CHAPTER I

INTRODUCTION AND DESIGN OF THE STUDY
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1.1 INTRODUCTION

Agriculture constitutes the core of the economy of most of the developing countries in the world. Constructive progress in their agricultural sector is an indispensable prerequisite for the rapid economic growth and rural development of these countries in general and poverty reduction both within and outside the agricultural sector in particular. So as to achieve this, developing countries now aim at restructuring their agricultural sector along a successful line. India being a developing country is no exception to this phenomenon. Agriculture being the primary sector is the mainstay of the Indian economy and is central to all the strategies of its planned economic development. It contributes around 25 per cent to the GDP and employs 65 per cent of the workforce of the country. Furthermore, 80 per cent of Indians who live below the poverty line constitute the rural population which depends directly or indirectly on agriculture. India is planning to achieve a GDP growth rate of 7 to 8 per cent during the Tenth Five Year Plan and has set the target of 4 per cent \(^1\) growth in agriculture. The achievement of the desired and targeted growth becomes possible only when the needed farm and non-farm services are effectively provided by the government. Among the non-farm services, marketing is the most important one.

In India, efforts to develop agriculture seem to be directed more towards production than marketing. But it has to be realized that even the most sophisticated production system would be incapable to attain and maintain its peak efficiency levels if the distribution system fails to function at the desired

level of efficiency. In this context, the success of any agricultural development rests ultimately on the efficiency of the marketing system. The marketing of agricultural produce is as important as the production itself. In view of its dynamic functions, it has been described as the most important multiplier of agricultural development. Therefore, a mere call to produce more without providing an efficient marketing machinery which could assure a fair return to the producer-sellers carries no conviction with the farmers.

The efforts by the Governments to revamp and restructure the agricultural marketing system in India started even before independence and have continued till today with a number of Acts passed and measures taken in this regard. But all these efforts could only prevent the further worsening of the system and could not fully eliminate some of the defects which are as old as agriculture.

*A Regulated Market is one which aims at the elimination of the unhealthy and unscrupulous practices, reducing marketing charges and providing facilities to produce – sellers in the market.*


Commercial Crops Markets Act, 1933, which was replaced by the Tamilnadu Agricultural Produce Market Act, 1959 on the basis of the recommendations of an expert committee which was again replaced by the Tamilnadu Agricultural Produce Marketing (Regulation) Act, 1987.

The growth of the Regulated Markets in Tamilnadu has been significant. There were 273 Regulated Markets in Tamilnadu. But only a meagre quantity of seven per cent of the marketable surplus of agricultural commodity comes to the Regulated Markets and only ten per cent of the surplus production is being sold through the Regulated Markets in Tamilnadu. The market arrivals at the Regulated Markets have been highly instrumental in developing the Regulated Market and bringing in more revenue.

The Thanjavur Market Committee controls the operations in the entire Thanjavur District comprising thirteen Regulated Markets, located in thirteen different places Athiramapattinam, Ammapettai, Budalur, Kumbakonam, Madukkur, Orathanadu, Pathukottai, Papanasam, Peravurani, Thanjavur and Vallam.

The establishment of the Regulated Markets is not in order to create an alternative marketing system. The basic objective is to create conditions for the efficient performance of private trade, through facilitating free and informal competition. In the Regulated Markets, the farmer is able to sell his marketable surplus in the presence of several buyers through open and competitive bidding. The legislation for the establishment of the Regulated Markets does not make it compulsory for the farmer to sell his produce in the Regulated Marketyard. Instead, the voluntary action on the part of the farmers to take advantage of such a market is assumed. The basic philosophy of the establishment of the Regulated Market is the elimination of malpractices in the
system and the assignment of dominating power to the farmers or their representatives in the functioning of the markets.

The specific objectives of the Regulated Markets are to prevent the exploitation of farmers by overcoming the handicaps in the marketing of their products, to make the marketing system most effective and efficient so that farmers may get better prices for their produce. The goods are made available to consumers at reasonable prices, to provide incentive prices to farmers for inducing them to increase the production both in quantitative and qualitative terms. All this is done to promote orderly marketing of agricultural produce by improving the infrastructural facilities at the market.

