CHAPTER - III

INDIAN AGRICULTURAL MARKETING SYSTEM: AN ANALYSIS

3.1 Introduction

India is basically an agrarian society where sole dependence has been on agriculture since time immemorial.\(^1\) In the olden days, the agricultural produce was fundamentally bartered by nature where farmers exchanged goods for goods and also against services\(^2\). Gradually the scenario changed with the changing times and agriculture produce began being sold with an element of commercial value. Trading of agriculture produce began for exchange of money. And from trading to marketing of agricultural produce began although mostly it is a way of traditional selling. The marketing as a term is broader than traditional trading. And agricultural marketing as a concept is still evolving in Indian society. In India, there are networks of cooperatives at the local, regional, state and national levels that assist in agricultural marketing\(^3\). The commodities that are mostly handled are food grains, jute, cotton, sugar, milk and areca nuts. Currently large enterprises, such as cooperative Indian sugar factories, spinning mills, and solvent-extraction plants mostly handle their own marketing operations independently. Medium- and small-sized enterprises, such as rice mills, oil mills, cotton ginning and pressing units, and jute baling units, mostly are affiliated with cooperative marketing societies.

3.2 Concept of Agricultural marketing

Marketing is as critical to better performance in agriculture as farming itself\(^4\). Therefore, market reform ought to be an integral part of any policy for agricultural

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\(^1\) [source]


\(^3\) Supra n.2, pp.280-295.

development.\textsuperscript{5} The term agricultural marketing is composed of two words-agriculture and marketing. Agriculture, in the broadest sense, means activities aimed at the use of natural resources for human welfare, i.e., it includes all the primary activities of production.\textsuperscript{6} Marketing connotes a series of activities involved in moving the goods from the point of production to the point of consumption\textsuperscript{7}. Agricultural marketing involves essentially the buying and selling of agricultural produces. This definition of agricultural marketing may be accepted in olden days, when the village economy was more or less self-sufficient, when the marketing of agricultural produce presented no difficulty, as the farmer sold his produce directly to the consumer on a cash or barter basis. But, in modern times, marketing of agricultural produce has to undergo a series of transfers or exchanges from one hand to another before finally reaches the consumer. Agricultural marketing system is defined in broadest terms, as physical and institutional set up to perform all activities involved in the flow of products and services from the point of initial agricultural production until they are in the hands of ultimate consumers. This includes assembling, handling, storage, transport, processing, wholesaling, retailing and export of agricultural commodities as well as accompanying supporting services such as market information, establishment of grades and standards, commodity trade, financing and price risk management and the institutions involved in performing the above functions.\textsuperscript{8} According to Khols”, marketing is the performance of all business activities involved in the flow of goods and services from the point of initial agricultural production until they are in the

\begin{itemize}
  \item S.S.Acharya and N.L.Agarwal, \textit{supra} n.2, p.33.
  \item \textit{Ibid.}
\end{itemize}
hands of the ultimate consumer”\(^9\). The National Commission on Agriculture defined agricultural marketing as a process which starts with a decision to produce a saleable farm commodity and it involves all aspects of market structure of system, both functional and institutional, based on technical and economic considerations and includes pre and post-harvest operations, assembling, grading, storage, transportation and distribution. The Indian council of Agricultural Research defined involvement of three important functions, namely (a) assembling (concentration) (b) preparation for consumption (processing) and (c) distribution. Agricultural markets are special types of markets that have special characteristics that differ from other markets. These are mainly due to factors affecting supply of agricultural products, and the situation of producers in this business. First of all the agricultural market is very competitive because the producers are all very small and large in number. Therefore, they don't have a great influence on the price of their products. Agricultural producers are what are known as price takers, producers that have little or no influence on the price of their output.\(^{10}\)

Agricultural marketing can be defined as the commercial function involved in transferring agricultural products consisting of farm, horticultural and other allied products from producer to consumer. Agricultural marketing also reflect another dimension from supply of produce from rural to rural and rural to urban and from rural to industrial consumers. In the olden days selling of agricultural produce was easy as it was direct between the producer to the consumer either for money or for barter. In brief, it was selling not marketing. In the modern world it became challenging with the latest technologies and involvement of middlemen, commission agents who keep their margins

\(^9\) H.M.Saxena, p 261.
and move the produce further. As it is well known more the number of mediatory more will be the costs as each transaction incurs expenses and invites profits. Ultimately when it comes to the producer the cost of the produce goes up steep. In the entire process of marketing the producer gets the lowest price and the ultimate consumer pays the highest as the involvement of more middlemen in the entire distribution process. Thus agricultural marketing is a system which has time and space dimension, there forms a part of geographical study.\textsuperscript{11} There are several complexities involved in agricultural marketing as agricultural produce involves element of risk like perishability and it again depends on the type of produce. If the agriculture produce happens to be a seasonal one it involves another kind of risk. Likewise, there are several risk elements involved in agricultural marketing. The pricing of the produce depends on factors like seasonality and perishability and it depends on the demand and supply also. And all these are interwoven and ultimately make a deep impact on agricultural marketing.

In the case of agricultural marketing in India it is not exactly the marketing in the literal sense and we can call it as ‘distributive handling’ of agricultural produce as there are number of intermediaries who are involved in marketing the agricultural produce. However with the liberalization, privatization and globalization the economic scenario in India has changed drastically and tremendously. As a result we have noticed the changes in the ‘distributive handling’ and again it reinvented and evolved as agricultural marketing. It is basically because of the rise of retail giants who are the major buyers in bulk quantity and who constantly look for differentiated, graded, standardized, processed and packaged products rather than differentiated ones. They also look for qualitative and

\textsuperscript{11} Ibid.
quantitative supply of agricultural stocks continuously to beat the competition in the retail sector.\textsuperscript{12}

3.3 Status of Agricultural Marketing Infrastructure

Markets may be classified on the basis of various criteria.\textsuperscript{13}

3.3.1 Rural Primary Markets

Periodic markets or haats and fairs (melas, jatras) are the major rural markets in India. Rural Primary Markets include mainly the periodical markets known as haats, shandies, painths and fairs which are estimated to more than 21,000 to a maximum of 47,000 in the country. Inspite of the development of permanent shops, these play an important role in the rural economy. They are the oldest trading institutions in existence.\textsuperscript{14} These markets provide an opportunity not only to purchase consumer goods but also to sell surplus agriculture and allied produce. The producers sell their produce directly to the consumers or to small rural retailers. The goods traded are generally of inferior quality and the volumes are low. These markets are largely unregulated and are generally held once in a week.\textsuperscript{15} These are located in rural and interior areas and serve as focal points to a great majority of the farmers – mostly small and marginal for marketing their farm produce and for purchase of their consumption needs.

These markets, which also function as collection centres for adjoining secondary markets, are devoid of most of the basic needed marketing facilities. The commodities collected in these markets find their way to the wholesale assembling markets in the process of movement to consumers. Despite substantial revenue collection through

\textsuperscript{12} http://profmsr.blogspot.com,p.1.
\textsuperscript{13} Markets are classified on twelve dimensions-see Acharya and Agarwal, supra n.2 , pp8-11.
\textsuperscript{14} ibid., p.13.
\textsuperscript{15} Gokul Patnaik, Marketing, Storage and Extension Services State of Agriculture in India, p.1.
annual auctions or through collection of fee from the participants, little effort has been made to provide the necessary infrastructure or to develop the haat or the rural market. This is the first point of contact for the rural producer-seller for encashing his agricultural income. The small farmer, with limited surplus, does not find it economic to go to wholesale assembling markets located at distant places. They are not equipped with basic facilities like platforms for sale or auction, electricity, drinking water, facilities for grading, sorting, traders’ premises etc. The participants generally sit in the open air, thus exposing themselves and their products to heat, dust, rain, cold, etc. This in turn shortens the shelf life of their agri-produce and renders other food items unhygienic and unsafe for human consumption.

Owing to these shortcomings, the potential buyers/traders do not operate in these markets and the producers do not get competitive prices for the sale of their produce. The infrastructure facilities that need to be provided in the haats include raised platforms for display of goods, temporary covered structures, adequate storage facilities, public conveniences, drinking water, electricity, etc. Provision of rural infrastructure at a level that will allow the development of a strong and productive agricultural sector is sine-qua-non for development of agrarian economy. In rural and tribal areas, a weekly market is the first link in the marketing channel for a small/marginal and tribal farmers and the price they receive at this market constitute their cash income. It is estimated that 90 percent of the total marketable surplus in the remote areas is sold through these markets. Improving efficiency of this grass root level market outlets will facilitate proper price formation, minimize costs and pave way for introduction of innovations. A weekly haat is also a place where majority of the population buy their daily necessities such as soap,

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16 Ibid.
shoes, clothes, utensils, and agricultural inputs. Social information is exchanged in these markets along with settlement of marriages. Number of studies has shown that the efficiency of rural markets is poor due to number of problems, such as the high degree of congestion at market yards, less number of traders and non-availability of supporting services. This, in turn, affects the market turnover\(^{17}\).

