AGRICULTURAL MARKETING IN INDIA DEFECTS AND THEIR REMEDIAL MEASURES

by

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Dedication

This Thesis is dedicated to my mother **R RUKMANI.** Words can hardly describe my thanks and appreciation to you. You have been my source of inspiration, support, and guidance. You have taught me to be unique, determined, to believe in myself, and to always persevere. I am truly thankful and honored to have you as my mother.

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ABSTRACT

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India is a country in which majority of people depends on agriculture sector for their livelihood and farmers are considered as the backbone of the country. Even though India is an agrarian economy, agricultural marketing is the major concern which farmers are facing in the country.

The problems for farmers in agricultural marketing starts from crop selection and ends with executing the trade for the same. Without having knowledge on demand and supply in market farmers randomly picks up the crop to be grown which affects the entire supply chain system. During harvest they have to pay huge labor costs for harvest and also high transportation charges to take the produce to the markets for sale. In markets they have to pay 10% commission to the middleman for executing the trade. These all charges cuts down the farmer's revenue and profits and they are not even getting the return on investments which makes them to migrate into other sectors for their livelihood.

Also consumers are facing many problems due to this traditional system of Agricultural marketing such as 1. Quality less produce, 2. High prices for the produce, 3. Lack of hygiene, 4. Lack of traceability.

Even though consumers are paying higher prices for the produce, they are not getting quality and hygienic produce which damages both health and wealth of the consumers.

In order to solve these problems several concepts were employed by government as well as different private institutions like evezon, dFarm, udaan, e-Nam etc.… since few years. This paper gives the detailed information about those defects and remedial measures in the agriculture marketing system in India.

Keywords

Agricultural marketing, Traditional system, middleman trade, supply chain system, quality and hygiene, remedial measures.

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INTRODUCTION

Agriculture is the core sector for the economy of many developing countries all over the world. The effective progress in the agriculture sector is an essential requirement for rapid growth of the economy and the development of rural areas which helps in reduction of poverty in their countries. So, in order to achieve this, many developing countries in the world are now aiming to restructure their agriculture sector on a successful line.

As India is a developing country has no exception to this phenomenon. Agriculture being the essential and primary sector and also the important stay for the Indian economy and is central of all the strategies that were planned for the economic development. It contributes about 20.2 percent of the country's GDP (Economic survey, January 2022) and also employs around 40 percent of the total country's workforce in 2021(Statista, September 2022). Furthermore, Agriculture and its associated sector is the largest livelihood sources in the country for people. Almost 70 percent of the households staying in rural areas depends primarily on agriculture sector for their livelihood, with 82 percent of farmers being marginal and small (FAO India, 2022). India had accomplished the GDP growthrate of 3.3% during the Eleventh Five year plan which is higher than 2.4% per annum in the tenth five year plan (Eleventh Five Year Plan, 2022). The main challenge that is facing by the world in agriculture sector is to produce the enough food to feed the growing population, which is anticipated to touch 10 billion mark by 2050 (FAO, 2017). Another arduous challenge for agriculture sector is to contribute the great measure to the country's income by considerable capital policies and the institutions to unleash agriculture's vast and full potentialities and to reduce poverty. To eliminate these challenges various technologies should be developed which helps farmers to have access to both international and domestic markets (McCalla, 2000). In most of the developing countries the marketing is still inefficient. An effective system for marketing should be developed to bring the greater results to increase the productivity which helps the people to get the fruits of their production. The growth of the economy in the under developed nations of the world greatly depends on their ability of designing the effective system for marketing their produce to global consumers to achieve good industrial output (Sherlekar et al., 2000).

The success of any kind of development program for agriculture sector rely ultimately on the efficacy of the marketing system. The marketing of the agricultural produce is very important same as the production.

1.1 Overview of the study

India has the World's second-largest arable land area (159.7 million hectares) and fifteen distinct climates spread across the continent (Mohapatra & Rout, 2021). India has made significant strides toward self-sufficiency and sustainability in food. Agriculture is the most crucial sector of the Indian economy and the country's single largest employer (India Brand Equity Foundation, 2021). According to the report of National Bank for Agriculture and Rural Development in 2018, approximately fifty per cent of Indian households are agricultural households, implying that one in every two Indian workers is employed in the agriculture sector (NABARD, 2018).

India is the World's largest agricultural producer, accounting for twenty-five per cent of global milk, pulses, and jute production and the second-largest producer of wheat, rice, vegetables, fruits, cotton, sugarcane, and groundnut. India is one of the leading producers of plantation crops, fishery, livestock, and poultry, accounting for twenty-seven per cent of global consumer consumption and fourteen per cent of imports (Food and Agriculture Organization, 2021).

India has the World's third-largest economy, worth more than INR 150 trillion. It is on its way to becoming the World's largest economy (FAO, 2021). India must ensure that its primary sector agriculture, grows fully to achieve the top spot. The thrust area for improving production was successfully achieved after independence by executing the Green Revolution. Food production quadrupled, enabling India to become self-sufficient and a net exporter of various food grains (Associated Chambers of Commerce and Industry of India, 2021).

The output has undoubtedly multiplied many times over, but farm income has not increased dramatically. Agriculture growth and development were necessary for farmer well-being, creating job opportunities and resource bases for other allied industries. According to Chand(2019), the absence of agricultural markets and an efficient marketing system in the country are the critical reasons for the gradual decrease of the agriculture sector's dominance

in the economy and agriculture's efficiency becoming low (Chand, 2021). Agriculture has primarily remained conventional since independence, despite planned agricultural growth activities.

Agricultural markets have seen only limited reforms, and numerous constraints to agricultural growth have been identified (Indian Council of Agricultural Research, 2017). It encompasses small firm size, a lack of investment to upgrade low-level technology, overcrowded intermediaries, fragmented market chains, and insufficient agricultural extension services. As a result, a structural shift in occupational choice emerged as an alternative source of employment in rural areas, shifting from agricultural to non-agricultural sectors.

The farmers' community had production resources, but the problem was ambiguous marketing facilities and inadequate infrastructure (Aggarwal et al., 2017). Farmers lack the fair share of final consumers' prices, and intermediaries have higher margins because of the extended supply chain (Grover et al., 2013). These issues can be resolved if traders and farmers establish a direct connection without intermediaries. Regulated and cooperative markets are critical for regulating trading practices and ensuring that farmers are fairly compensated and traders receive agricultural produce at an acceptable price (Rajendran & Karthikesan, 2014).

Selling agricultural products in controlled and cooperative markets takes place through manual auction. Farmers must spend a significant amount of time visiting markets in order to receive their payments. The manual method of identifying the highest bidder in closed auctions can be laborious and prone to human errors. On the other hand, trading is restricted to a single market; dealers create cartels and reducing transaction transparency. Farmers eventually lose out on higher pricing for their goods, while traders could not purchase high-quality food (Singh et al., 2017). As a result, it is necessary to adopt an alternative to the manual selling method that guarantees farmers receive a fair and transparent price, eliminate buyer cartelisation, lower the time farmers spend at mandis and minimise the workload of traders and mandi officials (Shailendra, 2013 and Chand, 2016).

According to the Economic Survey 2016-17, a severe price risk arises from India's inefficient Agricultural Produce Marketing Committees (APMC) markets. The Government of India (GOI) pushes for establishing a modern agricultural system to revamp the existing

agricultural market system. In the long run, the internet can become an effective means of connecting farmers to traders without intermediaries (Sathyendra et al., 2019). Market information services can improve information distribution through mobile phones, and the rapid growth of electronic platforms in many developing countries enables more localised information services.

1.2 Agriculture in Global Scenario

Agriculture is recognized as the most ancient occupation of mankind. The agriculture sector continuously plays a vital role in the livelihood of people across the world. Carl Eicher and Lawrence Witt mad a remark which is very apt in this connection stated "Economic chroniclers generally concur that there are no cases of successful development of a major country in which a rise in the productivity of agriculture commodities did not accompany or precede the industrial development (Eicher et al., 1964).

The agriculture throughout the world was greatly affected due to the discovery of voyage of Europe that began in the early 15th century. The agriculture slowly developed in the French colonies, which are now the part of eastern Canada. The French, who ruled the major part of eastern Canada from in between 1500 to 1576 had put little efforts to encourage agriculture and farming. By the late 1600's France, England, Spain, Netherlands and Portugal had their colonies throughout America. The Labour was supplied by the native Indians who were forced to work at very low wages or black slaves imported from Africa (Gowda N, February 1997).

1.3 Agriculture in India

Agriculture is the mainstay of Indian economy. It provides livelihood tothree-fourth of its population, contributes 35 per cent of net national product and accounts for 20 per cent of the to the country's export. India with a geographical area of 329 million sq.km, is the seventh largest country in the world. The importance of agriculture is well known from the Indian position in world agriculture.

India ranks first in the case of irrigated area and second in the case of population engaged in agriculture. In the agricultural sector, marketing has been receiving low priority as compared to production. The government investment in agricultural marketing forms an

insignificant preparation of the total investment in Agriculture and allied sector at both Central and State level (G H Dhankar, March 1993).

The National Commission on Agriculture is the first Commission which suggested measures for the development of agriculture marketing in the post-independence period. It promotes enough marketing facilities for marketing of crop or animal product.. Increased production from farms resulting in the increase in marketable surplus accompanied by the increases in demand from urban population calls for a rapid development in the existing marketing system. This statement emphasizes the increasing importance of marketing of agricultural commodities.

Agriculture commodities have certain peculiar characteristic features. They have varying physical attributes such as bulk, perishables and in most cases the products need processing before they are brought to the market. These constraints often compel the producers, especially the small and marginal ones to sell the products in local markets.

The neglect or ignorance about the working of the markets has very serious implications. There is the possibility that there could be certain misconceptions about the existing system. The bureaucracy might take it for granted and may design and implement policies, which may be found costlyand irreversible later. For instance, there exists certain misconception about the existing system. The bureaucracy might take it for granted and may design and implement policies, which may be found costly and irreversible later. For instance, there exists certain misconception of the function of middlemen, who are repeatedly described as miscreants and should therefore be eliminated.

The introduction of co-operative system was once considered the most logical policy for bringing about efficiency in the distribution system by eliminating the traditional middleman. Consequently, public investment was enlarged but the impact created by such an institution has not been completely satisfactory.

In the words of Mukherjee, The role of rural institutions in the agricultural development of less developed areas, though widely recognized, is either not always properly defined and delineated or, what is worse, is unduly exaggerated so that very high expectations are built around many such institutions (Mukherjee, 1969).

India is a country in which 58% of total population directly or indirectly depends on the agricultural sector for their source of income. The agriculture sector remains the main source of the Indian economy since several years. In India the Agriculture sector contributes around 20.19 percent of the national gross domestic product (Statistic times, June 2021). With food being the primary and major requirement of mankind, there is more concentration on commercializing agricultural production. For this reason, sufficient production and even distribution of agricultural produce have become a high prime global concern.

The term agricultural marketing involves the activities which are related to the procurement, classifying and grading, storing, transporting, and selling of the agricultural produce. Thus "Agricultural marketing comprises all operational activities involved in the movement of farm produce from the producer to the ultimate consumer.

Agricultural marketing has a wide scope as every person in the country or world has to consume the produce every day. There are many traditional techniques for marketing Agri produce in India such as

1. Sales in markets
2. Sales in villages
3. Sales in mandis
4. Co-operative marketing etc…

Due to its scope and importance, many people in the country are choosing the agricultural marketing business as their career by forming mandis, cooperative societies etc., for trading.

1.4 Defects in Agricultural marketing:

The defects in the Indian agriculture marketing are due to some fundamental factors which are as follows:

1) Economic factors
2) Operational factors
3) Institutional factors
4) Structural factors
5) Motivational factors.

Farmers are facing a multitude of problems due to the traditional marketing system which has many defects as mentioned below.

1.4.1 Economic Factors

Normally the marketing channels, costs and margins are influenced by production. The current marketing system has economic inefficiency. Often the price fluctuations are very high even there is no changes in demand and supply and. The said economic inefficiency may be due to many factors like trade manipulations, inflationary impact, inadequate storage facilities, inadequate processing and transportation facilities. Leaving of agricultural marketing in the context of huge price fluctuation will not be desirable to the lenience of uncertain forces of market. There is an issue of increase in marketed surplus and marketable surplus to economically viable quantities. The size of marketable surplus rely on the market prices and overall production volume. The regulations and rules of the markets and taxes on marketing also shows impact on the size of marketable surplus. A developing economy, starting with a wide agriculture base should concentrate on increasing its marketable surplus. How ever the Indian experience is not very steady in this aspect (B.S. Saxena and Khanorkar, 1980).

The different inefficiencies in economy which listed are contributed by some other factors. These causes jointly and individually which operates in a circle which is vicious. The situation has undergone some changes and they are less at the mercy of moneylenders. But lot more has to be done to save the Indian farmers from the indebtedness (V.K Agarwal, 1991). The money lenders will force the farmers to sell their commodities for very less prices compared to the market prices and that too directly with immediate effect post harvest.

1.4.1.1 Middle man trade:

This is the first and foremost problem facing by farmers in the present days. The farmer will take the help of the middle man (Dalal) for trade execution who takes away more of the major share of the profit by finalizing the deal in favour of wholesalers. According to my study, a margin of 30% per trade will go to the middlemen in the form of commission. Also, a large number of intermediaries exist between the farmer and end consumer and these intermediaries will steal more money from farmers without their knowledge which results in reduced returns to the farmers.

Also, these middlemen adopt various malpractices like putting false weights on the produce, and not doing proper grading and distribution which cuts the revenue for the farmers.

1.4.1.2 Payment and Settlements

The efficient movement of agricultural products brings transparency to the price discovery mechanism. Price discovery, or the process of deciding the prices at which supply and demand are matched, and trade occurs, is an essential feature of the market in a monetary system (Acharya and Agarwal, 2011). APMC was constituted to solve the farmers' problems, support them, and safeguard the interest of the farmers. However, it led to spatial variations in wholesale prices of the principal commodities across APMC mandis in India and within the states (Chatterjee and Kapur, 2016). Farmers were not satisfied with the payment system, weighing, auction platform (Singh et al., 2017).

The price realisation by the farmers was reported low due to poor infrastructure, manual weighing, single window systems, measurement errors, and lack of modern grading and sorting process (Mookerjee, 2016). As per the report of "Global AgriSystem Consulting", 2010, due to the high number of intermediaries, the total price increase in the chain is approximately sixty to seventy-five per cent. Thus, the farmers receive only twenty to twenty-five per cent of the end consumer price. In addition, the wastage is fifteen to twenty-five per cent of the value (Patnaik, 2011 and Kaur, 2015).

The farmers sell their produce at "up to five per cent lower prices in geographically isolated mandis, which enjoy market power because they face little competition" (Chatterjee and Kapur, 2016). A study of the fruits and vegetables supply chain in four Indian metros reported that "on average, there are five-six intermediaries in the supply chain". The study highlighted that delay in price realisation results in post-harvest losses for four to six per cent in cereals and pulses, six to eighteen per cent in fruits, and seven to twelve per cent in vegetables due to the described factors.

Murugesan and Rajarajan (2016) defined several challenges involved in marketing agricultural produce in India such as "limited access to market information, low literacy level among the farmers, multiple distribution channels, and less government funding" for farmers (Murugesan and Rajarajan, 2016). The farmers depended upon the local moneylenders who

charged a higher rate of interest. The entry of new players in the markets has stifled the competitive functioning of markets (Acharya, 2004). It was found that buyers need not pay a full market fee in some states, while the market fee is lesser or nil in other states (Singh, 2015).

Many states are trying to overcome the commission-backed system and provide direct benefits to the farmers and traders. Acharya (2017) highlighted that policymakers and implementing agencies need to emphasise the implementation of agricultural prices and marketing policies (Acharya, 2017). Yadav et al. (2017) mentioned that changes in agricultural marketing like electronic marketing, warehousing, and contract farming are emerging. These changes will necessitate infrastructure investment, technological advancement, and increased awareness among all farmers and traders (Yadav et al., 2017).

1.4.2 Operational Factors

The inadequate facilities for storage and transportation compels the farmers to dispose their produce quickly as they are perishable goods. In adequate market information is other main aspect that needs special attention. Illiteracy of farmers in India results in their inability to make the proper use of the information related to markets. The market information reaches to the farmers and other users in a delay mode so that it loses its importance in practical utility and only becomes a subject of academic interest only. In India there is no focus on gaining attention for retailing, which results in the incomplete market information. For orderly marketing of agricultural commodities the market information is an important input of marketing. The information of markets should flow from one end to the other continuously to make a regular analysis of the situation, because marketing procedure or production technique does not remain static.

Finally, the sellers of the agricultural commodities are beset with the incidence of huge marketing cost. The huge costs of marketing is normally reflected by the price which is paid by the end consumers. The unduly long marketing channel for the agricultural commodities is one main reason for this high cost. The reduction of these marketing costs can be done by performing marketing through an efficient system. Sometime better marketing services increases the marketing costs. In many developed countries the huge marketing costs are often justified on the basis of best services provided to the end consumers (Mathew E T, 1957). By

taking the ongoing discussion into consideration it is clear that, in India the functional or operational inefficiency in the marketing of agricultural produce is the fundamental defect. This defect of the marketing system spreads to other verticals thereby making them also inefficient.

1.4.2.1 Grading and storage:

Grading plays a crucial role in deciding price for the produce, but the traditional marketing system do not give importance to grading and will not separate the quality material from bad produce. Therefor farmers fail to get good price for their produce and on the other hand consumers will also consume the low quality material.

Also, farmers are selling their produce on the same day of harvesting for normative or low prices because of inadequate and improper storage and warehousing facilities. The perishable goods will stay only for 2 days after harvesting and gets damaged after that duration. The damaged produce cuts the revenue for the farmers.

1.4.2.2 Transportation facilities:

Transportation is the another mode of exploitation from farmers. According to my study the transporters are charging 175% more price than the regular fare from farmers to transport their produce from farm to the local markets. Farmers are paying the total price due to lack of knowledge and losing their money without their knowledge.

Also the improper mode of transport damages the produce during the movement of produce from one place to another. This traditional transport mode also creates more damage to produce during distribution. Almost 20% produce is getting damaged in every trade.

Because of these problems farmers are losing their money and also consumers are purchasing the produce for higher prices for the quality less produce.

Only the middleman is getting benefited and making more money with this traditional marketing system

1.4.3 Institutional Factors

The institutional factor is the third major group of defects in Indian agriculture marketing system. The formation of various institutions is done with specific objectives of

benefiting the farmers. But these institutions are mostly failed in achieving their objectives for which they were established for. The Co-operative marketing societies in India can be taken as good examples for such inefficiencies.

In the current Indian agricultural marketing system, the absence of vertical integration is the another major parameter to be considered under this institutional factors. The process flow of vertical integration method is an important aspect to be considered as it represents the interrelation between the farm conducts and market structures. But in India, due to the inadequacy of such vertical integration facility the farmer becomes same as a paid employee, though he is paid for his produce output rather than for his time.

In India, the integration process flow is weak in the case of agricultural marketing. In fact the main aim of introducing the co-operation society principles was to offer the powers to farmers through vertical integration and thus to make them free from the arms of the many evils(middlemen)to which they were exploited in the past. But this idea didn't became successful.

One of the prime defects of the agricultural marketing in India is not the in adequacy of institutions but the lack of efficiency in them. They are started on the basis of certain inflexible aspects which further becomes easily obsolete in the quick changing economic environment. The story of the marketing institutions particularly that of co-operative societies and the Regulated Markets correspond to the statements which are stated above.

1.4.4 Structural Factors

The structural factors are the fourth set of factors which are acting as the constraints to an efficient agricultural marketing system in India. The malpractices happening in the trade execution, mainly in the unorganized market yards spread out in the rural areas of the country have often been mentioned as a primary defect of agricultural marketing system in India. There are many reasons for these malpractices and are varied. In these unorganized market yards business is done without any regulations and rules. Here the traders in the market yards frame their own set of rules for conducting the business and performs the operations in the market. These markets suffers from various issues, such as the unstandardized rates for the marketing functions and imperfections in the price determination (S S Acharya and M L Agarwal, 1999).

The nature of the scattered production of the Agri produce in smaller quantities and scattered consumption has created an atmosphere and opportunities for the malpractices. This in turn attracted many mediators to perform certain activities thereby making the entire marketing operations costly. In order to increase their income, the mediators adopted a number of malpractices by introducing many charges like brokerage, return commission, excess transportation charges. In spite of taking various measures against these malpractices, many middlemen are still trying to exploit the illiterate and unorganized small farmers. The establishment of the Regulated Markets in India backing the report of the Royal Commission on Agriculture in 1933 was the clear proof of the existence of malpractices in the marketing and distribution channel at that time.

The land tenure system is the second element that is responsible for structural inefficiency which has been subjected to the changes constantly. From the marketing point of view, small land holders pose difficult problems due to the marketable surplus and marketed surplus in such circumstances which affects the marketing efficacy.

1.4.5 Motivational Factors

Lastly, human or motivational factors also contribute to the inefficiencies in the current traditional agricultural marketing system. The low literacy rate among the farmers around the country has formed the way for the adoption of heterogeneous techniques of marketing. As such marketing method varies from region to region, commodity to commodity and from season to season. The mechanism of agricultural marketing system in India has not been very effective. It has failed to gratify the interests of the producers and the consumers.

1.5 Remedial measures for the problems of Agricultural marketing:

The Agriculture marketing in India needs utmost improvement in present days. The following are some of the remedial measures for eliminating the problems in traditional marketing system.

The main and predominant considerations to be made for the agricultural marketing system development in India, is to make the existing system organized in such a way that it should ensure the farmers the best price as his share for their commodities which were price paid by the consumers and also it should serve the need for planned development (E

Dasaradhan, September 1977). For the development of agriculture to take place, it is essential that the farms should become more commercial and production should be increased rapidly. The development of agricultural marketing system depends on the production of the agriculture commodities, also it ensures the farmers the better returns. The marketing regulations especially for the commodities of agriculture, is also one among such interventions. The present study is concerned with this area of government interventions.

The interventions of government may be classified into three groups:

i. By commencing voluntary organizations
ii. Direct regulatory role
iii. Direct intervention in the trade

1.5.1 Direct Marketing System Platform:

The direct marketing system eliminates the third party intervention between farmers and consumer so that farmer can sell their produce for better price than the traditional system. This technique eliminates the commission trade in the market and encourages the trade execution which helps farmers to get more profits. Also this system provides the transport support to the farmers for a very reasonable prices and eliminates the exploitation of the transporters.

The Direct intervention in the trade includes

1. Establishment of exclusive agencies to handle the trade operations for certain selected products. Ex: Food Corporation of India
2. Minimum support Price for the produce, open market operations, and procurement of levies.
3. By promoting the voluntary organizations like co-operative societies. It is a voluntary business organization established by its member farmers formed as a group to market the Agri produce directly without intermediaries to get more benefits.
4. Regulating the market prices and prices by playing Direct regulatory role.
5. Hence, this study is concerned with the third type of government intervention in agricultural marketing through creating physical markets to help farmers against the trade manipulations in the markets by powerful private traders. The specific institutions

under evaluation stated that the regulated market yards are aiming to ensure justice for farmers by offering fair play and genuine sale and purchase transactions of the agricultural commodities. These also aims to remove malpractices in the marketing centres which are detrimental to the interest of the agriculturists,

1.5.2 Agriculture data processing and management system:

Agriculture data processing and management system is a Agri supply chain management solution that uses different technologies to increase agri produce supply chain visibility, transparency, efficiency and profitability.

This ADPMS puts you in control of your supply chain and streamlines processes and helps in sourcing, transportation, storage, processing, and sales. ADPMS tracks the availability of produce from farmer and can arrange buyers even before harvesting the fields.

With the comprehensive, real-time data that we get from ADPMS, we can optimize the supply chain to improve operating margins and profitability and also we can enhance consumer loyalty and satisfaction with fresher and quality produce, limit recall expense and risk, and realize improved forecasting and planning.

1.6 Need of the Study

In India, agriculture has always been a way of life. Agricultural production must continue to be prioritised in order to achieve India's overall growth. It not only provides a source of income for a significant portion of the Indian population, but it also provides raw materials for industries. With the evolving phenomenon of polarisation, technological progress has reduced middle-class jobs in Western Europe and the USA (IMF, 2017). One global trend is automation and digitisation and other new Artificial Intelligence (AI) technologies, taking away the routine jobs outsourced to large labour economies. At the global economic level, "the critical source of inequality has been technological change favouring higher skills."

It is well known that the drop in the proportion of "agricultural workers to total workers" has been slower than the decline in agriculture's percentage of GDP. The GDP growth rate from the agriculture sector was 3.8 per cent per annum from 2004-05 to 2013-14, which was one of the highest growth rates recorded in independent India. Rapid agricultural growth is critical in a country like India, where agriculture is the mainstay. There is a need to

focus more on agriculture in the present context due to low agricultural growth (2.5 per cent per annum in the last four years) and agrarian distress such as “low agricultural prices and farm incomes.”

Marketing is the system adopted to dispose of the surplus produce and is the final phase of production affording the farmer the opportunity to realize the fruits of his labour. He can achieve the full benefits only if he is assured of a place where he can dispose of his produce in the best manner and for the best price possible. Several intermediaries come into the picture between the producer and the consumer and their share accounts for a considerable percentage of the sale proceeds. With the elimination of the unnecessary middlemen and the reduction of the market changes to the extent possible, the farmer can be made to realize the maximum share in the consumers rupee.

Indian agriculture has undoubtedly made significant technical advances in the last two decades and has undergone progressive commercialisation. Farmers would not gain fair prices for their agricultural produce if the agricultural marketing network remained underdeveloped. Earlier, farmers often did not receive timely payments after selling their goods and did not receive the exact amount. However, soon after the digitalisation, the process becomes transparent and prompt.

While effecting reform in the marketing of agricultural produce, all marketing aspects are to be developed and co-ordinated. Among various aspects, regulation of primary, wholesale markets affects the producer directly because this is the place where the produce changes hands for the first time from the producer to the trader, and the producer converts his crop into cash. So this needs greater attention. In fact no organized system prevailed in the market where the farmer could sell his produce with confidence in the best manner possible without being exploited by any one at any stage. Hence the need for an orderly market was keenly felt.

One of the first bodies to realize the importance and magnitude of the marketing system was the Royal Commission on Agriculture in 1928. In 1931, the Indian Central Banking Enquiry Committee pointed out the need for market regulation.

The preamble of Madras Commercial Crop Act of 1933 describes it an Act to provide for better regulation of buying and selling of commercial crops and the establishment of market. The need for regulation has been emphasized to safeguard the interest of the sellers because, traders have formed associations for their advantage. This is happening in all primary assembling centres when the majority of sellers are producers, on account of their vulnerability, are more prone to be exploited.

The first project report in 1973 prepared by the Directorate of Agricultural Marketing in Tamil Nadu pointed out the need for regulation of market practices to assure fair play of in trade execution to insure against catastrophic price depression and disastrous spiralling.

A Committee appointed by the Kerala Government to study the work of regulated markets stated clearly that the new regulations are necessary to remove the middlemen from trade executions and to prevent the undesirable practices incidental to the transaction. This can be achieved by providing a "strong organization through building up of a chain of RM's which will regulate the prices of the commodities, ensures the best quality for the products and will provide the organizational support to fight against exploitation.

The Dantwala Committee (1952) which was appointed by the Bombay State stated that the best marketing legislation could be secured only by separate state legislation. The reasons provided by the Royal Commission were that the interest of growers would not be adequately safeguarded by the local Bodies where vested interests were strongly represented. Further the objects of regulation would be largely frustrated as the markets would be generally regarded by them as a source of revenue. Hence the Royal Commission rightly recommended that the regulation of markets should be under special enactment only. In pursuance of this recommendation the marketing legislation was taken up by the various States in India, concentrating on the following defects in the agriculture marketing system:

- Heavy sales effected in villages
- Post-harvest immediate sales or distress sales by farmers
- Inadequate institutional marketing infrastructure and lack of produce organisation
- Existence of large number of middlemen.
- Multiplicity of market charges like commission, brokerage and Wightman.

- Existence of malpractices in the form of unauthorized market charges, spurious deductions and bundling of accounts.
- Lack of up-to-date and reliable market information,
- Absence of grading or standardisation of produce
- Inadequate and improperly managed storage facilities,
- Inadequate transport facilities preventing free movement of produce and Heavy dependence on money lenders leading to high cost of borrowing.

Realizing the urgent need to uproot these defects in the agricultural system and to make it more farmer-friendly, it is the Government's first earnest step in this Royal Commission on Agriculture. The Commission recommended, among other things, the establishment of the Regulated Markets as the strongest measure to revamp the entire structure of the agriculture system in India. The regulated market is the major institutional innovation to help the farmers in profitably disposing of their marketable surpluses. The regulated markets provide a place for assembling, prevent malpractices and ensure competitive bidding all at no cost to the farmers. These markets generally assure the producers an orderly and non-exploitative markets, marketing system and fair business practices and try to equalize the bargaining power of both producers and traders.

Agriculture productivity and production are critical agricultural development components. Besides, an efficient marketing system is necessary. Agriculture can progress and thrive with the assistance of a well-organised marketing system. By ensuring fair prices, it encourages agricultural product innovation and the advancement of stakeholders.

Marketing is a dynamic process that will help in business growth and continue to evolve in the future to meet demand. In agriculture, if there is no customer demand for a product or if the commodity cannot be properly marketed, then there is no incentive for farmers to produce it. United Nations Conference on Food and Agriculture held in October 1945 in Quebec said, "Marketing is the crux of the whole food and agriculture problems. It would be useless to increase the output of food. It would be equally futile to set up optimum nutrition standards unless means could be found to move food from the producer to the consumer at a remunerative price and within the consumer's ability to pay.