1.2 IMPORTANCE OF THE STUDY

The entire production of different agricultural produce does not find its way to the market. The produce actually sold depends upon the marketable surplus. The increased marketable surplus necessitates the demand for market infrastructural facilities. The marketing system is now required to handle large volumes of agricultural products on account both of increase in output and increase in marketed-surplus to output ratios. As agriculture gets more and more commercialized, marketing improvements assume a more significant role. Hence, policies formulated by the Government aimed at improving the efficiency of agricultural marketing would have a favourable impact on productivity. A defective marketing system acts as a positive disincentive to any increase in production. The need for an efficient marketing system to match the increasing production is now being increasingly realized. Ultimately, it is only opportunities for assured and remunerative marketing that will determine the economic viability of farming both as a way of life and as a means of livelihood.\footnote{M.S. Swaminathan, Chairman, National Commission on Farmers, \textit{2006-07: Year of Agricultural Renewal}, M.S.Swaminathan Research Foundation, Jan, 2006, p.17.} Thanjavur district taken for the study is basically an
agriculture-friendly area. Besides the staple crops of paddy and coconut, crops like cotton, sugarcane, maize and cereals are also grown considerably in the region. Like elsewhere in India, the occupation of agriculture upon which the life of farming community rests is gradually becoming a gamble on nature in this region. If reasonable prices are not available for their produce affected against all odds, it amounts to committing a fraud on the poor farming community. In this context, the present study gains importance as the Regulated Markets are mainly established to fulfill the aspirations and expectations of the farmers. Therefore, the present study is undertaken to assess the overall performance of the Regulated Markets of the study area and to find their deficiencies and pitfalls if any and suggest the efforts needed for their corrections. The findings and suggestions of the study are expected to help to improve the working of the Regulated Markets of the area and in turn to benefit the farmers of the region for whom they are established.

1.3 STATEMENT OF THE PROBLEM

A sound marketing system should ensure reasonable benefits to the producers and consumers. Its principal goals, among others, are to consolidate the gains in the field of production by minimizing the costs of distribution, reducing the seasonal price differences and by handling efficiently the increased marketable surplus. With a view to achieving these objectives the Regulated Markets have been established. These markets take into account the sufferings of the farmers at the hands of moneylenders, greedy merchants and commission agents and have introduced many measures beneficial to the farmers. They do not charge any commission in any form and weighment is made free of cost to the growers. These markets provide a place for assembling, preventing malpractices and ensuring competitive bidding – all at no cost to the farmers. In addition to that, financing facility is also provided to the producers and traders on pledging the produce on a nominal rate of interest. These markets generally assure the producers an orderly and non-exploitative
marketing system and fair business practices and try to equalize the bargaining power of both producers and traders.

The existence of the Regulated Markets can be justified only when their services are utilised by a reasonable number of farmers and traders. Another important factor to be considered in the study of the Regulated Markets is the arrivals of quantum of increased marketable surplus due to the advancement in production technology followed by change in the cropping pattern. It is found not only in the aggregate but also in the outputs of most of individual crops. The other dimension to be considered in the study of the Regulated Markets is the conflicting interests of parties which are at work. The consumers want adequate quantities with appropriate quality at the lowest possible price. The farmers’ objective, on the other hand, is to get the highest possible price for their produces. The traders have their own objective in getting the largest possible total net profit. Without improving the efficiency of marketing system the conflicting interests of these parties cannot be served at best.

While looking at the performance of the Regulated Markets at the national level, the various studies undertaken in this regard showed that they had limited success to the extent of achieving an orderly and transparent marketing system in assembly markets. But facilities available in these markets are grossly inadequate and the rate of using such facilities by the market beneficiaries was also at the lowest ebb. At the Tamil Nadu level also, the extent of utilization of the services of these markets by them is of mixed nature.

The Regulated Markets of Thanjavur District deserve special attention due to the less volume of trade transacted inside than outside their premises. Though the Regulated Markets are rendering many services to the farming community, they are not able to succeed in motivating the farmers to sell their entire marketable surpluses through these markets. It is known that the
farmers still depend on private traders, money lenders and commission agencies for disposing their marketable surplus. The traders, on the other hand, purchase most of the notified crops outside the premises of the Regulated Markets purely for their narrow personal gains. On another dimension the present study also has to probe as to how these markets performed after they had been brought under the control of the Thanjavur Market Committee from 1st January, 2003.

With this overall background, the study was made to assess the Performance of the Regulated Markets in Thanjavur District, Tamil Nadu, mainly from the point views of farmers and traders. In order to promote the Regulated Markets as farmers and traders-friendly and also to tune their overall performance the Government intervention is necessary in the form of policies and actions and these have to be based on empirical evidences. The present study also helps the Governments to formulate such policies required at the national and state levels in general and in the study area in particular. The initial enquiries showed the problems responsible for the poor functioning of the regulated markets of the study area. They also showed the reasons for under utilization of the services provided in these markets by the market beneficiaries.

