reached the peak during the lean season. Such seasonality in prices had certain important implications, because the benefits of the off-seasonal rise in prices did not accrue to the producers⁶. The disposal of marketable surplus of foodgrains was highest just after the harvest when the market prices were lowest⁷. The majority of the post harvest disposal might be distress sales because of hard pressed financial needs of the farmers⁸.

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The spread between the prices during peak season when traders bought the stock and those in off-season when traders sold out those stocks, was significant and the profits earned by the traders were very high. The high profitability of stock building by private traders, however, is a debatable issue as in some cases the net returns for individual holding periods in different years varied from loss to positive return and the weighted average returns for certain holding periods were even less than interest costs. The off-seasonal rise in prices of foodgrains does not always cover the storage cost, hence the storage is not always profitable. Thus, the assumption that traders make excessive profits through storage is not largely justified.

The pricing efficiency of the existing foodgrains marketing system can also be said to be of high order, if the degree of relationship between prices in various market centres are taken as an indicator of market integration. The inter-market prices of comparable varieties of Jowar, Rice and Wheat, were closely related.

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to each other and the price differences were not usually greater than costs of transportation. The wholesale prices of wheat also showed a close relationship in different markets and the differentials seldom exceeded the transport cost at any length of time.

The working of regulated markets, which have come into being with enactment of Agricultural Produce Markets Acts for amelioration of the marketing of agricultural produce in the country, has also not been considered instrumental at large, to increasing the marketing efficiency. A large number of market yards were developed in a haphazard manner without much pre-thought regarding the structural efficiency and the facilities to the people using them. The license holders as a class did not seem to have yet imbibed the marketing discipline. In most of the cases, market committees too follow the policies of permission and compromise ignoring the indiscipline and misbehaviour of the license holders for one reason or the other.


The traders operating in a regulated market enjoy monopoly power with understanding and close mutual personal relations and collusion and make the auction system ineffective which otherwise is a classic solution for making the market competitive.\(^{15}\)

The regulated markets might not have been very effective in making the markets perfectly competitive but they certainly have conferred some socio-economic benefits on the producers in their area of operation. The market charges have undergone a considerable reduction benefitting the producers. There has also been progressive reduction in the village sales as indicated by increased market arrivals in the regulated markets.\(^{16}\) The farmers have developed a tendency to transport their surplus to the nearby regulated market instead of selling it right at village level as an age old practice.\(^{17}\)

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However, it is generally agreed upon that the regulated markets have failed, for one reason or the other, in attracting a large quantity of market surplus from the producers, with some exceptions. Some of the market committees function de facto whereas a large number of market committees operate de jure without undertaking any activity for improvement of marketing, except collection of market and license fees from the traders. The inefficiency of the market committees in meeting the desired goals of systematic and rational marketing confirms that either there is no need of a regulated market as the existing market structure is efficient enough or there are certain ingrained drawbacks in the marketing system which inhibit the growth of regulated markets.

The study of the present market structure is also essential with development of agricultural sector. The division of labour, diversity in the nature of agricultural goods produced, changes in demand with the increase in per capita income and the changing economic significance of the farm-firm, necessitate desirable changes in the existing market structure. The rapid increase in major foodgrains production has started with advent of green revolution in India. The record
foodgrains harvest in 1967-68 signalled the introduction of green revolution in India. The first one hundred million tonne foodgrain harvest was achieved in 1969-70 which widened the hopes for higher domestic production.

There is a reason to believe that the accelerated growth in foodgrains production has placed excess burden on marketing systems and raised questions concerning the capacity of the existing system to handle increased production of foodgrains efficiently. The efforts towards production enhancement are not often accompanied by efforts for market development and hence farmers producing more on account of use of high yielding varieties could not sell their surplus at reasonable prices.