The efficiency of rural assembly markets, as a link in the marketing chain have positive impact on types of crops to be grown and resource allocation by agricultural producers. Normally the programmes designed for development of Rural Primary Markets (RPMs) especially tribal markets emphasize increase in agricultural production assuming that increase in production will automatically increase their incomes. Experience has shown that increase in production may be a necessary condition, but certainly not a sufficient condition to increase farmers’ income. As the tribal development envisages improving the quality of life and level of living standards by increasing their income, improvement in market outlets constitutes its integral part. Yet, very little efforts have been made by the government agencies/market authorities to develop rural tribal markets/weekly haats/ shandies. A programme designed to increase tribal’s income and purchasing power through a competitive market network is a much more forceful tool for direct attack on poverty alleviation.\(^{18}\)

A well planned and efficiently operated market is the nucleus of rural growth center in rural and tribal areas. Farmers wish that their produce, once brought to the haat is sold quickly at higher price with the minimum market charges, without any malpractices in trading. With requisite technical support, weekly Haats and Shandies can

\(^{18}\) Report of the Working Group, *supra* n.4, p.71
also be used for effective credit delivery, input marketing, procurement and other socio-economic activities. By bringing such services to the rural and tribal haats, rather than waiting for the people to come, much more effective services can be provided. Under the changed economic environment, rural and tribal markets can be a financially self-supporting unit and a source of income to finance for further developmental infrastructure. Rural Primary Markets play a very vital role in marketing of produce, particularly of small and marginal farmers including landless labourers. Rich farmers with higher surpluses generally take their produce to nearby wholesale assembling markets. At times, they purchase surpluses from other small farmers and carry the same along with their produce to the assembling markets for disposal. The small cultivators with limited surplus find it uneconomical to go to wholesale assembling markets located at long distances from their villages. The number of primary rural markets in the country is more than 21,000. According to the report of Marketing and Research Team (MART), New Delhi on Traditional Haats and Melas in India, a study sponsored by the Ministry of Rural Development during 1995, it is estimated that there are 47,000 Haats of which 75 percent are held once a week, 20 percent twice a week and 5 percent are held daily.

The study indicates that, on an average, one haat caters to approximately 14 villages. The relationship between the distribution of villages according to population or range and the availability of haats, smallest villages (population less than 500) held the fewest haats (only 1.6%). Majority of haats (47.9%) are held in big villages (those with a population of over 5000 persons). The study reveals that nearly 2/3rd of the haats are held at a distance of 16 kms, 23 percent are held at 6 to 15 kms distance and 9 percent within a
distance of 1 to 5 kms. The amenities and facilities available in these haats are far from satisfactory. In the study, it was observed that 50 percent haats were organised by the panchayats or town administration. Every participant has to pay market tax or fee to sell goods at the haat. The fee is determined either on the basis of quantity of produce sold or type of commodity and selling space used. The rates of fee vary from Rs 0.50 to Rs 25. The private contractors are not interested in investing money in providing infrastructural facilities in these markets as their lease is valid for a limited period of one year only. Significant number of buyers (36%) particularly from nearby villages walks to the haats. One-third used cycle and the rest used motorized transport to reach the haats. The standards weights and measures are not used at these haats. The exploitation of illiterate tribals/farmers by traders through willful miscalculation and over charging is a common phenomenon.19

Very little efforts have been made so far by the government agencies/market authorities to develop the rural primary markets. Only 15 percent of these 73 markets have been brought under the ambit of regulation. During 1972-73, a Central Sector Scheme was initiated to provide central assistance for the development of selected wholesale regulated markets in the country. This scheme was further extended to cover different categories of markets in command areas, commercial crops producing areas and terminal markets for fruits and vegetables. Another scheme for development of primary markets was launched during 1977-78 to serve the interests of small and marginal farmers. In the light of experience gained in operating these schemes, these were integrated into a single scheme in 1988-89 and termed as ‘Scheme for Development of Agricultural Produce Markets’ with the objectives to help the States/UTs for creating infrastructure facilities in

19 Ibid., p.72
the market yards. Under this scheme, an amount of Rs 93.30 crore was provided to the States/UTs for development of 3658 markets covering 855 principal markets and 2803 Rural Primary Markets. As a sequel to the general decision of the National Development Council, the scheme has been transferred to the States/UTs from 1st April, 1992. However, the High Power Committee constituted by the Government of India in 1992 studied the impact of the scheme and recommended that the Central Sector Scheme for providing grants-in-aid to the State Governments for development of basic infrastructure facilities in agricultural markets should continue and remain with the central Government for effective implementation and monitoring.\(^{20}\)

### 3.3.2 Secondary/Assembly Markets

Whereas the primary markets cater to the local demand, the secondary markets cater to the distant demand. These markets attract potential buyers/traders who assemble the produce and consolidate a truck load for sales in the city wholesale market. These operations are also primarily carried out in an informal manner. In this system, some traders/transporters establish collection centres in a production area, where farmers bring their produce, which is transported, in truckloads to a city market. The infrastructure available in these markets is generally poor and suffers from the same handicaps as do primary markets.\(^{21}\)

The Wholesale/Assembling Markets or the secondary markets numbering 6359 constitute the cardinal link in the market structure of the country. Although better organized than the rural primary markets, these markets present divergent picture with regard to facilities offered and services provided. Most of these are located in the district

\(^{20}\) Ibid., p 73.

\(^{21}\) Gokul Patnaik, *supra* n.6, p.4.
and taluk headquarters, important trade centres and nearby railway stations and perform assembling and distribution functions. In most of these markets, a large number of commodities is traded. Specialized single commodity markets are not many except few markets for cotton, jute, oilseeds, fruits and vegetables. The layout of most of the secondary markets is inconvenient and unsatisfactory. The business is conducted according to market practices established by age old customs or as per the regulations of APMC wherever regulated. These markets play an important role in determining the prices of agricultural produce assembled there and as such have a governing impact on terms of trade between agriculture vs. other sectors of economy. The users of these markets (buyers or sellers) have to pay fee to the managers of the market places. Facilities in the places vary extensively. Nearly 2/3rd of market yards and sub yards were laid out initially on vast land area with such facilities as auction platforms, shops, godowns, rest houses and parking land. However, studies have shown that facilities available in these yards are considerably short of the requirements and also most of them have become congested.  

3.3.3 Wholesale Markets

These markets provide a convenient point for gathering large amounts of produce from different sources and for its division into small assortments to meet the needs of the retailers in the country. The procurement of agri-produce by various government agencies also takes place through these markets. The volumes handled in these markets are much larger. These markets, therefore, require not only an elaborate physical infrastructure but also some kind of regulation to protect the interest of both the producer and the consumer. Most wholesale markets are covered under the Agriculture Produce Marketing

22 Supra n.4, pp.73-74
Committee Acts and are also called regulated markets. In major cities like Delhi, Kolkata, Bangalore, etc., these markets perform dual function; transit market for supplies to the hinterland and distant markets and terminal market for supplies to the retailers for local consumption\textsuperscript{23}.

The primary wholesale markets are located in important towns near the centres of production. The producer-farmers bring the major part of the produce for sale themselves in these markets. The secondary wholesale markets are generally located in district headquarters or important trade centres. The bulk of the arrivals in these markets are from other markets. Major transactions take place between village level commission agents and wholesalers. In the terminal markets, the produce is either finally disposed of to consumers or processors or is assembled for dispatch to distant markets and also for exports. In view of their importance in the marketing of agri-produce in the country, the Government has taken the mantle upon itself to provide the requisite infrastructure and other facilities in these markets.

3.3.4 Terminal Markets

Terminal markets which have become an important feature in developed countries, is expected to gain ground in India. The Safal complex of NDDB is one such format, located at Bangalore. They are expected to be located nearer to big cities and terminal points providing the final link in the market structure. The sellers are usually the traders and not the growers in these markets unlike the primary and secondary markets. The terminal market concept promoted in India is expected to link the farmers to these markets directly through collection centres. Government of India has announced to set up eight terminal market complexes for perishables at Nagpur, Nashik, Bhopal, Kolkata, Kolkata.\textsuperscript{23} Supra n.6, p.5.
Patna, Rai, Chandigarh and Mumbai during 2006-07. The proposed terminal market complex will be in “hub and spoke” format, with terminal market as “hub” and collection centres near to the production areas as “spoke”. The terminal markets provide multiple options to farmers for disposal of produce. Such markets are expected to reduce post harvest losses and increase farmers’ realization.\textsuperscript{24}

3.3.5 Retail Markets

Retail markets are an assembly of retail shops centralized and located at a specific place or in a building constructed for the purpose. Retail markets handling food items are the most active elements in the food distribution chain, particularly low and middle income consumers. They serve the needs of inhabitants in a particular locality. Directly serving the common man, they constitute last links in the marketing chain. Millions of retailers are involved in the task of providing food items through retail markets to the consumers in the country. The “MOM and POP” stores are popular in the country as they provide food produce at the next door of the consumer. In recent times, there is tremendous interest in setting up of retail chains for food items including fresh produce. Number of private corporates is jumping into this area and it is expected to revolutionize the system of handling of agricultural produce.\textsuperscript{25}

3.3.6 Live Stock Markets

India is world’s largest milk producer and is the fifth largest country in egg production. The Dairy sector has a potential to employ 4.2 crore of people. The poultry industry is showing growth rate of 15 percent per annum consistently. Meat production in the country is rising and has reached a level of 5.69 million tonnes per annum. As a

\textsuperscript{24} Working Committee Report, \textit{supra} n.4, p.80.
\textsuperscript{25} \textit{Ibid.}, p.80.
component of the agricultural economy, the livestock sector may become the most significant component in the days to come. The production of livestock products is through an extensive, multi-location system which keeps million of farmers occupied, but limits the productivity to meet only the domestic demand and enable sale of the surplus to the nearby market at the earliest as they are perishable and cannot be kept long without cooling facilities. Marketing of cattle is a big business for the farmers and animal dealers. There are more than 1300 livestock markets in 11 States. These markets are generally held in open space in melas/haats. Amenities and facilities available in these haats are far from satisfactory. Most of these markets are under APMCs. However, the trade practices of livestock markets are not yet fully regulated in most of the States.