Based on the outcome of the pilot study, the following issues were identified for the purpose of evaluating the performance of the Regulated Markets of the study area:

- To what extent the farmers participate in these Regulated Markets and what are the reasons for non-participation of farmers in these markets?
- Whether the functional coverage of these markets is effective?
- To what extent are the farmers and traders satisfied with the functional coverage of these markets?
Whether the farmers and traders face any problems in utilizing the services of these markets?

1.4 NEED FOR THE STUDY

The importance of the Regulated Markets in ensuring the welfare of farmers and traders cannot be underestimated but there has been a wide gap between the net income of the Regulated Market and the increasing growth in market arrivals. This discrepancy is serious, leading to financial crisis, behavioural consequences and also adverse impact on both the traders and the farmers. In the present scenario due to hectic changes and severe competition, any system has to re-orient itself to the growing needs and expectations of the beneficiaries, but for which the very survival of the system itself will be at stake. Therefore it is essential that the Regulated Market System in India has to be critically evaluated keeping in view the agrarian economy of India and the dominating role of agriculture in the Indian System.

1.5 OBJECTIVES OF THE STUDY

The present study has the following objectives:

i) To exhibit the profile of the farmers in the Regulated Market. To identify the farmers’ attitude to the working of the Regulated Market.

ii) To examine the problems encountered by the farmers in the Regulated Market.

iii) To show the profile of traders in the Regulated Market and their attitude to various aspects of the Regulated Market.

iv) To identify the problems faced by the traders in the Regulated Markets.

v) To offer suggestions to improve the efficiency of regulated market on the basis of results of the study.
1.6 METHODOLOGY

1.6.1 Research Design of the Study

A research design is a framework or blueprint for conducting a research project. It details the procedures necessary for obtaining the information needed to structure and/or solve the research problems. A research design lays the foundation for conducting the project. It enumerates the information needed, the design of the research, the specified measurement and scaling procedures, the construction and pretest of questionnaire, the sampling process, the sample size and the plan of data analysis.

In the present study, the applied research design is descriptive. A descriptive research design is concerned with describing the characteristics of a particular individual or a group. The present study satisfies all aspects related to the characteristics of a descriptive research design.

1.7 AREA OF STUDY

There are many Regulated Markets in Thanjavur district. Athiramapattinam, Ammapettai, Budalur, Kumbakonam, Madukkur, Orathanadu, Pathukottai, Papanasam, Peravurani, Thanjavur and Vallam Thirupananthal and Papanadu markets are considered for the study.

1.8 PROFILE OF THE STUDY AREA

Thanjavur, formerly Tanjore, is a town and the headquarters of the Thanjavur District in the Indian state of Tamil Nadu. Scholars believe that the name Thanjavur has been derived from "Tanjan", a legendary asura in Hindu mythology. While the early history of Thanjavur remains unclear, the town first rose to prominence during the reign of the Medieval Cholas when it served as the capital of the Chola empire. After the fall of the Cholas, the town was ruled by various dynasties like Pandyas,
Vijayanagar Empire, Madurai Nayaks, Thanjavur Nayaks, Thanjavur Marathas and the British. It has been a part of independent India since 1947. Thanjavur is an important center of South Indian art and architecture. Most of the Great Living Chola Temples which are UNESCO World Heritage Monuments are located in and around Thanjavur. The foremost among the Great Living Chola temples, the Brihadeeswara Temple, is located in the center of the town. Thanjavur is also the home of the Tanjore painting, a painting style unique to the region. The town is an important agricultural center located at the heart of the region, known as the "Rice Bowl of Tamil Nadu". Thanjavur is administered by a special grademunicipality covering an area of 36 km² (14 sq mi). Thanjavur is well-connected by roads and railways with other parts of India and with cities and towns in Tamil Nadu. The nearest airport is Tiruchirapalli International Airport located at a distance of 56 km (35 mi) from Thanjavur. The nearest seaport is Nagapattinam which is 84 km (52 mi) from Thanjavur. Thanjavur has four deemed universities, 15 arts, science & management colleges, nine engineering colleges, one medical college and 20 registered schools.