The changing economic environment calls for an overall evaluation of the existing marketing system with a view to judging whether assembly, transportation, handling, storage and distributional facilities in relation to the accelerated growth of foodgrains

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18. Thapar A. "Towards A Food Surplus : The problems of Plenty " The Times of India, August 23, 1971

production, will be adequate or an alternate marketing system will have to be devised to pursue the requirement of more efficient marketing system in the long run.

3. Foodgrains Production in Gujarat

Gujarat State is basically a foodgrains deficit state, although nearly half of the total cropped area is used for growing foodgrain crops every year. The imbalances in the supply of foodgrains are met with by purchases from other states or supplies made available by the Union Government. The deficit of foodgrains varies from year to year depending upon the harvest of various types of foodgrains in the state. During 1977-78 the production of rice, wheat and jowar was more than the requirement, even though there was a gross deficit of 19.5 Lakh tonnes. In the following year i.e. 1978-79, the harvest was comparatively good but there was surplus in case of wheat and Bajari while the production of all other cereals and pulses was less than the requirements and there was a gross deficit of 12.43 Lakh tonnes.

20. Government of Gujarat
Food and Civil Supplies Department
Statistical Abstracts- 1977-78
PP- 65
The production of foodgrains in Gujarat has undergone a considerable change during past three decades. The production of foodgrains has increased from 16 Lakh tonnes in 1950-51 to 40 Lakh tonnes in 1979-80. However, the area under foodgrain crops has not increased during the period under reference. On the contrary, it has declined from 51.5 Lakh hectares in 1950-51 to 44 Lakh hectares in 1979-80. The remarkable growth of foodgrains production in the state, hence is mainly due to increased yield per hectare of certain foodgrains like Bajari, wheat, paddy, etc.

The production of wheat in 1950-51 was merely 2.54 Lakh tonnes, but with the introduction of Mexican varieties the total production of wheat increased to 9.39 Lakh tonnes in 1970-71 and 12.15 Lakh tonnes in 1979-80. The production of wheat registered an increase of nearly 3.8 times in 30 years' period, while the area under wheat during the same period increased by 63% only.

The introduction of Hybrid Bajari during late sixties also resulted in unexpectedly high production of Bajari in the state. The total production of Bajari increased from 277 Lakh tonnes in 1950-51 to 15.75 Lakh tonnes i.e. 4.7 times in 1970-71; while the area under
Bajari showed a decline of 6% during the same period. The continuously high production of Bajari created such a situation in 1973-74 that the existing marketing system could not find avenues to dispose it off at reasonable rates and it led to price distortions. The area and production of Bajari both were affected during the following years due to such developments. However, during 1979-80, the total production of Bajari was 13.32 Lakh tonnes and area allocated to its cultivation was 12.57 Lakh hectares in the State.

The production of paddy could not be much increased although new varieties of paddy were introduced during the period under reference. The production of paddy was subject to a considerable annual variation as its production largely depended on rainfall received during the year. The production of rice increased from 3.08 Lakh tonnes in 1950-51 to 4.37 Lakh tonnes in 1979-80; although better peaks were achieved in between i.e. during 1970-71 and 1977-78. The area under paddy declined from 5.24 Lakh hectares to 4.58 Lakh hectares showing an overall decline of 12.5%.

The growth in production of Jowar in Gujarat is not spectacular, although Hybrid varieties of Jowar are being used for commercial cultivation. The production of Jowar
increased from 3.47 Lakh tonnes in 1950-51 to 557 Lakh tonnes in 1979-80 showing an increase of nearly 60%. However, the area under Jowar crop declined from 15.73 Lakh hectares in 1950-51 to 9.46 Lakh hectares in 1979-80. In other words, productivity of Jowar increased during the period under reference in spite of a sharp fall in the area under its cultivation.

Thus, among the four major foodgrain crops, Jowar was given the lesser importance by the farmers of the State owing to its use in certain areas of State as a staple food.