An efficient market system can be an important means of raising the income levels of the farmers and increasing the consumer's satisfaction. As the success of any agricultural development programme rests ultimately on the efficiency of the marketing system in force and a defective marketing system acts a positive disincentive to any increase in production, the need for efficient marketing system to match the increasing production was increasingly realized. Moreover, the farmers, the traders and the consumers who are three different entities, have their objectives which often conflict with others. The marketing system which would try to balance these conflicting interests by eliminating the defects, malpractices and exploitation of farmers and traders needs to be implemented by government by rules and so it required the intervention of the government. With a view to fulfilling these needs Regulated Markets were established by the Government of India with the following major objectives.

- To enable the primary producers to reap the best possible benefits,
- To provide facilities for disposing all the produce the farmers are willing to sell,
- To reduce the price-spreader between the primary producers and the ultimate consumers.
- To facilitate the smooth transfer of goods and orderly transactions by making provisions for settlement of disputes and
- To make available and at the products of farm origin to the consumers at reasonable prices without compromising the quality of the produce.
- A part from fulfilling the above objectives, the Regulated Market Committee generally tries.
- To keep a check on exploitation of producers and consumers by private trade through collusion and hoarding,
- To stabilize price, and
- To raise the standards of the market as also to improve market performance.

Under certain conditions, the marketing sector plays an active role in agriculture by adjusting the demand and cost functions in order to promote its expansion. The agriculture produce marketing approach will be enhanced as it is utilised tacitly by the stakeholders.

Saxena, 1970 has stated that "Agricultural produce has become a very complicated process beyond the comprehension of the producer".

Marketing agricultural commodities connect various consumption centres as well as rural and urban areas, resulting in a win-win situation for both parties (Gulati, 2003). These days, farmers are concerned about successful farm produce marketing, which they are unable to obtain. The entire production process would be pointless if producers were not supported by competent marketing. Shah (1970) stated that, If farmers income is to be enhanced appreciably, the adoption of improved production techniques must be hand in hand with efficient marketing (Shah, 1970). So, the farmer would be convinced to get an assured price and decent demand for his produce. Therefore, agricultural marketing requires special attention as the agricultural production is seasonal, perishable by nature, and is a basic human food required continuously.

The agricultural marketing landscape in the country has changed dramatically over the past few decades, especially since the country's technological revolution began. It will ultimately impact the growth of the agricultural sector. There was a significant gap in the development of storage facilities, transportation, mechanisation, grading standards, export promotion, manufacturing industry support, and business intelligence in India that must be addressed. Hence, adequate attention must be paid to the performance of modern agricultural marketing. As a result, investigating the defects and remedial measures of agricultural marketing in India is essential.

1.7 Importance of the Study

Farmers and traders are the two most important stakeholders in the agricultural marketing system. According to previous studies and research reports, agricultural marketing has taken centre stage in the lives of farmers and traders. Farmers are not receiving fair prices for their crops, and traders cannot realise their full potential under the current agricultural system. The amendments to the APMC Acts and model rules have put both stakeholders under pressure (NITI Aayog, 2016).

There were many intermediaries in the traditional marketing channel, and the producer's share was relatively low. Farmers could even sell their produce directly to food processing companies, private players, retailers, and consumers through an emerging

marketing platform. In addition, the proposed study would look into the effects of a lack of agricultural marketing facilities on the production of marketable surplus.

Traders and farmers used to rely on commission agents and the services provided by the regulated markets of the respective mandis of the states.

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. As agricultural 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 for farmers both as a way of life and as a means of livelihood.

V.Kota Market Committee from Andhra Pradesh taken for the study is basically an agriculture-friendly area. Besides the staple crops of Tomato, Beans, chilly and other horticulture vegetables 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 Market Committee is mainly established to fulfil the aspirations and expectations of the farmers and traders. 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 and traders of the region for whom they are established.

1.8 Research Gap

- Research done on identifying the problems in agricultural marketing but there is a gap in identifying the root of the cause

- Secondly, There is a gap in analyzing the demand and supply issues in the market.
- Research was done mainly on farmer side problems and there is a gap in analyzing the consumer side problems in Agricultural marketing
- There is a gap for research on produce adulteration
- The research can be done on providing remedial measures for the problems in agriculture marketing

1.9 Objectives of the Study

The followings are the objectives of the study.

- To examine the functioning of the Traditional Markets in the study area.
- To examine the problems facing by farmers in the present days for marketing their produce.
- To study the profile of the farmers and their perception on the facilities, deficiencies and efficiency of traditional Markets.
- To study the trader's perception on the traditional Markets about selling of farm produce by charging commission from farmers.
- To study about the problems facing by consumers in getting quality produce for their consumption.
- To study the adulteration happening in marketing of fresh produce
- To present the remedial measures to improve the efficiency of agricultural marketing system which has to be benefit both farmers as well as the consumers.

1.10 Hypotheses of the Study

- There is a significant difference among the various groups of farmers regarding their perception on the facilities, deficiencies, and efficiency of Traditional Market yards.
- There is a significant growth in the performance (annual arrivals, income and expenditure) of various commodities in Regulated Traditional Market yards.
- There is a significant difference among the various groups of traders regarding their perception on the facilities, deficiencies and efficiency of Traditional Market yards.

- There is a significant difference between the traders and farmers towards the remedial measures to increase the efficiency and to eliminate the problems in the Traditional Market yards.
- There is a significant difference among the various consumer groups on their consumption pattern of vegetables and fruits.
- There is a significant demand for checking the adulteration, quality and hygiene levels of the produce among the consumers.

CHAPTER 2

LITERATURE REVIEW

India being a primarily agricultural economy, Farming is the foremost provenance of sustenance within the country and a main driving force of the economy. The country has made enormous progress in Agriculture with expanding production levels during the post-independence phase, but farmer earnings have not enhanced concurrently because of some major defects in India's Agricultural Marketing.

India is a diverse country and the largest democracy in the World. With the second-most populous country worldwide, India is the third-largest economy, worth more than Rs 150 trillion (FAO, 2020). India has the second-largest arable land globally and has around sixty per cent of total land (World Bank, 2005). The climatic condition varies from temperate to dry tropical, and the climatic condition is humid from north to south. Stretching from the Himalayas in the north with the highest mountain range in the World, the Thar desert in the west, which is the World's 9th largest subtropical desert, Deccan plateau in the south covering more than 1,000 meters and the Indo-Gangetic plains in the centre and Gangetic deltas in the east. There are twenty different agricultural climatic conditions globally, and India is composed of fifteen agricultural climatic conditions from twenty in the World. Forty-six types of soil exist from the sixty soil types in the World (IBEF, 2020).

In 2016, the HSBC Trade Confidence Index positioned India as the top trade confidence country globally (HSBC Report, 2016). India is the World's largest producer of different goods, with twenty per cent of the World's consumption and 14 per cent of pulses' imports (FAO, 2021). As per Ernest & Young's (EY) survey, India is the most lucrative destination for new investment by any foreign country, leading to the nation's economic growth.

India's economic growth and Gross Domestic Product (GDP) are classified and tracked in three sectors: and Agriculture, Industry (Manufacturing), Services and these sectors are generally named Primary, Secondary and Tertiary sectors, respectively. Graph 1 shows the contribution of these sectors in the Indian economy, and GDP is 57% (Service), 28%

(Manufacturing), 15% (Agriculture) (GOI, 2016). At the same time, the agriculture sector's contribution to the GDP decreased from 54% to 15.4% from 1950-51 to 2015-16.

The manufacturing and service sector's contribution increased 10% to 30% and 30% to 53% from 1950-51 to 2021-22 simultaneously.

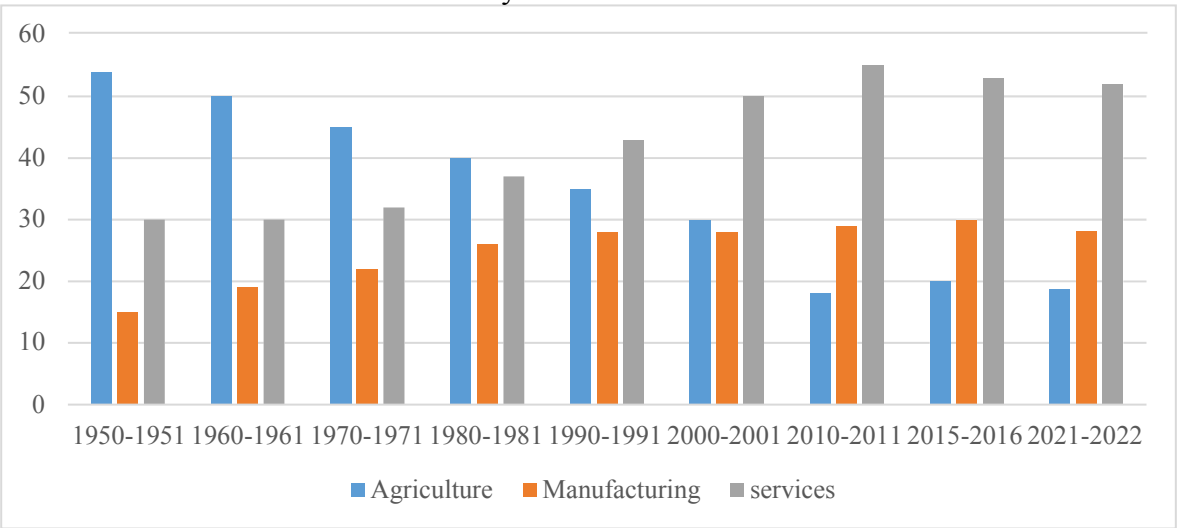


Fig 2.1 Indian sectors contribution towards GDP

Source: Ministry of Statistics and Programme Implementation, 2016 & https://en.wikipedia.org/wiki/Economy_of_India

In 2018, the "Organization for Economic Cooperation and Development" (OECD) and the "Food and Agriculture Organization" (FAO) released "The Agricultural Outlook," which forecasted a 13% increase in global cereal production by 2027 (The Agricultural outlook, 2018). According to the report of United Nations, The World's population will have risen to 9.7 billion by 2050 (United Nations), and it will impact the food consumption rise as the population will grow by a tremendous rate. The outbreak of the Coronavirus sickness (COVID-19) in 2020 functioned as a significant constraint on the agriculture sector, as trade restrictions disrupted the supply chain and consumption dropped due to government imposed lockdowns around the World (KPMG, 2020).

Agriculture is a primary source of livelihood for more than half of the population, and it accounts for 20.2 percent of GDP (FAO, 2023). The total workforce engaged in agriculture and its allied sector activities constitutes about 54.6 percent (GOI, 2018-19). 70 percent of rural households depend primarily on agriculture, and 82 percent of farmers come under the

marginal and small category (IBEF, 2020). The agricultural exports of India have reached 38.54 billion USD in 2019 (GOI, 2020). Therefore, it is very important to understand the role of agriculture in the Indian economy.

2.1 Role of Agriculture sector in Indian Economy

The selling and buying of agricultural produce refer the agricultural marketing. The present-day agricultural marketing includes a series of interchange or transfers from one individual to the other before it eventually reaches the end customer or consumer. There are primarily three operations involved in marketing, during this, i.e., procurement, grading, and processing for consumption and distribution.

In India, the major part of the agricultural produces or commodities are sold by farmers to brokers, moneylenders, or to local village traders. These middlemen and private traders influence the marketing and trade of agricultural commodities thus crooking the poor farmers due to a lack of sufficient and competent marketing infrastructure within the organized sector.

Agriculture's importance and role in a country's economic development are decided by how much the country grows, and development becomes a fundamental social objective. Agricultural improvements had accompanied the industrial revolution in England, providing new factories with demand, workforce, and a surplus of food to feed industrial workers. Countries with large amounts of land, such as the United States, Canada, Australia, and Argentina, developed agriculture quickly, thanks to high capital-labour ratios, optimally sized farms, and a high capital development rate. Japan is an example of attaining a remarkable and appreciable achievement through its success in Agriculture (Johnson & Millar, 1961).

For any country's economic growth role of agriculture cannot be overlooked. In the current scenario, Agriculture is a significant factor for developing countries sustenance and economic growth. Agriculture ensures the development of other sectors and provides capital, raw materials, labour goods, and foreign exchange (GOI, 2010). In developing countries, agriculture laid the groundwork for subsequent facilities and the expansion of the manufacturing sector. A rise in agricultural trade terms will increase the demand for industrialisation (Kaldor, 1957).

Agriculture occupies the most prominent position in the economy of any developing nation like India. Agriculture has served as a powerful engine and backbone for the growth of the Indian economy (MoAF&W, 2018). Agriculture is the mainstay of employment and the sole income source for sixty-five per cent of the Indian population (FAO, 2020). Agriculture's prosperity is linked with a country's success. Agriculture prosperity means more purchasing power in producers, who will then spend it on manufactured goods.

The economy had been self-sufficient before Independence and had a strong balance between agriculture and industry (Ahuja, 2006). For a long time, the agriculture sector has played a significant role in the economy. Therefore, to clearly understand the role of agriculture in the country's economy following points are described:

Source of Livelihood

In light of India's employment patterns, it appears that the proportion of people engaged in agriculture and alliance activities has remained constant over time. More than sixty per cent of India's population is employed directly in land cultivation, and among them, over seventy-five per cent of people are indirectly dependent on agriculture (Chand, 2012).

Contribution to Country's National Income

Agricultural sectors contribution is much higher in the developed country's national income. For example, three percent in the "United Kingdom and the United States" and eight percent in Australia. Almost half of India's domestic revenue comes from agriculture, but a decrease in this pattern has presently occurred.

Source of Food Supply

Initially post-independence, agriculture could not satisfy all our food needs. Our country had to rely on sizeable annual food imports to feed millions of people. However, we have recently become self-sufficient and producing enough food for the country's growing population.

Source of Revenue through Export and Import

Agriculture is one of the government's leading sources of revenue and accounts for a significant portion of India's exports and import substitution. The agricultural sector

contributes to the earning of exchanges and savings required for capital and maintenance for the economic development.

Development of Industrial Sectors

Agriculture has an indirect effect on specific sectors. Agriculture helps develop and expand other non-agricultural sectors, on the other hand, serves businesses in a particular way. Agro-based industries help the manufacturing sector by providing raw materials and expanding the market for industrial products.

An essential role in Economic Planning

The agriculture sector is always a driving force in its economic success, as its government planned for the full fiscal year. Agriculture lays the groundwork for more robust non-agricultural business performance and planning.

From those above, it is clear that agriculture plays a critical role in the nation's long-term growth. Agriculture has a vital connection in developing economies (Mellor, 1961) and thereby, it plays a significant role in the Indian economy. The report of Agricultural Statistics 2015-16 states that agricultural sector growth has declined tremendously. The graph shows that agricultural output has been volatile over the past ten years. In 2004-05 the annual growth was 1%; in 2010-11, it went up to 8.6%, but in 2014-15 it goes to -0.2% and 0.8% in 2015-16 and it is increased to 6.2% in 2016-17 and further decreased to 3% in 2017-18 and again started rising from the financial year 2020-21 and settled at 3.8% in 2021-22.

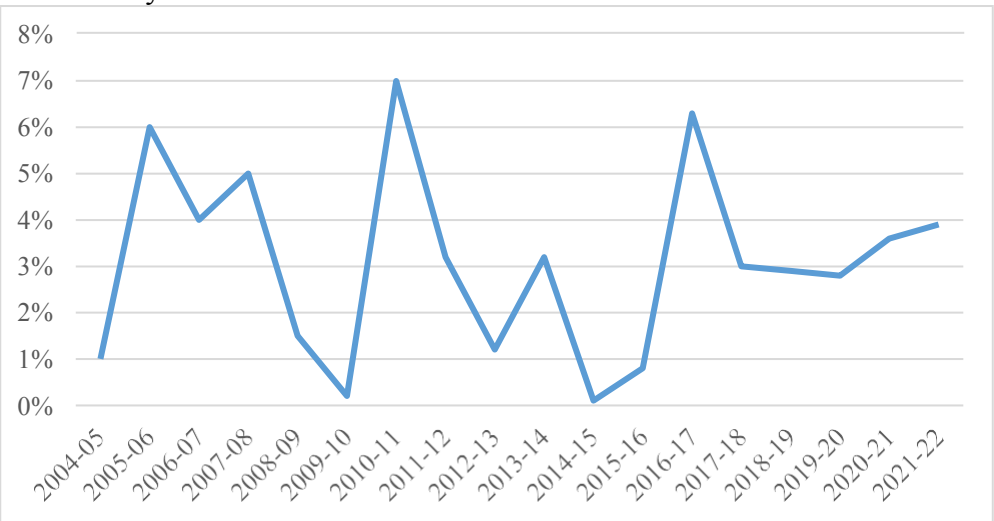


Fig 2.2 GVA Growth rate of the Agriculture Sector

Source: Agricultural Statistics at a Glance-Ministry of Agriculture.

However, agricultural production in India is high but productivity is declining faster than the global average (FAO, 2020). There has been a continuous decline in the share of agriculture and allied sectors in GVA (Gross Value Added) current price from 18.2 % in 2014-15 to 16.4% in 2018-19 (Agricultural Statistics, 2018-19). Increased industrial and non-agricultural activity puts a strain on the food available to the growing population. Food production is the desired requirement in most countries due to the ever-increasing population.

According to recent developments in the region, it now dominates the Indian economic, social, and political landscape. Since Independence, great strides have been made in agriculture under the five years of plan with the new technological revolution. Better communication and the introduction of money in the economy have increased the size of the market and marketing. Agricultural marketing necessitates a careful examination due to the unique characteristics of the agricultural production process, distribution, supply, and demand. As a result, marketing is widely acknowledged as one of the numerous problems that any industry must overcome in order to grow. As a result, the marketing of agricultural produce is one of the most crucial components of building the nation's economy.

2.2 Supply Chain Management for Agri produce in Agri Marketing

The process based systematic and coordinated agriculture-supply chain operates as a part of a huge compounded network. Figure 2.3 shows a general supply chain at the conglomerate level within the ambience of an absolute supply-chain network. Each organization is entrenched in a structured layer and accord to at least a single supply chain, i.e. it usually has numerous providers and consumers at the different and same instants of time. Singular producers, suppliers and traders who are related through a supply chain harmonize their values by generating the end to end supply chain activities.

Generally, the supply chains increase the controversies in the market both at the customer end as well as at the producer ends of the supply link. At the consumer end, the chains challenges mainly with price, comprehend services and products and comprehend terms of sale.

At the supplier end of the chain, supply chains challenges with one another suppliers for "producer affiliation" and core vendor responsibilities. (Manage, 2021)

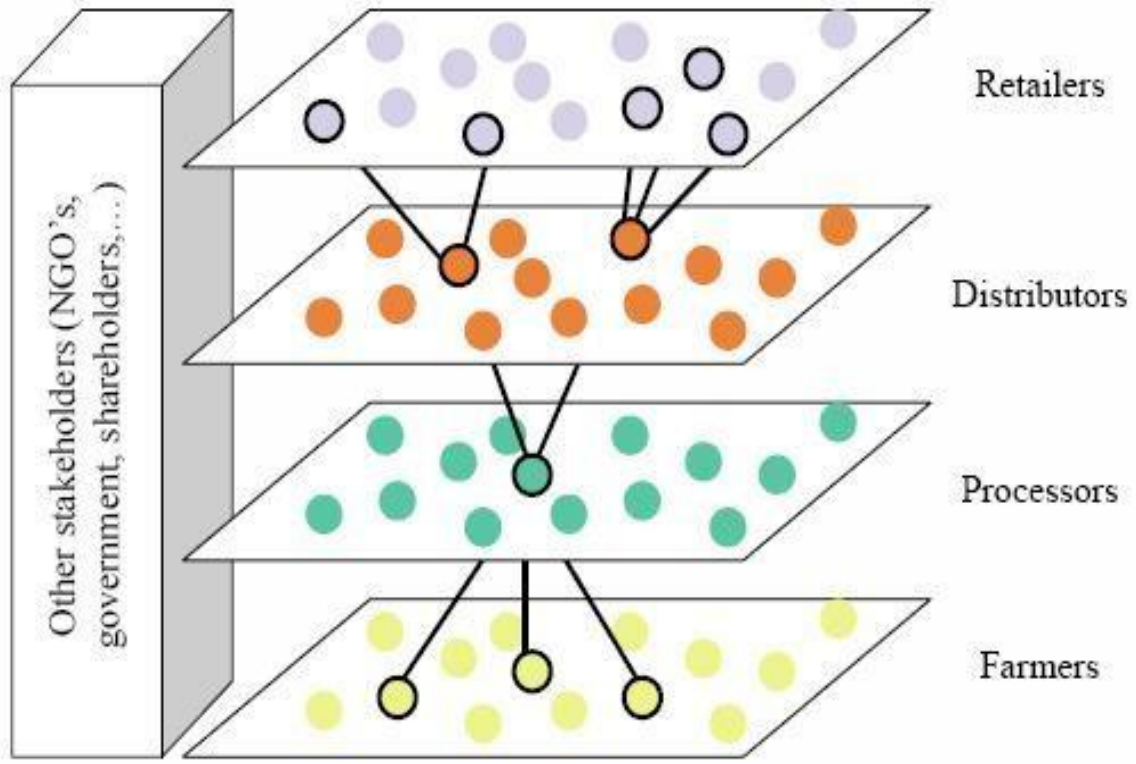


Fig 2.3 Schematic Diagram of Supply Chain (Lazzarini et al., 2001)

2.3 The Agricultural marketing system and evolution of organized supply chain management in India

The agricultural supply chain management in India are now expanding to acknowledge the new trading and marketing phenomenon's flung by the wave of proliferation and other domestic changes like increase in the income levels of consumers, changes in the food consumption pattern of the consumers like consuming the high valuated products like fresh vegetables, fruits and meat. The new challenges of the agrarian economy of India have now stimulated the administrative channels to go in for distinct legal reforms for encouraging the private investors to make them to invest in the agri marketing infrastructure and removing the distinct entry hurdles to encourage and promote the structured and coordinated supply chain with complete traceability.

The reconstituted vital agricultural Marketing Act the APMR Act in India, being accoutred by the distinct states of the country, contains different provisions to encourage direct trading, contract farming, and setting up of regulated private markets. These provisional measures will have prolonged towards postulating the scale of economies for the small organizations in entrenching the direct connection between the producers(farmers) and exporters/ retailers, consumers etc. Thus, these measures will postulate both forward and backward connections to develop integrated supply chains for distinct agricultural products in India (Manage, 2021).

2.3.1 Marketing channels

While analysing the issues in the supply chain-management in agriculture sector, it is beneficial to analyse the extensive market channels of some commodities to bring the analysis in to perspective.

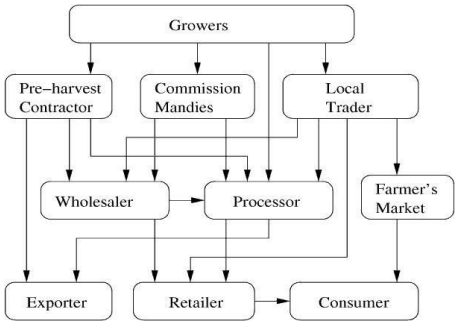
The fruits and vegetables marketing channels in the country differs remarkably by the state and commodity, but generally they are very lengthy and collapsed. Figure 2.4 shows the common channels of marketing for onions and mangoes in the Tamil Nadu state. The majority of local vegetable and fruit production is traded through the local wholesale markets. Although based on the type of commodity and state, farmers may directly sell their produce to the traders at the farm gate, or traders at the respective village markets, or directly to consumers, co-operative societies and others. Some of the most usual defects in agricultural supply chain in India are rendered in Table 2.1 and Figure 2.4 defines the channels of marketing for the onion and mango in the state of Tamil Nadu (Manage, 2021).

Table 2.1 Dejected Links in the Supply Chain of Agri products in India

Production	Supply Chain	Processing	Marketing

• Meager augmentation • The standard aid • Less prolificacy • Deficiency and disorganised management of production • Production is not associated with demand • Inappropriate maintenance of produce after harvesting resulting in poor quality	• Deficiency in storage facilities • Poor shipping facilities • Huge dump of produce • Numerous mediators • The shipping of the vegetables to the mandis is done in reusable plastic open crates or jute bags which are kept one on the other • The absence of cold storages results in damage of the fresh produce rapidly • In concern of Food safety and Hygiene factors of consumers the levels of insecticides, artificial manure and MRL not supervised and coordinated	• Poor produce processing • The quality deficiencies • Terrible returns • The utilization of capacity is very poor	• The marketing framework is very poor • The deficiency in sorting and grading of produce • Lack of direct connectivity of producers and consumers or retailers • Lack of price translucency • The delay in movement of produce from farmer to buyer is very high.
Every division operating in a confined mode results in numerous losses and damages through out the supply chain			

The Mango Marketing Channels in Tamil Nadu



Source: (Ramasamy et al., 2003)

The Onion Marketing Channels in Tamil Nadu

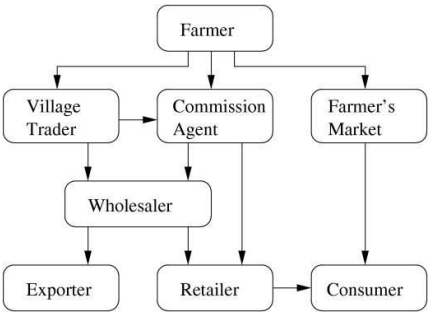


Fig 2.4 Marketing Channels for F&V in Tamil Nadu India(Manage, 2021)

2.4 Constraints

In India's agricultural marketing, several intermediaries are involved in marketing the agricultural produce from farm to end consumer. However, the government intervention of APMC Model Acts has changed agricultural marketing tremendously and drastically with the advent of technology. The proposed study will focus on online marketing platforms. The online markets have tried to overcome the challenges and problems faced by mainly farmers and traders. Few online marketing systems were started namely ReMS, e-Choupal and e-NAM,. The electronic marketing agricultural platforms aimed to provide transparent and fast processes in the transaction of trading with a broader coverage area.

The major constraints of Agricultural marketing in present days in India are as follows.

Existence of many intermediaries/brokers

Ends up in the crooking of both farmers and end users/consumers with the brokers offering lesser prices to farmers and charging extreme prices from consumers.

Extremely crippled nature of markets

Across the States refuses sufficient market access to the farmers on one side and obstructs the event of infrastructure needed to handle and supervise the increasing volume of agricultural commodities on the opposite side.

Enormous discrepancy inside the density of organized markets

In many parts of the country acts as an obstacle to the systematic handling of ever-enhancing the marketed surplus and easy market access to the farmers.

Incompetent marketing Infrastructure

Limits the assorted benefits farmers are authorized through an organized market environment. These advantages include enclosed and open auction platforms, common cleaning and drying yards, grading facilities, cold storage, and electronic weighing scales.

High extent of market charges/fee

Inclusive of commission amount by the mediators, market development charges, admittance tax, procurement tax, weighing charges, etc. tends to a high transaction cost and low price realization by the farmers in an exceptionally co-ordinated market.

Reduced payment to farmers & high mediating costs

In an immense long supply chain disprove the lucrative prices to the farmers.

Disproportion in market

Data among the farmers living in distinct areas in rural India forces the farmers to receive what so ever the price offered by the traders to them.

Deficiency in rural farm credit benefits

Put pressure on poor Indian farmers to employ the 'anguish sales' instantly after the produce is harvested whether or not the prices are less during that time.

Absence of all-weather shipping provisions

In numerous rural regions of the country blocks the sleek movement of the agricultural commodities to the marketplace, thus refusing fair pay to the farmers.

Inadequate storage amenities

This Inadequate storage amenities cause dissipation of Agri commodities and farmers have no option to do, either to sell their produce at an infrequent cost to bear the high post-harvest losses.

Adverse circumstances and transgression in mandis

Deducting amount for donations, Chanda, etc., confiscating great amount of produce for sampling, offering cheaper prices by deciding a product sub-standard, black-marketing, hoarding of stocks, and adulteration, etc. take a toll on farmers earnings.

Grading and storage

Grading plays an important role when deciding the price for the produce, but the standard marketing system doesn't give importance to grading and can not separate the standard material from bad produce. Therefore farmers fail to urge good prices for or their produce and on the opposite hand consumers will consume the quality material.

Transportation facilities

Transportation is another mode of exploitation from farmers. in line with my study, the transporters are charging 175% more price than the regular fare from farmers to move their produce from the farm to the local markets. Farmers are paying the overall price because of a lack of information and losing their money without their knowledge. Also, the improper mode of transport damages the produce during the movement of produce from one place to a different. This traditional transport mode also creates more damage to provide during distribution. Almost 20% of produce is getting damaged in every trade.

A major volume of research has been done on the functioning, staging, defects, and remedial measures of agricultural marketing in India, by the researchers. The previous content accessed by the researchers in the mode of studies and reports is concisely reviewed in this part.

To strengthen the agricultural marketing system in the country, the next step of development is by bringing transparency in price discovery and increase of competition in the system. It was perceived necessary to initiate reforms in agricultural marketing in the country based on an Expert Committee recommendation set up by the agriculture ministry in the name of inter-ministerial task force in 2002. The efficient movement of agricultural products brings transparency to the price discovery mechanism. For price discovery, the market may employ a variety of mechanisms (Bakos, 1998). Price discovery, or the process of deciding the prices at which supply and demand are matched, and trade occurs, is an essential feature of the market in a monetary system (Acharya & Agarwal, 2011). In the APMC markets, the tedious manual tender and open auction system provide ample scope for manipulation in the price formulation process (Chengappa et al., 2012). Hence several marketing systems emerged to cater to the need of the agricultural marketing systems.