Thanjavur is well known for its culture and education. Thanjavur has a total of four Universities as Tamil University, SASTRA University, PRIST University, Periyar Maniammai University. The Tamil University is a state run institute, started during 1981 and got the statutory recognition from the University Grants Commission in 1983. It is one of its kind for the Tamil language doing higher research in Tamilology and advanced study in various other allied branches like linguistics, translation, lexicography, music, drama and manuscriptology. Thanjavur has a total of 15 arts, science & management colleges and nine engineering colleges. The Thanjavur Medical College was established in 1961 and is one of the oldest medical colleges in Tamil Nadu. The Paddy Processing Research Centre (PPRC) later became the Indian Institute of Crop Processing Technology (IICPT) in 2008 and is a hub for food processing research. The Saraswati Mahal Library which dates back to the end
of the 16th century and the Central Library managed by the district administration are the two most prominent libraries in the town. There are 20 registered schools in Thanjavur, catering to the primary, secondary and higher secondary education. The Blake.Hr.Sec school at Thanjavur was established by Rev. C F Schwartz in the year 1784. This was the first school in South India which taught English to the local populace. It was originally established as a college. St.Antony's Higher Secondary School, is one of the oldest schools in Thanjavur District. The school's history dates back to about 130 years (started in 1885) and is run by the Diocese of Thanjavur. Christian Missionaries played a prominent role in promoting education in Thanjavur. Kalyanasundaram higher secondary school, established in 1891, is one of the oldest schools in Thanjavur.

In 2011, Thanjavur had population of 2,402,781 of which male and female were 1,183,112 and 1,219,669 respectively. In 2001 census, Thanjavur had a population of 2,216,138 of which males were 1,096,638 and remaining 1,119,500 were females.

1.9 SAMPLING DESIGN

The present study includes farmers, traders and officials in the Regulated Markets as the samples. For the determination of the sample size, 20 per cent of the farmers and traders involved in marketing at these Regulated Markets during 2010-2012 are taken. The sampling procedure applied to distribute sample size in the case of farmers and traders is shown below:
### Table 1.1

Population of Farmers and Traders During 2010-2012

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Regulated Markets</th>
<th>No. of Farmers registered in Regulated Market</th>
<th>No. of licensed Traders</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Population</td>
<td>Sample</td>
</tr>
<tr>
<td>1</td>
<td>Athiramapattinam</td>
<td>278</td>
<td>56</td>
</tr>
<tr>
<td>2</td>
<td>Ammapettai</td>
<td>126</td>
<td>25</td>
</tr>
<tr>
<td>3</td>
<td>Budalur</td>
<td>197</td>
<td>39</td>
</tr>
<tr>
<td>4</td>
<td>Kumbakonam</td>
<td>553</td>
<td>111</td>
</tr>
<tr>
<td>5</td>
<td>Madukkur</td>
<td>354</td>
<td>71</td>
</tr>
<tr>
<td>6</td>
<td>Orathanadu</td>
<td>258</td>
<td>52</td>
</tr>
<tr>
<td>7</td>
<td>Pathukottai</td>
<td>298</td>
<td>60</td>
</tr>
<tr>
<td>8</td>
<td>Papanasam</td>
<td>481</td>
<td>96</td>
</tr>
<tr>
<td>9</td>
<td>Peravurani</td>
<td>226</td>
<td>45</td>
</tr>
<tr>
<td>10</td>
<td>Thanjavur</td>
<td>150</td>
<td>30</td>
</tr>
<tr>
<td>11</td>
<td>Vallam</td>
<td>192</td>
<td>38</td>
</tr>
<tr>
<td>12</td>
<td>Thirupananththal</td>
<td>244</td>
<td>49</td>
</tr>
<tr>
<td>13</td>
<td>Papanadu</td>
<td>228</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3585</td>
<td>717</td>
</tr>
</tbody>
</table>

**Source**: Market Committee Thanjavur

The Thanjavur Market Committee is divided into thirteen divisions comprising Athiramapattinam, Ammapettai, Budalur, Kumbakonam, Madukkur, Orathanadu, Pathukottai, Papanasam, Peravurani, Thanjavur, Vallam, Thirupananththal and Papanadu Regulated Markets. On the basis of the population in each Regulated Market, the total sample size of farmers is 717
distributed proportionately. The sample allotted to each Regulated Market is selected at random. The stratified proportionate random sampling method is followed to select the sample farmers and traders in the present study.

1.10 COLLECTION OF DATA

The data collected for the research predominantly are primary data collected from the respondents namely farmers and traders using the interview schedule. Before the actual data collection process started, the schedule was pre-tested among 10 each from farmers and traders. The schedule was redrafted and re-structured, based on the response to the pilot study. The secondary data were collected from the records of the various Regulated Markets in Thanjavur District.

