CHAPTER 4.
Agricultural Marketing in State of Maharashtra.

Title of Thesis- Agricultural Marketing Reforms in Maharashtra- Study of the vegetable supply chain in Pune District.
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4.1. Introduction.

Maharashtra is situated in the western and central part of the country and has a long coastline nearly 720 km along the Arabian Sea. The Sahyadri mountain ranges provide a natural backbone to the State on the west, while the Satpuda hills along the north and Bhamragad-Chiroli- Gaikhuri ranges on the east serve as its natural borders. The neighboring states are, Gujarat to the northwest, Madhya Pradesh to the north, Chhattisgarh to the east, Andhra Pradesh to the south east, Karnataka to the south and Goa to the south west. The State enjoys tropical monsoon climate. The hot scorching summer from March onwards is followed by monsoon in early June. A mild winter follows after a hot October transition. There are seasonal rains from the western sea-clouds with rainfall over 400 cm on the Sahyadrian crests. Konkan is endowed with heavy rainfall, declining northwards. East of the Sahyadri, the rainfall diminishes to a meager 70 cm in the western plateau districts, with Solapur and Ahmednagar in the heart of the dry zone. The rains slightly increase eastwards in the Marathwada and Vidarbha regions. Maharashtra is the second largest state in India in terms of population and has geographical area about 3.08 lakh sq. km. As per population census, 2011 the population of the State is 11.24 crore which is 9.3 per cent of the total population of India and is highly urbanized with 45.2 per cent people residing in urban areas. Maharashtra is the second largest state in India in terms of population and has geographical area about 3.08 lakh sq. km. As per population census, 2011 the population of the State is 11.24 crore which is 9.3 per cent of the total population of India and is highly urbanised with 45.2 per cent people residing in urban areas\(^1\).

The State has 36 districts which are divided into six revenue divisions viz. Konkan, Pune, Nashik, Aurangabad, Amravati and Nagpur for administrative purposes, with effective machinery for planning at the district level. For local self-governance in rural areas, there are 34 Zilla Parishads, 351 Panchayat Samitis and 27,920 Gram Panchayats. The urban areas are governed through 26 Municipal Corporations, 230 Municipal Councils, 110 Nagar Panchayats and seven Cantonment Boards. The State has 234 lakh ha of land under cultivation and area under forest is 52.1 lakh ha. The State has 234 lakh ha of land under cultivation and area under forest is 52.1 lakh ha. Maharashtra accounts for nearly 6 percent of the foodgrain production in India.

The major commodities from Maharashtra are Onion (15.52 percent), Sugarcane (22.10 percent), Cotton (20.42 percent) and Oilseed (15.31 percent). A total agricultural area of 20 million hectares is distributed among more than 12 million farm holdings. The State Government, taking advantage of various schemes of Central Government, has made substantial progress in developing infrastructure for agricultural marketing in the state in partnership with the private sector agencies particularly in Pune District. Pune with more than 1 million hectare area under cultivation makes vital contribution to the agriculture sector of the State.²

The state is divided into seven divisions and 34 districts. Each division has similar cropping patterns, climate and soil topography across districts. Agricultural techniques, crops, credit systems, extension, market information etc are all similar in these divisions.

Table 4.1: Division wise distribution of districts:

4.1.1. **Land Utilisation in state of Maharashtra:**

India has been divided into 3 horticultural zones. They are:

I. Tropical Zone

II. Sub-Tropical Zone

III. Temperate Zone

**Tropical Zone** consists of Entire South India below the Vindhya hills. This zone is again sub-divided in to 3 sub-zones. They are:

1) Central tropical zone,
2) Southern tropical zone and 3) Coastal tropical humid zone.

States of Maharashtra, Orissa, Southern part of Madhya Pradesh (Chattishgarh) and Telengana area of Andhra Pradesh come under **Central tropical zone**.

The land utilisation statistics for 2014-15 shows that out of the total 307.58 lakh ha geographical area of the State, the gross cropped area was 232.73 lakh ha while the net area sown was 173.45 lakh ha (56.4 per cent). The area under forest was 52.01 lakh ha (16.9 per cent), land not available for cultivation was 32.09 lakh ha (10.4 per cent), other uncultivated land was 24.16 lakh ha (7.9 per cent) and fallow land was 25.87 lakh ha (8.4 per cent)³.