The organised marketing of agricultural commodities had been promoted through a network of regulated markets (Rajendran & Karthikesan, 2014). Primary agricultural markets in the country are governed by APMC Acts (APMC, 2003). The Model APMC Act 2003 had provided a road map for states to amend their APMC Acts to provide the choice of channels to farmers for the sale of products directly or through contract farming (Singh, 2013). In 1950, there were 286 regulated markets in the country, but in 2020 markets raised to more than 7600, Along with those 21780 rural periodical markets, only fifteen per cent came into the ambit of regulations (Rajendran & Karthikesan, 2014).

Vadivelu and Kiran (2013) elicited that agriculture is different from the industry and plays a significant role in the nation's development (Vadivelu & Kiran, 2013). The complex nature of India's agricultural marketing system is organised and unorganised sector practices (Manjula, 2020). The marketing of agricultural produce is considered as an integral part of agriculture.

The present functioning of the markets under APMC Acts is generally responsible for the segmentation of agricultural markets in the country, leading to inefficiencies in price discovery, asymmetry of market information, a high number of intermediaries and a highly fragmented and inefficient agriculture supply chain (Patnaik, 2011 & Chand, 2012).

APMC (Agricultural produce marketing committees) constituted to solve the farmers' problems, support them, and safeguard the interest of the farmers. However, it led to spatial variations in wholesale prices of the principal commodities across APMC mandis in India and within the states (Chatterjee & Kapur, 2016). Indian farmers face problems in marketing and selling their agricultural produce because of the long and complicated distribution channels and malpractices present in markets (Kumari et al., 2017).

As per the report of Global Agri System Consulting 2010 (Global Agri System Pvt. Ltd., 2010) due to the high number of intermediaries, the total price increase in the chain is approximately sixty to seventy-five per cent. Thus, the "farmers receive only twenty-twenty five per cent of the end consumer price". In addition, "the wastage is fifteen to twenty-five per cent of the value" (Patnaik, 2011 & Kaur, 2015). The farmers sell their produce at up to five

per cent lower prices in geographically isolated mandis, which enjoy market power because they face little competition (Chatterjee & Kapur, 2016).

A study of the fruits and vegetables supply chain in four Indian metros reported that, on average, there are five-six intermediaries in the supply chain. The price realisation by the farmers was reported low due to poor infrastructure, manual weighing, single window systems, measurement errors, and lack of modern grading and sorting process (Mookerjee, 2016). The study highlighted that delay in price realisation results in post-harvest losses for four to six per cent in cereals and pulses, six to eighteen per cent in fruits, and seven to twelve per cent in vegetables due to the described factors.

On top of this, the market information asymmetry is high, which relates to information about product availability at the source/market and demand patterns (Suri, 2018). Farmers knew relatively little about the many types of market information and how it could be used, with only thirty-seven per cent knowing this information compared to seventy-five per cent of traders (Vadivelu & Kiran, 2013). Only real-time prices and arrivals were documented and disseminated with the traditional approach and others not reported like grade, quality, price potential market, and commodity price projections. Farmers are unhappy with the current agricultural marketing system, and the state government should amend the APMC act to improve market competitiveness (Singh et al., 2017).

The most common reason for the failure of the Indian agricultural market is that India's agriculture trade markets are dispersed across the country with little coordination, full of trader cartels, and offline functioning. State government's market reform measures have been hampered by the political influence of the trading class, which is represented by special interest groups comprising commission agents, dealers, and other intermediaries (Chand, 2012). It also helped them obstruct the entry of new players, stifling the competitive functioning of markets (Acharya, 2004). It was discovered that traders do not have to pay the full market fee in some states, while the market fee is lower or non-existent in others (Singh, 2015).

The study on the impact of market reforms on agricultural growth in Uttar Pradesh reported that the majority of the farmers (92 percent) were found highly dissatisfied. More than

96 per cent of farmers claimed that practices followed by traders under the present marketing system were exploitative and prices were not transparent (Singh et al., 2017).

Aggarwal et al. (2017), based on their qualitative survey across various mandis in Karnataka, highlighted the importance of institutional reforms and establishing a legal framework, developing incentive structure for stakeholders, and providing market infrastructure such as physical and financial payments infrastructure (Aggarwal et al., 2017)

Indian agriculture faces many issues for improving the marketing system, APMC Acts enhanced agricultural markets in several respects. However, over time, the balance of power in transactions has shifted back, favouring intermediaries and large traders (Chatterjee & Kapur, 2016). GOI has made efforts by removing intermediaries, managing post-harvest wastage, bringing transparency in the process, using fund development, and emphasising spot markets, democratising the APMC (Sambath and Ravindran, 2018 & Manjula, 2020). Market information is the resource of increasing the efficiency of the marketing system and promoting improved price formation (Vadivelu & Kiran, 2013)

Farmers were not satisfied with the payment system, weighing and auction platform (Singh et al., 2017). GOI is developing an agri-tech infrastructure and insurance scheme of commodities to protect farmers against yield loss and price fluctuations (Yadav, 2016). GOI had difficulty convincing all the stakeholders- “farmers, traders, and commission agents” to move to the online platform (Nirmal, 2017). Illiteracy among farmers is the primary concern regarding technology usage in agriculture; training and creating awareness are much needed to overcome this obstacle (Thankachan & Kirubakaran, 2014). The private sector is vital to improve market efficiency and stabilise the price of commodities (Chand, 2012). Subsequently, awareness among farmers must be created through various agricultural marketing agencies (Vadivelu & Kiran, 2013).

R.K Jain, in his article, stated that, In the country India, the significance of a well organized agricultural trading system as a keen connection between the consumer and the farmer and thus the buyer was acknowledged, earlier in the year 1928 by the commission named as the Royal Commission on Agriculture (Acharya, 1996). Since then, a genuine contract of progress has been made in organizing the marketing division of agricultural produce

by acquiring different legislative, executive, and administrative measures regularly. The formation of the Directorate of Inspection and promotion of the Agri produce in 1935, The ratification of the Act for marking and grading of Agri produce in 1937, The supervise of the surveys conducted on the commodity market, and also the formation of well-organized and amended markets within the States under the act "Agri commodity marketing regulations acts" are the variety of preventive actions which were preoccupied before the independence to work out for the betterment in the agricultural marketing situation.

R.K Jain, in his article, stated that "Post-independence, three crucial sets of associated programs and policies are followed and acted according to the advancements of Indian agricultural marketing. These were the establishment of the framework (both institutional and physical), the execution of the price fixation and stabilization approach, and also the pathway to overseas exchange of the Agri produce, Arbitration by the formation of framework provisions, and the performance of various activities in marketing are the example. The Act named Warehousing Corporations Act(WCA), 1962, and the National grate of the rural and local go-downs scheme of 1979 approved the state and central union warehousing agencies to build godowns and warehouses for storage of Agri produce and commodities. The act named Cold Storage Order, 1980 assisted in maximizing the cold room storage provisions for conversing degradable Agri commodities like vegetables and fruits. Likewise, the acts named 1. Forward Contracts(agreement) farming (Regulation) Act, 1952; 2. The control and prevention of Adulteration in food Act 1954; 3. Necessary Commodities Act, 1955; 4. The Exports and Imports for Control of quality & Inspection Act, 1963; 5.Standardization of Measures and Weights Act, 1976; 6.Consumers safeguard Act, 1986; and 7. The Indian Standards Bureau Act, 1986 was ratified, and a variety of top institutions and organizations and like the CWC abbreviated as the Central Warehousing Corporation, FCI abbreviated as the Food Corporation of India, The commission for Prices of agricultural products (then changed the name as the Commission for Agricultural products costing and Pricing), The NCDC abbreviated as the National Corporation for Development of co-operative marketing, NAFED abbreviated as The National Federation for Co- operative Marketing, The SCT abbreviated as State corporation for Trading, The National Horticulture Board (NHB), The Board for spices,

and the NIAM abbreviated as the National Institute for Agricultural Marketing (NIAM), etc. were founded for expediting numerous marketing activities. In the execution of the value stabilization strategy, the State governments insinuate straight in the market yards in association with various agencies in state for the aim of obtainment and proper processing distribution. In respect of twenty-two items, the union government declares the MSP (minimum support prices) at which the agencies of state should purchase the produce (GOI, 2003). The Agricultural Costing and Pricing commission (ACPC), the FCI and the Civil Supply Departments of states, and the best price shops play a significant role in executing the government's price stabilization policy.

At present, the marketing system for agricultural produce and commodities in India comprises the Co-operative Trading Societies for Agricultural produce marketing, the organized Markets, the final people trading, and also the next generation trading known as future trading. Apart from these, there is independent trading, which takes place outside these divisions. The co-operative agricultural trading societies normally tackle the trading and marketing of agricultural goods or commodities on behalf of the farmers and also the supply of agricultural essentials to them by taking the percentage of commission for every trade executed as their share. so as to figure out the competence framework of marketing for agricultural produce in the country, it is insignificant to assess the marketed unused produce. Generally, there's an optimistic interrelation between marketed surplus and production. within the past 30 years, while the assembly of food and non-food grains has relatively doubled, the assembly of fruits, vegetables, spices, and flowers has increased rapidly even quicker in response to the change in utilization criterion of products by consumers. As per recent statistics, the procurement of potatoes has been accumulated by 13 times over the last three decades (Mohan, 2002).

2.5 Middle Man Trade

The mediator is playing a vital role in the marketing of agricultural produce in present days exploiting both farmers and consumers without their knowledge ends up in the decline of farmers' revenue.

In line with the survey and study made by D.S. Sidhu state that the circumstances of the commission mandis are not at all supportive and favourable to the farmers in any case. In these commission mandis, there will be no storage facilities, so the farmers should wait for disposing of their commodities if it kept unsold for any reason. Therefore, the farmers should take the support of the mediator or intermediary(Dalal) who carries away a major percentage of profit as their share and accomplishes the trade deal in the favour of wholesalers or in favor of them. D.S. Sidhu also disclosed that the stake of the mediator or broker was 31 percent for rice, 29.5 percent for vegetables, and 46.5 percent for fruits (D S Sidhu, 2018).

So as to provide the remedial measures for these middle man problems many corporate companies came forward by offering various services including better prices and commission less trade for farmer's produce but they failed in execution due to the lag in gaining farmers' trust among the companies.

So as to extend the farmer's revenue the government of India has also taken a forward step in the farm reforms act which eliminates the traditional standard marketing system and eliminates the intermediaries as per the agriculture market yards. This act encourages the companies to directly procure from farmers in larger quantities to provide more benefits and revenue to the farmers.

2.5.1 Gaining farmer's trust

But, Gaining the farmer's trust plays a very keen role in offering remedial measures for the problems, as the farmers are very much addicted to the traditional system and they trust the middleman since they have had a very long relationship for many years. Because of these reasons government is facing so many problems in the execution of the farm reforms act. Some of the statements as per The Economic Time's article are as follows (The economic times, Dec 2020).

2.5.2 The law:

The law's authorized by the parliament in September month 2020 are focused on connecting institutional buyers, like Reliance Industries Limited, Wal-Mart Inc., More retail Limited, Spar Hyper mart Limited, etc., directly with the farmers, by omitting government-organized market yards and exploiting commission agents (The economic times, Dec 2020).

2.5.3 Do not privatize the farming sector

Over 60% of wheat, rice, and potato producers from the farming states of Haryana and Punjab said that the government was trying to privatize farming by eradicating the middlemen, who are an important mechanism in the farming economy and for many farmers, the main lines of credit (The economic times, Dec 2020).

2.5.4 Significance of interceder

The interceder supplies fast capital for core, fertilizers, and family emergencies as well, as mentioned by the agriculturist. The interceder helps in grading, weighing, packing, and selling the harvest to purchasers (The economic times, Dec 2020).

2.5.5 The failing step

The majority of farmers who were domiciled on the highways belongs to the states of the Punjab and Haryana, they wish to own support from the entire nation. The All India Agricultural Workers Union(AIAWU), which asserts to represent several numbers of farm hands from rural areas has promised to launch a countrywide barrier to support the strain in the week. The agitators also said that an initiative to eradicate interceders in the state of Bihar did not attract and draw any new investments and farmers were very worse off as they often had to resort to fireplace sales in the absence and unavailability of organized and systematic wholesale markets. "Some property-owners from the above said Bihar state now work for our farms," said 45-year-old Suk Binder Singh, who said he cultivates cereals, and potatoes on his 20-acre farming land in Haryana (The economic times, Dec 2020).

2.5.6 Connoisseurs View

Several Business analysts and economists, including former government advisor Ashok Gulati, said that the modifications will bring additional investments to the world. The newly promoted acts and laws are the stepping stones to modernize the country's agriculture system, but the results will not arise instantly (The economic times, Dec 2020).. The government should continuously get in touch by communicating with the agronomists to clarify that this vivid move taken will ultimately benefit the farmers and also help the Indian agriculture system. But Devinder Sharma, an individual agricultural expert, said intercederes play an important part in ensuring farmer's prosperity. There may be a mutual relationship existed between the farmers

and interceders. And for many farmers, interceders are like ATMs (The economic times, Dec 2020).

2.5.7 Worry

If the agriculturist bothers after enough returns to their crop initially, marketable consumers might reduce the prices. They're worried that the government won't act on writing to proceed with the decades-old subsidy plans for staples like cereals and grains (The economic times, Dec 2020).

2.6 Transportation problems in Agriculture Marketing

Arnold(2010), In his article, states that there's increasing attention given to product quality, that a big component was resolute by the inbound and outbound logistics the present 2/3rd of Produce was moving by roads within the country and increase in fuel prices are making the logistics fare costly. Arnold also Identifies factors associated with production and people associated with logistics include the later including limitations on Transportation services, knowledge on concerning markets and also the characteristics of ultimate demand, access to distribution and retail networks, and availability of finance terms or trade finance (Arnold, 2010).

Consistent with the article published in The Times of India, the main constraints in the transport of Agri produce in India are inadequate logistic connectivity, Support, encouragement, and accompaniments to make sure that the farmers deliver their harvested produce to the markets within the specified time. Also, there is a lack of services including mobile cold storage for newly harvested produce which cannot be preserved at production centers, but is necessary to ship immediately, for this few transport options are available which will cover longer distances in minimum times, however, they are highly expensive. 'Kisan Rail' service and the 'Krishi Udaan' scheme, All India Agri Transport Center, and Krishi Rath App would accommodate those suppressions **(**The Times of India, Dec 2020**).**

2.7 Labour Problems

The labours play an awfully prominent role in differentiating the standard of agricultural produce. Proper sorting and grading should be done supported by the variability,

size, color, and texture of the produce. The value of the produce is determined as per the grading and quality report.

But in India there are many problems with labours as there's no quality of work from them. It is very difficult to extract the standard work because the majority of labours are lazy in working which results in quality problems. Also, the costing of labours is additionally very high reciprocally adds more price to the produce for the consumers with less quality.

The main cause for the above problems is the shortage of labours. The newsletter of ICRISAT states that in the past decade, the farming sector in the country has faced a sharp decline in availability and supply of labour despite the sector contributing significantly to the Indian economic growth and development.

2.8 Storage and Quality of the Agri produce

Reshma(2010), observed that the post-harvest losses due to inefficient handling and poor storage structure account for an estimated 10 percent of foodstuff production and 25 percent of fruits and vegetable production in India (Reshma, 2010).

Yadav(1995), states that, In India, there are numerous concentrated belts where fruits and vegetables of wonderful quality are produced and also the establishment of post-harvesting and marketing infrastructure will provide the needed fillip to understand significant volumes for exports (Yadav, 1995).

The Article published in INSIGHTIAS states that there is no presence of proper storage and warehousing amenities in the rural areas and villages. So, the farmer has no chance to store the produce in the proper manner and stores his products in a traditional manner like mud vessels, pit vessels, Kutcha, and some other storing methods. These illegitimate techniques of storing causes substantial damage and wastage of produce. Approximately 15% of the fresh produce gets rotten, spoils and becomes unfit for human use and consumption. Because of this reason the supply within the local markets increases considerably and thus the farmers are not getting a good prices for their commodities. The installation of warehouses under different schemes like the State and Central Warehousing Corporation has enhanced things to some extent. Also grading for different types of fresh commodities are not happening properly. The practice was usually prevalent that one mode of sale called “Dara” sales where all qualities of

fresh commodities are sold in one common lot so that the farmers producing the best qualities are not assured for a good price. Hence the farmers are not showing interest in farming and are also not willing to use better seeds to produce better varieties (Insight IAS, 2021).

2.9 Price fluctuations

The fresh produce rates relatively fluctuate when compared to those products which are manufactured by companies. Moreover, The uncertainty in the agri commodity rates are higher than that of the rates of processed and manufactured goods. There are many factors that are responsible for price fluctuations. Some of the inconsistencies in prices are of temporary in nature while other fluctuations cause a long-lasting effect. All the mentioned aspects which lead to the inconsistency in prices affect the supply and demand directly or indirectly (The economic times, Nov 2017).

2.9.1 Temporary Changes

The aspects which are responsible for the short-term changes in the agri produce prices are:

- Unpredicted difference in the receipts or arrivals of the produce into the market yards.
- Unpredicted differences in the take-off of produce by wholesalers from the market yards.
- Stopping in the movement of produce due to strikes for different reasons and blocking the road and rail transport.
- The polite remarks are occurring in extra purchases by retailers, wholesalers, traders, and consumers.
- The problems due to Law and order within the area.
- The notice of applicable policy of the government.
- Changes in the margin by traders.

These temporary(short-term) changes are of two types- (I) Intra-year changes and (II) Inter-year changes (The economic times., Nov 2017).

2.9.2 The seasonal changes of Intra-year

A Few factors which impact the significance of intra-year changes in the expenditure of agribusiness artifacts are:

- In-seasonal production of commodities.
- Freshness of production
- The substantiality of commodities.
- Inexpensive bargaining capability of farmer and sellers
- The less endurance of agriculturists
- The demand in the season ensures enough commodities.
- Changes in the policies of the government on purchasing
- Changes in the volume of storehouse benefits
- Changes in price of storehouse
- Changes within the supply of seed
- Changes in the availability of credit against the products stored and
- Changes in the repayment time of loans.

2.9.3 The Seasonal changes of Inter-year

A Few aspects which impact the significance of changes based on inter-year in the expenditure of agribusiness artifacts are:

- Changes in yield of produce due to variation in rainfall.
- Changes in produce due to variance in climatic situations during seed formation time and harvesting time.
- Changes in supply due to natural calamities during the yielding and separating stages during the subsequent year for production
- Changes in the transport policies.
- Changes within the inter mutual strategies like encourage or purchasing costs, the volume of purchasing, preserving potentials and release through the common public distribution method (The economic times, Nov 2017).

2.10 Direct Marketing System

The direct marketing is the strategic approach of maintaining one to one communication and relation between the consumers and farmers. The study confers some fundamental challenges and modules in the system of direct trading. The investigation and analysis of problems and issues faced by the farmer's in the present direct trading system are sufficient

and appropriate to take required actions for the betterment of the system. Based on the review of literature the different arduous aspects that affect the direct marketing system is calculated.

Now a days the business in agriculture enhances its development in the sector and plays keen role in Indian economy. Majorly the sales of the agri produce in India has been performed through various modes like traders, interceders, wholesalers and retailers. In the current marketing situation the intervention of vast retailers were largely signify. But the farmers who are responsible for the farming of agricultural produce by undergoing various hardships and were not authorized to get and enjoy the complete advantages and benefits. Therefore, there is no better development in the financial status of farmers. so as to beat this defects and to furnish substantial benefits and satisfaction to the farmers which were taken by interceders earlier, the direct proposed marketing system was implemented.

The Direct trading plays a crucial role in the development of the rural economy. The Government of states organized several farmers marketplace to assist the farmers in selling. The government of Tamilnadu recognized the uzhavar santhai, local bazars, and coordinated markets in the districts are the direct marketing places number of the farmers. The Andhra Pradesh government also established E-Farm Market platform to connect the retailers and consumers directly to the farmers for the procurement of the produce. The clarification given by Timothy Park (2015) states that the Agricultural policy creators have proposed that changing to the rural and local distribution mediums like trading outlets may allows farmers to realize the complex boundaries and rise their incomes (Timothy Park, 2015). Moreover the marketing upkeeps the farmer and provides the solution to some range, there are few practical boundaries which acts as issues for the farmers to gain predictable benefits. Bill Wright (2007) stated that, Agri marketing is an exciting an profitable business. Changing and adapting in technology and economic situations may give us new solutions and tools or new headaches, based on the individual situation. On determining the primary profitable earnings from the latest strategies and planning is significant. It analyses the structure of the business and helps simultaneously for the future, also farmers should be aware and trained on different modes of direct distribution network (Bill Wright, 2007).

H. Adanacioglu (2016) defined that, Agronomists selling harvests to the end consumers faces many challenges (H. Adanacioglu, 2016). In a study performed by the New-York system of direct response marketing of vegetable farms, dependants had asked about the major blockades or glitches facing during their operations in marketing. The outcomes of survey presented that competition in a very drenched market and labour related problems were the major hurdles for success in direct selling. Concerns includes struggle from hypermarkets, import goods, discount stores, and other farm markets, and labour related problems includes lack of working class and hard-to-find seasonal help, difficulty in adopting good and well-qualified labour, and high labour costs. Other key barriers were location, finite resources(working capital, Farming land, and other products), change in demands of market and consumer, change in the regulations, and development pressure of the community.

Vigneshwara varmudy (2011) analysed the "untapped potential of brinjal" declared that, poor system of marketing, unavailability of seeds which are resistant to the diseases for the farmers, lack of guidance to the farmers on pre and post harvesting practices and procedures, lack of cold storage facilities and marketing centres are the key issues faced by the farmers (Vigneshwara varmudy, 2011).

Zivenge and Karavina, et.al. (2012) endorsed that, farmers should build up adequate strategies for the collaboration and connections, invest in market intelligence, and create a change in practice, thinking and building trust. This will capacitate them to inflate their haggling power on prices (Zivenge & Karavina et al., 2012).

2.11 Perspectives of Direct Marketing in line with Farmers higher Price Realization

Direct Marketing or direct response marketing is a compact between consumer and the producers without the intervention of intermediaries or traders where the producers(farmers) will get the majority share in the amount paid by the consumers at the market.

Fig 2.5 The channels of Direct marketing system

2.12 Farm Gate Sale

When farmers sell their produce directly to the consumers by keeping stalls on the highways near their farms or establishing connections with large scale consumers like hoteliers, restaurants, independent retailers and caterers to supply the produce directly to them. However, the farm gate sales are quite common where the lands of farmers are situated on highways or having the shipping facilities to supply the goods or produce to their consumers directly. These are most common at the retail outlets near the farms, farmers markets, roadside farm stands, and food fairs organized and managed by farmers. Choupal sagar and Hariyali Kissan Bazaar are the booming and successful one-stop retail shops run by the farmers. (Alok k Sahoo et al., July 2020)

2.13 The Initiative of Apni *Mandi* in Punjab state/ Rythu Bazar of Andhra Pradesh state/ Uzhavar Sandhaus of Tamil Nadu state

These are the types of markets where the producers or farmers are authorized to vend their produce precisely to the end consumers in the market yard with minimum and regular infrastructural amenities. It was an attempt and endeavour made by the government to eradicate the intermediaries so that both the consumers and producers will get benefited. The farmers will raise their revenue by 25% more than the regular revenue from traditional system and on the other hand the consumers will get fresh produce at lower prices compared to their regular billing. This concept is evolved from the farmers market in Russian named "Kal Khoj" and the

weekend Saturday Market of United Kingdom and United States of America which is adapted in India in 1987 at Chandigarh Punjab named Apni *Mandi*. Later it is broadened and developed with analogous concept as the Rythu Bazaar in Andhra Pradesh and Uzhavar Sandhaus in Tamilnadu in 1999. (Babu & Kalyan, 2015). The Krushak Bazaar in Western Odisha is identical to Rythu Bazaar held at a designated place allocated for the trade executions in between the farmers and consumers or retailers in the semi-urban or urban areas.

2.14 Cooperative Marketing

This is another type of marketing in which a group of farmers are joined together and forms a cooperative society voluntarily to market their produce inclusively. The Small and marginal farmers in the rural areas who are not capable of marketing their produce themselves due to lack of resources will get benefited from this system by being the owner, operator, and enjoys the profits made by the cooperative society with the principles of equity, equality, and mutual self-help to achieve the society goals along with the individual's profit by gaining and enjoying the bargaining power and economies of scale. The main duties of the cooperative societies are Marketing of the agri produce of the members of society and supported farmers along with the other support services like input services (quality seeds, credit facilities, pesticides and fertilizer etc.), logistic support services (transportation and scientific storage etc.) and marginal support (standardization, the quality measures, the market linkages and exports of the produce). In India there are three different types of cooperative marketing societies based on the single commodity, multi-commodity transactions. The Sugarcane Cooperative Marketing society, The MAHAGRAPES cooperative society and The AMUL marketing society etc. are some bright examples of successful cooperative societies.

2.15 The Farmer Produce Organization/ Farmers Produce Company based Marketing

Though there are some successful and prosperous cooperative societies thrived in India, many of them are facing serious constraints like not meeting the farmers needs like institutional linkages and bureaucratic intercession in the societal activities, which graved forward to the initiation of the Farmers Producers organization/ Company as per the Amendments of the Companies Act, 2002. This is a hybrid model system of cooperative societies and the philosophies of the company are by connecting the virtues of the farmer’s and mobilizing the

members of registered company or firm with the mutual and coordinated self-help and fair and decent dispensation of profits among themselves from the cooperative societies. whereas profit maximization and the professionalism are done by the business mode operations from companies. The FPOs enjoys the power of bargaining and also the scale of economies and can sell the produce in any location across the country to potential and institutional buyers with greater margins which benefits the members directly as per their shares (Mukherjee et al., 2019). The NABARD provides initial backing for the first three years by providing the financial support for the formation of FPOs with salaried CEO and directors of their organization. They can also get the technical support from KVK, respective state agricultural department and from the private extension services etc. with a free or paid base services. They can be connected to the direct digital marketing platform (e-NAM) to eradicate intermediaries. They can bolster their marketing potential by taking enhanced quality measures, hygienic packaging, value addition, and improved branding techniques, and by offering very competitive prices to attract buyers to achieve higher orders to increase the farmer's share which in return increases the livelihood enhancement of Indian farmers (Mukherjee et al., 2019).

2.16 Contract Farming

The term contract farming is defined as the agricultural production is carried out according to an agreement between the producers of food and the institutional buyers where the producers of food have to sell their produce to the respected buyers at a pre-agreed price as per the agreement for guaranteed marketing at the time of seed scattering. such kind of contract farming is becoming successful in India because of corporate sectors such as Evezon, Reliance, Azista, ITC, and Pepsi Co, etc. are venturing into contract farming of beans, cabbage, cauliflower, potato, onion, tomato, and other vegetables by providing the technical and financial inputs such as good quality seeds, providing finance for cultivation and other add-on services like scientific and technological farming practices for greater results. The contract farming provides a win-win situation for both farmers and potential buyers. The farmers are assured with the guaranteed marketing for their produce at any kind of circumstances prevailed during farming or post-harvest scenarios with a pre-approved rate whereas on the other hand

the institutions or corporates are also guaranteed of getting the good quality products of required quantity at reasonable rates for their companies which will not change even if price differentiation or fluctuation occurs during post harvesting period. These potential corporates like Reliance Fresh are directly retailing in case of the fresh produce and Pepsi Co in case of the processed products like mango and potato. There is an guaranteed return on investment among the farmers which is risk-minimising during the post-harvest marketing and also eradicating the involvement of intermediaries which boosts the share of both farmers and buyers and helps in price realization (Alok k Sahoo et al., July 2020).