1.11 SCOPE OF THE STUDY

The present study is confined to the Regulated Markets in Thanjavur district only. There are thirteen Regulated Markets in Athiramapattinam, Ammapettai, Budalur, Kumbakonam, Madukkur, Orathanadu, Pathukottai, Papanasam, Peravurani, Thanjavur Vallam Thirupananthal and Papanadu.

The operational and financial performance of these Regulated Markets is analysed from the facts relating to the period 2000 to 2012. The attitude to Regulated Markets is measured among the registered farmers and traders in various Regulated Markets during 2000 and 2012.

1.12 FRAMEWORK OF ANALYSIS

For analysing the data collected during the investigation, the following statistical tools were used. They are based on the nature of the data and the relevance of the information required fulfilling the objectives of the study.
1.12.1 Chi-Square

The $x^2$ test is one of the simplest and most widely used non-parametric tests in statistical work. It makes no assumptions about the population being sampled. The quantity $x^2$ describes the magnitude of description between theory and observation, i.e., with the help of $x^2$ test one can know whether a given discrepancy between theory and observation can be attributed to chance or whether it results from the inadequacy of the theory to fit the observed facts. If $x^2$ is zero, it means that the observed and expected frequencies completely coincide. The greater the value of $x^2$, the great would be the discrepancy between observed and expected frequency. The formula for computing Chi-Square is:

$$x^2 = \frac{(O-E)^2}{E}$$

Where,

$O =$ observed frequency

$E =$ Expected or theoretical frequency.

The calculated value of $x^2$ is compared with the table value of $x^2$ for given degrees of freedom at specified level of significance. If the calculated value of $x^2$ is greater than the table, the difference between theory and observation is considered to be significant, i.e., it could not have arisen due to fluctuations of simple sample. On the other hand, if the calculated value of $x^2$ is less than the table value, the difference between theory and observation is not considered significant, i.e., it could have arisen due to fluctuations of sampling.

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1.12.2 Correlation Coefficient

The most familiar measure of dependence between two quantities is the Pearson product-moment correlation coefficient, or "Pearson's correlation." It is obtained by dividing the covariance of the two variables by the product of their standard deviations. Karl Pearson developed the coefficient from a similar but slightly different idea by Francis Galton.

The population correlation coefficient $\rho_{X,Y}$ between two random variables $X$ and $Y$ with expected values $\mu_X$ and $\mu_Y$ and standard deviations $\sigma_X$ and $\sigma_Y$ is defined as:

$$\rho_{X,Y} = \text{corr}(X,Y) = \frac{\text{cov}(X,Y)}{\sigma_X \sigma_Y} = \frac{E[(X - \mu_X)(Y - \mu_Y)]}{\sigma_X \sigma_Y},$$

where $E$ is the expected value operator, $\text{cov}$ means covariance, and, $\text{corr}$ a widely used alternative notation for Pearson's correlation.

The Pearson correlation is defined only if both of the standard deviations are finite and both of them are nonzero. It is a corollary of the Cauchy–Schwarz inequality that the correlation cannot exceed 1 in absolute value. The correlation coefficient is symmetric: $\text{corr}(X,Y) = \text{corr}(Y,X)$.

The Pearson correlation is +1 in the case of a perfect positive (increasing) linear relationship (correlation), −1 in the case of a perfect decreasing (negative) linear relationship (anticorrelation), and some value between −1 and 1 in all other cases, indicating the degree of linear dependence between the variables. As it approaches zero there is less of a relationship (closer to uncorrelated). The closer the coefficient is to either −1 or 1, the stronger the correlation between the variables.
If the variables are independent, Pearson's correlation coefficient is 0, but the converse is not true because the correlation coefficient detects only linear dependencies between two variables. For example, suppose the random variable $X$ is symmetrically distributed about zero, and $Y = X^2$. Then $Y$ is completely determined by $X$, so that $X$ and $Y$ are perfectly dependent, but their correlation is zero; they are uncorrelated. However, in the special case when $X$ and $Y$ are jointly normal, uncorrelatedness is equivalent to independence.