**Table 4.2. Land distribution in Maharashtra:**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ratnagiri</td>
<td>Raigad, Ratnagiri, Sindhudurg</td>
</tr>
<tr>
<td>Pune</td>
<td>Pune, Satara, Solapur, Sangli, Kolhapur</td>
</tr>
<tr>
<td>Nasik</td>
<td>Nasik, Ahmednagar, Jalgaon, Dhule, Nandurbar, Thane, Mumbai</td>
</tr>
<tr>
<td>Amaravati</td>
<td>Amaravati, Akola, Buldhana, Washim, Yavatmal</td>
</tr>
<tr>
<td>Augangabad</td>
<td>Aurangabad, Jalna, Parbhani, Hingoli</td>
</tr>
<tr>
<td>Latur</td>
<td>Latur, Osmanabad, Beed, Nanded</td>
</tr>
</tbody>
</table>

³Economic Survey of Maharashtra 2016-17 pp91.

Table 4.3: Pattern of agricultural production in Maharashtra

<table>
<thead>
<tr>
<th>Crop</th>
<th>Production (Lkh MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cereals</td>
<td>92.67</td>
</tr>
<tr>
<td>Pulses</td>
<td>16.81</td>
</tr>
<tr>
<td>Oil Seeds</td>
<td>22.78</td>
</tr>
<tr>
<td>Fruits</td>
<td>242.7</td>
</tr>
<tr>
<td>Vegetables</td>
<td>101.6</td>
</tr>
</tbody>
</table>

Maharashtra’s regional strengths are: Konkan region: Paddy, Cashew nut, Mango, Kokum, Chiku. Western Maharashtra & Khandesh Region: Sugarcane, Jowar, Moong, Soybean, grapes and Banana, Pomegranate and Floriculture & high value vegetables, Marathwada Region: Cotton, Maize, Oilseeds and Pulses and Vidarbha region: Organic Cotton and Mandarin, Mandarin orange, Pulses and Paddy.

Table 4.4. Index number of agricultural production in Maharashtra:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Weight</th>
<th>2014-15</th>
<th>2015-16</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cereals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil Seeds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fruits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Cereals | 42.22 | 98.51 | 73.13 | -25.8
--- | --- | --- | --- | ---
Pulses | 10.44 | 144.57 | 131.32 | -9.2
**Total foodgrains** | **52.66** | **107.64** | **84.67** | **-21.3**
Oilseeds | 9.16 | 56.12 | 49.97 | -11.0
Fibres | 9.93 | 244.24 | 244.24 | 0
Misc | 28.25 | 317.25 | 239.96 | -24.4
**Total non-foodgrains** | **47.34** | **251.41** | **204.09** | **-18.8**
**All** | **100.00** | **175.7** | **141.2** | **-19.6**

*Source*: Commissionerate of Agriculture, GoM. Economic survey of Maharashtra 2016-17 pp 90.

The miscellaneous group consists of sugarcane, tobacco, potato and chilli i.e. two cash crops and two horticultural crops. Area under Production of horticultural produce in Maharashtra in 2014-15 was 1567 thousand hectares and total production of horticultural produce in 2014-15 was 18702.9 thousand tonnes. Of this, the area under production of vegetables was 599.86 thousand hectares and production of vegetables was 8289.01 thousand tonnes. Maharashtra is the leading producer of fruits in the country and also a major producer of vegetables. Agricultural Census 2010-11 indicates that out of 1.37 crore total operational holdings in the State, 78.6 per cent belonged to marginal and small farmers with land holding less than or equal to two ha. The proportion of operational holdings of SC & ST was 7.5 per cent & 6.3 per cent with area of operational holdings 6.6 per cent & 7.9 per cent respectively. The average size of land holding of SC & ST was 1.27 ha & 1.80 ha respectively as against 1.44 ha for all operational holdings.

**Table 4.5: Area and Production of horticultural crops.**

<table>
<thead>
<tr>
<th>Crop</th>
<th>Fruits</th>
<th>Vegetables</th>
<th>Flowers</th>
<th>Spices</th>
<th>Plantation</th>
<th>Honey</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area 000ha Production 000 tonnes</td>
<td>606.9</td>
<td>599.9</td>
<td>23</td>
<td>120.8</td>
<td>216.5</td>
<td></td>
<td>1567</td>
</tr>
<tr>
<td></td>
<td>9756.6</td>
<td>8289</td>
<td>166.7</td>
<td>109</td>
<td>380.6</td>
<td></td>
<td>18702.9</td>
</tr>
</tbody>
</table>

**Chart 4.4.** Area under horticultural crops in Maharashtra.
The largest area is under fruit production. Vegetables are next in terms of area under production. Maharashtra is a leading producer of fruits and vegetables.