2.17 e-National Agricultural Market (e-NAM)

e-Nam is a type of direct trading system for marketing of the agricultural produce to the potential buyers all over the country by eradicating the interference of the intermediaries and also the cess for marketing in the APMC market yards mandi system. This is systematic change in the APMC marketing system. The trade can be executed between the producers and the buyers without real transportation of produce to the mandis in the market yards. The digital images of the respective produce with quality parameters and the range of price are uploaded by the producers which can be accessed by the traders from pan India at the time of bidding. The traders or buyers can lock the bidding by choosing the product which ever they need and it is notified to the farmers for executing the trade transactions to the particular traders at the respective price bidded by them. This method gets the rid of the price fall by buyer's breezy network to down the rates in case of a traditional bidding system at an open market place of APMC mandis in the presence of brokers/marketing agents, which guarantees the price realization by the producers from the individual wholesalers who auctioned on the online e-NAM platform. This system also provides the enhanced quality management for the produce at producer's place, which is not reliable generally in mandi due to the unavailability of the Godowns or cold storages for storing the excess produce arrived at single time to the mandi. There are two types of e-NAM modules recommended to cleanout the wholesale markets like APMC's and also to boost up the agri produce supply chain in recent years. In view of the FPO module, FPOs can precisely execute the trades with the help of the bidding facilities available in the e-NAM portal. The other one is the warehouse based marketing module, where the

farmers can directly sell their products from Warehousing Development and Regulatory Authority (WDRA) approved and registered warehouses which are notified as the deemed market without physical mode of transportation of produce to the nearest APMC market yard mandis. (MoA&FW GoI, 2020)

2.18 Commodity Market

This is a primary economic marketing sector for trading of farming commodities like coffee, spices, sugar, cocoa, soya beans, and others. The Producers(farmers) usually obstruct their risk by using the traditional commodity market futures. Whenever there is a price fall in the local traditional markets during the time of the harvest. The farmers can compensate the losses themselves by making profits in the futures market. In case if there is a rice in rates of commodities during the time of harvest, the farmer will face the loss in the futures market but he can reimburse this loss later by selling their produce for better prices in the local market yards. Farmers are given the price details which minimises or eradicates the risk and accredit to take the right decisions and make better profits through the transparency in the rates for an efficient and systematic marketing and trading system which is competent. Commodity exchange and trading is done through the national commodity exchanges and regional exchanges like the National Commodity and Derivatives Exchange (NCDEX), Multi Commodity Exchange (MCX), and the National Multi Commodity Exchange of India Ltd (NMCE). The commodity market investments can attain the significant returns and substantial growth in the field. (Alok k Sahoo et al., July 2020)

2.19 Challenges and Way Forward

The inadequacy of the market information, unavailability of cold storage facilities, competition and price fickleness are the pessimistic aspects that greatly affecting the producers direct marketing system (Kumar et al., 2018). There is a need for some peculiar strategies to be adopted to compete with others. Positioning, segmentation and targeting are three phase process that will be useful to overcome and sustain the competitiveness and contention (Dhakshana & Rajendran, 2017). A research analysis in direct marketing system in turkey states that the solicitudes includes competition with discount stores, other farm markets, super markets, import goods, and complications in finding the skilled manpower and high labour

wages. Some other barriers are limited resources, location of farms, change in markets and consumer demand (Adanacioglu, 2016). Though there are substantial returns in the commodity marketing and future contract farming, farmers are not having have a clear knowledge on the supply and demand chain to execute the trades in commodities and high proficiency is required to trade with the risk. The changes in marketing of agricultural produce are comprehended by many public policies that promote the enhancement of farmers income on priority. The policies like the Companies Act (Amended in 2002), e-NAM (Reformed APMC 2016), Contract Farming Act (2018), and Essential Commodities (Amendment) Ordinance Act 2020, Farmers Trade and Commerce Ordinance 2020 enables the farmers to step towards the direct marketing system. The direct marketing between the farmers and the consumers is to eradicate the interference of brokers or agents and the share taken by them should be distributed between the farmers and retailers or end consumers. The farmers can get a major stake in consumer prices which improves both farmer and consumer surplus as a win-win situation. Direct trading is facilitated and expedited by several ways where the rythu bazaar and farm gate sales based on profit increment in the independent interface whereas the FPOs and cooperatives societies based on scale of economies in contract farming and group approach and e-NAM based on advanced features through the digital platform and smart linkages. Apart from direct trading system, on the other hand the commodity market facilitates value addition and processing by providing the infrastructural facilities for exports under different agencies like NCDC, NCDEX and APEDA, etc. Minimum standards of quality can be enforced by marks given by "FSSAI" and "AGMARK" in case of branding of processed produce or farm produce by Farmers Producer Organization to step into a market competing with existing branded market players (Alok k Sahoo et al., July 2020).

2.20 Agricultural Marketing Reforms in the World

The agriculture sector has not gained importance till the establishment of the World Trade Organisation in 1995. The economic policies of many countries underwent an extreme alteration after suffering from slow economic growth and restricted policies. With the initiation of new policy measures, rapid growth started in agricultural marketing and production and the

nation's general economic development. Many countries have benefitted from the instigation of agricultural marketing, which eventually leads to the nation's prosperity.

As per FAO (2015), World Agriculture Trade (WAT) has witnessed tremendous challenges in the past decade. The grain production and consumption pattern in the World have been changed dramatically after the globalisation and liberalisation shifts in the global trade patterns (FAO, 2015). As per the World Agriculture and Trade (WAT) Report, 2019 grain production and consumption in developing nations (at 2.5 per cent annually and 2.8 per cent annually) compared to developed nations (at1 1.3.and at 2.2 per cent annually) grew faster in the past two decades, whereas world production and consumption at 1.7 and 2 per cent annually (WAT, 2019).

In the 1950s, the USA was the most significant agricultural exporter globally, which constituted $3 billion sales per year, and now exports increased to $50 billion per year.

Though the US agricultural export markets have increased, the share declined steadily to 40 per cent of the total US agricultural exports in 2000. The main reason behind this was the agricultural policy of free trade, and simultaneously, the government had ignored the farmer's issue of not receiving the remunerative price (Ikerd, 2005).

In Australia, agriculture has lagged behind other sectors. The country's economic sector gains trade value from other sectors (Quint Agricultural Ministerial Forum Montreal, 1999).

The government-controlled the impact of agricultural marketing reform in Kenya, and the growth declined financially and technically. So, later on, the government gave the responsibility to the private sector for the development of markets. However, this resulted in negative growth as they could not manage the implementation and could not undertake the activities adequately. The government lacked in providing the essential infrastructure and legal framework and was unable to set up a free market for agricultural production and marketing of agricultural commodities (Nyangito & Okello, 1998).

In Malawi, the need for successful reform of agricultural marketing emerged when the food commodity producers lacked in many things, viz. undeveloped market institution, no credit facility, lack of infrastructure, unable to get the farm inputs and challenges in technology

adoption. After that, the government expressed plans to implement legal reforms to build a complete agricultural market (Kherallah & Govindan, 1997).

In New Zealand, the government tried to protect the farmers from the vagaries of the commodity market, and components of farm exports have changed with deregulations.

The agricultural reforms could not reach the farmers or producers to the required level (Johnson, 2000).

In Cuba, the agricultural sector required a quick reform to uplift the farmers. So, state farms created small units of cooperative production and agricultural markets in 1994. Thus, opening the agricultural markets helped the farmers and Cuban people get fresh food at a reasonable price (World Trade Agriculture Report, 2001).

In Bangladesh, the liberalisation has impacted agricultural reform, increased grain production, and reduced supply variations. The privatisation of Bangladesh private markets coincided with a resourceful market and reduced the need for significant government stocks (Babu, 2006).

In the Philippines, vagaries of weather become an agricultural problem and to cope with that government allowed private participation, deregulation, and liberalisation. This agrarian reform has helped the farmers to provide agricultural support services, and the government also started spending on research and development.

In Indonesia, liberalisation in agriculture started with household contract farming in the 1990s. After a few years, the government recognised farm households as a basic agricultural production unit and farmers were allowed to sell their produce and buy agricultural inputs. Most households tried to sell their surplus in the open market, and private traders could purchase directly (Jaysuriya, 2004).

In Sri Lanka, the impact of agrarian reform with the liberalisation trade made them self-sufficient in food grain in the 1990s. Producers or farmers were satisfied with the remunerative prices received by them after the reforms (Jaysuriya, 2004).

Few studies suggested that liberalisation on agricultural production and marketing in developing countries has supported the sector in managing the country's economic strength and upliftment of people attached to it. Nevertheless, it is not the case in advanced countries

where other sectors are leading than agriculture. After the economic liberalisation and globalisation, per capita, food production increased more than the food consumption in most developing countries.

2.21 Agricultural Marketing-History and Reforms in India

The majority of the population lives in villages, and they are interdependent. In old times people were self-sufficient as they exchanged their produce with others. At the time, marketing was known as the barter system in terms of goods exchange. As the communication and transportation facilities improved, economic operations became crucial for the growth of any nation. The process of exchanging products changed, and the marketing phenomenon has evolved. India has a dominant agrarian economy which created opportunities and challenges in the area of agricultural marketing. However, the continuous reforms created more opportunities for a marketer, but farmers failed to reap the benefits. Farmers could not make heavy investments; along these, prices of agricultural products were low, and the cost of input was high.

Subsequently, the reforms in 1990, international trade has made surplus agricultural imports more than the exports, increasing 1232 per cent and 391 per cent simultaneously. The share of agriculture in export was also decreased by 4 per cent. The positive point about this reform was that India's traditional marketing started shifting. Private players took up India's inefficient marketing system and improved the marketing chains of agricultural commodities.

However, the scenario was different for Indian agricultural marketing before and after the 1990's reform, and precisely, it can understand by segregating it into different periods. It starts with the Before Independence (1886 to 1950), in subsequent periods are post-Independence (1950 to 1965), Green Revolution era (1965 to 1990), Liberalisation,

Privatisation and Globalisation era (1990 to 2003), Model APMC (2003 to 2014) and Rules and the last period is the Emergence of Electronic Platforms (after 2014).

2.21a Before Independence (1886 to 1950)

In the British era of 1886, the first regulated market was established, named "Karanja" under the "Hyderabad Residency Order", and in 1887 first law enacted "Berar Cotton and Grain Market Act of 1887". This law gave the authority to British residents to control the regulated

markets and select any place in their district as a marketplace for the buy and sale of agricultural produce. The British government needed raw cotton for their textile mills, so they had supplied Indian farm produce pure raw cotton to Manchester (UK) textile mills at reasonable prices. After the Berar Act, the Government of Bombay enacted the Bombay Cotton Market Act in 1927, and the same year, the Government of British passed the Indian Cotton Committee Act. In the following year, the government appointed the Royal Commission on Agriculture to examine agricultural marketing in India.

In 1928, the "Royal Commission on Agriculture" had recommended critical changes in marketing and trade practices regulation. They suggested for the establishment of the market yards in regulated markets (RMs), should be established in every province for marketing of all types of agricultural produce; provision to empower the committee to elect its chairman; standardisation of weights and measures; set up machinery for dispute settlement, half of the committee members should be from producers and one agriculture officer should also include protecting the producer's interest; either local bodies or state legislation should control adequate storage facilities in the market yard, and markets.

In 1931, GOI appointed the Indian Central Banking Enquiry Committee, which also supported the recommendations of the Royal Commission and offered few ideas for the development of agricultural marketing. These recommendations were the base for regulated markets in coming years, and after that, many states had established regulated market acts.

In 1933, Central Province Cotton Marketing and Madras Commercial Market Act were enacted, followed by the Baroda Agricultural Produce Market Regulation Act of

1934. For buying and selling commercial crops, GOI had introduced the Central Province Agricultural Produce Market Regulation Act of 1935.

In 1935, the Central Marketing Department (CMD) and office of Agricultural marketing adviser to the GOI were established in Delhi. The establishment aimed to suggest actions to make the marketing system more effective and efficient in the sale of agricultural produce. Later on, CMD was renamed as "Directorate of Marketing and Inspection" (DMI) with the recommendation of the Patel committee. The role of DMI was enhanced to compile the market information and disseminate the market news.

In 1939, “Bombay Agricultural Produce Market Act” was enacted under the provision of the “Agricultural Produce Marketing Committee Act” of state governments and more than 122 regulated markets were established all over India for all agricultural products. After the break of the 2nd world war, appropriate legislation was required to govern the regulated markets in India; therefore, many states had amended their acts in their way. Soon the number of regulated markets increased from 122 to 283 in 1950-51.

However, till Independence, no significant progress has been seen in agriculture marketing.

The significant reforms came into existence after the Independence of India, precisely after 1950. More than half of the total population is dependent on agriculture in India, and most of them fall under the marginal and small farmers’ category (Chand, 2004).

2.21b Post-Independence (1950 to 1965)

The development of irrigation projects, institutional changes and implausible reforms occurred. Land ceiling act imposed, landlordism abolished, land consolidation started, and cooperative credit institutions were strengthened, which resulted in the development of the agriculture sector. The government has intervened persistently in agriculture policy, market infrastructure and regulatory measures of agricultural marketing. However, the production was less in front of the increasing population in the country that forced policymakers to depend upon the imports of agricultural produce. Due to imports, the high cost was born by GOI, and the country needed a quick breakthrough to stabilise the country’s economic situation.

In the 1960s, most States enacted Agricultural Produce Markets Regulation (APMR) Acts and started to operationalise (Minten et al., 2012). Agricultural Produce Market Committee (APMC) Act was established under the “Agricultural Produce Marketing Act” (APMA). The APMC Act was passed originally in 1954 to establish physical infrastructure in the market, form farmer-led management committees, create a systematic sale in the market, and regulate the charges borne by farmers. Organised agricultural marketing came into the picture through the Agricultural Produce Market Committee who framed new policies and enacted them with enforcement (Minten et al., 2012).

2.21c Green Revolution Era (1965 to 1990)

GOI took a bold decision and imported HYV (High Yield Variety) of wheat and rice and distributed HYV with fertilisers among farmers. India witnessed a quantum jump in production in a short period and reached 30 million tonnes from 10 million tonnes. This technology made India self-sufficient in food grains and led to growth in the agriculture input industry involved in HYV farm inputs. After this successful reform, policymaker shifted their focus towards agricultural extensions, farm input supply, credit institutions, technology transfer, research and marketing of crops.

Soon, GOI has formed few institutions, namely, the "Food Corporation of India" (FCI) and the "Agricultural Prices Commission" (APC). The objective was to guard against unforeseen times and price volatility. Hence, these institutions benefited producers, consumers, and GOI by ensuring reasonable prices for consumers, creating buffer stock to handle adverse times, and providing remunerative prices to producers.

In the 1970s, the advent of the green revolution has shown the friendly policy environment to help farmers grow. Several marketing committees were formed and started serving the interest of the farming community. By 1978, the majority of states had enacted APMA legislation (Mehta & Sharma, 2017). Several problems in this system have been uncovered throughout time. Like farmers are obligated to sell their produce at "state-owned mandis" under certain State Acts, and those who want to sell their commodities in the APMC mandis must pay a market fee. Farmers must also arrange for their produce to be carried from their farms to the nearest Mandi, incurring transportation and fuel expenditures. Several intermediaries moved the produce from farm to shop and received a portion of the overall price as a commission (Bisen & Kumar, 2018). It leads to a high price for the consumers subsequently and no other choice except to buy at the higher price.

The Indian farmers were predominantly small and marginal with the trivial marketable surplus and limited their bargaining power in front of intermediaries (Mehta & Sharma, 2018). Both farmers and consumers were unable to do anything as all the control was in the hand of middlemen. The government was also under a financial crisis and colossal debt. These farmers

have faced issues and challenges related to a storage problems, inputs and services, and agricultural marketing (Gupta & Sharma, 2018).

2.21d Liberalisation, Privatisation and Globalisation Era (1990 to 2003)

In 1990, the era of liberalisation, privatisation and globalisation had emerged to rescue the country from a grave financial crisis. The policyholders, bureaucrats and marketing institutions had started losing their control as they started focusing on the self-sufficiency of the food problem. However, these things had worsened farmer's situation as they started seeking help from intermediaries for credit requirements. The trading control went directly to intermediaries, and they moulded the marketing policies as per their benefits. As per the World Bank Report, the estimated number of Indian agricultural workers 25.7 per cent would fall by 2050 from 58.2 per cent total workforce in 2001 (Economic Times, 2018). Due to this, many problems have emerged and a dire need for reforms in agriculture marketing to save farmers.

Agriculture always has been acted as a vital sector of the Indian economy. After post-independence, agriculture growth and development were considered the well-being of farmers, employment opportunities, and resource bases for other allied industries. The farmers' community had resources for production, but the issue was ambiguous marketing facilities and ill infrastructure. Therefore, the government established some notable policies and regulations to provide a better agricultural marketing system and incentive prices to motivate farmers to cope.

2.21e APMC Model Act and Rules (2003 to 2014)

The government has intervened persistently in agriculture policy implication, market infrastructure and regulatory measures of agricultural marketing. The government has changed several regulations and policies from time to time in the agriculture marketing system after encountering various flaws like Farmers' high cost of marketing, undue low prices, transportation problems, insufficient marketing yard, and many others. In 2003, the union government made the first attempt at agricultural market reform to create a Model Agricultural Produce Marketing Committee Act.

Salient features of Model APMC Act, 2003 (MoAFW, 2003)

- For marketing of agricultural produce, only "legal persons, producers, and local governments" may request for establishing new markets,
- There is no obligation for growers to sell their produce through established markets managed by the APMC,
- Special Markets' provision for specified agricultural commodities in any specific market areas,
- Contract farming provision that allows direct sales of agricultural produce to the contract farming sponsor only,
- "Single point levy of market fee" on the sale of notified agricultural commodities in any market area,
- The revenue earned by the APMC will be used to build marketing infrastructure,
- Provision made for "resolving disputes arising" between private market/ consumer market and market.

The government has modified the preceding APMC Act and has released the Model APMC Act to be enacted by the states. In compliance with the Model Act 2003, the state government has updated the APMC Act according to the regional and local requirements of the states. The most significant revisions to the Model Act were that direct purchases from farmers were permitted, contract farming was encouraged and allowed, and market yards' monopoly has broken (MoAFW, 2000). Although the purpose of these Acts was essentially the same, namely to regulate the trading practices, enhance market efficiency with the reduction of market charges, protect producer-seller interests and most importantly, eliminate unnecessary intermediaries, many of these Acts differ even in meaningful content (MoAFW, 2003).

After years of struggle, agricultural marketing progress has been delayed and diverse, as the Model APMC Act, 2003 accepted at the state level with partial and few rejections. Only sixteen states have modified their statutes thus far, and some States do not have the APMC (MoAFW, 2003). In 2007, the Ministry of Agriculture drafted Model APMC Rules and distributed them to States and UTs to make it easier to change the existing rules. Only six states have announced to amend the rules.

2.21f Emergence of Electronic Platforms (after 2014)

The limitations of the existing agricultural marketing system created the need for the next level of reforms in this sector. The APMCs are unable to provide MSP assured by the state. As per Gulati (2009), there has been a wide variation in agricultural growth across different states in India in the last five years.

The marketing laws are monitored and regulated by the APMC of the state Government. At one end of the spectrum, there are states like "Gujarat that are showing strong growth of eight to ten per cent per annum in agriculture, while at the other side States like Uttar Pradesh, West Bengal, few others, that are growing barely at 1-2.5 per cent per annum". As per the "Ministry of Agriculture and Farmers Welfare" (MoAFW), influential areas of reforms to pursue in the marketing of agricultural produce were:

- Direct purchase of produce by exporters or retailers or buyers from farmers.
- A non-market committee member could control the private market yard.
- Single license for trade throughout the state.
- Eligibility for Contract farming to promote employment among small and marginal farmers.
- Facility for e-Trading or e-auction with a single fee.

All these areas in agriculture marketing have forced the government to develop a new marketing platform for farmers and traders. The Economic Survey 2014-15 recommended constructing a national agricultural marketing electronic platform for farmers to market their products across the country and receive remunerative prices (PIB, 2016).

In April 2016, the central government inaugurated the *e-National Agriculture Market* (e-NAM) in eight states and districts, bringing wholesale mandis in these areas together to establish an online agricultural trading platform. The new, improved physical markets attracted and benefited the farmers and traders by providing remunerative prices and eliminating middlemen (Reddy, 2018). Technology has played a vital role in increasing food production in India, regardless of the limited output source.

Apart from technology-driven marketing, the government also tried to cater the contract farming or service agencies. The APMC markets are not functioning effectively because small

and marginal farmers are not preferred by the traders or contract buying agencies (Singh, 2013). The contract farming (CF) agencies were allowed, and the government also encouraged the CF practices as prescribed in Model APMC Act, 2003. The contracted produce created confusion and loss to traders and commission agents as produce was not coming to the APMC mandi and was directly taken by the buyers from the farm field. So ultimately, it would not pass through the mandi agents, which will suffer their businesses in terms of commission. Therefore, traders and commissions agents agitated and appealed to remove it from the APMC domain. CF was also observed paying market fees and other levies charges to the APMC without taking any services rendered by them. Therefore, the Committee of State Ministers on Agricultural Reforms recommended putting CF out of the ambit of APMC (MoAFW, 2003). Henceforth, for the betterment of the farmers, traders, commission agents, and CF, the "Union Ministry of Agriculture and Farmers Welfare (MoAFW)" has brought out another new model act.

The "Agricultural Produce and Livestock Marketing (Promotion and Facilitation) Act, 2017" (APLMA, 2017), is more in sync with the present times. The APLM Act, 2017, had communicated a significant policy change and suggested no need for market regulations anymore, and farmers are free to sell their produce. The APLMA 2017 report describes that Model Act, 2003 provisions were retained in APLM Act, 2017 except some, namely- CF will not come under the purview of APMC; delineated market area for marketing of agricultural produce, introduced e-trading and Farmer Producer Company (FPC); created farmer consumer yards, market sub-yards and special commodity markets for private parties and APMC, and lastly clubbed farm produce and livestock into one legislation.

This model act was introduced to improve marketing efficiency and advance price realisation for all stakeholders. The amendments to the "Agricultural Produce Market Committee Acts" and the "Essential Commodities Act" (GOI, 1955) remove interstate transportation restrictions on agricultural produce and promote and attract private sector participation in agriculture commerce (MoAFW, 2017). This model Act also emphasised private-public partnerships at the APMC level for the first time in history.

Parallel to this, the government cannot find the right solution for resolving the disputes arising out from the contracts, production uncertainties, and market unpredictability. To

overcome this, the government has been making comprehensive interventions to de-risk the agricultural produce at various stages and efficient monetisation of the produce with the help of promotion of Contract Farming and Services Contract. Taking advice from the past, Punjab was the only state that has formulated a Contract Farming Act, 2013 but never operationalised it (Singh, 2013).

In Union Budget 2017-18, the Model Contract Farming Act was announced as an exclusive model law. The guiding factor in formulating this law was to protect and promote the interests of small and marginal farmers in particular. To safeguard the buyer and producer with legal support Model CF Act reduces market volatility and a farmer's market risk.

After few drafts of constructive suggestions and consultation from the stakeholders, the MoAFW introduced a model, "Agricultural Produce and Livestock Contract Farming and Services (Promotion and Facilitation) Act, 2018" (hereafter APLCFSA, 2018). APLCFSA aims to provide farmers with greater price realisation, but few areas were not covered effectively in this Act and the previous model Acts. After adding agriculture to the concurrent list would entail constitutional amendments because it would require ratification by all states. A new strategy was required if farm marketing in India was to be released from its restraints.

As a result, in 2020, agriculture marketing outside of notified markets was deregulated, contract farming was pushed, and the Essential Commodities Act was changed. The central government has introduced three reforming bills, and after a few weeks, Act was enacted. However, still, it is not fully implemented by all the states of India.

Chand (2012) says that urgent reforms are needed to address the inefficiency of agricultural marketing, excess of intermediaries, poor infrastructure, policy distortion, and fragmented marketing channels (Chand, 2012). The farmers fear assaying of produce will lead to lower prices, whereas traders fear taxation of their income (Nirmal, 2017). The state agricultural department had delayed the setting up of "assaying and grading facilities" due to the non-availability of technical expertise. Salam et al. (2013) suggested that agriculture still plays a vital role in the development of the State, and it is possible to reverse the declining trend in agriculture with appropriate technology, infrastructure, and policy support (Salam et al., 2013).

With the few limitations of the present agricultural marketing system, the Indian government has strapped to focus on an electronic marketing platform to eliminate the present constraints of the agricultural marketing system.

CHAPTER 3

RESEARCH METHODOLOGY

The research and analysis is based on primary and auxiliary data. The primary data is collected through field study by developing questionnaire and the secondary information has been gathered from the different journals, related government websites, reports from the Indian government database, and the data from various sources are used for examining the status of agricultural marketing in the country. The figure below shows the block diagram research methodology.

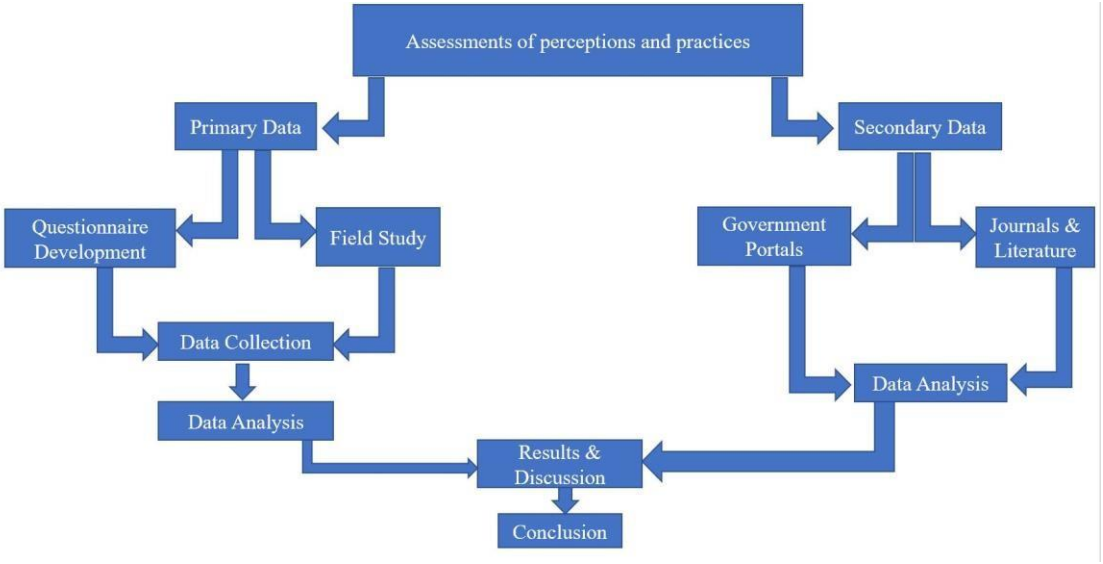


Fig 3.1 Research Methodology

3.1 The Study

The system of Agri produce marketing is defined in comprehensive and wider terms, as institutional and physical set up to make all activities that takes place during the flow of services and products to be performed from the initial stage of procurement until it reaches to the hands of end users known as ultimate consumers. This process flow comprises harvesting, procuring, storage and handling, washing, sorting, grading, processing, transporting, distribution, retailing and export of Agri products as well as providing the other supporting services like price information in different markets, setting up of standards and grades, the trade commodity, risk management in prices and financing and also information about the corporate institutions and other players involved in operations of the above said functions.

As per the report of the NCA (National Commission of Agriculture) (Report No XII, 1976), The Agri produce Marketing is a flow which starts with a decision to produce and sale the farm commodities, and it comprises all parameters of market system or structure, and the both institutional and functional, also depends on economic and technical terms considerations, and also includes pre harvest and post harvest operations, procurement of the produce, washing, sorting, grading, processing and packaging, transportation and finally the distribution. The system of Agri marketing is the typical connection between the farming sector on the one side and consuming sector such as end consumers, food processing units, urban economy and other industries another hand side. Besides the facilitating and physical actions of shipping the fresh farm produce from producers(farmers) to consumers (end users), the system of marketing also executes the functions of locating the rates at various markets and different marketing stages and transferring the price information in the supply chain.

This paper furnishes the information pertinent to crop and produce-wise agri commodities in India particularly tomato for the last year to till date. The tendency in rates of the Agri products is specified by the way of Agri commodity price index, for 2021-22. The predominant channels of marketing for essential Agri commodities are highlighted. And finally, the observations are done and the conclusion is drawn.

3.2 Traditional Marketing system

The traditional marketing system for the agricultural produce consists of different modules like harvesting, transporting and sale execution. This can be done is several modes like village trading, Middleman trading, Co-operative society trading etc… based on the farmers mind-set. But trading using these marketing techniques has huge drawbacks for both farmers as well as the consumers which affects the entire agri supply chain ecosystem. The only one who gets benefited from this system the middle man or trader who runs the business by forming mandi's or co-operative societies.

3.3 Drawbacks

3.3.1 Farmer Side

In the traditional marketing system, the problem for farmers starts from the crop selection and ends with the trade execution for the produce after harvesting.

3.3.2 Crop selection

With out having knowledge on demand and supply of the produce, farmers selects the crop to be grown on random basis by considering the daily market prices and seasons. If the particular produce price is high in the market every farmer goes for the same to earn more profits which again decreases the demand for the same in return to bear huge losses. This is because of unavailability of market prediction tools and the unavailability of farmers database for accessing the crop and production information. The graph below shows the prices of tomato which fluctuated in between April 2021 and October 2022 due to unawareness of demand and supply in the market.

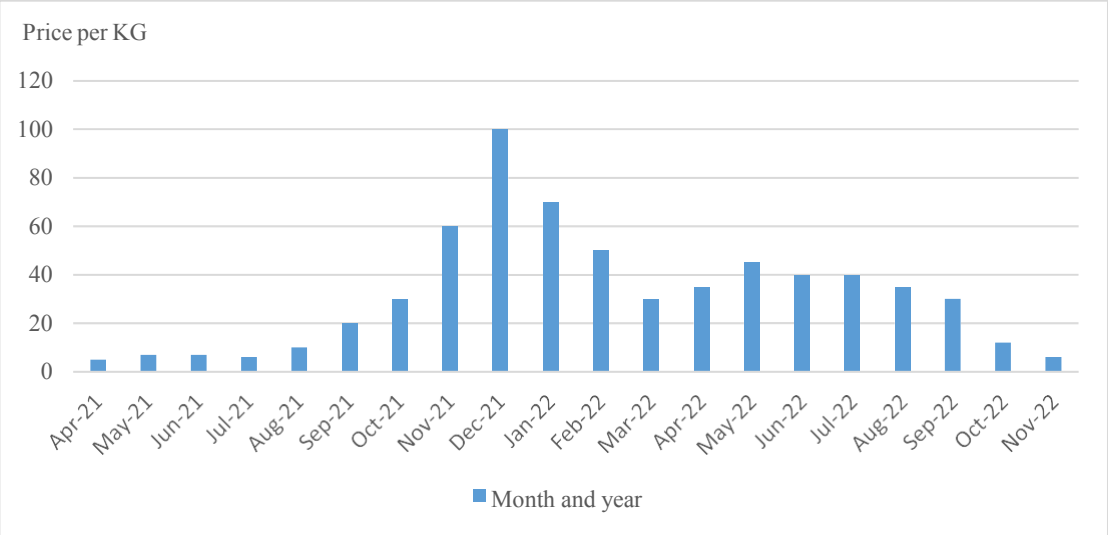


Fig 3.2 The prices of Tomato in between April 2021 and November 2022 due to demand and supply issues

3.3.3 Harvesting

During yielding, Farmers has to harvest the produce for sales. Meanwhile, The farmers have to pay huge labour charges for harvesting the produce which cuts down the farmers revenue. Even the price of the produce is less but the labour charges are increasing rapidly.