If we have a series of $n$ measurements of $X$ and $Y$ written as $x_i$ and $y_i$ where $i = 1, 2, ..., n$, then the sample correlation coefficient can be used to estimate the population Pearson correlation $r$ between $X$ and $Y$. The sample correlation coefficient is written

$$r_{xy} = \frac{\sum_{i=1}^{n} (x_i - \bar{x})(y_i - \bar{y})}{(n - 1)s_x s_y} = \frac{\sum_{i=1}^{n} (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum_{i=1}^{n} (x_i - \bar{x})^2 \sum_{i=1}^{n} (y_i - \bar{y})^2}},$$

where $x$ and $y$ are the sample means of $X$ and $Y$, and $s_x$ and $s_y$ are the sample standard deviations of $X$ and $Y$.

This can also be written as:

$$r_{xy} = \frac{\sum x_i y_i - n \bar{x} \bar{y}}{(n - 1)s_x s_y} = \frac{n \sum x_i y_i - \sum x_i \sum y_i}{\sqrt{n \sum x_i^2 - (\sum x_i)^2} \sqrt{n \sum y_i^2 - (\sum y_i)^2}}.$$

If $x$ and $y$ are results of measurements that contain measurement error, the realistic limits on the correlation coefficient are not $-1$ to $+1$ but a smaller range.
1.12.3 Analysis of Variance (ANOVA)

The analysis of variance examines the differences in the mean values of the dependent variable for several categories of a single independent variable or factor. The ANOVA may be One-way or N-ways. It depends upon the number of dependent variables or factors discussed simultaneously. If only one variable or factor is discussed, it is called as One-way ANOVA. When the number of dependent variables discussed simultaneously is two, it is a Two-way ANOVA.

In order to find the significant difference among the groups regarding one or more than one factor, the ‘F’ statistics have to be calculated through the ANOVA.

\[
F \text{ ratio} = \frac{\text{Variance between groups}}{\text{Variance within groups}}
\]

is calculated and compared with the respective table value of ‘F’ at the required level of significance. In the present study, both the One-way and the Two-way ANOVA have been used.

1.12.4 T-test

The ‘t’ test in the present study is conducted to find out the significant difference among the two group means. Before that the homogeneity test has been conducted to test whether the groups are homogenous or not (Balazas, 1995)\(^9\)

\[
t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\left(\frac{(n_1 - 1) \sigma_1^2 + (n_2 - 1) \sigma_2^2}{n_1 + n_2 - 2}\right) + \frac{1}{n_1} + \frac{1}{n_2}}}
\]

with degree of freedom = \(n_1+n_2-2\)

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Whereas

\[ t \] – t-statistics

\[ \bar{X}_1 \] – Mean of the first sample

\[ \bar{X}_2 \] – Mean of the second sample

\[ \sigma_1^2 \] – Variance in the first sample

\[ \sigma_2^2 \] – Variance in the second sample

\[ n_1 \] – Number of samples in first groups

\[ n_2 \] – Number of samples in second groups

In the present study, the ‘t’ test has been administered.

**1.12.5 Factor Analysis**

Factor analysis is a general name denoting a class of procedures primarily used for data reduction and summarisation. In research, there may be a large number of variables, most of which are correlated and which must be reduced to a manageable level. Relationships among sets of many interrelated variables are examined and represented in bonus of a few underlying factors. Factor analysis is somewhat similar to multiple regression analysis, in that each variable is expressed as a linear combination of underlying factors. The amount of variance a variable shares with all other variables included in the analysis is referred to as communality (\( H^2 \)). Factor loading indicates the level of correlation between variables associated with the factor. The eigen value represents the level of variance explained by each factor. The factor scores are composite scores estimated for each respondent on the derived factors. The
Cunbach alpha indicates the reliability of the variables in each factor.\textsuperscript{11} In the present study, the factor analysis was used for data reduction purpose.

1.12.6 Multiple Regression Analysis

Multiple regression involves a single independent variable and two or more independent variables.\textsuperscript{12} The multiple regression answers the following questions:

- Can variation in dependent variables be explained in terms of variation in independent variables?
- How much of the variation of dependent variables can be explained by independent variables?
- What is the contribution of independent variables in explaining the variation in the dependent variable?

The general form of the multiple regression model is as follows:

\[ Y = a + b_1x_1 + b_2x_2 + \cdots + b_nx_n + e \]

Where \( y \) – dependent variable

\( x_1, x_2, \ldots x_n \) independent variables

\( b_1, b_2, \ldots b_n \) regression coefficients of independent variables

\( a \) – intercept and

\( e \) – error term

The regression analysis was used \textsuperscript{13} to find the impact of the independent variable in the present study.