A study conducted in Haryana reveals that from 280 cattle fairs organised by Panchayat Samities or Zila Parishads, an annual income of Rs 130 lakhs is earned by the State Government. In these markets, livestock are either purchased or exchanged mainly consisting of draught animals such as bullocks, calves and camels. The market charges levied per animal are 4 percent of the sale price and are collected as registration fee from the buyer. Beside this, a fee of Rs 2 to 5 per animal is charged from the seller. In addition to this, a fee @ Rs 15-25 for issuing license to a broker is charged and a toll tax of Rs 5 per animal is charged for a 91animal transport vehicle. So far as the amount of expenditure by the cattle fair authorities is concerned, generally the organizing authority is permitted to incur an expenditure equivalent to 10 to 20 percent of the total revenue accrued to the government. It is evident that there is high incident of market charges without providing proper infrastructural facilities and services in the livestock markets.
Livestock markets need to have adequate facilities for animals and men (water, shelter etc.) and should provide veterinary support too. The transactions need to be undertaken in a fair/transparent manner. This requires stringent guidelines on: Animal welfare, Design of the proper auction/sale methods (registration of the intermediaries must be compulsory), procedure of identification of the animal and availability of veterinary certificate for the same.26

3.4 Regulation of Markets

To achieve an efficient system of buying and selling of agricultural commodities, most of the State Governments and Union Territories enacted legislations (Agricultural Produce Marketing (Regulation) Act (APMR Act) to provide for regulation of agricultural produce markets27. Most of the wholesale markets and some of the rural primary markets have been brought under regulation. Agricultural Produce Market Committees constituted as per APMR Acts manage the markets. Many of the regulated wholesale markets have a principal market with large area and relatively better infrastructure and number of sub yards attached to the principal market. The establishment of regulated markets has helped in creating orderly and transparent marketing conditions in primary assembling markets. Further, increase in the number of regulated market yards, from a meagre 286 at the time of independence to 7557 in year 2005, has helped in increasing the access of farmers to such orderly market places. These regulated markets consist of 2428 principal markets and 5129 sub yards. Some wholesale markets are outside the purview of the regulation under APMR Acts.28 This development, coupled with construction of approach roads and roads network linking

26 Ibid., p 91.
28 Supra n.4, p.74.
primary markets with secondary wholesale and terminal markets, also improved the process of price discovery at the primary market level where most of the small farmers dispose off their produce. Increase in access of farmers to market places, apart from reducing transaction costs of farmers has helped the small farmers having low-marketed surplus and are not able to transport their surpluses to long distances. Though precise data on the proportion of benefits of regulated markets going to the small and marginal farmers are not available, there is evidence to show that expansion of such physical infrastructure in rural areas has helped small and marginal farmers more by increasing their access to the markets. During 1992-93, agricultural commodities worth Rs 62,000 crore were traded in these regulated wholesale markets, which account for about 43 percent of the value of marketed surplus.

However, this does not mean that everything is fine in all the regulated markets of the country. The facilities created in market yards continue to be inadequate. The cleaning, grading and packaging of agricultural produce before sale by the farmers have not been popularized by the market committees on a sufficient scale. Even facilities for these have not been created in most of the market yards. The institution of State Agricultural Marketing Boards was created for expeditious execution of the market development work. So far 25 States and two UTs (Delhi and Chandigarh) have established Agricultural Marketing Boards in their respective States/UTs. Out of these 27 States/UTs, in A.P. the SAM Board has been established with only advisory functions under the provisions of the market rules. Although the purpose of establishment of State Agricultural Marketing Board is almost the same in all the States where Statutory Boards exist; a broad variation has been observed in their composition/constitution and
functioning. It is necessary to bring more uniformity in powers and functions of Boards and demarcations of activities between the Directorate of Marketing and State Agricultural Marketing Boards. This can facilitate proper regulation of marketing practices as well as building more infrastructure facilities so as to achieve a faster growth and better private participation. The number of regulated markets is relatively more in geographically larger states viz. Andhra Pradesh, Bihar, Maharashtra, Madhya Pradesh, Uttar Pradesh and West Bengal. These six States account for 53 percent of total regulated markets in the country. However, some of the regulated markets are non-functional, as actual transactions do not take place in their market premises, but market fee is collected by the APMC at designated check posts. In such cases, it is more of a fee collection activity rather than providing marketing functions. The States of Punjab and Haryana though geographically small, have a large number of regulated markets owing to sizeable quantity of surpluses of rice and wheat. These two states account for 9.5 percent of the total regulated markets in the country. The area served by each regulated market across the States reveals large variation. The area served per regulated markets varies from 115 Sq. Km in Punjab to 11215 Sq. Km in Meghalaya. On an average, a regulated market serves 435 Sq. Km area in the country, which is quite high. Farmers have to travel long distances with their produce to avail the facility of regulated market.

The National Commission on Agriculture (1976) and National Commission on Farmers (2004) have recommended that the facility of regulated market should be available to the farmers within a radius of 5 Km. If this is considered a benchmark, the command area of a market should not exceed 80 Sq. Km. However, in the existing

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29 Ibid., p.75.  
30 Ibid.
situation, except Delhi and Pondicherry, in no State/UT, the density of regulated markets is even close to the norm. The area served per market yard is as high as 7096 Sq. Km in Sikkim, 1465 Sq. Km in Himachal Pradesh, 940 Sq. Km in Uttaranchal and 823 Sq. Km in Rajasthan. The studies have shown that increase in the density of market has a positive impact on agricultural productivity. The targeted norms can be broadly achieved if the remaining wholesale markets and rural periodic markets are developed as regulated markets. Area served by the market may not be a right indicator to assess the optimum density of the markets, because the non-crop area which gets added to this indicator may not require a market. Therefore, the gross cropped area served by each market can be taken as useful indicator for assessing the density of the markets and adequacy of number of markets in a state. As per this criterion, the State of Punjab has one market for 18,000 ha of gross cropped area. Similarly, one market exists for every 13,580 ha of gross cropped area in West Bengal, 15380 ha in Andhra Pradesh and 37,050 ha in Madhya Pradesh. According to this information, it can be presumed that one market for every 15,000 to 18,000 ha of gross cropped area will be optimum so as to meet the requirements of the farmers. This, however, depends on the number of functional regulated markets in a state. For example, though the regulated markets are shown as 889 in Andhra Pradesh, about 500 markets are either non-functional or very little transactions occur in those markets. Though, the indicator of gross cropped area per market will give more realistic indication of the adequacy of markets in a state, the actual requirement will have to be assessed based on the field study, depending on the cropping pattern, seasonality, and production of crops. For example, the market arrivals are maximum during the wheat harvesting season in Punjab as at that time the market infrastructure and
the market density may appear to be highly inadequate, requiring opening up of collection centres/sub yards. However, after the season there may be little activity in these sub-yards.

The benefits available to the farmers from regulated markets depend on the facilities/amenities available rather than the number of regulated markets in the area. Both covered and open auction platforms exist in two-thirds of the regulated markets. One-fourth of the markets have common drying yards. Traders modules viz. shop, godown and platform in front of shop exist in 63 percent of the markets. The cold storage units exist in only nine percent of the markets and grading facilities exist in less than one-third of the markets. The basic facilities viz., internal roads, boundary walls, electric light, loading and unloading facilities and weighing equipment’s are available in more than eighty percent of the markets. Farmer’s rest houses exist in only half of the regulated markets.31

3.5 Grading Infrastructure

Grading means the sorting of the unlike lots of the produce into different lots according to the quality specifications laid down.32 It is a sub-function of standardisation. Grading at primary market level is grossly inadequate. There are only 1968 grading units at the primary level, which include 587 units with cooperatives and 298 units with other organizations. At the level of regulated markets, there are only 1093 grading units in 7557 regulated market yards/sub-yards. Only around seven percent of the total quantity sold by farmers is graded before sale. During 2004-05, 6.62 million tonnes of agricultural produce and 26.1 crore pieces valued at Rs. 6224 crore were graded at primary market

31 Ibid., p.77.
32 Acharya and Agarwala, supra n.2, p.80.
level. Due to lack of proper handling (cleaning, sorting, grading and packaging) facilities at the village level, about seven percent of food grains, 30 percent of fruits and vegetables and 10 percent of spices are lost before reaching the market.