4. The Problem

The technological changes in foodgrains production have resulted into increased production but at the same time there has not been any considerable increase in the area under foodgrains, especially from 1960-61 onwards. The area under foodgrains, in a normal situation should have shown an increase, particularly when the production of foodgrains was lesser than its effective demand in the State and there was a net deficit of

21. Source : Government of Gujarat, Department of Agriculture

'Area, Production and Yield per Hectare of Important Food and Non-food Crops in Gujarat State' Annual Publications
foodgrains every year. The allocation of area under a particular crop is generally a function of number of factors like market price of a crop, market price of other competing crops, availability and use of agricultural inputs, Government policy regarding movement of certain crops and levy and the efficiency of marketing system. The marketing system is supposed to perform the function of signalling prices to both consumers and producers, bringing about allocation of available supplies among consumers and resources among producers. Thus, in this context, it is necessary to examine as to how far the present system of foodgrains marketing and the behaviour of prices of foodgrains are responsible for non-allocation of more land for production of foodgrains in Gujarat.

The foodgrains marketing system has to play rather a difficult role in a State like Gujarat where domestic production of foodgrains is always lower than its demand. If the foodgrains marketing system is not efficient, the inefficiencies of the system will be translated into undesirable market practices which will result into increased market margins for market functionaries at certain stages of marketing.
5. **Objectives**

The subject of foodgrains marketing is selected for three reasons:

a) to analyse efficiency of foodgrains marketing system in the context of a developing market economy,

b) to determine whether research supports the general charges labelled against the private trade in foodgrains in Gujarat and

c) to find out how far regulated markets and co-operatives are instrumental to marketing of foodgrains with their exceptionally good infrastructure in the State of Gujarat.

The specific objectives of the study are as follows:

(i) To estimate production and market surplus of foodgrains,

(ii) To examine the problems of foodgrains marketing in different size group of farms,

(iii) To study the structure and working of various market channels engaged in marketing of foodgrains,

(iv) To evaluate the performance of regulated markets, marketing cooperatives and traders in foodgrains marketing at primary market level,
(v) To analyse operational efficiency of various market channels engaged in marketing of foodgrains, and

(vi) To analyse and to explore possibilities of increasing the overall efficiency of existing foodgrains marketing mechanism.

6. Hypotheses

Consistent with the working of existing foodgrains market structure and objectives of the study, the following hypotheses are formulated for examination:

(i) The existing foodgrains market structure is efficient and fulfills the text-book conditions of competition to a large extent,

(ii) The price movement of a specific foodgrain in one market is closely related to the price movement of the same foodgrain in other markets, i.e. the markets for it are closely integrated and the differences in wholesale prices are not greater than the transport costs,

(iii) The seasonal price movements are consistent with cost of storage of foodgrains,
(iv) The cooperatives do not operate successfully in marketing foodgrains due to risk and uncertainty involved in the business and lack of proper decision making.

(v) The private traders work under perfect competition and hence the charge that they exploit the producers is not tenable.

7. Survey Design

(i) Selection of Foodgrain Crops

The foodgrain crops which assume an important position in the crop schedule are paddy, (Oryza sativa) Bajari, (Pennisetum typhoides) wheat (Triticum Vulgare and Triticum durum) and Jowar (Sorghum Vulgare). These four foodgrain crops occupy nearly 40% of the gross cropped area and account for 85% of the total foodgrains production in the State.

Wheat and paddy crops are largely grown in almost all the districts of the State, while Jowar and Bajari are restricted to certain agro-climatic regions. The Bajari crop is extensively grown in North Gujarat, Middle Gujarat and Saurashtra regions of the State, both in Kharif and hot-weather
seasons. Whereas, the Jowar crop is grown in South Gujarat region on a large scale in Kharif season and also in Rabi season, for grain production.

The paddy, wheat and Bajari crops are important for the State for their general acceptance at large by the masses, both urban and rural. The Jowar is accepted as a staple food only in South Gujarat and hence claims rather less importance on a wider scale in the State. Therefore, the scope of the study is kept limited to three major foodgrain crops viz. Paddy, wheat and Bajari.