1.12.7 Discriminant Analysis

Discriminant analysis is a technique for analysing data when the criteria or dependent variables are categorical and the predictor or independent variables are interval in nature. The objectives of discriminant analysis are as follows.

1. Development of discriminant functions or the linear combination of the predictor or independent variables, which will best discriminate between the categories of the criterion of the dependent variable (group).

2. Examination of whether any significant difference exists among groups, in terms of the predictor variables

3. Determination of which predictor variables contribute to most of the inter group differences,

4. Classification of cases to one of the groups based on the values of the predictor variables and

5. Evaluation of the accuracy of classification

The un-standardised canonical discriminant functions\(^{14}\) were estimated by

\[
z = a + b_1x_1 + b_2x_2 + \ldots + b_nx_n
\]

Where \(z\) – Discriminant criterion

\(x_1 x_2, \ldots x_n\) Discriminant variables

\(b_1, b_2, \ldots b_n\) Canonical discriminant co-efficients

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\(^{13}\) S. Shajahan, (2005), A Study on the Level of Customers’ Satisfaction on various Modes of Banking Services in India”, The ICFAI Journal of Bank Management, 4(1) February, pp.79-84.

The Wilks Lambda was calculated as a multi-variant measure of group difference over discriminating variables. The relative discriminating power of the variables was calculated by

\[ I_j = K_j \left( X_{jk} - X_{j2} \right) \]

Where \( I_j \) – the important value of the \( j^{th} \) variable

\( K_j \) – unstandardised discriminant coefficient for the \( j^{th} \) variable

\( X_{jk} \) – Mean of the \( j^{th} \) variable for the \( k^{th} \) group

The relative importance of a variable \( R_j \) is given by

\[ R_j = \frac{I_j}{\sum_{j=1}^{n} I_j} \]

1.13 OPERATIONAL DEFINITIONS

The concepts used in this study are quite ordinary and simple. But yet they have to be understood in their proper perspective to carry on the analysis along scientific lines. Hence efforts are made here to define some of the important concepts and technical expressions used in the course of the discussions.

1.13.1 Agricultural Marketing

According to J.S. Spinks, agricultural marketing comprises all the operations involved in the movement of goods and raw materials from the farm to the final consumer. It also includes certain vital aspects of organisation of raw materials supplied to the processing industries, marketing to processed
products and the assessment of demand as well as policies related to agricultural marketing.\textsuperscript{15}

Irwin has defined agricultural marketing to include “all the services, intangible and physical, rendered to farmers and ultimate consumers. Its intangible functions include (i) pricing plus financing and risk taking and (ii) guiding products to consumers in place, form and time. The physical functions include mainly transporting, processing, storing and grading of farm products.”\textsuperscript{16}

Agricultural marketing includes “all the business activities involved in moving the foodgrains from producers to consumers through time, space and farm, and transferring ownership at various stages in the marketing channel”.\textsuperscript{17}

Newberry observes that agricultural marketing includes everything done with the commodity from the time it leaves the farm gate or where it is the chases hands whichever is sooner, until it is in the hands of the consumer and that it includes the functions of transportation, processing, storage, wholesaling, retailing and related services.\textsuperscript{18}

1.13.2 Producers

Producers want the marketing system to sell their products without loss of time and to get the maximum share in the consumers’ rupee. They want the maximum possible price for their surplus produce.

\textsuperscript{15}J.S. Spinks, “Myths about Agricultural Marketing”, \textit{Teaching Forum}, 15, 1972, p. 2.
\textsuperscript{17}Moore R. John, \textit{Indian Foodgrains Marketing}, Prentice Hall of India, New Delhi, 1973, p. 165.
1.13.3 Consumers

‘Consumer’ has been termed as ‘Black Box’, a mystery which can never be looked into and we can only broadly understand by grasping the outputs that come out as a result of many marketing stimuli along with the influence of certain exogeneous variables such as culture, time and income.\(^{19}\)

1.13.4 Middleman

The “Middleman is one who specialises in performing operations or rendering services that are directly involved in the purchase and sale of goods in the process of their flow from producers to final buyers. They do not take title to merchandise”.\(^{20}\)

1.13.5 Regulated Market

The new concept of the regulated market is that it should be a growth centre providing every convenience to the farmer to bring his produce to the market, dry, grade and display. It requires spacious yards with standard weights and measures and facilities for auction so that buyers compete to offer their farmer a favourable price.\(^{21}\)