The Agricultural Produce (Grading and Marking) Act, 1937 empowers the Central Government to fix quality standards, known as ‘AGMARK’ standards, and, to prescribe terms and conditions for using the seal of AGMARK. So far, grade standards have been notified for 181 agricultural and allied commodities. The purity standards under the provision of the PFA Act and the Bureau of Indian Standards (BIS) Act, 1986, are invariably taken into consideration while framing the grade standards. International standards framed by Codex/International Standards Organization (ISO) are also considered so that Indian produce can compete in international markets.33

During the year 2006-07, the following rules have been prepared and are in the process of being notified: (i) the Fruits and Vegetables Grading and Marking (Amendment) Rules, 2006, containing grade standards for capsicum, okra, strawberry, cherries, chillies, melons, watermelons, sapota, custard apple, cauliflower, beans, gherkins, carrots and pears; (ii) the Tapioca, Sago Grading and Marking Rules, 2006; and (iii) the Sattu Grading and Marking Rules, 2006. The grading standards of honey, cut flowers, cereals, oilseeds, tamarinds, mahua flowers etc., are also under preparation. Four commodities identified by the Tribal Cooperative Marketing Development Federation (TCMDF), namely, jatropha seeds, myrobalans, karanja seeds and puwad seeds have been taken up for analysis as a part of a collaboration effort between TCMDF and DMI.

33 http://agricoop.nic.in/AnnualReport06-07/AGRICULTURAL%20MARKETING.pdf p.3
As a result of special efforts initiated to promote grading under AGMARK, commodities valued at Rs 153.31 crore were graded for export purposes during the year 2005-06. During 2006-07 (up to 30 November 2006), commodities valued at Rs 65.00 crore were graded. By the end of March 2006, 192 certificates of authorization holders were operating for grading of agricultural and allied produce for exports purposes under AGMARK. During 2005-06, commodities worth Rs 4998.85 crore were graded for internal trade. During 2006-07 (up to 31 November 2006), commodities valued at Rs 2800.00 crore (estimated) were graded for internal trade. There were also 5958 authorized packers that were operating for grading agricultural commodities for internal trade. During 2005-06, total revenue of Rs 10.01 crore was realised on account of grading charges etc. During 2006-07 (up to 31 October 2006), an amount of Rs 6.00 crore (provisional) has been realised.\(^{34}\)

### 3.6 Storage

Storage is an important marketing function, which involves holding and preserving goods from the time they are produced until they are needed for consumption. The storage function is as old as man himself, and is performed at all levels.\(^ {35}\) Three tier systems exist in storage viz. at the National/State, district and village level in the country. The Central Warehousing Corporation (CWC) has been providing warehousing facilities at the centres of All India importance and the State Warehousing Corporations (SWCs) and the State Governments at centres of States and district level importance. Cooperatives are providing storage facilities at the primary and marketing society’s level, which are located at village/taluka. Financial assistance was provided to various States

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\(^{34}\) [Ibid.], p 4.

\(^{35}\) Acharya and agarwala, *supra* n.2, p.97.
for construction of Godowns at the rural level under the scheme of National Grid of Rural Godowns, which stands transferred to State Governments with effect from April 1, 1992. The Food Corporation of India (FCI) constructs godowns for storage of food grains procured by it for distribution and buffer stocking. It constructs storage capacity at certain nodal points, keeping in view its requirements. The Central Warehousing Corporation constructs/creates storage capacity for FCI as well as for the general warehousing. 36

3.6.1 Public Sector Storage Capacity

According to the working group Report about 30 percent farm produce is stored under open condition, leading to wastage and distress sales. If the consumption level shoots up from current 100 gms of fruits and 200 gms of vegetables per capita per day to the recommended dietary level of 140 gms and 270 gms respectively by 2010, the domestic market for fresh fruits and vegetables could be as large as Rs 50,000 billion at present price structure. However, this would require commensurate supply chain infrastructure in terms of handling, storage, and transportation. Post harvest stocks stored in public warehouses is estimated to value at Rs 935.67 billion of which 12 percent gets wasted due to lack of quality storage. Preventable postharvest losses of food grains are estimated at about 20 million tonnes a year, which is nearly 10.5 percent of the total production. The scheme of warehousing was initiated at the center and state level after the enactment of the Agricultural Produce (Development and Warehousing) Corporation Act, 1956. The State Government also enacted the Warehousing Acts during July 1957 to August, 1958. The Government of India bifurcated the Warehousing Act of 1956 in to the National Cooperative Development Corporation Act 1962 and the Warehousing Corporation Act of 1962. Over a period of time, sizable scientific storage/warehousing

36Working Committee Report, supra n.12, p.81.
capacity has been developed by various agencies and they have plans to increase it further. The total covered capacity available with FCI for storage of foodgrains including the capacity hired from CWC and SWC was 252.96 lakh tones as on June, 2006. The hired capacity with the FCI was 101.59 lakh tonnes. In the Tenth Five Year Plan, FCI and CWC have proposed to construct additional storage capacity of 6.42 lakh tonnes and 9.37 lakh tonnes respectively, with a total proposed capacity of 15.79 lakh tonnes. The total storage capacity available with different public sector agencies is 78.83 million tonnes. In the cooperative sector, NCDC has assisted in creation of 13.73 million tonnes storage capacity with the rural cooperatives. In addition, a capacity of 16.6 million tonnes has also been created under Rural Godown Scheme.\(^{37}\)

### 3.6.2 Storage and Handling of Foodgrains

The National policy on Handling, Storage and Transportation of Foodgrains (2000) aims to harness efforts and resources of public and private sectors, both domestic and foreign, to build, operate infrastructure for bulk handling, storage and transportation of foodgrains in the country. Under the National Storage policy, the bulk grain handling facilities would be created on the BOO basis at identified locations in the country. Accordingly, the Department of Food and Public Distribution has sanctioned for creation of silo storage and bulk handling on a BOO basis for meeting the requirements of FCI. The private entrepreneur has been provided with guaranteed storage utilization by FCI. This facility is first of its kind in India. In traditional storage method, the grain is stored in bags without cleaning and drying. In Silos grain is stored as bulk. Before grain is stored in the silos, the grain is cleaned, and dirt, dust and other impurities are removed. Similarly, in case of wet grain it is dried to certain moisture level if required. First in first

\(^{37}\)Ibid.
out principle of storage is maintained in silos, as against in godowns the first gunny bag is stacked at the bottom and the last one is stacked at the top. While removing, the gunny bag placed at the last is removed first. The components of Silo storage system are as follows:\textsuperscript{38}

(a) Receiving platform with hoppers
(b) Grain cleaner
(c) Silos and Silo accessories
(d) Grain conveying equipment
(e) Motor Control centre
(f) Auto weighing and bagging system.

3.6.3 Farm Storage

Of total production, about 60 percent is retained and stored by the farmers for consumption and use as seed, feed and payment of wages to labourers. Only 40 percent is marketable surplus which is handled by traders, cooperatives and government agencies. With the advent of improved agricultural technology, the farmer can afford to store the grain for longer periods. Comparatively, higher quantities of grains stored by farmers and traders are not on scientific basis and hence the extent of loss is on the high side. At rural level, grains are stored mostly from three months to two years depending upon the need. Post-harvest losses occur both in terms of quantity and quality. Grain during storage is attacked by insects, rodents, birds and micro-organisms. Apart from this, grain is contaminated by the excreta of the insects and hairs and pellets of rats which lead to consumer hazards. The grains are stored mostly in rooms as bulk storage, which is prone to extensive damage by rats and insects. Most farmers stores food grains and oilseeds in

\textsuperscript{38} Ibid., p.83.
gunny bags of different capacities with or without inside plastic lining; mud bins having 100-1000 kg capacity, baked earthen containers of 5-100 kg capacity; in heaps on flat floor in the corner of houses ranging from 100-1500 quintals; bamboo structures; wooden bins and underground structures. These are not scientific ways of storing food grains and thus, 5-10 percent losses in quantitative terms are incurred during storage period of 3-8 months, especially during rainy season. Metals bins are one of the best storage facilities available with varying capacity. The bin (GI sheets of 240 cm length and 120 cm width of 18 or 20 gauge) having a capacity of 2 quintal, costs about Rs 1000. The Indian Council of Agricultural Research through its network of coordinated research projects, research institutions and agricultural universities has developed large number of improved rural storage technologies for minimizing the storage losses. This includes, designing of storage structures like Pusa Bin, Pusa Kothar, and PKV Bins, which can be used for storage of food grains by the farmers at village level.\textsuperscript{39}

3.6.4 Construction of Rural Godowns

The Department of Agriculture and Cooperation introduced a central sector scheme, the ‘Grameen Bhandaran Yojana’, in March 2002 to promote the construction of rural godowns. The main objectives of the scheme include the creation of a scientific storage capacity with allied facilities in rural areas to meet the requirements of farmers for storing farm produce and to prevent distress sale of produce. Initially, the scheme was approved for two years i.e., up to 2003. The scheme was later approved for implementation up to 31 March 2007 with some modifications. Under the revised scheme, a subsidy at the rate of 25 per cent was given to all categories of farmers, agriculture graduates, cooperatives and the Central Warehousing Corporation/State

\textsuperscript{39} Ibid., p.84.
Warehousing Corporations (CWC/ SWCs). All other categories of individuals, companies and corporations are entitled to a subsidy at the rate of 15 per cent of the project cost. In North-Eastern states/hilly areas and SC/ST entrepreneurs and their cooperatives, subsidy is provided at the rate of 33.33 per cent.\textsuperscript{40}

A total of 90-lakh tonnes capacity of rural godowns was targeted during the Tenth Plan period. However, the target has now been revised upwards to 140 lakh tonnes as the target of 90 lakh tonnes was achieved during 2004-05 itself. Till 31 December 2006, 13030 storage projects having a capacity of 180.88 lakh tonnes have been sanctioned under the scheme.