(ii) Sampling Procedure

The sampling procedure followed for selection of sample is a mixture of both purposive and random sampling method. The selection of (a) district was made purposively keeping in view the objectives of the study. The further selection of (b) Talukas (c) villages and (d) farmers was made with the help of stratified random sampling method.

(a) Selection of District

The Ahmedabad district is selected purposively for the following reasons; (i) the cropping pattern of Ahmedabad district represents the typical cropping pattern of the State as the foodgrains crops and cash crops share the total cropped area nearly in equal proportion. During an agricultural year
3 to 3.3 Lakh hectares of land is put to cultivation of foodgrain crops alone, while remaining 2.7 to 3 Lakh hectares of land is used for cultivation of cotton, oilseeds etc. Among the foodgrain crops, wheat, paddy and Bajari are largely grown in the district. (ii) There is a good number of regulated markets in Ahmedabad district. The establishment of a few regulated markets dates back to early forties i.e., the beginning of the era of regulation in agricultural marketing in the State. (iii) The Ahmedabad district has a good network of cooperative societies. The village level cooperative societies with basic function of supply of farm credit are in operation for a long number of years. Some of such cooperative societies also undertake marketing of foodgrains on behalf of the farmers, although their share is not much in the total quantity of grains moving from their area of operation. Besides, there are cotton marketing cooperatives, Taluka level Purchase and Sale Unions and District Level Purchase and Sale Union which can very well undertake marketing of foodgrains on larger scale.
(b) Selection of Talukas

The Ahmedabad district comprises of seven Talukas namely, City, Daskroi, Dehgam, Dhandhuka, Dholka, Sanand and Viramgam. For selection of Talukas the data on area under foodgrains in every Taluka were collected and analysed for a period of 10 years i.e. from 1969-70 to 1978-79. The ten year simple averages for area under selected foodgrains in every Taluka were worked out and three Talukas growing selected foodgrains at large were selected in order of importance for the study. The selected foodgrains on an average shared 84.03% of the total area under foodgrains in Daskroi Taluka, 75.27% of the total area under foodgrains in Dehgam Taluka and 78.12% of the total area under foodgrains in Dholka Taluka. Therefore, Daskroi, Dehgam and Dholka Talukas of Ahmedabad district were selected at the second stage of sampling.

(c) Selection of Villages

From every Taluka selected in the sample, 5% villages were selected at the third stage of sampling. The basis for selection of villages was the total cropped area of the village during 1976-77 as per revenue records. The village-wise data on area under different crops during 1976-77 were collected from respective Taluka Panchayat
All the villages of a Taluka were then arrayed in ascending order on the basis of total cropped area. The total number of villages was 91 in Daskroi Taluka, 93 in Dehgam Taluka and 117 in Dholka Taluka. Therefore, 5 villages from Daskroi and Dehgam Talukas each and 6 villages from Dholka Taluka were to be selected in the sample at the rate of 5%. All the villages of Daskroi and Dehgam Talukas were sub-divided into 5 sub-groups each and that of Dholka Taluka in 6 sub-groups and from every sub-group one village was selected at random. Thus, 16 villages were selected in the sample for further study.

(d) **Selection of Farmers**

From every village 15 farmers, essentially growing at least one of the selected foodgrains were selected randomly. The alphabetical list of the land holders (Khatedars) was available from village records (Form- 8A) which was compared with other records (Form 7 and 12) for ascertaining whether any or all of the selected foodgrains were grown by the farmers. The names of farmers who did not grow any of such crops during 1979-80 were removed from the final list. The list thus prepared was further
verified for marketable surplus and then used for selection of 15 farmers with the help of random table. Thus, 240 sample farmers were selected randomly at the last stage of sampling.