According to Acharya and Agarwal, a regulated market is one which aims at the reduction of unhealthy and unprincipled practices by reducing marketing charges and providing facilities to producers and sellers in the market. Any legislative measure designed to regulate the marketing of agricultural produce in order to establish, improve and enforce standard

marketing practices and charges may be termed one which aims at the establishment of regulated markets.\textsuperscript{22}

A regulated market is a wholesale market wherein buying and selling are regulated and controlled by the State Government through a Market Committee that consists of representatives of farmers, traders, agents, local bodies, co-operatives and Government. In other words, it is a market where activities are to take place under set rules and regulations and malpractices like incorrect weighments and unauthorised deductions are limited and settlement of disputes on cordial grounds is provided.

1.13.6 Market Regulation

According to Johnson, market regulation comprises a remarkable set of legislative acts deliberately designed “as a protective shield to farmers against traders capacity”.\textsuperscript{23}

1.13.7 Marketing Costs and Margins

“Marketing cost includes outlays on transportation and storage as the products move to the market. They also include the margins taken by various wholesale middlemen; and the marketing expenses of producers who market their own products. Further, they include the costs of retailing and also the expenses involved in inspection, standardisation, packaging, financing, risk taking and in interpreting market news”.\textsuperscript{24}


“Marketing costs are the actual expenses required in taking agricultural goods from the producer to the consumer”.  

The marketing costs and margins involved in the marketing of agricultural commodities refer to the difference between the price paid by the ultimate consumer and the price received by the farmer. The difference is often known as ‘farm retail spread’ or ‘price spread’. Marketing margins include all costs of assembling, processing, storage, transportation and wholesaling of retailing in moving the produce from the farmer to the ultimate consumer.

According to Desai, the price spread explains the variation between the prices received by the producers and the prices paid by the consumers. In other words, the extent of variance represents the cost of marketing, which in turn determines the producers’ share in the consumer’s price. To secure a sizeable share to the producer it is very important to minimize the variance as much as possible.

1.13.8 Market Structure and Organisation

A market structure, according to George and Singh, refers to “those characteristics of the market which influence the nature of competition and pricing in the market and the conduct of business firms. Conduct refers to the behaviour of firms in adopting or adjusting to the changes in the conditions of the market in which they buy or sell.

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Bain views market structure as those characteristics of market organisation which seem to strategically influence the nature of competition and pricing within the market.  

“The main functionaries through whom a produce is channelised to the retailers are considered to be the market structure”.  

Mohana Rao have concluded that the “market structure could be understood by the characteristics which determine the relationship between buyers and sellers in the market.”  

1.13.9 Marketing Channel  

In the marketing of any produce it is found necessary to identify the channel or path through which the produce passes from the farmer to the consumer.  

Kulkarni points out that “marketing channel means the movement of agricultural produce from the grower or producer to the consumer or user”.  

Parashwar defines marketing channel as “the vehicle of marketing system, the unit within which all the marketing activity takes place”.  

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Buzzel held the view that “marketing channel is a series of marketing institutions through which title or control of produce or service is transferred from producer to consumer or to business user”.  

“Marketing channel refers to the path over which a commodity passes as it moves from farmer into the hands of consumers”.

1.13.10 Marketable Surplus

Marketable surplus is the total quantity of the commodity available for sale, out of the current production after meeting the normal requirements of the producers for household consumption, necessary payment for wages, rent, share of produce, and the like in kind, seed and stock to cover the future requirement including wastage.

1.14 LIMITATIONS

The study is subject to the following limitations:

1. Most of the respondents were illiterates.

2. The memory bias of the respondents on account of their illiteracy often made them self contradicting their stand. However, an attempt has been made to minimise the recall bias through repeated questioning.

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1.15 CHAPTERISATION

Chapter-I

Chapter I focuses on the importance of the study, statement of the problem, need for the study and discusses the objectives and methodology and the limitations.

Chapter-II

Chapter II presents the evolution and progress of regulated market in India and review of literatures.

Chapter – III

Chapter III gives the socio-economic profiles of the farmers, their entrepreneurial behaviour, the cropping pattern, the marketing practices, their attitudes, perceptions and expectations of the system and services of the Regulated Markets. It analyses the deficiencies in their functioning.

Chapter – IV

Chapter IV discloses the profile of the traders, their services, the problems they face, their perception and attitude to the practices of the Regulated Market.

Chapter – V

Chapter V presents the findings, conclusion and the suggestions for the effective functioning of the Regulated Markets.