3.6.5 Cold Storage

India produces around 11 percent of world's vegetables and 9 percent of world's fruits. Presently all horticulture crops put together cover approximately 7 percent of the cropped area of the country. The present marketing system of agricultural produce in the country, particularly for fruits and vegetables, lacks systems approach. Producers sometimes fail to realize expenses incurred on transportation of fruits and vegetables to markets, let alone the cost of production and capital investment, during the period of glut. Fruit and vegetable growers are receiving only a small part of price paid by the consumers as lion's share is either lost in the marketing chain or taken by the middlemen. The profit margin of intermediaries is disproportionate to their services. There is also considerable loss and wastage due to inefficient handling, transportation and storage methods. It is estimated that as high as 25 to 30 percent losses occur in different perishables depending upon the type of produce, the season and length of journey. The lower returns to the farmers act as disincentive for higher production.

\textsuperscript{40} Ibid., p.6.
Thus, to extend the shelf life of fruits and vegetables, cold storage and cold chain system is essential. Cold Storage has been largely adopted for long term storage of potato, orange, apple etc. The cold chain concept is employed for high value crops like grapes, pomegranates, flowers, seasonal and perishable nature of potatoes, other vegetables and fruits. The provision of adequate storage, under scientifically controlled conditions, is one such mechanism which could ensure that a crop harvested over a period of one or two months meets a year round market demand. The role of cold storages/storages in cutting down of losses due to spoilage, avoiding gluts and distress sale by grower's, reducing transport bottlenecks at the peak period of production, and maintenance of quality of the produce cannot be under estimated. Since the production of potato is usually bulked between December and March, the consumption needs and seed requirements for rest of the year have to be met out of the stored stocks. This obviously leads to a situation which is characterized by:

(a) Crashing of prices during the peak season which forces the growers, particularly the small & marginal farmers, to dispose of stocks at a price which sometimes may not even cover the cost of production;

(b) Wide price disparity between peak and lean period arrivals sometimes ranging up to 100-150 percent;

(c) Control of the market by such traders and agents who command large cold storage capacity spread over different states and thus regulate the flow of supply to different markets; and
(d) The erratic price and arrival pattern leads to discouragement of farmers who have taken up this crop for cultivation. Lack of adequate cold storage accommodation makes this decision almost inevitable.

With this background, the only suitable option to tide over the problem caused by seasonal surpluses is to undertake expansion of cold storage capacity and integrate it with a sound marketing system.\textsuperscript{41}

\section*{3.7 Commodity Futures and Forward Markets}

Commodity futures trading in India had been revived during the last few years.\textsuperscript{42} With effect from April 1, 2003, futures trading in 54 agricultural commodities have been permitted. Futures are traded through 24 recognized exchanges, of which three have been recognized as national commodity exchanges. These are NMCE, Ahmedabad; MCX, Mumbai; and NCDEX, Mumbai. These three exchanges have 1500 members and 800 agents spread over 400 centres and account for 94 percent of the total commodities futures trade in India. After the promotion of national multi commodity exchanges, there has been a rapid growth in the value of futures trade. It increased from Rs 34495 crore in 2000-01 to Rs 571759 crore in 2004-05. Out of the total trade during April-September 2005, agricultural commodities accounted for 62 percent (Rs 487487 crore). The major agricultural commodities traded in futures exchanges are guar seed/gum, gram, soya oil, sugar, raw cotton, gur, castor seed, rubber, wheat, rice and other oilseeds/edible oils. Futures trading being a risk-mitigating instrument both for buyers and sellers, it requires

\begin{itemize}
  \item \textsuperscript{41} \textit{Ibid.}, p85.
  \item \textsuperscript{42} The two major economic functions of a commodity futures market are price risk management and price discovery. Forward contracting in commodities is an important activity for any economy to meet food and raw material requirements, to facilitate storage as a profitable economic activity and also to manage supply and demand risk, see Sushmita Bose, Commodity Futures Market in India, http://icra.in/Files/MoneyFinance/CommodityFutureMarket.pdf, p.125.
\end{itemize}
a conducive and effective regulatory mechanism. Current policy initiatives include amendment in FCR Act for granting more teeth to the Forward Market Commission (FMC) for effective regulation. A Bill to this effect has been placed before the Parliament. In addition, three other measures, being pursued at different levels, are quite critical in taking the advantages of futures trade to the farmers. These are (a) overhauling of Essential Commodities Act (ECA) and food related laws; (b) strengthening of marketing infrastructure particularly warehouses, grade standards, and warehouse receipt system; and (c) a network of outlets to disseminate futures prices, alongside the spot prices, to the farmers.

3.8 Centres for Perishable Cargo (Cpc)

Major problems faced by the Indian exporters of perishable products relate to the poor and inefficient handling of the perishable commodities at the cargo centres resulting in poor quality of products reaching the international markets. It hampers the export performance and also damages the image of Indian goods in the international market. During summers, when temperature crosses 35 degrees Celsius, the handling is inefficient and palletisation procedure is slow resulting in spoilage of perishable commodities. The documentation procedure is also cumbersome and time consuming. This necessitates more efficient and well equipped cargo centres for perishable commodities.

The improved and well equipped centre for perishable cargo is an important platform in the supply chain of horticultural products from the farms to the international markets and ultimately to the consumers. The APEDA has established six CPCs at

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Perishable cargo are goods, which may deteriorate over a given period of time or after exposure to adverse temperature, humidity or other environmental conditions.
Bangalore, New Delhi, Chennai, Thiruvananthapuram, Hyderabad, and Mumbai of varying capacities. The total handling capacity at these six CPCs is 2.16 lakh tonnes per annum. The operating and ground handling agencies have been designated for each CPC. The prescribed charges for users vary from Rs 0.35 per kg to Rs 2.29 per kg. In addition, APEDA has signed MoUs for setting up of CPCs at Cochin, Ahmedabad, Amritsar, Kolkata, Bogdogra, Lucknow, and Goa. As an interim measure, APEDA has provided walk-in type cold rooms at Kolkata, Agartala, Guwahati, Lucknow, Coimbatore, and Ahmedabad.44

3.9 Agri Export Zones (AEzs)

The importance of agri export zones can hardly be over emphasized.45 Already 60 AEZs have been notified in different states for specific commodities including basmati rice, fruits, vegetables, flowers, spices, wheat, vanilla, tea, coriander, cumin, sesame seed, cashewnuts and potato. The estimated investment varies from Rs 3.5 crore to Rs 212.65 crore which will be shared by the centre, state governments and private entrepreneurs in varying proportions. The present approach of diffused operation of the AEZs should be reviewed and provide for convergence of fund flow of various schemes, farmers can benefit from AEZs only if they organize into groups and are linked with players in AEZs directly or through contract farming arrangements. During the last six years, AEZs could

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44 Ibid.
45 With a view to promoting agricultural exports from the country and remunerative returns to the farming community in a sustained manner, the concept of the agri export zones (AEZ) was floated. These zones have been set up for end to end development for export of specific products from a geographically contiguous area. AEZ are to be identified by the State Government, who would evolve a comprehensive package of services provided by all State Government agencies, State agriculture universities and all institutions and agencies of the Union Government for intensive delivery in these zones. Corporate sector with proven credentials would be encouraged to sponsor new agri export zone or take over already notified agri export zone or part of such zones for boosting agri exports from the zones. http://exim.indiamart.com/foreign-trade-policy/agri-export-zones.html
not attract targeted private investment mainly due to lack of public investment and
diffused definition of AEZs (whole district is defined as AEZ).

3.10 Farm Road Infrastructure

The Indian road network is the largest in the world aggregating 3.32 million
kilometers, consists of 65,569 km of National Highways, 1,28,000 km of State Highways,
4,70,000 km of Major District Roads and 26,50,000 km of other District and Rural
Roads. National Highways account for only 2 percent of the total length of roads, but
carry about 40 percent of the total traffic across the length and breadth of the country.
Though the main road network is important for movement of agricultural produce, the
more crucial part of bringing the produce from the field to the transport point is more
often ignored. Even the programmes of rural road connectivity mostly concentrate linking
the villages, which is no doubt, important. From the farmers point of view, the farm roads
that facilitate transportation of farm produce from fields to the collection centre/mandi
are very vital. Providing farm roads will help in transportation of the farm produce
without loss of time thus protecting the quality of the produce, which is very crucial
factor in perishables. The farm roads and other road network also affect the quality of the
perishable produce. Since, handling of the perishables is still in primitive stage i.e. more
often stuffed in gunny bags, or tightly packed in the baskets and staked one above the
other, the quality of the road decide the extent of the damage to the produce.