(iii) Selection of Regulated Markets and Traders

All the regulated markets existing in the sample Talukas were selected to study their structure and working. The regulated markets at Bavla and Dehgam formed the sample as there is no regulated market in Daskroi Taluka. From each regulated market 10 traders were selected for the study of marketing and storage costs, marketing margin and marketing practices etc. The sample of traders include wholesalers, wholesalers-cum-commission agents and retailers etc.

(iv) Selection of Cooperatives

The village level cooperative societies existed in almost all the villages selected in the sample, but very few of them handled foodgrains, as they had mainly restricted their activities upto disbursement of agricultural credit besides working as fair price shops. Hence, only four cooperative societies which dealt in foodgrains business at large, were selected for in-depth study.
Sources and Method of Data Collection

The data were obtained from various sources for the study. The data on foodgrains production, marketable surplus, marketing practices, market channels etc. were obtained from the sample farmers by interviewing them personally. The data on structure of regulated markets, market charges and weekly arrivals and wholesale prices of selected foodgrains were obtained from records of respective Agricultural Produce Market Committees of the District. Similar data for Ahmedabad market were obtained from the records of Ahmedabad Grain Merchants' Association.

The information regarding cooperative societies was obtained through officials of such cooperatives. The crucial points requiring a great deal of discussion rather than much of factual information were discussed with Chairmen and Secretaries of such Cooperative Societies.

The traders selected in the sample for study were interviewed personally in order to get desired information on purchase, sale and stock building of foodgrains. Besides factual information some of the traders also discussed in detail the modus operandi of the foodgrain market and provided useful information.
The primary data were collected from the respondents through structured questionnaires. The structured questionnaires were prepared separately for (i) farmers, (ii) regulated markets, (iii) cooperative societies and (iv) traders.

9. Marketing Efficiency: Meaning and Definition

Marketing is generally defined as performance of business activities that direct the flow of goods and services from the producer to the consumer. Sometimes, it is considered merely as a distributional arrangement because the producers of goods and services, in an exchange economy, need a system to help them in disposing off their surpluses on the one hand, and the consumers expect availability of goods and services at certain time, place and in a particular form, on the other hand.

The producers not only need the market structure or system to help them in the disposal of their surpluses but they also want it to feed them back with information regarding market trends for proper allocation of their productive resources. Similarly, the consumers also desire that their wants and needs are identified and translated into product and service specifications by the system.
In the process of helping the producers of goods and services and their ultimate consumers, the market system creates employment potentials for human labour and investment opportunities for capital. Thus, the marketing not only arranges for distribution of surpluses in an economy but also creates employment potential, generates income and helps in the distribution of income. In other words, marketing assumes a special significance as an integral part of the modern economic system. Therefore, any betterment of marketing system has a long range of effects other than making the things available to the consumers at lowest possible cost and paying the largest share to the producer from consumer's Rupee.

The term efficiency refers to the achievement of maximum output with minimum of inputs. The efficiency of a machine can be judged by the ratio of energy consumed and that of energy produced. Similarly, the efficiency of any production process can be measured by the input : output ratio. The production process which requires lesser amount of inputs for production of an unit of output is considered to be more efficient than the other
processes which require the inputs in more quantity for the similar quantum of production.

The economic science deals with the use of resources at the disposal of a society in the most effective manner with a view to achieving the set goals of the society. The economic problem of an individual like that of the society, is also the maximisation of satisfaction by utilising the available resources. Hence, the economic problem of a society is not different from that of an individual who forms the society. In other words, the sum of the individuals' problems, created by numerous desires for consumer goods and services and inadequacy of the productive resources to meet with them in entirety, create the economic problem for the society. For solving the economic problem, the society has to utilise the scarce resources in such a manner that the desires of the people are satisfied to the largest possible extent\textsuperscript{22}. The efficient utilisation of various types of resources of the society results into maximisation of social

\textsuperscript{22} Kirzner I.M., \textit{Market theory and the Price System}, Affiliated east-west Press Pvt. Ltd., New Delhi, 1966 P-35
welfare. The efficiency is so much a part of economics that very often the subject of economics is called a science of efficiency.  