3.3.4 Transportation

The farmers have to take their produce to market yards for sales, mean-while the transporters charges 175% more fares from the farmers without their knowledge by playing some tactics for taking the produce from farms to markets

3.3.5 Commission

Once the produce reaches the market yards, the open action takes place among different buyers for the produce and it will sold according to the budding. Here the auctioneer or agent charges 10% commission as their share for executing the trade.

These deductions at every time cuts down the overall farmer's revenue as well as the profit which makes farmers to face losses during low price time, this in turn makes farmers to migrate into other works for their livelihood which decreases the farmers count and farming rate which is not at all good for the country's economy.

3.3.6 Case study:

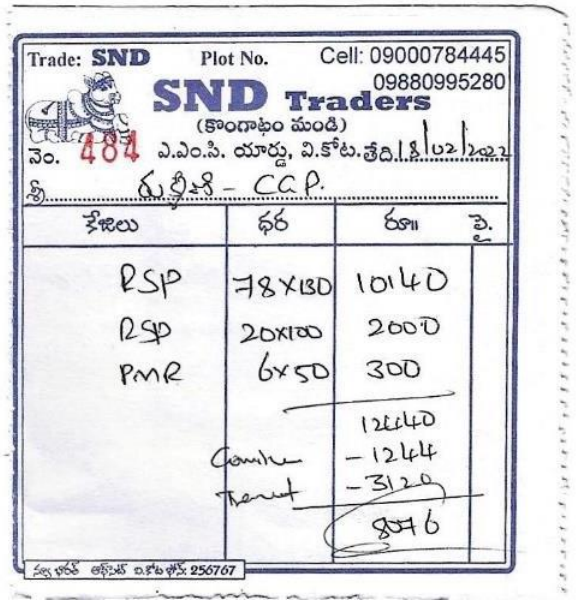


Fig 3.3 Case study of farmer bill in traditional marketing system

Translation for the above bill

Trader in the Market Yard(Seller) : SND Traders

Farmer Name-Village: Rukmini-Cheldiganipalle

Buyers trade Name: RSP Traders, PMR Traders

Comi: Commission, Trans: Transport

From the above farmer bill, the total produce is sold for INR 12440/-. In that INR 1244/- is reduced as it is the commission for the agent who sold the produce, and INR 3120/- is given to the transporter as their fare. After all deductions the final amount which farmer got is INR 8076/-. That means farmer lost around INR 4364/- in this trade because of this traditional marketing system.

3.4 Consumer side :

On the other hand consumer pays high prices for the produce but there is no assurance for quality and hygiene from the retailers because of the problems and damage caused due to the traditional supply chain system. The problems are as follows

3.4.1 Procurement

The procurement of the produce from the farmers is done using the plastic crates which are not cleaned or washed for years which consists of worms and infections.

Fig 3.4 Produce procured from reusable unhygienic crates

3.4.2 Cleaning & Grading

The cleaning of the produce is not done in the APMC market yards which makes the produce looks dirty and it consists of pesticides, worms and dust on it which is not good for consumer health.

Sorting & Grading is not done properly in the markets because of manual labour. The manual sorting & grading damages the texture of the produce and also makes the produce more delicate and soft.

The worms are not grades properly as they spoils the other surrounding produce which makes the entire lot infectious as shown in the case study.

Fig 3.5 Manual grading

Fig 3.6 Presence of worms after grading

3.4.3 Transportation

The shipping of the produce is done by the traditional transportation mode which is not good for the produce. The shipping is done irrespective of climatic conditions, which makes the produce to get spoiled. Almost 15-20% of produce gets damaged due to this irregular transport mode. Even though there are many defects the transportation fare is also very high in this mode which adds more price on the produce.

3.4.4 Pricing

As there will be 15-20% wastage in every consignment the traders and business will not take that loss. They add the loss amount on to the remaining produce which inturn increases the produce price compared to regular prices. Even though there is no quality and hygiene there is no chance left for the consumers and they will buy the same produce for greater prices which spoils their health also their wealth.

Fig 3.7 Traditional mode of transport (Open type vehicles)

3.4.5 Traceability

There is also lack of traceability for the consumers, they are not aware of the quality and hygiene for the same as they don't know the parameters to differentiate the same on basis of the following terms

- whether the crop is grown with fresh water or sewage water,
- the produced is polished or not
- The produce is coated by wax or not and some other parameters.
- Without this information blindly they are consuming the produce which creates various health problems present days.

3.5 Remedial measures

In order to provide solutions for the problems existed in the traditional agricultural marketing system several measures are taken by government as well as many corporates came forward to provide remedial measures for those defects. The details are discussed below.

3.5.1 Government Policies

The government has taken so many initiatives to support the farmers in this case by providing minimum support price to their produce, constructing ware houses and cold storages to store the produce and providing the digital market place application to the farmers to execute the trades directly without any intermediaries. The policies and procedure are given below

3.5.1.1 Minimum support price(MSP):

The Minimum Support Price is the Minimum rate set by the Central or state government for certain agriculture commodities, at which the commodities would straight away be procured from the farmers if the prices in the market yards are less than the production cost.

On 9th September, 2021 the Union Government has increased the MSP for the following crops

- Rabi
- Wheat
- Mustard
- Safflower
- Masoor (lentil) dal
- Rape seed and
- Chana or gram.

Minimum Support Price is the form of intervention of government to ensure the farmers against a sharp declination in the prices of their produce and to help them get rid of losses. The Indian government sets the Minimum Support Price twice in a year for 24 kinds of commodities. This initiative is done by the central government to save the farmers against the downfall fall of the prices of commodities in a year of bumper production. When the prices in the market falls below the MSP which is declared, the respective government would purchase the total quantity of produce at MSP from the farmers.

The main objectives of setting up Minimum Support Price are:

- Support farmers from distress sales
- To procure food grains for public distribution

3.5.1.2 CACP – Commission for Agricultural Costs and Prices

The CACP (Commission for Agricultural Costs and Prices) will decide the MSP taking the following factors into consideration:

- The entire structure of the economy of a particular commodity or group of commodities
- Cost of production
- Changes in input prices
- Input-output price parity
- Trends in market prices
- Demand and supply
- Inter-crop price parity
- Effect on industrial cost structure
- Effect on the cost of living
- Effect on the general price level
- International price situation
- Parity between prices paid and prices received by the farmers
- Effect on issue prices and implications for subsidy

3.5.1.3 Crops covered under MSP

Cerals

- Paddy
- Wheat
- Jowar
- Barley
- Bajra
- Ragi
- Maize

Pulses

- Arar
- Gram
- Moong
- Lentil
- Urad

Oil seeds

- Ground Nut
- Mustard
- Soya bean
- Toria
- Sesamum
- Sunflower seed
- Safflower seed
- Niger seed

3.5.2 Roles And Responsibilities of Government/Agencies In PSS(Price support Scheme) Operations

3.5.2.1 Department of Agriculture & Cooperation (DAC):

i. Policy matters:

The DAC shall be responsible for any policy matters relating to PSS operations for oilseed, pulses, cotton, any other commodities which may be assigned and/or any other matter for which the opinion is sought from time to time.

ii. Nomination /deletion of central agencies:

The DAC shall be responsible for nomination of other central agencies and/ or deletion of any agency from the list of central agency.

iii. Declaration of bonus, if any:

While announcing MSP, the DAC may also announce bonus on various crops, if any, from time to time.

iv. Declaration of Minimum Support Price (MSP):

The Department of Agriculture & Cooperation shall declare the Minimum Support Price for notified agricultural commodities every year, well before both the cropping/sowing season so that the farmers may take a considered view whether the said particular crop will be a profitable venture for them or not. Further, the DAC shall have the right to decide the duration of procurement period, state wise, for the crops for which MSP is declared and procured by its central agencies.

v. MSP information:

All the central nodal agencies shall be informed by DAC about the MSP for notified crops in every crop season, well in advance.

vi. Duration of the Scheme:

The DAC shall be responsible to decide the duration of the scheme, crop-wise, state-wise, depending upon the seasonality/climatic/geographical/ locational advantages and disadvantages. The duration of PSS operations for a particular crop and season shall be for a maximum period of 90 days. However, in exceptional cases, this may be increased with the prior approval of DAC.

vii. Fair Average Quality (FAQ) norms:

Fair Average Quality (FAQ) norms shall be decided/ approved by the DAC for each crop. While, deciding the FAQ norms, it shall be ensured that only those parameters which are variable would form the specification of FAQ norms. However, deviation from FAQ norms may be allowed only in exceptional cases and with the prior approval of DAC only. Further, in order to be sure that the proposed stock is of FAQ norms or not, the procurement agency may appoint a third party quality certification agency on its own cost.

viii. Working capital arrangement:

The DAC shall provide working capital to its central agencies through Government guarantee, letter of comforts etc., after the stock is hypothecated in the name of central agencies.

ix. Vetting of accounts and settlement of claims of central agencies:

The DAC shall examine the audited accounts of its agencies within a month and forward it to the Department of Expenditure for final settlement of claims.

x. Reimbursement of loss:

The DAC shall be responsible for reimbursement of the losses to its central agencies, if any, up to 90% of the estimated loss as "on account payment". The remaining 10% loss will be reimbursed to the central agencies after vetting of the accounts by the competent authority.

xi. Incentives to the central agencies:

The DAC shall also provide 1% incentives to the central agencies on the net profit earned for disposal of PSS stocks.

3.5.2.2 State/UT Governments

i. Notification of agricultural crops:

All the State/UT Governments shall require to notify the expected production, sowing area, average yield, peak arrival/harvesting period for all those crops for which MSP is declared and the State Government is willing to implement the Price Support Scheme. The PSS operations shall be taken up in the respective State/UT Governments only after such notification is issued and copies of the same are sent to the DAC at least 30 days prior to its implementation. Further, all the state/UT Govt. willing to implement the PSS operation to furnish all these authenticated details to the DAC at least 30 days prior to its implementation, as per the format annexed herewith.

ii. Exemption from mandi tax/levy etc:

State/UT Govt. shall exempt all state duties in respect to PSS operations in the interest of its farmers and reduce the procurement cost. Further, these taxes, if charged by the State/UT Government, the same shall not be admissible/reimbursable by the DAC to the State/UT Government and state/procuring agency.

iii. Documents required:

The State/UT Governments shall also notify the all land revenue documents which are required to prove the genuineness of the farmers and required to produce before the procuring agencies.

iv. PSS awareness/ publicity:

The State/UT Governments shall make adequate publicity of PSS operations like MSP for the crops, name and address of procurement centres, procurement period, documents

required, contact details of authorized person of central/state/primary procuring agencies. The costs of publicity related activities shall be borne by the respective State/UT Government.

v. Demarcation of area of operation between the central agencies:

The State/UT Governments shall also decide the area of the operation of various central agencies for procurement of agricultural commodities in the State/UT, in consultation with the central agencies so as to provide level playing opportunity to all the procuring agencies and to ensure that the PSS's operations are carried out even in the remote area. Further, while deciding the area of operation, the State/UT Government shall ensure that there shall not be any duplication of work and/or overlapping of PSS operations by more than one central agency in the same area. In case of any disagreements/disputes relating to area of operation between the Central agencies, the matter will be decided by DAC.

vi. Logistic arrangements:

The State/UT Government shall make all necessary arrangements like booking of CWC/SWC god-owns, identification of procurement centres, arrangement of gunny bags, GPRS fitted transportation facilities, weighing machine, moisture/foreign matters/oil content, testing machine etc. in consultation with central/state agencies. These costs shall be reimbursed by DAC as per the norms/expenditure approved under PSS Scheme. Further, these preparatory shall be reimbursed to the concerned agencies only when the PSS has been implemented for the specific crop during the specific period.

vii. Working capital arrangements for state agencies:

The State/UT Governments shall ensure adequate liquidity of the State/procuring agency so as to pay off the dues of farmers for their produce, within 3 days from the receipt of their produce. The cost of such investment of State/UT Government shall be dully reimbursed by the DAC up to 10 days at the market rate of interest or actual cost, whichever is less.

viii. Creation of Revolving Fund for PSS operation:

The state /UT Govt. shall invariably create a revolving/corpus fund, so that the farmers of the state/UT are not deprived from their timely payment for want of funds from DAC/central agencies.

ix. Establishment of godowns, processing mills in the procuring areas:

The State/UT Government shall encourage/launch massive programmes for establishment of god owns, processing mills through public private partnership mode etc. in the rural areas in time bound manner, so that the farmers may avail adequate storage, value addition facilities for their produce at their farm gate.

x. Utilization of PSS stocks in various Government schemes:

The State/UT Government shall also ensure to utilize the PSS stocks in their various schemes/programmes like ICDP, Mid-day meal, Annapurna, PDS, food security at the ex-godown cost of the central agencies.

3.5.2.3 Central Nodal Agencies

i. Appointment of State/primary agencies and signing of MOU:

After the announcement of MSP, central agencies shall appoint their state/primary agencies in consultation with respective State/UT Governments by entering an MOU within 15 days with clear provisions of procurement modalities and corrective measures for disputes if any.

ii. Identification of procurement centers:

Central agency shall identify the purchase centers in consultation with state/UT. Govt., state agency, primary procuring agencies. However, purchase centers shall be opened invariably at the CWC/SWC godowns and close to the processing mills to minimize the transportation cost.

iii. PSS awareness/publicity:

The central agencies shall also make adequate publicity of PSS operations like MSP for the crops name and address of procurement centers,procurement period, documents required, contact details of authorized person of central/state/primary procuring agencies on the cost of State/UT Government.

iv. Technical support:

Central agencies shall provide all technical support to its state and primary agencies relating to the procurement operation. In case of any further clarifications, the matter may be referred to DAC and its decision shall be binding to all concerned.

v. Financial support:

Central agencies shall be responsible to release 80% of the ex godown cost to the state agencies within 3 days from receiving the stock/hypothecation in their name. (vi) Disposal of procured stock: Central agencies shall be fully responsible to dispose the PSS stock within the stipulated time and mode of disposal as decided by the DAC from time to time. (vii) Reimbursement of losses, if any: The central agencies shall submit the final audited accounts of PSS operations to DAC within three months from the disposal of PSS stocks for final settlement of claims.

3.5.2.4 State/primary agencies/FPO's/Panchayati Raj Institutions

i. Appointment of primary agencies and signing of MOU:

Immediately after the announcement of MSP, state agency shall appoint their primary agencies by entering an MOU with clear provisions of procurement modalities and corrective measures for disputes if any.

ii. PSS awareness/ publicity:

The state/primary agency shall also make adequate publicity of PSS operations like MSP for the crops name and address of procurement centres, procurement period, documents required, contact details of authorized person of central/state/primary procuring agencies on the cost of State Government.

iii. Working capital arrangement:

The state/primary agency shall also make adequate working capital arrangement, through State/UT Govt., invest its own fund, borrow the funds from market etc. for a maximum period of 10 days. The state/primary agency whomsoever has invested the fund and/or borrowed the funds from market shall be eligible for reimbursement at the market rate of interest up to 10 days.

iv. Payment to the farmers:

The state/primary agency shall be responsible to make the payments to the farmers within three days from the receipt of their produce.

v. Custody/hypothecation of stocks:

The state agency shall be responsible to take the custody of the stocks and get it hypothecated in the name of central agency so as to get the funds from central agency.

vi. Verification of documents/quality of stock:

The state/primary agency shall be responsible to verify the documents of the farmers which prove his genuineness. Further, they shall also be responsible to purchase the stock from farmers strictly as per the FAQ norms, as notified by Central Government from time to time. If at any stage, it is found that there is any deviation from FAQ norms, loss shall be borne by the concerned agencies.

3.5.3 Details of Government market place applications

3.5.3.1 Agmarketnet:

The Agmarknet is the portal of government of India and owned by itself which primarily deals on agricultural product marketing division and also it is backed by a vast amount of data and network by connecting the various agricultural markets, The boards and directors of state marketing committees and also enabling and providing connections to the websites of the keen domestic and overseas organisations.

The web portal furnishes both dynamic and static data which is related to agri marketing in the country. The static data is about the framework and infrastructure related such as Storage facilities, Cold Storage & warehousing, Sorting, grading and packaging facilities, etc and the Market related information like the market charges or fees, handling & weighment, the functionaries of markets and development programmes, the laws of market, the market committees composition, the expenditure and income, etc, also the Promotions related data like grades, Standards, Labelling, Phyto-Sanitary and other sanitary necessities, , Marketing Credit and Pledge Financing and other new chances and benefits available, etc.

The dynamic part in the portal consists of the information related to prices of the commodities in different markets, also relevant information consisting the minimum, maximum, and model rates of different varieties of produce, total arrivals of produce and dispatches of the same with destination location details. The web portal also gives easy access to the prices of produce based on variety and quality and arrivals data of around 2000 varieties and more than 300 commodities from the different wholesale market yards which had spread across the country. The trend reports which consists of prices and arrival details for essential

commodities and also the future predicted prices from MCEL (Multi Commodity Exchange of India Limited) and NCDEX are being reported regularly online on the Agmarknet portal.

3.5.3.2 GEM

The GEM stands for Government e-Marketplace incurred its origin by the proposals presented by two secretary groups in front of the honourable prime minister of India in January 2016. They proposed setting up of a customized and dedicated e-marketing platform for various set of goods & services gathered or sold by the PSUs/Government parallelly improving the DGS&D. Eventually, the Minister for finance in his speech during Budget session for financial year 2016-17, has declared establishing a technology based application platform to expedite gathering of various services and goods by various agencies and ministries of the Government.

DGS&D by having the support of technical terms from National eGovernance Division (Ministry of Electronics and Information Technology) has designed and developed the GeM portal for obtaining various services and products. The e-portal was launched in the year 2016 Aug 9th by the honourable Minister for Commerce & Industry, Government of India. Procurement of the goods and services on GeM portal has been certified by General Financial team by performing required changes and corrections in government policies. Currently the GeM POC portal consists of 7400 products and above in more than 150 categories of products. Also renting of transportation vehicles can also be done in the GeM portal. More than 140 crores transactions have already been processed through GeM portal till date.

The portal of GeM is completely cashless, paperless and technical system driven e-market place that facilitates procurement and sales of particular goods and services or other commodities with minimal or less human interference.

3.5.3.3 E-Nam

e-NAM was launched in 2016 in response to the urgent need to remedy the flaws of the existing agricultural marketing system. It is believed to solve all marketing challenges confronting stakeholders, including producers, commission agents, traders, consumers, and logistical suppliers. A nationwide electronic trading platform is being built for transparent sales and price discovery in controlled markets and the expansion of Kisan mandis, warehouses, and

private markets. Its purpose is to offer single pricing in a single market inside a single region. The farmer must be free to sell his or her produce, and the trader must be able to purchase it from anywhere in the country.

It is is a pan-India electronic trading portal known as National Agriculture Market (eNAM) which structures the current agriculture produce marketing committee (APMC) mandis to build an consolidated market for agricultural commodities throughout the nation.

The lead agency named Small Farmers Agribusiness Consortium (SFAC) is authorized for chartering eNAM under the patronage of the Ministry of Agriculture and Farmers Welfare, Government of India.

It encourages consistency in agri marketing by consolidating the policies and procedures across the connected market yards, detaching the asymmetry information and miscommunication between the sellers and buyers and encouraging the real time price analysis based on exact supply and demand.

E-Nam combines the various APMCs present all over the country via common online platform for marketing to encourage pan-India trading for agriculture produce or commodities, by providing better price discovery and analysis through transparent and systematic process based on quality and variety of produce including timely online payment.

There are numerous benefits to e-NAM for the stakeholders; nevertheless, e-NAM growth is still small and in its early phases. The formation of the e-NAM concept has provided more options of sale and purchase through e-bidding with accessibility across the state, real-time market information, transparency in price discovery, and improved the payment to build a healthy financial profile.

3.5.3.4 APMOS

efarmarket is a comprehensive end-to-end agri marketplace services portal aimed at the complete agri value chain in India. efarmarket is a Market Portal that would provide all the needs of farmers, covering the Trade and Post-Market needs. Thus, this platform will provide the end-to-end solutions for Buyers and Sellers of products and services in the agricultural sector. The Market Portal will provide all the needs of farmers, covering the Trade and Post-

Market needs. Thus, this platform will provide the end-to-end solutions for Buyers and Sellers of products and services in the agricultural sector.

A user-friendly platform that generates market opportunity for farmers and industry buyers. Unlimited access to a global market from anywhere, at anytime. Transparent and reliable market information, deal creation and negotiation. Integrated and secure platform payment processes. Tailored product quality verification and logistic services. A market with only verified buyers and sellers. Customer support & insight.

3.6 The corporate entry

Apart from the government policies and acts, Several corporate companies came forward with different solutions for eliminating the problems in traditional marketing system. Some of them are as follows

3.6.1 dFarm

dFarm Inc. is passionate about transforming the Ag Supply Chain for the betterment of Farmers and Consumers – and everyone in between.

dFarm's Agriculture Information Management System (AIMS) is an Ag SCM solution that utilizes enabling technologies like Block chain, Artificial Intelligence, Big Data, the Internet of Things (IoT), and a Software-as-a-Service (SaaS) business model to make the produce supply chain more visible, transparent and efficient.

AIMS enhances profitability for produce Wholesalers and Retailers:

- By increasing the availability of fresher, higher quality produce
- By automating and speeding financial settlement processes
- By utilizing data and insight to improve tracking, tracing, forecasting and supply chain optimization

dFarm solves the problems in a heuristic way thus, synergizing the Agriculture Supply Chain Ecosystem and improving the operational efficiencies and economic viability and capability to sell the produce before it is harvested

dFarm is a partner of choice in produce SCM from value-adding supply chain participants seeking better solutions and reducing produce waste globally

3.6.2 Evezon

Evezon is one of the enormous fresh commodity supply chain management organization that is solving one of the major and toughest issues in the whole world using technology. The company interlinks farmers who are the producers of the fresh commodities directly with business, restaurants, and other service providers that drive end to end operations in this supply chain system. Currently, the evezon's Supply Chain system capacity is accoutered to handle the movement of 100 tones of fresh perishable goods from various farms to retailers and other businesses in less than 12 hours every day.

Evezon is a deviser of a tech based agriculture supply chain and marketing application platform deliberate to transform the agri produce supply chain ecosystem. The evezon’s platform consists of infrastructure, data science, and networks to link producers of food straight to the end retailers or businesses such as grocery stores and merchants in minimum time and in a price effective manner. Evezon has eradicated the middleman by having control over the Supply Chain ecosystem by utilizing different technologies and analytics. The organization has setup the cost effective, reliable, sophisticated infrastructure and high-speed logistics to provide solutions for incompetency’s in the agri supply chain ecosystem. The producers will get best rates and consistent demand for their produce on one end, and the businesses and consumers will receive and consume fresh, hygienic and quality products at best prices that are directly delivered to their doorstep.

3.6.2.1 Evezon Agri services platform

Evezon Agri Services is an unique supply chain management platform for marketing of the Agri produce. The platform eliminates the third party intervention at any stage in between the procurement of produce from farmer and the consumption of the produce by the consumer. The evezon Agri services platform is the country's first AI Based Blockchain technology product(Developed by dFarm Inc. in Association with evezon) which consists of several modules for procurement, Grading, Distribution, and automated Finance for farmers and many other things which are involved in trade execution. The Evezon Agri Services platform offers complete traceability to the consumer so that they can track the location of the produce where it is coming from in order to differentiate the quality parameters and hygiene levels of the

produce. we offer complete hygienic products to the consumers by taking proper care during procurement, sorting, grading and distribution and everything is digitally recorded in our AI Platform which is completely opposite to the regular traditional market trading which differentiates us from them. We also eliminate the traditional packaging using the plastic crates which are not hygiene and also muddy and are not cleaned, which spoils the health of the consumers without their knowledge. The packaging of the produce in our plant will be done in customized corrugated boxes (single use) to offer enhanced quality to our consumers. The entire payment system is automated and there is no involvement of any individual for payment processing for farmers. The payments will be processed in to the farmers account automatically through our Platform, which eliminates the financial frauds in traditional marketing system. The AI Based system also stores the complete farmer data such as location, land details, type of crop, start date and harvesting date etc.. which benefits us for taking pre-orders from our clients on daily basis. Also the system automatically analyses the farmers transactions, crop details and their spending patterns which is than used to offer hassle free crop loans to them which will be the biggest advantage that adds more weight age to our company compared to our competitors.

3.7 Research Questions

3.7.1 Questionnaire for farmer

1. What is your Name?
2. Where are you located?
3. How many Acres of Land do you have?
4. What are the crops you grow?
5. How do you get the money for Investment?
6. Where do you buy the seeds?
7. How do you select the crop to be grown?
8. What are the problems you face during Cultivation?
9. How do you Harvest your produce?
10. How do you sell your produce?
11. What are the problems that are facing by you during marketing the produce?

12. What are the various marketing sources do you know for produce marketing?

13. What is the profit you made in last three crops?

14. What is the loss incurred to you in last three crops?

15. What is your average earnings per Annum?

16. Do you continue the farming for ever for your livelihood? If Yes or No Mention the reason?

17. Any suggestions from your side to improve the marketing system for agricultural produce?

3.7.2 Questionnaire for Traders

1. What is your Name?

2. What is your Trade Name?

3. How long you are doing this business?

4. What is your average earnings per Annum?

5. How do you make money in this segment?

6. Are you benefiting farmers in any way? If yes, how?

7. How many farmers network do you have?

8. How many tonnes of produce do you sale per month?

9. How much do you invested in this business?

10. Did you got your ROI?

11. Will you continue this business for longer time? If Yes, why?, If No, Why?

3.7.3 Questionnaire for consumer?

1. What is your Name?

2. Which location you belong to?

3. Do you belong to farming family?

4. How many people are there in your family?

5. What are the vegetables you consume daily?

6. How do you purchase the vegetables? Daily, weekly or Bi-weekly

7. Where do you purchase the vegetables?

8. How much money you are spending for vegetables every month?

9. Do you compare the prices with other markets daily?

10. Do you have any Idea about Adulteration? If yes, how you Know?

11. How do you differentiate the quality of the produce?

12. Are you consuming the hygienic produce? If yes, Why? If No, Why?

13. What is your view on the present agricultural marketing system?

14. Is there any changes needed for agricultural marketing? If yes, What are they?

3.8 Research Design

The research and analysis is based on primary and auxiliary data. The secondary information has been gathered from the different journals, related government websites, reports from the Indian government database, and the data from various sources are used for examining the status of agricultural marketing in the country. Self administered questionnaire were designed to collect data from farmers, traders and consumers separately. The statistical tools like graphical representation and Simple percentages have been used in the present research study. The research study would primarily concentrate on the issues that are faced by the producers of food during selling of their goods for best rates and find out the correlation between the various factors regulates the producers to execute the trade for their produce as well as the consumers who are facing huge quality and hygiene issues even after paying high prices for purchasing fruits and vegetables.

3.8.1 population and Sampling (farmer side)

There are ten Markets functioning under the control of the Respective Market Committees in Chittoor, Annamayya and Anantapur districts of Andhra Pradesh and Kolar district of Karnataka have been taken for the study. The Stratified sampling and purposive sampling technique is adopted for the present study. The sample frame was constituted by taking the total number of farmers and traders who made their transaction during the year 2021-2022 and also the consumers from four metro cities in India.

Sample units are drawn from all the ten regulated markets both from farmers and traders. In the year 2021-2022, in all 940 farmers and 222 traders transacted business through the markets. Accordingly, the sample units are selected from each market by adopting stratified sampling technique.

Table 3.1 Samples taken from different Regulated Market yards

Sl.No	Name of Regulated Markets	Number of Farmers	Numberof Traders
1	Kuppam	160	42
2	Kanamala Doddi	100	24
3	Rama Kuppam	100	24
4	V.kota	80	18
5	Palamaner	80	18
6	Madanapalle	80	18
7	Kalakada	80	18
8	Anantapur	100	24
9	Kolar	80	18
10	Chintamani	80	18
	Total	940	222

Source: Primary data- Physical Survey

3.8.2 population and Sampling (Consumer side)

There are four major metro cities where the consumption of vegetables is very high have been taken for the study. The purposive Sampling is adopted for the study. The sample frame was constituted by taking the total number of consumers who made their agri produce purchases and consumption during the year 2021-2022.

Sample units are drawn from all the four metropolitan cities from consumers. In the year 2021-2022, in all 400 consumers were enquired through the digital channel sources. Accordingly, the sample units are selected from each city by adopting purposive sampling technique.

Table 3.2 Samples of consumers from different cities

Sl.No	Name of the city	Number of Consumers
1	Chennai	100
2	Bengaluru	100
3	Hyderabad	100
4	Visakhapatnam	100
	Total	400

Source: Primary data- online survey

3.9 Sources of Data

Both primary and secondary data is used for analysis and the sources for the same is given below.