The recent developments in packaging has no doubt provided protection to the
produce especially fruits like apples, but majority of fruits are still outside the purview of
proper packaging. Public investment in rural roads, by increasing rural connectivity, can
have a significant impact on access to markets by farmers, the development of supply
chains, and overall marketing efficiency in addition to other beneficial impacts on rural households. Various studies of rural road investments found reduction of poverty by 5-7 percent through lower input and transportation cost, higher agricultural production and output prices, and higher wages. They further reveal that the rural road investments contributed 36-68 percent reduction in transport expenses, 27 percent increase in agricultural wages, 5 percent decrease in fertilizer costs, and 4 percent increase in output prices.  

3.11 Market Information Infrastructure

Farmers getting information about market condition is very essential. According to the Report the system of market information has continued to be far from satisfactory. While the traders and processors use their own informal sources, farmers depend both on formal and informal sources. Though, both market news and market intelligence are equally important but farmers are more interested in market news. Market news of interest to farmers is collected/compiled by APMCs, SAMBs, State Departments of Agricultural Marketing, field staff of Directorate of Economics and Statistics and Department of Food. The information is disseminated through display boards in market yards, by announcements during open auction by newspapers, radio broadcasts and TV channels. Farmers also gather information through personal contacts with other farmers and traders. However, the market news is able to provide only a broad overview to the farmers due to several defects in the system. The price quotations are not backed by grades and the information is available with considerable time lag. This information is not linked to local grade standards. Quite often, a range of prices is made available,

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46 Ibid., p.89.
47 Ibid., p.89.
which is of little use to farmers. There is also a serious misconception about the buying and selling price, which is distinctly different.\textsuperscript{48} However, developments in information technology have opened new opportunities for dissemination of real price information across the country. Agmarknet, a public portal connecting 2900 markets all over the country and display of information of about 400 commodities on daily basis is the most successful intervention in this area. An amount of Rs 35 crore has been spent during X Plan period.

3.12 Marketing Research and Information Network (AGMARKNET):

This is a central sector scheme that was launched by the Department of Agriculture and Cooperation in March 2000. The scheme aims at progressively linking important agricultural produce markets spread all over India and the State Agriculture Marketing Boards/ Directorates and the DMI for effective exchange of market information. The market information network, AGMARKNET (agmarknet.nic.in), is being implemented jointly by DMI and NIC, using NICNET facilities available throughout the country. The objective of the scheme is to facilitate collection and dissemination of information for better price realisation. The scheme provides funds to state- and national-level institutions managing the markets and executing market-led extension activities and thus, has no separate gender-specific provisions under the scheme. The portal covers market, price, infrastructure and promotion-related information for efficient marketing\textsuperscript{49}.

During the Tenth Plan, an outlay of Rs.35 crore has been approved for the implementation of the scheme. This includes networking of markets, development of

\textsuperscript{48} Ibid., p.90.
\textsuperscript{49} Ibid., p..5.
regional portals, market-led extension activities and development of market atlas on Global Information Systems (GIS) platform, etc. During 2006-07 (31 December 2006), as against a budgetary provision of Rs 3.55 crore, an amount of Rs 1.44 crore has been released to NIC for computer connectivity for 121 nodes, and 18 crore to Madhya Pradesh and Karnataka for market-led extension activities. The markets are reporting daily prices and arrivals data using a comprehensive national-level database at Agmarknet Portal (www.agmarknet.nic.in). Information on wholesale prices and arrivals in respect of 300-plus commodities and 2000 varieties are being disseminated through the portal on a daily basis. More than 1900 markets have been linked to the Central Agmarknet Portal and more than 1500 markets reported data during the month of November 2006. Weekly prices and arrivals trends are also being disseminated using the portal. Monthly prices and arrivals bulletins are being generated using the national database. In addition to price, other market-related information is provided through the portal. These relate to accepted standards of grades, labelling, sanitary and phyto-sanitary requirement, physical infrastructure of storage and warehousing, marketing laws, fees payable, etc.

Similarly, commodity profiles are being loaded on the portal. Commodities already covered include paddy/rice, wheat, Bengal gram, black gram, red gram, mustard/rapeseed, groundnut, soya bean and sunflower. Further, the portal provides information about schemes of DMI, weather information, e-directory of markets, CODEX standards, etc. The portal is also constantly being enriched. Information on prices and arrivals is being disseminated in nine languages. The database developed under Agmarknet is also serving various commodity directorates of the Department of
Agriculture and Cooperation by providing customised hyperlinks to data pertaining to specific commodities. An arrangement has been worked out with Indian Farmers Fertiliser Cooperative Limited (IFFCO) for regular transmission of prices and arrivals data from Agmarknet to the touch screen multimedia kiosks being installed by them at the rural cooperative societies.

A total of 90-lakh tonnes capacity of rural godowns was targeted during the Tenth Plan period. However, the target has now been revised upwards to 140 lakh tonnes as the target of 90 lakh tonnes was achieved during 2004-05 itself. Till 31 December 2006, 13030 storage projects having a capacity of 180.88 lakh tonnes have been sanctioned under the scheme.

3.13 Development of Agricultural Marketing Infrastructure

The scheme for the development/strengthening of agricultural marketing infrastructure, grading and standardisation was launched on 20 October 2004. Under this scheme, a credit-linked investment subsidy is being provided on the capital cost of general or commodity-specific marketing infrastructure for agricultural commodities and for strengthening and modernisation of existing agricultural wholesale markets, and rural or periodic markets in tribal areas. The scheme covers all agricultural and allied sectors including dairy, poultry, fishery, livestock and minor forest produce. The scheme is reform linked and is being implemented in those states/UTs that permit the setting up of agricultural markets in the private and cooperative sector and allow direct marketing and contract farming. A sum of Rs 67.00 crore has been allocated for implementation of the scheme during 2006-07, of which an amount of Rs 25.00 crore has been provided to NABARD during the current year up to 30 November 2006. During this year, Bihar,
Chhattisgarh, Arunachal Pradesh, Orissa, Maharashtra and the UTs of Chandigarh and Lakshadweep were notified for implementation of the scheme. These are in addition to the states of Madhya Pradesh, Kerala, Manipur, Tamil Nadu, Sikkim, Nagaland, Himachal Pradesh, Punjab, Andhra Pradesh, Rajasthan, and the UTs of Andaman and Nicobar Islands, Daman and Diu and Dadra and Nagar Haveli which were notified in the previous year. There were 22 training and awareness programmes that were conducted. The operational guidelines of the scheme have been modified to permit the state agencies to take up projects from their own funds without availing credit from the financial institutions. The condition of altitude of location of the project has been relaxed and all projects in the states of Uttarakhand, Himachal Pradesh and Jammu and Kashmir are now eligible for a higher subsidy of 33.33 per cent. An amount of Rs 9.74 crore has been released by the NABARD as subsidy for 703 projects in the states of Punjab, Tamil Nadu, Madhya Pradesh, Andhra Pradesh, Kerala, Rajasthan and Himachal Pradesh during 2006-07 (up to 30 November 2006). Since inception and till 30 November 2006, 881 projects have been sanctioned and a subsidy of Rs 13.82 crore released to the beneficiaries.

From the above analysis it is very clear that the current agricultural marketing system in the country is the outcome of several years of Government intervention. The system has undergone several changes during the last 50 years owing to the increased marketed surplus; increase in urbanization and income levels and consequent changes in the pattern of demand for marketing services; increase in linkages with distant and overseas markets; and changes in the form and degree of government intervention. There are three important dimensions of an agricultural marketing system. These are market
structure, conduct and performance. Market structure determines the market conduct and performance. The structural characteristics govern the behaviour of marketing firms. The market structure has never remained static but kept on changing with the changing environment. Structure of agricultural produce markets varies from commodity to commodity and has been influenced by the intervention of the government.