The efficiency or more precisely the economic efficiency of marketing refers to the competence or effectiveness with which a market structure performs its designed functions. We, therefore, define an efficient marketing system as one which undertakes the movement of goods and services from producers to consumers at the lowest cost within appropriate time and at appropriate place, without exploiting either of them, and avoids wasteful use of resources at every stage of marketing. Farrel has divided the economic efficiency into two components, viz. (i) technical or operational efficiency and (ii) pricing efficiency.

(i) Technical Efficiency

The agricultural commodities produced on farms and sold by the farmers are assembled, stored, transported and processed in order to


make them available to the final consumer at the time and place desired and also in the form required. The marketing functions are performed by different types of market functionaries at varying levels of cost and competence. The higher cost and less competence in distribution results into increased outlays and contribute to imbalances in supply and demand. The technical competence or efficiency refers to matters like rationalization of individual marketing functions. Hence, in a technically efficient market system all the marketing jobs are performed with best available method. The marketing firms are supposed to employ best suited methods for operation in the market. But employment of a new or improved method of doing a marketing job does not receive instantaneous acceptance in the market. Hence, sometimes the market functionaries, for lack of knowledge or otherwise, prefer to keep some

known in-efficiencies rather than adopting a new method for doing a marketing job. The technically efficient systems in a developing economy will not be easily acceptable if they replace the human labour, for fear of unemployment. The human labour replacing devices with whatever efficiency will be resented in a labour surplus economy. Except certain improvements which will reduce drudgery or monetary cost like transportation through tractor-trolley, instead of bullock cart may penetrate deep into marketing practices of the producers and may have an acceptance on a wider scale.

The technical efficiency of the market structure therefore, shall be evaluated keeping in view, the adoption status of technological advances of market functionaries. The cost of doing a marketing job by one functionary be compared with that incurred by the other functionary. However, the reduction in cost of a marketing job will not necessarily increase the technical efficiency of the whole marketing system. The cost reduction in marketing for a firm, when aggregated for the industry of
economy may result into gross inefficiencies, unless it is reduction in cost per unit of the product handled or marketed or unless it includes further production by extension of the market.

The technical efficiency of a marketing system is often linked with marketing costs with an assumption that due to lack of technical efficiency the marketing costs tend to be high. However, the high or low costs of marketing, considered by themselves, give little indication of the efficiency with which the marketing job is accomplished. The costs of marketing will increase with technological developments in marketing. The good transportation has increased the cost of marketing but has also made it possible for an area to specialize in production of a few commodities which grow suitably and economically. The increased cost in marketing hence will not only affect the marketing system in terms of achieving higher efficiency but also the process of production where producer will get the advantage of scale economies and reach a higher level of production and efficiency. Thus, the technical efficiency in marketing assumes
atleast the nature and quality of the marketing services rendered and the product handled to remain the same if not improved and focusses on reduction in the cost of inputs\textsuperscript{26}. The cost minimisation is possible only when there is a competition among the market functionaries and the marketing firms keep their costs and margins equal to that of the least cost firm. The high order technical efficiency in marketing thus can be achieved in a perfectly competitive market.

(ii) \textbf{Pricing Efficiency}

The pricing efficiency outlines the effectiveness of resource use in performance of various marketing functions in a system of marketing. The human labour, capital, management etc. are the inputs or resources used for creation of consumption utilities which are the final outcome of marketing. The ratio between the resources used and consumption utilities created indicates the degree of effectiveness of the various segments of the marketing system, and that of the

marketing system as a whole. The efficient marketing system in terms of pricing implies economy in physical handling and processing as well as elimination of wastes, high costs and exploitative profits in the process of marketing.

The complete elimination of wastes and high profits is possible only in a perfectly competitive market and hence the pricing efficiency can be said to have close relationship with the degree of competition prevailing in the market.