3.9.1 Primary data

Very intensive field-study was carefully done between November 2021 and November 2022 and the required data were collected directly from the field. Apart from visiting the ten markets of Chittoor, Annamayya, Anantapur districts ins Andhra Pradesh and kolar district Karnataka, other market committees like Malur market committee, Hosur market committee and Tumkur market committee were personally visited and details of their financial and organisational problems were investigated through detailed discussions with officers and secretaries. Chittoor Market Committee head office was visited at regular intervals to collect first-hand information from the market committee officers, secretary and members of the staff. Discussions with the market committee personnel were also conducted quite often for the purpose of the study.

On the other hand the Survey was conducted among the consumers in various metro cities like Chennai, Hyderabad, Bengaluru and Visakhapatnam to know the problems facing by them during consumption of vegetables and fruits(fresh produce) and also there consumption pattern. The survey was conducted through the means of online platform like google forms for creating questions and the social media applications like WhatsApp, Facebook and Instagram for circulating the questionnaire forms.

Separately framed questionnaires were developed to collect the data from the farmers, traders and the consumers. The questionnaires contained information regarding market awareness, mode of selling, educational qualification, and level of satisfaction of farmers with the traders in the market yards, and Level of satisfaction of the consumers about prices, quality and hygiene levels of the produce which they are consuming. Besides this, the problems and difficulties of the farmers and consumers in transacting business in traditional marketing system were also collected through the questionnaires. The data from farmers was collected using schedule by visiting them physically as majority of farmers were illiterate.

3.9.1.1 Software tools and applications used for data collection

3.9.1.1(a) Google form

Google forms are very user friendly and hassle free. It is very easy to create the questionnaire in the form so that the respondents can access the forms easily without any confusions to answer. This helps us in getting more responses from the people. The main advantage of this is free of cost. There are many features included in google forms such as, menu search, shuffle of questions for randomized order, limiting responses to once per person, shorter URLs, custom themes, automatically generating answer suggestions when creating forms, and an "Upload file" option for users answering questions that require them to share content or files from their computer or Google Drive. Because of these many advantages google forms are used in this study.

3.9.1.1(b) WhatsApp

WhatsApp is a social media platform which has more than 487.5 million active users in India. So there will be more reach for our questionnaire if we use WhatsApp for circulating

the forms. In order to get the more responses in a quicker time WhatsApp was used in this study.

3.9.1.1(c) Facebook

Facebook is also a social media platform which has more than 329.65 million active users in India. In order to get the faster and quality responses in a quicker time Facebook was used in this study so that there will be more reach for our questionnaire and also circulating the forms became so easy.

3.9.2 Secondary data

The agencies which publish data regarding the various aspects of regulated agriculture market yards are collected from the different sources like the State Agricultural Marketing Board, Indian Society of Agricultural Marketing Government of India, Ministry of Agricultural Department, Ministry of Rural Development, State Planning Commission, and Credit Plan for V. Kota Market Committee. Thus published information was collected from all these agencies. Besides monthly publications, annual administrative reports of regulated markets and market committees were studied exhaustively.

The Government Orders, study reports, published articles in different journals and court judgements were analysed, and observations and conclusions were processed and formulated in this thesis. Necessary details and figures were taken from the original records for the study. To collect the views of secretaries and officials of market committees, personal visits were made and data were collected by personal interview.

Corporate companies evezon and Ninja cart which are involved in the agriculture marketing sector were visited to gather the data related to prices, quality, adulteration and other parameters.

CHAPTER 4
RESULTS & DISCUSSION

4.1 Analysis of Defects in Agricultural Marketing in India

Here the Analysis is done on the problems facing by farmers as well as the consumers due to the traditional marketing system is India.

4.1.1 Analysis of Farmer side problems

As farmers are considered as back bone of the country but they are facing multitude problems before independence and even after independence. Before independence is due to colonial exploitation and now is with middle man exploitation.

The problem starts with crop selection and ends with the executing of trade for the same. The problems which are facing by farmers and analysed and is discussed in this section.

4.1.1.1 Price fluctuations

The fresh produce rates relatively fluctuate daily when compared to those products which are manufactured by companies. Moreover, The uncertainty in the agri commodity rates are higher than that of the rates of processed and manufactured goods. There are many factors that are responsible for price fluctuations. Some of the inconsistencies in prices are of temporary in nature while other fluctuations cause a long-lasting effect. All the mentioned aspects which lead to the inconsistency in prices affect the supply and demand directly or indirectly.

The aspects which are responsible for the changes in the agricultural produce prices are:

Unpredicted difference in the receipts or arrivals of the produce into the market yards.

This is because of Improper crop selection. The selection of crop plays a vital role for the farmers to earn profits. Farmers need to analyse the demand and supply of the commodities to get profits. Without considering this and due to lack of knowledge on demand of the produce in the market, Farmers will select the crop to be grown randomly on basis of seasons and market prices. If the price of potato is high in the markets all farmers in the region will start cultivating potato and the availability will be very high in the markets post-harvest. Due to this reason the

prices in the market gets affected every time and the farmers has to face losses as they will not get minimum viable price for their produce because of more availability.

Case study

Table 4.1 The prices of Tomato in between April 2021 and November 2022

Produce	Month	Year	Price per KG
Tomato	April	2021	5
Tomato	May	2021	7
Tomato	June	2021	7
Tomato	July	2021	6
Tomato	August	2021	10
Tomato	September	2021	20
Tomato	October	2021	30
Tomato	November	2021	60
Tomato	December	2021	100
Tomato	January	2022	70
Tomato	February	2022	50
Tomato	March	2022	30
Tomato	April	2022	35
Tomato	May	2022	45
Tomato	June	2022	40
Tomato	July	2022	40
Tomato	August	2022	35
Tomato	September	2022	30
Tomato	October	2022	12

Tomato	November	2022	6

Source: Primary data

The graph below shows the increase and downfall of tomato prices due to demand and supply issues in between April 2021 and November 2022.

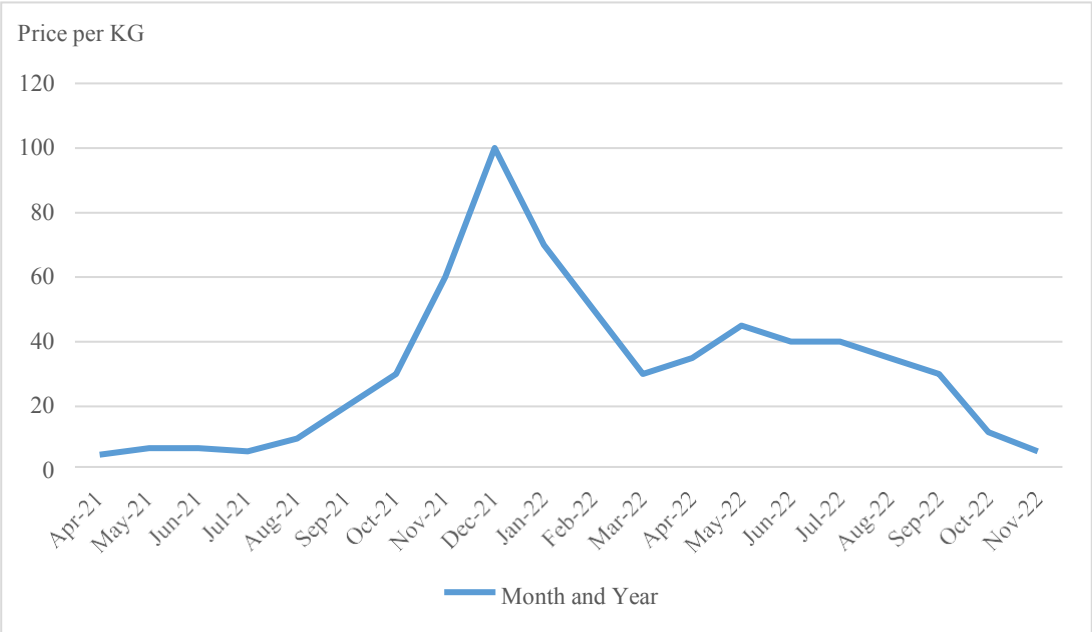


Fig 4.1 The rise and downfall of tomato prices in between April 2021 and November 2022

Table 4.2 The prices of Potato in between April 2021 and November 2022

Produce	Month	Year	Price per KG
Potato	April	2021	17
Potato	May	2021	15
Potato	June	2021	12
Potato	July	2021	12
Potato	August	2021	10
Potato	September	2021	20
Potato	October	2021	30
Potato	November	2021	32
Potato	December	2021	35

Potato	January	2022	27
Potato	February	2022	27
Potato	March	2022	22
Potato	April	2022	22
Potato	May	2022	19
Potato	June	2022	24
Potato	July	2022	22
Potato	August	2022	19
Potato	September	2022	23
Potato	October	2022	18
Potato	November	2022	20

Source: Primary data

The graph below shows the increase and downfall of potato prices due to demand and supply issues in between April 2021 and November 2022.

Fig 4.2 The rise and downfall of Potato prices in between April 2021 and November 2022.

Table 4.3 The prices of Cabbage in between April 2021 and November 2022

Produce	Month	Year	Price per KG
Cabbage	April	2021	12
Cabbage	May	2021	10
Cabbage	June	2021	8
Cabbage	July	2021	8
Cabbage	August	2021	6
Cabbage	September	2021	5
Cabbage	October	2021	4
Cabbage	November	2021	3
Cabbage	December	2021	3
Cabbage	January	2022	4
Cabbage	February	2022	6
Cabbage	March	2022	7
Cabbage	April	2022	8
Cabbage	May	2022	5
Cabbage	June	2022	7
Cabbage	July	2022	12
Cabbage	August	2022	16
Cabbage	September	2022	14

Cabbage	October	2022	11
Cabbage	November	2022	8

Source: Primary data

The graph below shows the increase and downfall of cabbage prices due to demand and supply issues in between April 2021 and November 2022.

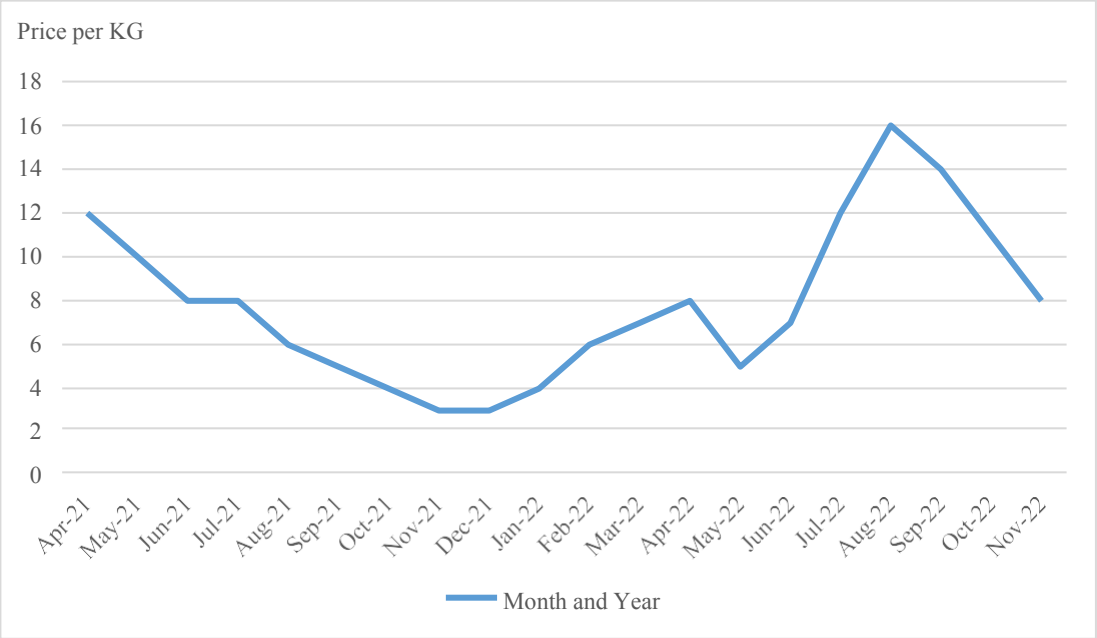


Fig 4.3 The rise and downfall of Cabbage prices in between April 2021 and November 2022.

As per the above data it is analysed that the prices for the agricultural commodities are not at all stable for a particular time and changes daily due to some reasons. This is the reason which farmers are facing losses.

Unpredicted differences in the take-off of produce by wholesalers from the market yards.

If wholesalers refuse to take the available produce in the market the price will comes down automatically. This may be happening due to the less demand for the produce from the consumer side because of change in consumption pattern of the consumers. The consumption pattern of consumers changes according to the seasons. Farmers do not have knowledge on this and go for the regular ones which decreases the demand and prices will come down.

Case study

Let us have a case study of consumption of water melon in Hyderabad during March 2022 and December 2022.

Table 4.4 Requirement for watermelon per day in Hyderabad in between March 2022 and January 2023

Produce	Month	Year	Avg. Sales in Metric tonnes per day	Avg. Price per KG
Watermelon	March	2022	100	12
Watermelon	April	2022	120	14
Watermelon	May	2022	150	16
Watermelon	June	2022	150	16
Watermelon	July	2022	150	20
Watermelon	August	2022	120	14
Watermelon	September	2022	80	10
Watermelon	October	2022	60	9
Watermelon	November	2022	40	10
Watermelon	December	2022	20	9
Watermelon	January	2022	20	8

Source: Primary Data

The Graph below shows the average sales of watermelon per day in Hyderabad during March 2022 and January 2023

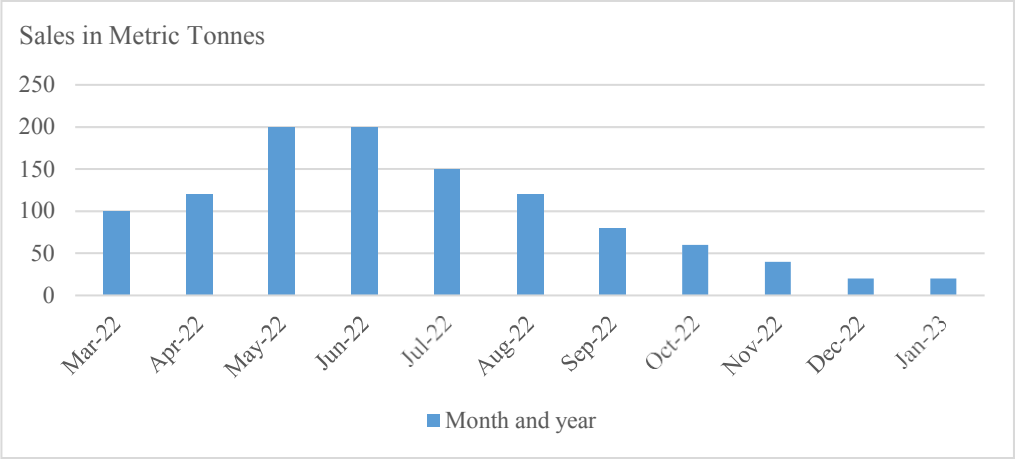


Fig 4.4 Sales of watermelon per day in Hyderabad in between March 2022 and January 2023.

The graph below shows the increase and downfall of water melon prices due to demand and supply issues in between March 2022 and January 2023.

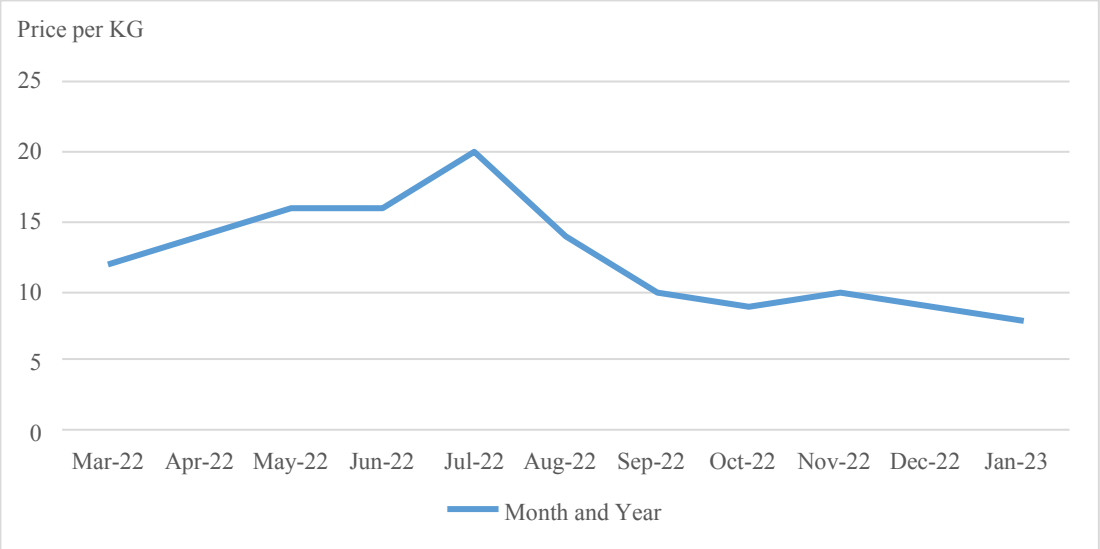


Fig 4.5 The rise and fall of Watermelon prices in between March 2022 and January 2023.

Let us have another case study of consumption of Sweetcorn in Hyderabad during March 2022 and January 2022.

Table 4.5 Requirement for Sweetcorn per day in Hyderabad in between March 2022 and January 2023

Produce	Month	Year	Avg. Sales in Metric tonnes per day	Avg. Price per KG
Sweetcorn	March	2022	50	3
Sweetcorn	April	2022	50	4
Sweetcorn	May	2022	30	5
Sweetcorn	June	2022	20	6
Sweetcorn	July	2022	20	8
Sweetcorn	August	2022	30	8
Sweetcorn	September	2022	80	10
Sweetcorn	October	2022	100	14
Sweetcorn	November	2022	150	18

Sweetcorn	December	2022	200	20
Sweetcorn	January	2022	200	18

Source: Primary Data

The Graph below shows the Average sales of Sweetcorn per day in Hyderabad during March 2022 and January 2023

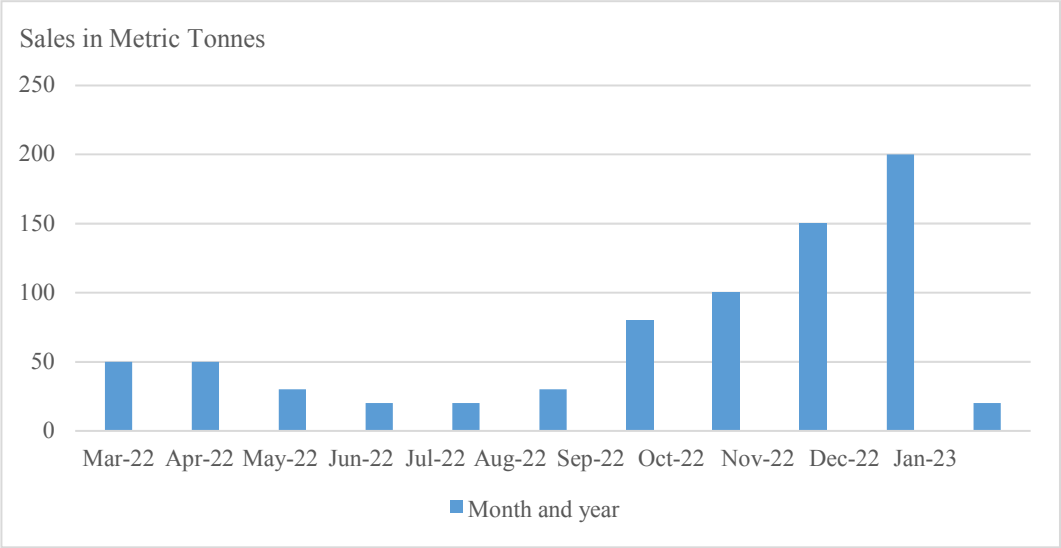


Fig 4.6 Sales of sweetcorn per day in Hyderabad in between March 2022 and January 2023.

The graph below shows the increase and downfall of sweetcorn prices due to demand and supply issues in between March 2022 and January 2023.

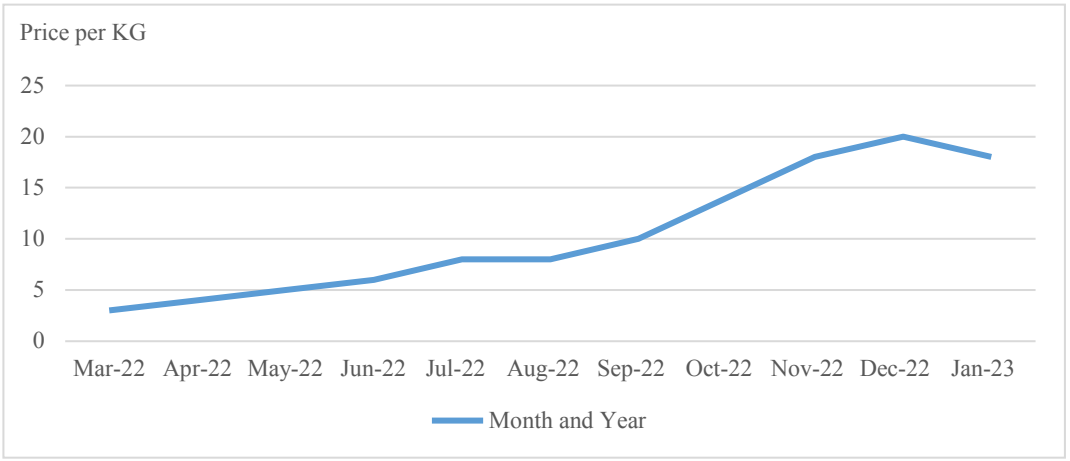


Fig 4.7 The rise and fall of sweetcorn prices in between March 2022 and January 2023.

As per the Analysis the consumption of sweetcorn by the consumers is low in summer season that is from March 2022 to August 2022 which decreases demand in the market. So the prices will are less during that period, And from September the demand rapidly increases in return the prices also increases.

So we can say that the price of the produce will also depends on the consumption pattern of the consumers.

Changes in yield of produce due to variation in climatic conditions.

The climate is the most important factor which affects the yield of the crops. The yield of the produce depends on the variation in rainfall and sun light. Both the sunlight and rainfall should be in moderate levels for getting good yield. Higher rainfall spoils the crops which plats may die because of excess water in the fields. Low rainfall and high sunlight will also decrease the productivity because of water scarcity. This changes in the climatic conditions results in the increase or decrease in the commodity production which in turn affects the demand and supply of the produce which causes variation in prices.

Damage of crops due to heavy Rainfall

Here we have some images of damaged crops due to heavy rains during September and December months in the year 2021, Also the prices of the produce during that period is given in the table below.

Fig 4.8 Damage of Beans crop field due to rains in September and October 2021

Fig 4.9 Damage of Carrot field due to heavy rains in November 2021

Fig 4.10 Damage of Ridge guard field in October 2021 due to Rains

Fig 4.11 Tomato field damaged in December 2021 due to rains

Fig 4.12 Brinjal crop damaged in June 2022 due to excess heat in summer

Table 4.6 Price of the different commodities during September 2021 and December 2021

Produce	Month	Year	Price per KG in INR
Beans	September	2021	50

Carrot	September	2021	60
Potato	September	2021	20
Tomato	September	2021	20
Chilli	September	2021	35
Beans	October	2021	60
Carrot	October	2021	65
Potato	October	2021	30
Tomato	October	2021	30
Chilli	October	2021	45
Beans	November	2021	70
Carrot	November	2021	75
Potato	November	2021	32
Tomato	November	2021	60
Chilli	November	2021	55
Beans	December	2021	80
Carrot	December	2021	75
Potato	December	2021	35
Tomato	December	2021	100
Chilli	December	2021	60

Source: Primary data

We can see that the price of the Agri commodities were very high during that particular period because of high demand as the productivity is completely damaged due to the rainfall as shown in the images above.

Changes in produce due to variance in climatic situations during seed formation time and harvesting time.

The produce volume will also get affected by if there is bad weather during seed sowing time. The field will become more wet which don't support for the seed to grow and results in death of many plants. As a result, the yield volume will also decrease largely. Here we have the comparison of yield of potatoes of one farmer in two different seasons in same land.

Table 4.7 Comparison table showing the yield of Potato during same season in different years

Crop: Potato	Crop: Potato
Cultivated Month & Year: November-2021	Cultivated Month & Year: November-2022
Total area of Land: 1 Acre	Total area of Land: 1 Acre
Total Potato seeds sown:16 Bags	Total Potato seeds sown:16 Bags
Total Yield in Metric tonnes: 14 (14000 Kgs)	Total Yield in Metric tonnes: 6 (6000 Kgs)

Source: Primary data

From the above table we can see that the yield was dropped by 50% compared to the previous year due to unsuitable climatic conditions for the potato crop. For the same reason price of the potato was increased in the year 2022 compared to the previous year due to more demand in the market. So the prices and the external factors are interlinked.

4.1.1.2 Labour problems during Harvest

This is the foremost problem which farmers are facing during harvest time. The wages charged by the labours are comparatively very high then the normal wages. Even the price of the produce is low in the markets same wages have to be paid to the labours without any deductions. Due to this the revenue of the farmers will comes down which makes them to face losses.

Also the demand for the labours is also increasing rapidly as many people are migrating for other works for their livelihood. This increase in demand of labours is making them to demand more wages from the farmers.

The wages for harvesting cabbage, potato and tomato are very high if we compare them with normal fares as they ask to pay for the number of bags, or number of crates which results in increase in labour charges.

The table below shows the comparison of regular wages and the wages charged by the labours during harvest for different fresh produce.

Table 4.8 Comparison table showing the regular wages and the actual wages charged by the labours.

Produce	Regular Wages	Wages charged by Labours
Tomato	Rs. 450/- per day	Rs.10/- per box(Rs. 1000/- for 100 Crates) Half day work
Potato	Rs. 450/- per day	Rs.40/- per Bag(Rs. 800/- for 1000 Kgs)- Half day work
Cabbage	Rs, 450/- per day	Rs.30/- per bag(Rs. 1800/- for 60 Bags(2400 Kgs)- Half day work
Sweetcorn	Rs. 500/- per day	Rs.40/- per bag –(Rs 1000/- for 25 Bags(2000 Kgs)- Half day work

Source: Primary data

From the above table we can see that the labours are charging 150 percent more prices from the farmers compared to the regular wages. This is reducing the farmer's revenue and affects their profits. The labours are benefitting more than the farmers by playing such kind of tactics with them.

4.1.1.3 Transportation problems

This is another exploitation which is doing by the transporters from farmers. After harvest farmers has to take the produce to the nearest market yards for sales. In mean time the transporters are charging 175 percent more transport fares from farmers compared to regular fares from the farmers by playing some tactics which farmers are not aware. This high transportation charges are heavily affects the revenue of the farmers.

The table below shows the comparison of the regular transport fares and the fares charging by the transporters for different fresh commodities.

Table 4.9 Comparison table showing the regular transport fares and the actual fares charged by the transporters

Produce	Regular fare	Fares charged by Transporters
Tomato	Rs. 900/-	Rs.30/- per 15Kg Crate (Rs. 2000/- for 1 MT)

Potato	Rs. 900/-	Rs.80/- per 50kg Bag (Rs. 1600/- for 1MT)
Cabbage	Rs, 900/-	Rs.60/- per 35kg Bag (Rs. 1700/- for 1MT)
Sweetcorn	Rs. 900/-	Rs.110/- per 70kg Bag (Rs 1600/- for 1MT)

*The fares are given for 1 Metric tonne load and 30Kms distance.

Source: Primary data

4.1.1.4 Weighing at Market yards

Maximum frauds were taking place in the market yards during weighments of produce which are performing by the traders in current marketing system. There is no proper approved weighing scales for the weighment of the fresh produce. Minimum of 2 to 4 kg's for produce like beans, chilli, sweet corn and 2 kg's per crate for tomatoes was cutting down from the exact weight which the farmers are not aware of. Only analog weighing scales were used for measuring weights of the produce in which the illiterate farmers cannot able to understand the correct weight of the produce. The amount was taken as the share by the traders who are acting as intermediary between farmers and the wholesalers.

Fig 4.13 Analog weighing scales used in market yards

As shown in the above figure the weighing scales do not have any kind of screen to display the weight and there will be minimum of four kilograms error for every one hundred kilograms weight. So farmers are losing their money because of this.

4.1.1.5 Commission

This is the major problem in the present agricultural marketing system. Once the fresh produce reaches the mandi in the market yards the traders present it for open auction and charges 10 percent of the total trade value as their commission. These deductions in the trade value brings down the farmer's profits and affects the return on investments for the farmers.

Here we have the case study with us with all deductions that will take place in the trade bill in the market yards

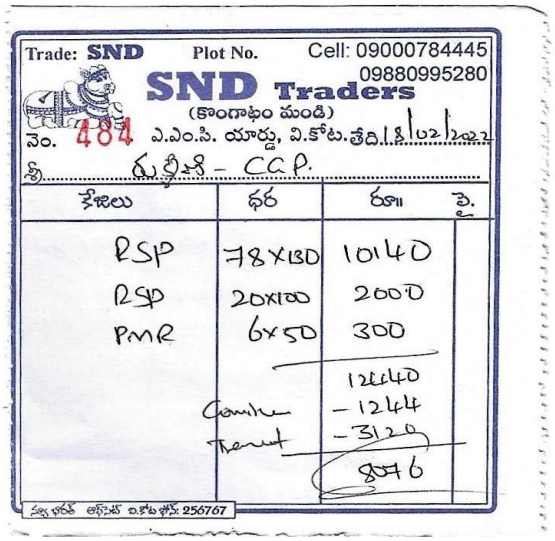


Fig 4.14 The bill of the farmer given by trader in Market yard

Translation for the above bill

Trader in the Market Yard(Seller) : SND Traders

Farmer Name-Village: Rukmini-Cheldiganipalle

Buyers trade Name: RSP Traders, PMR Traders

Comi: Commission, Trans: Transport

From the above image we can see that the total amount which farmer got for their produce is Rs. 12440/-. After all deductions which includes commission, transport and miscellaneous, they got only Rs. 8076/- in their hand. Rs. 4364/- was deducted from the farmer. Thus farmer lost Rs. 4364/- profit from the single bill which is happening everywhere in the market yards.