An important characteristic of agricultural produce markets in India has been that private trade has continued to dominate the market. With the large quantities required to be handled by the private trade, the size and structure of markets over time have considerably expanded. Around two million wholesalers and five million retailers handle the trade in food grains. Apart from traders, processors also play an important role as they also enter in the market as bulk buyers and sellers. Agricultural development continues to remain the most important objective of Indian planning and policy. The experience of agricultural development in India has shown that the existing systems of delivery of agricultural inputs and marketing of agricultural output have not been efficient in reaching the benefits of technology to all the sections of farmers. The timely, quality and cost effective delivery of adequate inputs still remains a dream despite the marketing attempts of the corporate sector and the developmental programmes of the state. Also, the farmers are not able to sell their surplus produce remuneratively.\(^\text{50}\)

There is plenty of distress sales among farmers both in agriculturally developed as well as backward regions. There are temporal and spatial variations in the markets and the producers’ share in consumers’ rupee has not been satisfactory, except for a few commodities. In fact, in some commodities like potato in some regions in India, producers end up making net losses at the same time when traders make substantial

\(^{50}\text{Ibid, p.19}\)
profits from the same crop. However, it needs to be recognized that producers’ relative share in the final price of a product certainly goes down with the increase in the number of value-adding stages, and therefore, cannot be used as an indicator of a market’s efficiency or inefficiency. Nevertheless, the other aspects of the market performance like absolute share of the producer in terms of remunerability, fluctuations in prices across seasons, large spatial price differences and lack of proper market outlets itself, are the issues which have become increasingly crucial in the present context. There are structural weaknesses of agricultural markets like unorganized suppliers as against organized buyers, weak holding capacity of the producers and the perishable nature of the produce in the absence of any storage infrastructure. In the presence of these characteristics of the market, the rural producers cannot simply be left to fend for themselves so far as marketing of their produce is concerned. And if the marketing system does not assure good returns to producers, not much can be achieved in the field of product quality and delivery which are critical for processing and manufacturing sectors. In the environment of liberalization and globalisation, the role of the state in agricultural marketing and input supply is being reduced, and an increasing space is being provided to the private sector to bring about better marketing efficiency in input and output markets. On the other hand, processors and/or marketers face problems in obtaining timely, cost effective, and adequate supply of quality raw materials.\textsuperscript{51}

Agriculture in India still engages about 58 percent of the work force and contributes about a quarter of the GDP. A very large majority of the farmers/cultivators belongs to the category of small and marginal holders. The number and proportion of such holdings have been growing over time. They constituted 68 percent of the total

\textsuperscript{51} \textit{Ibid.}, p.20.
operational holdings in 1971-72 but their proportion increased to 80 percent in 1995-96. The area cultivated by them has grown from 24.01 percent of the total in 1971-72 to 34.3 percent in 1991-92. On the other hand, the number of farms in the largest category declined and the average size of the largest category was falling. The average size of operational holding has been declining since the 1960s. However, a redeeming feature is that small farmers (including landless) have higher livestock ownership (60-80 % of all livestock population) including cross-bred cattle. Dairying accounts for more than 50 percent of the household income of the landless and 30 percent of that of the marginal and small landholders. Small farms produce 41 percent of India’s total grain (49% of rice, 40% of wheat, 29% of coarse cereals and 27% of pulses), and over half of total fruits and vegetables despite being resource constrained. Their contribution to incremental wheat and rice production during 1971-1991 was even higher (62% and 48% respectively). The marginal holdings have higher cropping intensity compared with that of the small, medium and large farmers, mainly owing to higher irrigated area as percentage of net sown area. The small and marginal farmers are certainly going to stay for long time in India though they are going to face a number of challenges. Therefore, what happens to small and marginal farmers has implications for the entire economy and people’s livelihoods. But, they can adequately respond to these challenges only if there is efficient marketing system for handling their small surpluses. Otherwise, they will only be losers in the process of globalization and liberalization. The viability of the small holdings is an important issue and promoting agricultural diversification towards high value crops through an efficient marketing system is argued to be one of the means through which this can be achieved.\textsuperscript{52}

\textsuperscript{52} Ibid., 21.
3.14 Marketing Channels

Agricultural commodities move in the marketing chain through different channels. The marketing channels are distinguished from each other on the basis of market functionaries involved in carrying the produce from the farmers to the ultimate consumers. The length of the marketing channel depends on the size of market, nature of the commodity and the pattern of demand at the consumer level. The marketing channels for agricultural commodities in general can be divided into four broad groups as:

(i) Direct to consumer;
(ii) Through wholesalers and retailers;
(iii) Through public agencies or cooperatives; and
(iv) Through processors.

Although the quantities moving in these channels vary with commodity and from state to state, but general features of these channels are as follows:

(i) The proportion of marketed surplus going directly from the farmers to consumers continue to be small (around one or two per cent) and has decreased over the years due to the increase in marketed surplus, shifting of processing activities from consumer to the processors and increase in the demand for processed, packed and branded products. As the price received by the farmer in this channel is higher (both in absolute term and as a proportion of consumer’s price) than others, government is encouraging direct marketing by the farmers through such schemes as Apni Mandi, Rythu Bazar, etc.

(ii) The private sector handles around 80 percent of the marketed surplus of agricultural products. The quantity of agricultural products handled by the government agencies has
been about 10 per cent of the total value of marketed surplus. Further, around 10 per cent marketed surplus was handled by the producers or consumers cooperatives.

(iii) The main functionaries in the marketing channel for agricultural commodities include village traders, primary and secondary wholesalers, commission agents, processors and retailers including vendors. Public agencies, farmers’ cooperatives and consumers’ organisations also perform many marketing functions.

(iv) Marketing channels for various cereals in India are more or less similar except for rice where processing is an essential activity.

(v) Government intervention in purchase of agricultural commodities under minimum support price programme, procurement of foodgrains, market intervention scheme (MIS), monopoly purchase, open market purchases of commodities by NAFED, CCI, JCI and state oilseed federations, have been in existence for many years. The quantity of commodities purchased by public agencies depended on the objectives of the intervention. The entry of public and cooperative agencies altered the existing marketing channels and also their importance in terms of quantity marketed through them. The basic objective of entry of these agencies is to safeguard the interest of producer-farmers along side providing food security to consumers through operating a public distribution system.

(vi) With the intervention in the purchase and distribution of foodgrains (especially rice and wheat), government purchase agency (Food Corporation of India) entered as an important market functionary in the trade of cereals. Fair price shops also came as retail outlets for distribution of cereals to targeted sections of population. Cooperatives have also assumed importance in the marketing channel with the encouragement to producers or consumers cooperatives. In the case of sugarcane, cooperative sugar factories play a
dominant role from the point of view of quantity of sugarcane handled. Cotton Corporation of India and Jute Corporation of India along with the state level cooperative federations, are now the important buyers of fibre crop products from farmers.\textsuperscript{53}

3.14.1 Direct Marketing

Direct marketing by farmers is being encouraged as an innovative channel. Some examples of these channels are Apni Mandi, Rythu Bazars, and Uzhavar Sandies. These channels are mostly adopted in sales transactions of agricultural commodities like fruits, vegetables and flowers which are highly perishable. In this channel, the produce move quickly from farmers to consumers due to lack of middlemen. If farmers directly sell their produce to the consumers, it not only saves losses but also increases farmers’ share in the price paid by the consumer. Farmers’ Markets were introduced with a view to eliminate the middlemen and arrange facilities for the farmers to sell their produce directly to the consumers at reasonable rates fixed every day. On account of the scheme, both the consumers and farmers are benefited.\textsuperscript{54}

3.14.2 Co-operative Marketing

A marketing organization is more than a sales agency, and typically performs an array of functions involved in reaching a product from the producing point to the consuming point, whether raw, semi-processed, or processed. This process of moving product from farm gate to the consumer is one of adding value in terms of time, place and/or form utilities. Cooperatives have been argued to be one of the best systems in agricultural produce marketing and processing especially in situations of market failure

\textsuperscript{53}Report, \textit{supra} n.11, p.22.
\textsuperscript{54}\textit{Ibid.}, p.23.
which obtain very often in agricultural markets. Cooperatives could also be organized when producer members would like to corner a larger part of the returns associated with the value adding process, through better coordination of supply with demand. While cooperatives perform a variety of marketing functions, they are no different from what must be performed by other types of business organizations.

They are not unique in the functions they perform, but in the manner and philosophy in which they are performed. The cooperatives have been successful in processing of sugar, paddy, milk and cotton. There are 203 sugar cooperatives which produce nearly 55 percent of the total sugar production in India with the remaining being produced by private and public sector mills. Similarly, more than 87,000 dairy cooperatives federated into 187 district level cooperatives and 27 state level federations working with 87 lakh milk producers have been important players in the milk marketing business. There are 173 cooperative spinning mills accounting for 22 percent of yarn and fabric production, and 431 ginning and pressing cooperatives accounting for 12 percent of all units and 21 percent and 18 percent of all gins and presses. Besides, there are 13,000 fisheries co-operatives in India. The main reasons for the success of this segment of the processing sector have been the focus on value addition and, therefore, high returns to producing members, functional vertical integration, high participation of members, and professional management and leadership.

3.14.3 Farmers Organizations in Marketing

Inefficient marketing system has lead to an avoidable waste of around Rs 50127 crores. A major part of this can be saved by introducing scale and technology in

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56 Ibid., p.27.
agricultural marketing. Milk and eggs marketing are two success stories of role of scale and technology in marketing. The extent to which the farmer-producers will benefit (out of saving of avoidable waste) depends on the group-marketing practices adopted by the farmers. In this sense, farmers’ organizations need to be promoted for undertaking marketing activities on behalf of the individual members of the group. While looking at the options for promoting marketing based farmers’ organizations, cognizance of existence of the following three groups of organizations needs to be taken:

(i) There is a network of farmers’ cooperative organizations promoted during the last five decades. These include national level cooperatives (NAFED, TRIFED); state level general and commodity specific organizations, and primary level marketing and credit societies. Primary level marketing cooperatives have mainly remained preoccupied with input supply rather than output marketing. The PACS at the village or cluster level mainly handled credit and inputs rather than output. Nevertheless, in some states (Gujarat, Maharashtra) and for some commodities (milk, oilseeds, sugarcane), cooperatives have played an important role in output marketing also.