The perfectly competitive market is the most concrete theoretical model of an efficient marketing system. If the actual market conditions are close to that of perfect competition, there is more possibility of minimising wastes and exploitation and a greater chance for a uniform price to prevail over the entire market area.²⁷

In a competitive market, the price difference between two markets is not greater than the cost of handling and transport between the two places, the seasonal price difference of a commodity is not greater than the cost of storage from one season to another season, and in transforming a lot of commodity in finished product, the differences

between the prices of raw material and finished good is not more than the cost of processing incurred by the least cost firm. The normal profit of the least cost firm is added to the cost of creation of place, time and form utilities.

The firms which charge more profit than that of the least cost firm may have to get out of the market in the long run. Hence, they will have to follow the pricing pattern of the least cost firm, in order to remain in the business. However, this will be possible only if the goods marketed by all the firms are homogeneous in nature and the firms do not specialize in their business.

The free entry of firms in trade is one of the important characteristics of any market functioning under perfect competition. The size of firms and the number of traders in a market are also important determinants of a competitive market along with perfect diffusion of market intelligence among the participants.
10. **Measures of Marketing Efficiency**

The marketing efficiency is assessed by a number of criterion, major being the closeness of the market structure to the perfectly competitive market. In order to adjudge the similarity of the characteristics of existing market structure with those of a perfectly competitive market some of the following measures are very widely used.

(i) **Price Correlations.**

The price of an agricultural produce is necessarily determined by its supply and demand in the market. In the short run, if the demand for an agricultural produce exceeds its supply the prices tend to increase as it is not possible to produce an agricultural commodity in desired quantities within a short period of time. Hence, the prices of an agricultural output follow a cyclical movement i.e. the prices show generally an upward trend during the time lag between two production periods.

However, at a particular period of time the prices of an agricultural produce should be same in two different markets under
perfectly competitive structure of marketing. In real world situations such a perfect similarity is not possible owing to a number of constraints, but nonetheless there should be some plausible relationship between the prices of a commodity at a particular point of time in different markets. The prices shall not behave independently in the markets even if there is a little element of competition in the functioning of the markets.

(a) Village Level Price Formation

The prices of agricultural products at village level are formed on the basis of the prices ruling in the nearby primary wholesale markets. The difference between village level and primary wholesale market prices shall not be greater than the transport cost, provided there is no under-pricing at the village level and farmers are not compelled to dispose off their surpluses at village level for certain reasons. Therefore, the efficiency of pricing at village level can be worked out by comparing the price at village level and that at the nearby primary wholesale markets.
(b) Price Formation in Primary Wholesale Markets

Any two markets for a commodity are highly correlated under perfect competition. The price formation in one market affects the price formation in other market to such an extent that the prices tend to be almost similar. Hence, the degree of price correlation between two markets is simply considered as an indicator of the extent to which the two markets are integrated.

The price correlation between any two markets operating under perfect competition will be equal to 1 or perfect. However, if for some reasons the market conditions deviate from that of perfect competition the value of correlation will be less than one. A very low or negative value of correlation will indicate to independence of the markets in price formation discarding any possibility of integration between them.

The present structure of markets is not perfectly competitive owing to transport bottlenecks, lack of scientific grading, inadequate dissemination of market information and restrictions imposed by the Government in mobility of the
products from one region to another region. Hence, the price correlation between any two markets will never be equal to 1 owing to such impediments of the present market structure.

The price correlations between different primary wholesale markets; and primary and secondary wholesale markets will be used to estimate the pricing efficiency of the present marketing system of foodgrains in Ahmedabad district. The pricing efficiency thus measured relates to a point of time. The price differences between two periods of time will also have to be worked out in order to find out the temporal efficiency of the foodgrain marketing system. The difference in the prices of a commodity at two different points of time shall not be more than the price at time 'A' plus the cost of storage till time 'B'. If the differences in prices tend to be more, the market will hardly be considered as efficient.