4.1.1.6 Payments

Even after these many deductions there is no assurance for payments to the farmers from the traders. Farmers have to wait for couple of days to get their payments and sometimes for a week too but there is no proper assurance for them. Sometimes farmer will loose the money for their produce when traders cheat them and there is nothing to do for the farmers except leaving the money.

These all factors are cutting down the farmer's revenue and profits in which farmers are struggling to get the return on their investments and facing losses. Due to such reasons many farmers are leaving farming and migrating to some other works for their livelihood which is not good for the country as well as its economy.

4.1.2 Analysis of consumer side problems

4.1.2.1 Pricing

Even though farmers are not getting the best price for their produce, on the other hands consumers are paying more prices for purchasing of fresh vegetables from the retailers. According to my study consumers are paying 100 percent more price to the produce when compared with the farm prices. There are some factors which are responsible for increase in prices at the consumer side which are discussed below.

Factors responsible for increase in price of the fresh produce

- Intermediaries
- Labour charges in market yards
- Logistic charges and Improper distribution

4.1.2.1a Intermediaries

As the number of intermediaries involves in the trade increases the price of the produce automatically doubles as the intermediaries adds more value to the produce for making the profits.

4.1.2.1b Labour charges in market yards

High labour charges in the markets for sorting and grading also increases the price of the produce. The wages of the labours are very high in the markets that is 300 percent more when compared to the regular wages.

Table 4.10 Comparison of regular wages and market wages for different fresh commodities

Produce	Regular wages	Market wages
Tomato	Rs.500 per day	Rs.8 per 15kg crate (Min.Rs.1300 per day for 10 MT)
Beans	Rs.500 per day	Rs.20 per 80kg bag(Min Rs.2500 per day for 10 MT)
Cabbage	Rs.500 per day	Rs.20 per 80kg bag(Min Rs.2500 per day for 10 MT)
Potato	Rs.500 per day	Rs.20 per 80kg bag(Min Rs.2500 per day for 10 MT)

Source: Primary data

The high labour charges create more burden on the produce price. Here no one among traders, distributors and wholesalers will bear the burden and the end users that is consumers have to take the burden and needs to purchase the vegetables for very higher prices because of these add-ons.

The below table shows the comparison between the farm prices and the retail prices for different kinds of vegetables in the month of January 2022.

Table 4.11 Comparison of farm level prices and retail prices for different fresh vegetables in January 2022.

Produce	Farm price	Retail price
Tomato	23	45
Beans	35	60
Cabbage	03	10
Chilli	28	42
Cauliflower	13	32
Broccoli	60	110
Potato	28	45
Sweetcorn	24	45

Capsicum	30	50
Bitter guard	12	25
Ridge guard	40	70
Cucumber	8	18
Onion	18	35
Brinjal	35	60
Ladies finger	25	40
Carrot	40	60
Beetroot	25	40
Bottle guard	10	20
Radish	8	18
Pumpkin	10	40

Source: Primary data

4.1.2.1 c Logistics and Improper distribution

This is also an important factor to be considered for determining the prices of commodities. The fares charged by the traditional transporters are 50 percent high compared to the fares decided by the local governments. Also there is no reverse logistics planned to reduce the shipping fares. This additional costs for shipping is adding more prices to the produce and the burden again fall on the consumers.

Also by charging high prices for shipping the distribution will not be done properly by taking necessary steps to keep the produce fresh. The shipping of the fresh produce will be done with traditional vehicles which are open type in nature. Due to this the fresh produce are very much affected with the external climatic conditions. These disturbances during shipping damages the produce up to 20 percent till it reaches its destination.

The 20 percent damaged produce goes to dump and the wholesaler will add the price of the damaged produce on the good one which makes the price to increase. Due to these reasons the prices of the commodities increases highly till it reaches the consumer.

Fig 4.15 Improper distribution with open type transport

4.1.2.2 Quality

Even after paying high prices for the produce, the consumers are not getting the quality produce for consuming. This is happening because of irregularities in the traditional agricultural marketing system. The sorting and grading of the produce will not done properly in the market yards. The grading and sorting is done manually by the labours and proper care was not taken while performing these tasks.

These manual grading will damage the produce texture which becomes vulnerable for the worms. Even the produce which is affected by the worms are also not graded and removed properly in turn these worms damages the surrounding produce and all will become unsuitable for the human consumption.

Fig 4.16 Manual sorting and grading damaging the texture of the produce

Fig 4.17 The presence of worms and spoiled tomatoes in the distribution crate

4.1.2.3 Hygiene

It is the important parameter that have to be taken into consideration while doing the food supply chain activities as the consumer health is directly proportional to the hygiene levels of the food. But no proper hygiene is maintained in the traditional agricultural marketing and supply chain system. The crates which are used for procurement and distribution are not cleaned for years, no head caps and gloves are used for grading, the market area which is used to perform the collection and distribution activities are very muddy and vulnerable to the worms and insects, the warehouses and collections are not cleaned and sanitised regularly. Due to these reasons the hygiene levels are nil and the produce will be affected with germs and other fungus which consumers are not aware of. Even though if they know about these things but they can't do anything and consume the same produce.

Even after paying high prices for the produce the consumers can't consume the quality and hygienic produce. Consumption of such unhygienic and quality less produce damages the health and wealth of the consumers.

Fig 4.18 Tomato procured and stored in unhygienic crates

The plastic and fibre crates which are using for the procurement are not even cleaned once in a year. The bacteria and fungus present in the crates infects the produce and same will be distributed to the consumers. So the produce becomes unhygienic when it reaches to the consumer. Same thing is happening in all market yards.

4.1.2.4 Adulteration

Adulteration is becoming the major problem for everyone now a days. Many traders were injecting the pesticides for ripening of fruits and some of them were adding synthetic colours, wax and malachite green coating to make the vegetables and fruits looks fresh and shiny.

According to the FSS Act 2006 of government of India the usage of wax and chemicals for treating fresh produce is prohibited, but many traders were doing same practices to store the vegetables for longer time.

There is no proper equipment available in the markets to check the adulteration in the food. And the consumers are consuming the same produce which is affecting their health.

Lack of traceability for the consumers about the fresh produce is also one of the reason for the adulteration. Now a days, even the ground water is also contaminated in many regions like villages which are near to the metro cities. In such villages 80 percent of cultivation is done using sewage water. Therefore, the produce coming from that fields will not consists of required nutrition's and the produce itself contaminated even before harvest as sewage water consists of toxic elements.

4.2 Analysis of Remedial Measures for the problems in Agricultural Marketing in India

Here the Analysis is done on the remedial measures for the problems facing by farmers as well as the consumers due to the current traditional agricultural marketing system is India.

4.2.1 Remedial Measures for farmer side problems

Here are the remedial measures provided by government and private sectors till now to make farmers more benefitted.

4.2.1.1 Pricing

Minimum support price

The government is providing minimum support price to the farmers for their produce. Whenever the price of the produce goes down in the markets then government will purchase the entire produce from the farmers for support price to help farmers to prevent from the farmers.

Till now the government has announced 22 crops to mandate the Minimum Support Price. The mandated crops are 6 from Rabi season, 14 crops from Kharif season and two commercial crops.

The table below shows the details of Minimum support price provided by the government to different crops.

Table 4.12 Minimum support price provided by the government to different crops

Commodity	Variety	MSP for 2021-22(Rs. Per Quintal)	MSP for 2022-2023(Rs. Per Quintal)	Increase over previous year
Kharif Crops				
Paddy	Common	1940	2040	100
	Grade A	1960	2060	100
Jowar	Hybrid	2738	2970	232
	Maldandi	2758	2990	232
Bajra		2250	2350	100
Maize		1870	1962	92
Ragi		3377	3578	201
Arhar		6300	6600	300
Moong		7275	7755	480
Urad		6300	6600	300
Cotton	Medium staple	5726	6080	354
	Long staple	6025	6380	355
Ground nut		5550	5850	300

Sunflower seed		6015	6400	385
Soyabean		3950	4300	350
Sesamum		7307	7830	523
Niger seed		6930	7287	357
Rabi Crops				
Wheat		2015	2125	100
Barley		1635	1735	100
Gram		5230	5335	105
Masur		5500	6000	500
Rape seed & Mustard		5050	5450	400
Safflower		5441	5650	209
Toria		5050	5450	400
Other Crops				
Copra	Milling	10335	10590	255
	Ball	10600	11000	400
De-husked coconut		2800	2860	60
Raw Jute		4500	4750	250
Sugar cane			305	

Source: https://vikaspedia.in/agriculture/market-information/minimum-support-price

Assurance of a remunerative and stable price environment for growers/farmers is very important for increasing agricultural production and productivity. The market price for agricultural produce many times tends to be unstable and volatile which may result into undue losses to the growers and discourage adoption of the modern technology and required inputs.

The Government's price policy for agricultural commodities seeks to ensure remunerative prices to the growers for their produce with a view to encourage higher investment and production and to safeguard the interest of consumers by making available supplies at reasonable prices with low cost of intermediation. The price policy also seeks to

evolve a balanced and integrated price structure in the perspective of the overall needs of the economy. Towards this end, the Government announces, Minimum Support Prices (MSP) for 25 major agricultural commodities each year in both the Crop seasons after taking into account the recommendations of the Commission for Agricultural Costs and Prices (CACP). CACP recommends MSP for twenty-two (22) crops and Fair & Remunerative Price (FRP) for sugarcane. Apart from Sugarcane for which FRP is declared by the Department of Food &Public Distribution, twenty-two crops covered under MSP are Paddy, Jowar, Bajra, Maize, Ragi, Arhar, Moong, Urad, Groundnut-in-shell, Soyabean, Sunflower, Seasamum, Nigerseed, Cotton, Wheat, Barley, Gram, Masur (lentil), Rapeseed/Mustard seed, Safflower, Jute and Copra. In addition, MSP for Toria and De-Husked coconut is fixed by the Department on the basis of MSP's of Rapeseed/Mustard seed and Copra respectively. Besides, announcement of MSP, the Government also organizes procurement operations of these agricultural commodities through various public and cooperative agencies such as Food Corporation of India (FCI), Cotton Corporation of India (CCI), Jute Corporation of India (JCI), Central Warehousing Corporation (CWC), National Agricultural Cooperative Marketing Federation of India Ltd. (NAFED), National Consumer Cooperative Federation of India Ltd. (NCCF), and Small Farmers Agro Consortium (SFAC). Besides, State Governments also appoint state agencies to undertake PSS operations.

While deciding the MSP for various agricultural commodities, the recommendations of CACP, the views of Central Ministries and State Governments and such other relevant factors which are important in the opinion of the Government are considered. The CACP, while recommending the Minimum Support Price keeps in view (i) the need to provide incentives to the producers for adopting improved technology and for developing a production pattern broadly in the light of national requirements (ii) the need to ensure rational utilization of land, water and other production resources and (iii) the likely effect of the price policy on the rest of the economy, particularly, on the cost of living, level of wages, industrial cost structure etc. NAFED, Central Warehousing Corporation (CWC)National Consumer Cooperative Federation of India Ltd. (NCCF), Small Farmers Agro Consortium (SFAC) are the central agencies for procurement of oilseeds & pulses. However, NAFED is also an additional central

agency for procurement of cotton, in addition to Cotton Corporation of India (CCI) under theDAC. The cost of cultivation/production includes all paid out costs, such as, those incurred on account of hired human labour, bullock labour/machine labour (both hired and owned) and rent paid for leased in land besides cash and kind expenses on use of material inputs like seeds, fertilizers, manures, irrigation charges including cost of diesel/electricity for operation of pump sets, etc. Besides, cost of production includes imputed value of wages of family labour and rent for owned land. The cost also covers depreciation of farm machinery and buildings, transportation and insurance charges. As such, the cost of production covers not only actual expenses in cash and kind but also imputed value of owned assets, land and family labour.

4.2.1.2 Labour

In order to decrease the labour charges for the farmers in all phases of farming many individuals and corporates are trying to offer new solutions using different technologies. The machineries like Drones which can be used to spray pesticides, the post harvest machines to harvest the fields will decrease the use of manpower. So farmers can save upto 50-70 percent of the labour cost.

4.2.1.3 Transportation

Various corporates have entered into the logistic markets in order to provide the best support for the farmers to cut down the logistic costs. The companies are offering the trips for very reasonable fares to the farmers which is almost 40% less when compared to the regular transport fares providing by the traditional traders

Table 4.13 Comparison of regular transport charges and evezon transport charges

Produce	Weight	Distance	Regular fare	Evezon Fare	Difference
Tomato	1 MT-66 Crates	30 Kms	2000	800	1200
Beans	1 MT-17 Bags	30 Kms	1800	800	1000
Cabbage	1 MT-25 Bags	30 Kms	2000	800	1200

Source: Primary Data

The central government is also providing many schemes to encourage the entrepreneurs in agriculture sector who are trying to come up with unique solutions for effective farming practices and also in all phases of agricultural marketing like harvesting, sorting, grading, transportation, supply chain, food processing etc., which helps farmers to get more returns on investments and to eliminate the exploitation of the middle man and other traders and transporters who are present in the traditional marketing system.

4.2.1.2 Marketing, sales and demand forecast

In order to provide the best marketing services to the farmers and to reduce the exploitation of the middle man in trading, the government have taken the initiative to provide the various marketing portals for marketing of the agricultural produce. The various marketing portals of government and their working methodology is analysed and given below.

4.2.1.2 a Agmarknet

The Agmarkent is the government of India portal owned by itself without any partnerships or collaborations. It deals primarily with the product marketing for agricultural produce. Also it consists of large network and huge amount of data for interlinking the various regulated agricultural markets in the different states of the country. The boards and the directors of the marketing committees of different states are enabling and providing the connections to the keen overseas and domestic organizations through their websites.

The web portal furnishes both the dynamic and static data which is related and essential for agri marketing in the country. The static data of the website includes the following

- Market yard details
- Storage facilities
- Warehousing and cold storage
- Facility information for grading, sorting and packaging
- Market information
- Research studies
- Market laws and
- Development programmes

The dynamic part in the portal consists of the following data

- Information related to prices of the commodities in different markets
- Relevant information for price comparison of the produce
- Total arrivals of produce and dispatches of the same with destination location details
- New projects of Agmarknet

4.2.1.2b GEM

The GEM stands for Government e-Marketplace incurred its origin by the proposals presented by two secretary groups in front of the honourable prime minister of India in January 2016. It is the online portal providing platform for the public procurement with main objective to create an open and transparent procurement platform for the traders.

The Gem portal consists of several modules which are required for businesses. The Gem portal consists of several products listed in it across the country and the traders can filter the particular products depends upon their needs by selecting the category.

The portal connects the potential buyers with the wholesalers or producers directly without any intermediaries in between. This helps in providing transparency to the business and no frauds will takes place in between.

The portal itself provides the payment gateway support to the buyers and sellers so that their will be no chance of payment frauds and both parties will be mutually benefited.

Also the GEM portal offers loans for the traders based on their trading value on monthly basis. This will help the small scale businesses to scale up their business and to increase the productivity.

4.2.1.2 c E-Nam

It is is a pan-India electronic trading portal known as National Agriculture Market (eNAM) which structures the current agriculture produce marketing committee (APMC) mandis to build an consolidated market for agricultural commodities throughout the nation. The lead agency named Small Farmers Agribusiness Consortium (SFAC) is authorized for chartering eNAM under the patronage of the Ministry of Agriculture and Farmers Welfare, Government of India. This platform helps for better discovery of prices and also provides smooth marketing system for the agricultural produce.

There is a positive impact of e-NAM on prices received by farmers and an increase in market arrivals in the e-NAM compared to the non-e-NAM markets. The e-NAM is expecting to promote market-driven diversification by providing a platform for selling different crops and reducing farmers' dependence on MSP and government warehouses in Punjab and Haryana states. The market arrival post-e-NAM varied from nine to forty per cent. The study's finding revealed that price volatility was visible across the e-NAM markets in different states and positively impacted the price of agricultural commodities. The study on the role of e-NAM in price discovery and improving market competitiveness has revealed that arrivals of vegetables post-e-NAM have been decreased.

The process of e-NAM starts with the lot generation point. The farmer has to register his produce at the gate entry, with the e-pass farmer go to the quality assaying point for quality testing. After the assaying report, he has to wait for e-auction. For e-auction, traders have to log in from their accounts and bid according to their requirements and market fulfilment. After the completion of the e-auction, the winner list will be announced for the lots. The payments and settlements of the farmer's lot will start processing after the weighing completes.

The core objectives of E-Nam are as follows

- A national e-market platform for transparent sale transactions and price discovery initially in regulated markets. Willing States to accordingly enact suitable provisions in their APMC Act for promotion of e-trading by their State Agricultural Marketing Board/APMC.
- Liberal licensing of traders/buyers and commission agents by State authorities without any pre-condition of physical presence or possession of shop /premises in the market yard.
- One license for a trader valid across all markets in the State.
- Harmonization of quality standards of agricultural produce and provision for assaying (quality testing) infrastructure in every market to enable informed bidding by buyers. Common tradable parameters have so far been developed for 25 commodities.
- Single point levy of market fees, i.e. on the first wholesale purchase from the farmer.

- Provision of Soil Testing Laboratories in/ or near the selected mandi to facilitate visiting farmers to access this facility in the mandi itself.
- To provide the logistic services to the farmers for reasonable prices.

4.2.1.2 d APMOS

APMOS also known as efarmarket is a comprehensive end-to-end agri marketplace services portal aimed at the complete agri value chain in India. efarmarket is a Market Portal that would provide all the needs of farmers, covering the Trade and Post-Market needs. Thus, this platform will provide the end-to-end solutions for Buyers and Sellers of products and services in the agricultural sector. The Market Portal will provide all the needs of farmers, covering the Trade and Post-Market needs. Thus, this platform will provide the end-to-end solutions for Buyers and Sellers of products and services in the agricultural sector.

E-farmarket is a Market Portal that would provide all the needs of farmers, covering the Trade and Post-Market needs. Thus, this platform will provide the end-to-end solutions for Buyers and Sellers of products and services in the agricultural sector.

The platform also provides the logistics support for very reasonable prices and the pickup of the produce will be directly from the farms. So farmers can save lot of money as there will be no transportation charges and also there is no need to pay the commission to the traders in the market yards. So farmers are getting maximum returns for their produce as there are no intermediaries in between the trade execution and on the other hand the consumers are also getting the produce for the better prices directly from the farm.

4.2.1.3 The corporate Entry-Benefits to farmers

Apart from the government marketplace applications and policies to increase the efficiency of agricultural marketing, several corporate companies came forward with different unique solutions for eliminating the traditional marketing system problems. The work done and benefits provided by some of the companies were discussed below.

4.2.1.3a Evezon Agri

Evezon Agri is a supply chain management company for agricultural produce marketing and also to revolutionize the fresh produce supply chain using technology. Evezon

is the developer of the agricultural marketing and supply chain platform intended to revolutionize the fresh produce supply chain ecosystem.

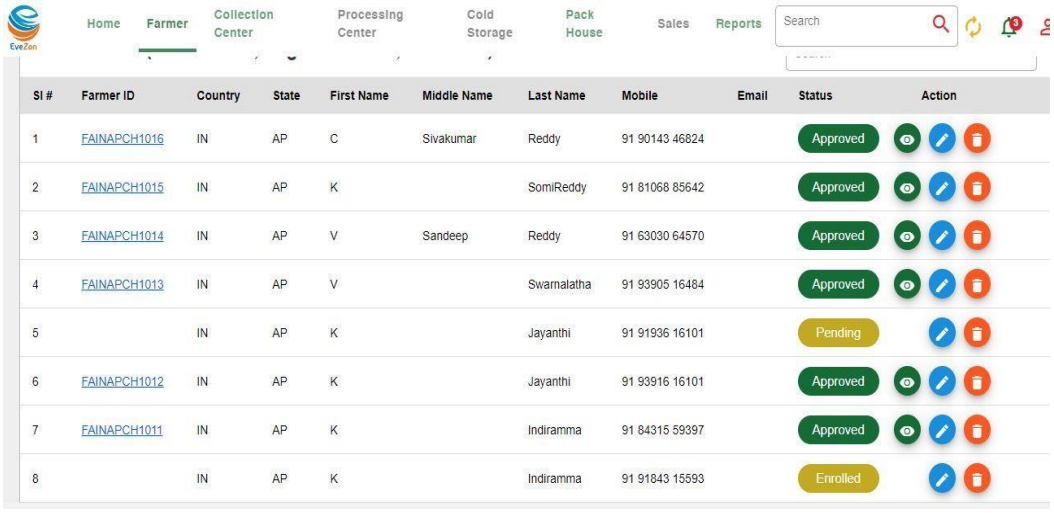
The web application platform of evezon consists of infrastructure, data science, and networks to link producers of food straight to the end retailers or businesses such as food processing industries, wholesalers, grocery stores and merchants in minimum time and in a price effective manner. Evezon has eradicated the middleman by having control over the Supply Chain ecosystem by utilizing different technologies and analytics.

The evezon Agri services platform is the country's first AI Based Blockchain technology product which consists of following modules involved in trading.

Demand and supply

Evezon Agri Information management system platform of evezon stores and updates the information related to farmers such as the farmer location, total areas of land, what is the crops grown, when is the harvesting date, and what is the total volume of produce we can get during harvest. Also evezon have gathered and analysed the information regrading the total demand for the fresh produce in the country for different commodities and stored in the AIMS platform. By using these information we can easily analyse the total supply and demand for the particular produce in coming days.

This helps in reducing the price fluctuation problems and the produce will have the minimum viable price so that farmers can get more revenue and earn more profits when compared with the regular marketing price.



Sl #	Farmer ID	Country	State	First Name	Middle Name	Last Name	Mobile	Email	Status	Action
1	FAINAPCH1016	IN	AP	C	Sivakumar	Reddy	91 90143 46824		Approved	
2	FAINAPCH1015	IN	AP	K		SomiReddy	91 81068 85642		Approved	
3	FAINAPCH1014	IN	AP	V	Sandeep	Reddy	91 63030 64570		Approved	
4	FAINAPCH1013	IN	AP	V		Swarnalatha	91 93905 16484		Approved	
5		IN	AP	K		Jayanthi	91 91936 16101		Pending	
6	FAINAPCH1012	IN	AP	K		Jayanthi	91 93916 16101		Approved	
7	FAINAPCH1011	IN	AP	K		Indiramma	91 84315 59397		Approved	
8		IN	AP	K		Indiramma	91 91843 15593		Enrolled	

Fig 4.19 The AIMS platform of evezon containing farmers data

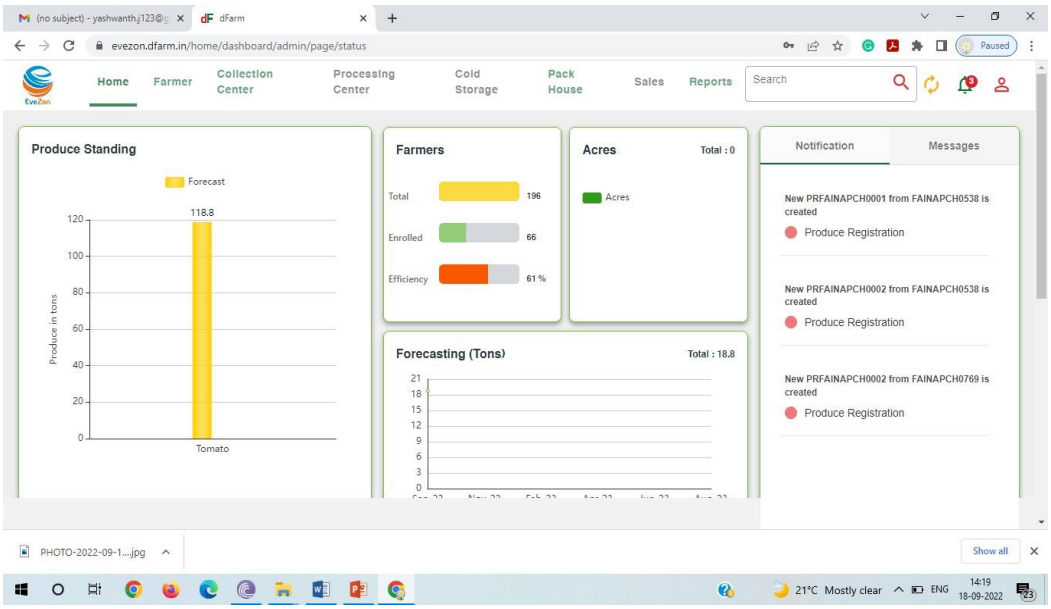


Fig 4.20 Produce forecast in AIMS platform of evezon

Labour Assistance

In order to provide more benefits to the farmers and make them earn more returns evezon is also providing the labour assistance to the farmers to reduce the post-harvest costs. 50 percent of the cost incurred for labours during harvest will be provided by evezon to the farmers so that farmers revenue will be increased.

Transportation Assistance

Evezon also provides the transportation support to the farmers by charging the minimum fares from the farmers. The evezon transportation cost is 150 percent less when compared to the regular transportation charges. The produce will not get damaged during shipping of the produce from the farms to evezon warehouse because the logistics will be done more effectively by taking more care.

This also adds more revenue to the farmers produce which helps them to increase their return on investments.

Automated payments

The payments to the farmers for their produce will be credited automatically to their accounts from the three working days after procurement. The GRN (Goods Received Note) will be given to the farmer once the produce is received in the warehouse. Sorting, grading will be done to differentiate the produce based on the parameters for distribution and the GRN value

will be finalized and the final GRN amount will be given to the farmer and the same data will be entered into the AIMS platform. The payments will be processed automatically from the platform without any intervention therefore there will be no problem for the farmers on collecting payments for their produce. This facility is not available in any of the traditional marketing system and the payments will be processed manually and there is no assurance for farmers regarding their money. The evezon is eliminating this problem.

Financial Assistance

The AIMS platform is developed using Artificial Intelligence and Blockchain technology. The blockchain technology automatically analyses and records the transactions of farmers with the company and also their spending patterns, the system automatically provides the credit facilities to the farmers. Evezon having their credit partners to offer loans for the farmers so that the working capital burden will be reduced for the farmers.

Comparison of Regular Trade bill and Evezon Agri Bill

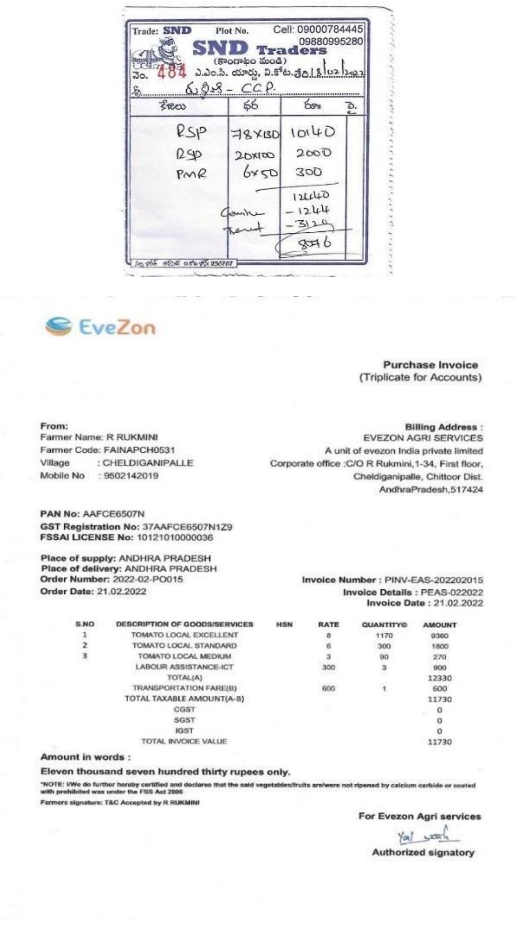


Fig 4.21 Comparison of farmer bills given by Mundy and Evezon

Table 4.14 Comparison of regular trade bill and Evezon bill and showing the benefits for farmers

Source: Primary data

Crop	Particluars	Weight in kgs	Evezon price	Regular market price	Benefits to farmer	Benefits to farmer in %
Tomato	Purchase price	1560	12330	12440	-110	37
	Transport		600	3120	2520	
	Commission		0	1244	1244	
	Net purchase		11730	8076	3654	

The above table shows the difference between the prices given by mundy in market yard and evezon. From the above table we can see that the evezon is providing 37 percent more price to the farmer for their produce. So evezon is eliminating the intermediary, transportation and labour problems for the farmers in which they were getting exploited.

Vennar Digital Farm Private Limited

Vennar Digital Farm Private Limited is passionate about transforming the Supply Chain ecosystem of Agriculture produce for the betterment of Farmers and Consumers and everyone in between.

The Agriculture Information Management System of Vennar is an Agricultural produce supply chain management solution that consists of enabling technologies like Block chain, Artificial Intelligence, Big Data, the Internet of Things (IoT), and a Software-as-a-Service (SaaS) business model to make the produce supply chain more visible, transparent and efficient.