(ii) During the last two decades, a large number of self-help groups (SHGs) have emerged in the country. A nation-wide programme to link SHGs to the banking system was launched in 1992. Currently, there are three types of SHGs viz. (a) formed and financed by banks; (b) formed by other agencies but financed by banks; and (c) financed by banks using NGOs. Up to March 2004, there were 10.8 lakh SHGs linked to the banks and 90 35percent of these were women groups. However, micro-finance programme did not explicitly target the agricultural sector. Extending SHG programme to farmers will require internalization with PACS, which may not be easy.
(iii) In recent years, Krishi Vigyan Kendras (KVKs) and other organizations have formed commodity based farmers’ clubs, which is a good initiative. NABARD has organized 13664 farmers’ clubs up to March 31, 2005. Promotion of such organization should be assisted or helped to create basic infrastructure for their effective functioning. This could even include assistance for professional management. Some examples of successful farming organization models are discussed here.\textsuperscript{57}

3.15 Main Constraints in the Existing System

The working group of the Planning commission has identified many bottle necks in agricultural marketing system. Organized marketing of agricultural commodities has been promoted in India through a network of regulated markets owned, operated, and managed by Agricultural Produce Market Committees (APMCs). Most of the State Governments and Union Territories have enacted legislation (APMC Act) to provide for regulated markets and as on today, 7557 markets have been covered under regulation. Besides, there are 2,1731 Rural Periodic Markets (RPMs), about 15 percent of which function under the ambit of regulation. The major constraints in domestic agricultural marketing are as follows:

3.15.1 Variation in Market Fees/Market Charges

According to the provisions made in the APMC Act of the States, every market Committee is authorized to collect market fees from the licensees (traders) in the prescribed manner on the sale of notified agricultural produce brought by the farmers or traders in the market area at such rates as specified by the State Government. The number of commodities brought under the ambit of regulation varies from state to state. The market fee varies between 0.50 percent in Gujarat to 2 percent in Punjab and Haryana.

\textsuperscript{57} Ibid., pp.33-34.
The charges payable by buyers and sellers are also different. Several state governments have introduced other taxes/fees/cess/that create considerable confusion\textsuperscript{58}.

3.15.2 Neglect of Rural Markets

There are more than 21000 rural periodic markets which have remained outside the process of development. These markets constitute the first contact points between the producer seller and the commercial circuits. Most of these markets lack the basic minimum facilities\textsuperscript{59}.

3.15.2 Absence of a Common Trade Language

Different set of standards/specifications for agricultural commodities are followed by different organizations in the country. The standards laid down in the PFA Act are the National Standards. Besides this, there are Agmark Standards, BIS Standards, Standards followed by Army, Standards fixed by Warehousing Corporations and those by Food Corporation of India for procurement purposes. Traders of different commodities have got their own trade standards in different localities in the country. Thus, the absence of common trade language is a major deterrent for evolving a competitive agricultural marketing system in the country.\textsuperscript{60}

3.15.3 Variation in Entry Tax/Octroi and Sales Tax

The rates of entry tax/octroi tax and sales tax levied on different agricultural commodities vary from State to State which increases the cost of agricultural produce and gives distorted signals to farmers hampering production growth, and brings trade distortions. These also create hassles on the state borders causing considerable delays in interstate movement of goods.

\textsuperscript{58} Ibid., p.58.
\textsuperscript{59} Ibid.
\textsuperscript{60} Ibid., p.59.
3.15.4 Controls under Essential Commodities Act

Though central government removed all restrictions on storage and movement of commodities, many state governments are still enforcing several control orders promulgated under the EC Act. These control orders give rise to rent-seeking by the enforcement functionaries at the border check points creating artificial barriers on the movement and storage of agricultural commodities. There has not been sufficient publicity about the withdrawal of restrictions under ECA. With the reintroduction of stocking limits recently, the situation has again become complex.\textsuperscript{61}

3.15.5 Other Barriers

Lack of infrastructure like storage, transportation, telecommunication, quality control, packaging, price risk management, integration of spot markets with commodity exchanges, pledge financing through a chain of accredited storage and warehouse receipt system, cool chains, market led extension, and conducive framework for promotion of contract farming are some of the other important constraints for competitive agricultural marketing system in the country.

3.16 Problems and Prospects of Agricultural Marketing

There are several challenges involved in marketing of agricultural produce. There is limited access to the market information, literacy level among the farmers is low, multiple channels of distribution that eats away the pockets of both farmers and consumers. The government funding of farmers is still at nascent stage and most of the small farmers still depend on the local moneylenders who are leeches and charge high rate of interest. There are too many vultures that eat away the benefits that the farmers are supposed to get. Although we say that technology have improved but it has not gone to

\textsuperscript{61} \textit{Ibid.}
the rural levels as it is confined to urban areas alone. There are several loopholes in the present legislation and there is no organized and regulated marketing system for marketing the agricultural produce. The farmers have to face so many hardships and have to overcome several hurdles to get fair and just price for their sweat. The globalization has brought drastic changes in India across all sectors and it is more so on agriculture, farmers and made a deep impact on agricultural marketing. It is basically because of majority of Indians are farmers. It has brought several challenges and threats like uncertainty, turbulence, competitiveness, apart from compelling them to adapt to changes arising out of technologies. If it is the dark cloud there is silver lining like having excellent export opportunities for our agricultural products to the outside world.\textsuperscript{62} In India, the organised marketing of agricultural commodities has been promoted through a network of regulated markets. Most state governments and UT administrations have enacted legislations to provide for the regulation of agricultural produce markets. While by the end of 1950, there were 286 regulated markets in the country, their number as on 31 March 2006 stood at 7566. In addition, India has 21780 rural periodical markets, about 15 per cent of which function under the ambit of regulation. The advent of regulated markets has helped in mitigating the market handicaps of producers/sellers at the wholesale assembling level. But the rural periodic markets in general and the tribal markets in particular, remained out of its developmental ambit.\textsuperscript{63}

The basic objective of setting up a network of regulated markets has been to ensure reasonable gain to the farmers by creating environment in markets for fair play of supply and demand forces, regulate market practices and attain transparency in

\textsuperscript{63} http://agricoop.nic.in/AnnualReport06-07/AGRICULTURAL%20MARKETING.pdf}
transactions. However, in the pre-Independence era, the agriculture produce markets were plagued with inefficiencies and were heavily loaded against the producer. The producer was subjected to innumerable levies and charges, without having any say in the judicious utilization of the amount paid by him. He was also denied a large part of his produce by manipulation and defective use of weights and scales in the market. Many commissions and committees were set up by the Government of India to recommend measures to rectify the situation. It was recommended to enact a market legislation to regulate the markets. Most of the state governments and Union Territories have since enacted legislations (Agriculture Produce Marketing Committee Act) to provide for development of agricultural produce markets and to achieve an efficient system of buying and selling of agricultural commodities.64

The purpose of state regulation of agricultural markets was to protect farmers from the exploitation of intermediaries and traders and also to ensure better prices and timely payment for their produce. Over a period of time, these markets have, however, acquired the status of restrictive and Monopolistic markets, providing no help in direct and free marketing, organised retailing and smooth raw material supplies to agro-industries. Exporters, processors and retail chain operators cannot procure directly from the farmers as the produce is required to be channelised through regulated markets and licensed traders. There is, in the process, an enormous increase in the cost of marketing and farmers end up getting a low price for their produce. Monopolistic practices and modalities of the state-controlled markets have prevented private investment in the sector.

Post-harvest losses are estimated to be of the order of 5-7 per cent in food grains and 25-30 per cent in the case of fruits and vegetables.

3.16.1 Need for Reforms

The agriculture sector needs well-functioning markets to drive growth, employment and economic prosperity in rural areas of India. In order to provide dynamism and efficiency into the marketing system, large investments are required for the development of post-harvest and cold-chain infrastructure nearer to the farmers’ field. A major portion of this investment is expected from the private sector, for which an appropriate regulatory and policy environment is necessary. Also, enabling policies need to be put in place to encourage the procurement of agricultural commodities directly from farmers’ fields and to establish effective linkage between the farm production and the retail chain and food processing industries. Accordingly, the state governments were requested to suitably amend their respective APMC Acts for deregulation of the marketing system in India, to promote investment in marketing infrastructure, thereby motivating the corporate sector to undertake direct marketing and to facilitate a national integrated market. The Department of Agriculture and Cooperation also formulated a model law on agricultural marketing for guidance and adoption by the state governments. The model legislation provides for the establishment of private markets/yards, direct purchase centres, consumer/farmers’ markets for direct sale and promotion of Public-Private Partnership (PPP) in the management and development of agricultural markets in India.