(ii) Market Margins and Price Spread

The most common indicators of marketing efficiency are the price spread, i.e., the difference between the price received by the producer and the price paid for it by different links of marketing channels. The price spread is made up of marketing
costs incurred and marketing margins earned (or lost) in the process of movement of produce from the primary source to the final consumer.

There are three principal ways of calculating marketing costs and margins which constitute the price spread. The first method is to trace a particular lot of commodity from producer to the final consumer through specific channel of marketing. The second method involves calculations of average gross margins of each marketing channel by dividing the difference between money value of purchases and money value of sales, by the volume of turnover and then combining the margins of different market channels into an average by weighted average method. The third method is to calculate the gross margins at different stages of marketing and deducting the costs incurred at each stage in order to arrive at the net margins realised.

The first two methods of calculating marketing margins require detailed information from the various types of market functionaries at successive stages of marketing. The collection of such information may not be easy as traders will not be very willing to disclose their account books.
Therefore, the third method is most commonly used in comparing the market margins and price spread. The marketing margins are worked out by two different methods of computation as 'concurrent margins' and 'lagged margins'. The concurrent margin refers to the difference between the price prevailing at successive stages of marketing on the same date, while the 'lagged margin' is the difference between the price of farm produce obtainable at a particular stage of marketing and the price paid for it at the preceding stage of marketing during an earlier period, the length of time between the two periods being the average period for which the market functionary holds the product.

In the present study the marketing margins calculated are the 'concurrent margins' as complete and comparable data were not available for good approximation of different time lags.

28. (a) Vyas V.S. "Norms and Efficiency in Agricultural Marketing" PP 138 - 146
(b) Roy S.M. "Price Spread and Marketing Margins Vis-a-Vis Efficiency of Marketing" PP 164 - 167
(iii) Partial Budgeting

In partial budgeting technique extra costs and extra returns of the system being assessed are considered to arrive at net benefit over and above the existing system of the comparable type. The economic criterion of returns net of variable costs is used to rank the various systems compared.

The use of partial budgeting technique can be made in assessment of the operational efficiency of the existing foodgrains marketing system. The difference between the costs involved and returns earned by the producer in marketing of his produce through various market channels will indicate the comparative efficiency of every channel of foodgrains marketing. The efficiency of the marketing system as a whole will be determined on the basis of efficiency of each market channel and its relative share in the total volume of marketing.

(iv) Other Parameters

Besides the measures mentioned above certain other parameters are also suitably used to measure the efficiency of the existing foodgrains
marketing system. The extent of competition in the market which by and large indicates the closeness of market to the perfectly competitive market, itself is a measure of efficiency. If the number of market functionaries are more in a market there are greater chances for an efficient working of the marketing system. Moreover, the comparative ease or difficulty which a firm will face in entering the foodgrains marketing industry will also serve as an index of efficiency. An easy entry of firms in the industry will generate competition, whereas if the entry is constrained the oligopolistic forces may tend to over power the market structure.

The role of capital and volume of trade handled by the firms too are the determinants of efficiency. The capital rationing in trading sector is still much in vogue in order to prevent hoarding and check inflation. This, however affects the size of the firm more than the number of firms. The firms with inadequate capital can continue indefinitely at under employment equilibrium. If a few firms share the trade in a market at large, there will be a scope for collusion among them to avoid competition.
The behaviour of market arrivals of foodgrains shall have some relationship with the behaviour of market price according to economic theory. The prices will fall with an increase in the market arrivals and improve with a decline in market arrivals as the demand for foodgrains is inelastic in nature. The type of relationship between market arrivals and prices will also be helpful in evaluating the efficiency of the existing foodgrain marketing system.

The efficiency of foodgrains marketing in Ahmedabad district, estimated through the measures discussed in the foregoing text will explain whether the private trade qualifies its existence in the present situation or it needs to be replaced by some ideal system of marketing like cooperatives which supposedly contribute more to the welfare of the society.