AIMS enhances profitability for produce Wholesalers and Retailers:

- By increasing the availability of fresher, higher quality produce
- By automating and speeding financial settlement processes
- By utilizing data and insight to improve tracking, tracing, forecasting and supply chain optimization.

Vennar digital farm solves the problems in a heuristic way thus, synergizing the Agriculture Supply Chain Ecosystem and improving the operational efficiencies and economic viability and capability to sell the produce before it is harvested.

Vennar digital Farm is a partner of choice in produce SCM from value-adding supply chain participants seeking better solutions and reducing produce waste globally.

Vennar digital farm deals with the bulk commodities like potato and onion by procuring directly from the farmers and distributing to the retailers in the metro cities. There are no intermediaries involved in between trading of the same.

Starting with the 10 MT per day, now vennar is procuring around 40 MT of potato and onion per day from farmers by paying them the full amount without any trade commission in between. On the other hand, the retailers are getting the good produce for very better prices compared to other vendors of them and in return consumers are also getting the best produce for better prices.

Ninjacart

Ninjacart is a Business to business(B2B) supply chain management company deals only with agricultural produce. Now ninja cart is the India's largest fresh produce supply chain company equipped with moving of 1400 tonnes of fresh produce every day.

The sourcing of the produce is done directly from the farmers and distributed across seven major cities in the country. No intermediaries is involved in between the trade execution. Farmers, retailers and consumers are getting benefited from ninjacart.

Farmer Benefits

- 20% more revenue
- One stop sale
- Payment in 24 hours
- Transparent weighing

Retailer Benefits

- Competitive pricing
- Door step delivery
- High quality graded produce

- Convenient & time saving

Consumers Benefits

- Hygenically handled produce
- 100% traceable to farm
- Improved food safety
- Better quality

4.2.1.3 Crop damage

This is the major problem farmers are facing during extreme summer and rainy seasons. The total fields are getting damaged due to excess of rainfall as well as the scarcity of water simultaneously. Because of these farmers are facing huge losses.

In order to reduce the losses for farmers due to natural calamities the government of India and also various state governments comes up with a solution by providing the insurance for the crops. If any crop field is damaged due to the natural calamities like cyclones, heavy rainfall and also the shortage of water during summer seasons, the farmers can claim the loss amount from the government under the crop insurance scheme.

The main aim of crop insurance scheme is to provide the financial support to farmers in case of damage or loss of crops. Thus, it helps to reduce the financial stress of the farmers and to keep them motivated to continue with farming as an occupation.

The risks covered in the scheme include prevention of sowing or planting of seeds, damage to the standing crop due to non-preventable risks like drought, flood, landslide, etc. along with post-harvest losses. This policy can be purchased from a selected set of insurance companies like SBI General Insurance and HDFC Ergo General Insurance.

4.2.2 Analysis of remedial measures for consumer side problems

As everyone thinking only about farmers problems, the corporate company evezon also concentrates on the consumer side problems too. Below are the measures following by evezon to offer best products with best prices to the consumers.

4.2.2.1 Quality & Hygiene

Quality plays a keen role in Agricultural marketing. The health of the consumer is very important aspect to be considered while marketing the produce. Proper quality should be

maintained during all stages of the supply chain system by maintaining proper hygiene. The quality parameters of Evezon Agri Services is discussed below.

Procurement

The procurement is done directly from the farms and transported to the warehouse with customized vehicles to eliminate the produce damage. The produce is washed on arrival to the warehouse to clean the mud and other dust particles present in the produce and then will send it for sorting. The crates are also washed before the next procurement to clean it from mud and dust. This gives enhanced hygiene to the produce.

Fig 4.22 Washing and drying of tomatoes in ware house

Sorting and Grading

The sorting will be done after washing and drying. Here the produce is sorted based on the following parameters

- Variety
- Colour
- Texture
- Size

The sorting will be done automatically by the machines to avoid the human touch to maintain the quality of the produce. This automated system will not damage the texture of the produce which happens in the traditional marketing system.

Fig 4.23 Sorting and grading of tomatoes

After sorting the produce is graded. The spoiled produce or infected produce is identified and removed from the lot. The grading will be done automatically by the machine without human intervention to maintain hygiene. No infected or spoiled produce will be packed. This gives assurance for quality and hygiene which is not available in the traditional marketing system.

Packing

Here evezon will not use the plastic or fiber crates for distribution. Evezon uses the customized one time usable corrugated boxes for packing the produce to maintain the hygiene levels. Every time the boxes will be replaced with new ones. This also helps in reducing the operational costs to the company so that they can give the produce for better price to the consumers.

Fig 4.24 Single use corrugated packaging

Distribution

The distribution of the produce is done using customized reefer vehicles in order to reduce the produce wastage during shipping. No wastage will happen to the wholesaler as

proper care will be taken for the produce shipment. The wholesalers and retailers will get the produce with full quality hygiene and also for the better prices to their locations.

4.2.2.3 Pricing

Evezon is providing the produce for best prices in the market as it is eliminating all the unwanted expenses in the middle of the supply chain. The reverse logistics system which is employed by the company is also reducing the transportation cost for the produce. There will be no wastage of the produce happening in the supply chain which also decreasing the expenses for the businesses. So the businesses are getting the produce for the best price compared with others.

Finally consumers are getting the best quality produce for the best prices with enhanced quality from evezon.

4.3 Analysis of Hypothesis

H1-There is a significant difference among the various groups of farmers regarding their perception on the facilities, deficiencies and efficiency of Traditional Market yards.

Table 4.15 Analysis of Hypothesis 1- Farmers Profile

Age Group in Years	No of Farmers In Category					Total
	Marginal	Small	Big	Literate	Illiterates	
Below 20	76	80	20	17	159	176
21-30	124	145	42	28	283	311
31-40	64	96	60	18	202	220
41-50	56	84	40	12	162	180
50 and above	19	27	7	2	51	53
						940

From above data we can say that more than 90% of farmers are illiterates and they are not aware of the money taken away by the middle man from them by playing tactics.

Table 4.16 Analysis of Hypothesis 1- Farmers Perception on traditional market yards

Particulars	Farmer Groups						Total	
	Group 1		Group 2		Group 3		NSF	SF
	NSF	SF	NSF	SF	NSF	SF		
Facilities	48	19	53	9	47	15	148	43
Transportation	50	12	44	19	53	9	147	40
Labour	60	6	50	12	56	6	166	24
Commission	56	6	47	15	56	6	159	27
Payments	50	12	50	12	53	9	153	33
Total	264	55	244	67	265	45	773	167

*NSF-Not satisfied

*SF-Satisfied

From the above data we can see that the majority of the farmers in every group are not satisfied with the facilities and also the operational structure of the agricultural marketing in the in the traditional regulated markets.

Here we can see that 76.6% farmers were not satisfied with the facilities, 78.3% farmers were not satisfied with the transportation fares, 86.6% farmers were not satisfied with the labour charges, 85% farmers were not satisfied with the trade commission and 81.6% farmers were not satisfied with the payment terms and procedures in the traditional regulated market yards.

The overall satisfactory rate of all parameters in the traditional market yards among farmers is just 18.3%. So we can see that the majority of the farmers are not satisfied with the functionalities of traditional market yards.

H2- There is a significant growth in the performance (annual arrivals, income and expenditure) of various commodities in Regulated Traditional Market yards.

Table 4.17 Analysis of Hypothesis 2

Financial Year	Commodity	Arrivals in MT	Revenue/Turnover of market yards in crores	Growth rate
	Tomato	90000	135	
2019-2020	Beans	18000	45	
	Chilli	13000	39	
Total		121000	219	
	Tomato	110000	165	
2020-2021	Beans	21000	52.5	
	Chilli	16500	49.5	
Total		147500	267	22%
	Tomato	122000	183	
2021-2022	Beans	23500	58.75	
	Chilli	19500	58.5	
Total		165000	300.25	12.45%

From the above data we can see that the growth rate of arrivals of fresh produce to the market has increased by 22% in the Financial year 2020-2021 and 12.45% in the financial year 2021-2022 compared to the previous years. So we can see that the production is increasing rapidly every year. These increase in production also shows impact on the prices of the produce.

H3. There is a significant difference among the various groups of traders regarding their perception on the facilities, deficiencies and efficiency of Traditional Market yards.

Table 4.18 Analysis of Hypothesis 3

Particulars	Traders		Percentage	
	NSF	SF	NSF	SF
Facilities	92	130	41.7	58.3
Transportation	52	170	23.4	76.6
Labour	71	151	31.7	68.3

Commission	15	207	6.7	93.3
Payments	19	203	8.4	91.6
Total	249	861	77.6	22.4

*NSF-Not satisfied

*SF-Satisfied

From the above data we can see that the majority of the traders in every group are satisfied with the facilities and also the operational structure of the agricultural marketing in the in the traditional regulated markets.

Here we can see that 58.3% traders were satisfied with the facilities, 76.6% traders were satisfied with the transportation fares, 68.3% traders were satisfied with the labour charges, 93.3% traders were satisfied with the trade commission and 91.6% traders were satisfied with the payment terms and procedures in the traditional regulated market yards.

The overall satisfactory rate of all parameters in the traditional market yards among traders is 77.6%. So we can see that the majority of the traders are satisfied with the functionalities of traditional market yards.

Analysis of H4

H4. There is a significant difference between the traders and farmers towards the remedial measures to increase the efficiency and to eliminate the problems in the Traditional Market yards.

From the above analysis of hypothesis 1 and hypothesis 3 we can state that the perception of farmers and traders on the functionalities of the traditional marketing system are not matching and there is a huge difference between their thoughts.

With this information we can state that there is a significant difference between the traders and farmers towards the remedial measures to be taken to increase the efficacy of operations and facilities to be provided in the Traditional Market yards.

As farmers are the producers of the food and it is necessary to satisfy them. They are facing so many issues in this traditional marketing system as discussed above. We can also state that the traders are here to multiply there money even farmers are facing losses. The

government and other private organizations need to concentrate on farmers perception about the operations and views on the traditional marketing system to make it more feasible to get them benefited.

H5. There is a significant difference among the various consumer groups on their consumption pattern of vegetables and fruits.

Table 4.19 Analysis of Hypothesis 5

Particulars	Consumer Groups						Total	
	Group 1		Group 2		Group 3		S	W
	S	W	S	W	S	W		
Tomato	95	95	100	100	98	98	293	293
Broccoli	40	80	20	80	25	75	85	235
Water melon	95	35	90	30	88	34	273	99
Sweetcorn	40	100	35	92	36	75	111	267
Potato	70	70	75	67	80	85	225	222

*S-Summer

*W-Winter

From the above table we can analyse that the consumption of tomato is same in both winter and summer among every group. The consumption of broccoli is less in summer than winter, and the watermelon consumption is more in summer, the sweetcorn consumption is more in winter and the potato consumption is also same in both summer and winter among all groups. Based on this consumption pattern the demand for the produce is created in the markets and the prices for the same are decided.

H6. There is a significant demand for checking the adulteration, quality and hygiene levels of the produce among the consumers.

Table 4.20 Analysis of Hypothesis 6

Particulars	Consumers												Total		
	Bengaluru			Chennai			Hyderabad			Visakhapatnam					
	S	NS	NA	S	NS	NA	S	NS	NA	S	NS	NA	S	NS	NA
Quality	53	30	17	56	26	18	54	14	32	49	36	15	212	106	82
Hygiene	46	28	26	50	26	24	58	22	20	54	24	22	208	100	92
Adulteration	10	30	60	12	34	54	8	32	60	13	26	61	43	122	235

*S-Satisfied

*NS-Not satisfied

*NA-Not Aware

From the above table we can see that only 212 people were satisfied about the quality of the produce and 106 were not satisfied and 82 people were not aware of quality. And only 208 people were satisfied about hygiene levels and 100 were not satisfied and 92 were not aware of hygiene levels. In adulteration only 43 people were satisfied and 122 were not satisfied and 235 people were not aware of adulteration of the produce. Coming to overall analysis only 53% people are satisfied with the quality and 52% people are satisfied with hygiene levels and 10.7% people are not satisfied with adulteration parameters.

By taking above analysis into consideration we can say that there is significant demand for checking the parameters of the produce in future and we need to concentrate on providing that.

4.4 Analysis of Research Objectives

RO 1: To examine the functioning of the Traditional Markets in the study area.

- To identify the working of the traditional markets survey was done on farmers and traders in the market yards like Kuppam, Ramakuppam V.kota, Kanamaladoddi, Madanapalle, Palamaner, Kalakada, Anantapur, Kolar and Chintamani from Andhra Pradesh and Karnataka(India). Following are the main findings of the survey:

- There is no proper administration for traders in the market yards.
- No Transparency in the prices maintained by traders in the market yards.
- Malpractices done on weights of the produce as they are using analog weighing scales.
- Payments are done in cash and there is no assurance for payments.
- No proper storage facilities to store the produce if stock is not sold for the day.
- All markets are running on commission basis which farmers losing their money.
- The supply chain network consists of too many middlemen who are taking away major share of profits.
- The logistics prices are decided by the transport agencies irrespective of rules. The costs are very high, and farmers and the buyers have to pay the same.

RO 2: To examine the problems facing by farmers in the present days for marketing their produce.

- To identify the problems facing by farmers in agri marketing. The data was collected using Schedule. Following are the main findings of the survey:
- Farmers are not getting return on investments for their produce.
- Farmers don’t know where they will get the best price for their produce.
- Farmers don't have any knowledge on demand and supply of the produce which plays crucial role in produce pricing.
- The labour charges are very high for the produce harvest.
- The Agri input costs are very high, but the selling price of the produce is very low over a long period.
- Traders are not paying the full amount for their produce even after deducting the 10% commission.

- Tonnes of produce has been left unharvested due to no demand in the markets.
- The transportation cost is very high when compared to regular fares. Farmers cannot afford the rates and they are losing their money in this.
- No Assurance for payments is provided to the farmers.

RO 3: To study the profile of the farmers and their perception on the facilities, deficiencies and efficiency of traditional Markets.

- The farmers are divided into groups based on different parameters like Age, Category and Literacy levels as shown in table 4.15. Following are the findings.
- From the table 4.16 we can say that, The overall satisfactory rate of all parameters in the traditional market yards among farmers is just 18.3%. So we can see that the majority of the farmers are not satisfied with the functionalities of traditional market yards.

RO 4: To study the trader's perception on functioning of the traditional Markets.

- To know the traders perception on traditional markets a survey was conducted on traders in V.Kota, Kuppam, Madanapalle, Kanamala Doddi, Kolar and chintamani market yards in Andhra Pradesh and Karnataka findings are shown in table 4.18. Following are the findings.
- By analysing the data in the table 4.18 we can say that 58.3% traders were satisfied with the facilities, 76.6% traders were satisfied with the transportation fares, 68.3% traders were satisfied with the labour charges, 93.3% traders were satisfied with the trade commission and 91.6% traders were satisfied with the payment terms and procedures in the traditional regulated market yards.
- The overall satisfactory rate of all parameters in the traditional market yards among traders is 77.6%. So we can see that the majority of the traders are satisfied with the functionalities of traditional market yards.

RO 5: To study about the problems facing by consumers on quality and hygiene levels of the produce which they are consuming.

- A survey was conducted among consumers from Hyderabad, Bengaluru, Chennai and Visakhapatnam to know about their views on quality, adulteration and hygiene and are shown in Table 4.20. Following are the findings.
- From the data in table 4.20 we can say that the majority of consumers are not aware and satisfied about the quality and hygiene parameters and adulteration.
- In order to check the quality parameters and hygiene levels of the produce, I had personally visited the Kuppam, and V.kota market yards in Andhra pradesh to check how the Procurement, sorting, grading and packaging is done before distribution. Following are the findings.
- Procurement is done using unhygienic and muddy crates where produce gets infected. Those crates were not cleaned even a single time in an year.
- Sorting and grading is done manually using hands which damages the texture that makes produce more vulnerable to worms and damages.
- There is no Accuracy in grading. Worms infected and damaged produce are not separated which spoils the entire produce in the crates.
- Distribution is done in traditional transportation mode in which 10-15 % of produce gets damaged during shipping which is adding more value on the produce in terms of pricing.

RO 6: To study the adulteration happening in marketing of fresh produce.

- Separate study was done on identifying the adulteration of the produce near kuppam and V.kota to gather the data. Following are the findings.
- Some vendors are injecting pesticides for ripening, and some of them are adding synthetic colours to make them appear greener.
- Prohibited wax and some green chemicals are used by some vendors to keep the produce fresh and shine for longer time which was not good for consumers health.

RO 7: To present the remedial measures to improve the efficiency of agricultural marketing system which has to be benefit both farmers as well as the consumers.

Recommended Remedial Measures

- Farmers should be provided proper guidance in crop selection to reduces the price fluctuation problems due to demand and supply issues.
- Direct Marketing System should be encouraged to shorten the Agri supply chain network.
- Commission charges to be eliminated and transparency in weights and prices should be provided to the farmers.
- Transportation charges should be decreased.
- There is a need for automation in harvesting, sorting, grading and packaging to reduce the high labour costs also it can add value to the produce in terms of quality and hygiene.
- Packaging should be done with food graded materials and distribution should be done with reefer vehicles to eliminate the infections and damages of the produce.
- Payment system should be changed and proper assurance should be given to the farmers as they are losing so much money from traders.

4.5 Outcomes

Table 4.21 Research objectives and outcomes

S.No	Research Objective	Outcomes
1	To examine the functioning of the Traditional Markets in the study area	Some market yards from Andhra Pradesh and Karnataka states were selected for the study because of large availability of horticulture produce. The functioning of the markets is examined the irregularities and inefficiencies are noted.

2	To examine the problems facing by farmers in the present days for marketing their produce	A set of questions were framed regarding the marketing efficacy of agri produce and interviewed a group of farmers to analyse their views. Several problems were identified in the present agriculture marketing system after interviewing the farmers and getting information from them.
3	To study the profile of the farmers and their perception on the facilities, deficiencies and efficiency of traditional Markets	A group of farmers are selected for analysing their perception on the facilities and operational structure of the traditional markets. After analysing the results we can say that 76.6% farmers were not satisfied with the facilities, 78.3% farmers were not satisfied with the transportation fares, 86.6% farmers were not satisfied with the labour charges, 85% farmers were not satisfied with the trade commission and 81.6% farmers were not satisfied with the payment terms and procedures in the traditional regulated market yards
4	To study the trader's perception on the traditional Markets about selling of farm produce by charging commission from farmers	A group of traders were interviewed to know their views on market facilities and trade executions as per market yard norms. After analysing the data received from them we can say that 58.3% traders were satisfied with the facilities, 76.6% traders were satisfied with the transportation fares, 68.3% traders were satisfied with the labour charges, 93.3% traders were satisfied with the trade commission and 91.6% traders were satisfied with the payment terms and procedures in the traditional regulated market yards

5	To study about the problems facing by consumers in getting quality produce for their consumption	To analyse the views of consumers on fresh produce marketing and to know their knowledge on the quality of fresh produce, A set of questions were framed and circulated over various platforms like Facebook and what's App. After analysing the answers received from the consumers we can say that the consumers are not completely aware of the quality of the produce. They are randomly picking up their produce based on the colour, texture and damages.
6	To study the adulteration happening in marketing of fresh produce	Separate study was conducted to gain knowledge on produce adulteration. Several fruits and vegetables are coated with wax to keep it shined and also some vaccines were given to the produce to keep it fresh for longer days. This is hazardous to health and consumers are not aware of all these things.
7	To present the remedial measures to improve the efficiency of agricultural marketing system which has to be benefit both farmers as well as the consumers	The remedial measures for the problems in agriculture marketing are analysed and presented. The government and private organizations are coming forward to eliminate the challenges in the present agriculture marketing system. By these remedial measures farmers will get more benefited and even consumers will get best in quality and hygienic produce for consumption.

CHAPTER 5

SUMMARY, CONCLUSION AND FUTURE SCOPE

5.1 Summary

Agriculture is the backbone of Indian economy. Food supplies to feed India 's population and raw materials for Agri based industries comes from Agriculture. Agriculture provides employment to vast labour force. Agricultural Commodities occupy prime place in India’s exports.

Economic growth is intimately connected with agricultural development in a predominantly agricultural economy. Economic growth will be slow, uneven and unsteady if the agricultural sector is not taken care of. A well organised system of marketing, facilitates progressive and prosperous agriculture. A well developed marketing system eliminates exploitation and ensures remunerative prices to the farmers and stimulates agricultural production.

Agriculture Is the mainstay of Indian economy. It is necessary to ensure accelerated agricultural development. Enough attention must be paid to the overall development of agricultural marketing. Production efforts are likely to suffer, if they are not supported by well developed and scientifically organised market system. The Royal Commission on Agriculture (1928) and the Marketing Committee of the U.N. Conference on Food and Agriculture (1945) recognised the importance of agricultural marketing In agricultural development.

There is an imperative need for efficient agricultural marketing system. In the absence of adequate marketing facilities, farmers have to rely upon the local traders and middlemen for the sales of agricultural produce. The farmers are denied of remunerative prices. The market knowledge of farmers is a factor in the determination of agricultural output. Indian farmers, by and large, are denied of access to a well developed market system. They lack both the resources and incentives to modernise their production methods. It is necessary to develop direct agricultural marketing system, to facilitate the take off of agricultural produce brought about by technological innovations. A comprehensive integrated strategy for developing sound agricultural marketing system is called for. A direct agricultural marketing system ensures fair returns to the farmers.

Agricultural markets in India are largely unorganised and uneconomic. In India majority of farmers are small and marginal farmers. They cultivate land as traditional subsistence farmers. They market their surplus in unorganised local markets. The most pronounced evils in the unorganised market system In rural areas include multiple prices of buying and selling, use of defective weights and existence of large number of transactions. The farmers become vulnerable and fail to get remunerative prices for their produce. The Royal Commission (1928) which surveyed Indian agriculture recommended the establishment of regulated markets.

In a regulated market functionaries are required to take licenses. Regulated markets confer certain benefits. Licensed functionaries operate in a regulated market under the control of market committees. Marketing charges such as commission and weighment charges are clearly specified and rigidly enforced. Correct weighment Is ensured by periodical inspection and checking of scales and weights. Open auction and open agreement sales in a regulated market eliminate under hand and under cover transactions. Further cash payments are insisted upon soon after the sales are effected.

The Government of India has intensified programmes for changes in Institutions and reorientation of public policies and programmes taking into account complexities of a dynamic marketing system. The Government efforts are aimed at strengthening the market services. Notwithstanding the provided market services, the arrivals regarding produce do not constitute even 50 per cent of the marketable surplus. The produce is diverted by the village money lenders and other agencies. Marketing services need to be adequate. It is also necessary to provide better transport and storage facilities to strengthening market structure. Marketing services need to be adequate. It is also necessary to provide better transport and storage facilities to strengthening market structure.

A well developed agricultural marketing system is crucial for cultivators . It ensures elimination of exploitation and secures remunerative prices to farmers. Remunerative prices act as incentives in the generation of larger agricultural income and agricultural growth, There have been certain obstacles in the development of marketing system. Several agricultural commodities pass through a chain of buyers and sellers Identified as middlemen. The

middlemen gain by exploiting both farmers and consumers. The existing agricultural markets need to be effectively geared-up to prevent exploitation. The government intervention in the agricultural markets is necessary to ensure remunerative prices to farmers. The farmers face unregulated market atmosphere, while marketing of the agricultural produce. Exploitative elements dominate the unregulated markets. They include traders, brokers and commission agents. They don 't make timely payments and take away lot of quantity in the form of sample. There is no check on the weighments. Most of the small and marginal farmers market their produce in the village itself, The distant sales were meagre. It is equally true of horticultural crops like Pomegranate, Banana and Betel leaves, and Vegetables like Onions, brinjals, Tomatoes etc., Distant sales are undertaken by medium and large farmers. Even in the case of non commercial crops, village sales are the single important mode of sale. Sales undertaken in regulated markets are limited.

Farmers are lack of commercial spirit in marketing their produce. The poor bargaining power of the farmers is due to absence of farmers associations. There were farmers who sold their produce even before crops were harvested, to clear off their old debts to money lenders and petty traders.

A sizeable agricultural produce goes waste because of poor availability post harvest facilities. It is necessary to provide basic infrastructural facilities in the form of grading, package and storage. These facilities are not existed in rural areas. Even the National Commission on Agriculture (1976) endorsed to construct Rural Godowns set up under the programme of National Grid Rural Godowns development.

Information technology is the key element of modern marketing. Adequate facilities for inter village communication should be provided. Early sales were undertaken mostly by the small and marginal farmers to meet their Immediate consumption requirements. We could secure remunerative prices to the Vulnerable sections of farming community, if the immediate consumption needs are taken care of.

Transport is a vital link in agricultural marketing. The traditional transport system should be replaced by modern transport to facilitate the easy reach of agricultural produce

from farms to the markets. Even far markets could be reached through modern transport without any damage of the produce.

Market information helps the farmers at the time of sales. Farmers receive market information through different channels. The different channels include radios, newspapers fellow farmers, local traders and commission agents. Local traders and commission agents provide information to most of the small and marginal farmers. The upper class farmers whose literacy level is high have access to other sources of market information. The traders and agents withhold part of the information and exploit small and marginal farmers. Organised institutions 1ike corporates and government need to be geared up in the dissemination of market information, Absence of scientific grading and standardisation of products worked to the disadvantage of the farming community, Though the respondent farmers did not complain against the weights and measures, they were dissatisfied with method of bidding and timings of bidding in the market yards. The bidding language was difficult to comprehend. There were variations between official bidding timings and actual bidding timings. Both worked to the disadvantage of farmers. Barring weights and measures, other methods of marketing were found to be very defective. There is an imperative need for setting up marketing centre as an apex body to formulate, streamline monitor and implement polices on a continuing basis. The respondent farmers encountered certain problems at the time of marketing which includes lack of adequate warehouse facilities, lack of grading and standardisation and nonavailability of market information. Majority of the farmers were dissatisfied with the style of functioning of market yards.

Agricultural price policy will also results in the acceleration of agricultural growth. comprehensive price policy could correct distortions in the market structure. The formulation of direct agricultural price policy Is the need of the hour , The price policy should strike a balance between the needs of the farmers for remunerative prices. An efficient and effective marketing system is one which secures maximum returns to the farmers after the deduction of farm costs and minimum marketing charges. Marketing efficiency stimulates agricultural production. Markets for agricultural products are buyers markets. In buyers markets, demand plays an active role and supply a passive role. Traders know the market conditions better than

the farmers. The high margins of traders and middlemen may result in low prices being offered to the farmers.

There are farmers with low and high marketing efficiency. The farmers who sell their produce soon after harvesting and who do not get remunerative prices are farmers with low marketing efficiency. The farmers who sell their produce in distant markets, in regulated markets and those who get remunerative prices are farmers with high marketing efficiency. The agricultural marketing efficiency is independent of caste and age of farmers, Education, however, has a bearing on marketing efficiency. Educated farmers market forecasting, is good and they are getting remunerative prices.

Level of education of farmers has positive influence on the marketing efficiency in sample villages. Educated farmers get market information through organised agencies and do not fail to see through the games of exploitative elements like middlemen traders and commission agents. Further, there exists positive relationship between the size of landholdings and marketing efficiency. Stimulatory and supportive measures need to be taken to improve the marketing efficiency.

5.2 Conclusion

Agricultural marketing is the most important part for source of income and livelihood security of a farmer. In India agricultural marketing is feckless and not well organised. There is scarcity of operational competence, pricing competence and distributive justice competence. There is a requirement for improvement in the effectiveness of agricultural marketing system in India and requires initiation for establishment of regulated markets, encouragement to direct marketing system, provisions of best means and mode of transportation. We can see the new trends of agricultural marketing like direct marketing system, consumer driven agriculture and contract farming is significantly influencing the way of marketing takes place.

Any steps to nourish Indian agriculture system must address not only farm produce but also processing, marketing, trade, and distribution. The farmers must be directly linked to markets. The marketing, transportation and distribution systems are extremely important in this business. Agricultural marketing systems in India have faced many changes in the period of

last decade. In the emerging environment however, there is need of more changes for making the agricultural sector more energetic and responsive to the interest of the farmers.

In view of above statements, it may be concluded that India is basically an agricultural economy because most of the population is engaged in agriculture. The marketing of agricultural products has remained very retrograde. The problems associated to storage, transportation, unregulated markets, organization, institutional finance etc. are hurdles of the agricultural marketing in the country. The Government have undertaken several measures and schemes for development of agricultural marketing system. Also the corporate companies have entered into the agricultural marketing field for the development of the same and to eliminate the problems in the current system. Let us hope that, proper implementation of these measures may help in getting a greater benefit and improvement of agricultural marketing system in India.

5.3 Recommendations For Future Research

The agricultural marketing is a broader topic and has lot of scope in the coming years. The study is open for the further research in the contest of evaluating the practices of government to improve the marketing of agricultural commodities and understanding the policy implications of the various state governments. Also evaluation can be done on the work of corporate companies which are particularly into the agricultural marketing. Failure of some corporate companies in Agri supply chain system can also be taken into consideration for the future research.

The work can also be done on suggesting more remedial measures to eliminate the defects in the traditional marketing system and more ways to get farmers and consumers benefited.

There is also a scope for providing remedial measures for adulteration in fresh produce. Work can be done on providing suggestions to eliminate the adulteration levels in the fresh produce which is now happening to keep the produce fresh and to make it suitable for longer consumption.

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