**Chart 4.5. Production of Horticultural crops in Maharashtra:**

This study focuses on the Pune district and the vegetable supply chain. Most of the farmers producing vegetables are small and marginal farmers. They are the ones who are exploited in the traditional supply chains as well as regulated markets. Therefore they are most in need of effective reforms in the marketing system, to increase their incomes. Pune district farmers are progressive and have adopted some modern methods of marketing. The western part of the district, particularly, Sahyadri range is well known for medicinal & aromatic plants. Vegetables pockets are well developed surrounding the tahsils of the Pune district especially in Junnar, Mulashi, Baramati, Saswad and Indapur areas.

**4.1.2. Methods of agricultural marketing adopted in state of Maharashtra.**

Traditionally farmers from Maharashtra sold their produce largely at the local bazars and mandis. Small and marginal farmers with very little surplus produce still sell their produce at weekly or bi-weekly bazars in local villages. There are innumerable such rural haats in the state today, where the farmers sell their produce directly to the consumers. Around 90% of the produce traded in these markets is agricultural produce and the rest is non-agricultural produce. These Haats are held on the land owned by local Panchayat / Municipality and APMC Act are
not applicable to these markets. The next alternative that farmers have is to sell their produce to **local traders or moneylenders** to whom they may be indebted. Farmers generally avail of loans for inputs and other purposes from traders, landlords or moneylenders. These agents offer the farmer an assured market and no transport costs. The quantity of produce of these farmers is very cost inefficient considering transport and other marketing costs. Therefore farmers prefer to sell their produce to these local agents like traders and moneylenders. The third alternative is to sell produce at the district mandis or **APMC regulated market yards**. APMC markets are regulated, assured markets with storage, weighing, grading and auction facilities. The state government has made it compulsory for farmers producing and selling a substantial quantity of produce to sell only in APMC markets. Therefore, APMC yards have become the main link in the supply chain of agricultural produce in the State. There are 305 APMCs in Maharashtra enabling sale of agricultural produce.

**Farmers’ cooperatives** are one more alternative where farmers’ groups consolidate their individual positions and sell to wholesalers or retailers at fairly remunerative prices. **Shetkari bazars** have been initiated in Maharashtra allowing farmers to directly market their produce to retailers, processing firms, eateries or consumers. These are held on a weekly basis. There is elimination of intermediaries leading to transparent price discovery with profitable remuneration to farmers and reasonable prices to consumers. Another form of direct marketing is one to one interaction between consumers and farmers, **supermarket procurement** where big business retailers procure produce directly from farmers. But they generally grade the produce on basis of quality and procure only A grade produce. This leaves lesser quality produce with farmers to be sold at the mandi or APMC yard. This excess supply in the mandi depresses the prices in general and leads to distress sales. This led to farmers suffering losses on the rest of produce.

Farmers’ groups, comprising marginal farmers have also taken permission from APMC to market their produce **directly to retail consumers**. Eg: the Abhinav Group of farmers from Pune district has started the sale of farm produce directly to consumers outside the APMC premises. An interview with Mr. Dyaneshwar Bodke who leads this group yielded the following information. Their first consumers were the staff of NABARD office located at Pune. Gradually they started selling produce door to door in cooperative housing societies. Marketing teams from this club sell their produce to 109 societies in the area. They have bought 56 vans to sell from door to door. Mr. Bodke approached the departmental stores, who agreed to buy their produce at 30% above the production costs. But payments were delayed. Then the group
started supplying vegetables to hotels and eateries. Since the year 2002, the group started organic farming. Most of the produce sold by these farmers is a product of organic farming. This ensures consumers a safe product, free of pesticide and fertilizer residue. Their produce is sold at stores across Pune Central city and Koregaon. The group entered a contract with Transcool supermarket chain in Chinchwad. Farmers are able to circumvent the charges to be paid in APMC at the same time reducing the cost of transportation to the market yard. Farmers then obtain a larger share in the consumer rupee after allowing for, transportation, packaging and marketing costs. The group uses the services of Women’s self-help groups for sorting, grading and packaging produce. Online marketing of vegetables has also begun with the younger generation of farmers exploring this avenue of direct marketing. Farmers from Mulshi in Pune district have started procuring bulk orders for vegetables from consumers via online portals. Technology is facilitating this direct interaction of farmers and consumers. This mode of marketing is also cost effective in nature and time saving as it does not involve additional expenditure on advertisements and door to door selling. Further there is a degree of certainty in volumes in online marketing as purchases have to be of a minimum volume.

In recent times there has been a movement towards use of direct marketing methods by farmers in the agricultural marketing sector of Maharashtra state. Private market yards are set up albeit few, farmers’ cooperative markets are set up, online marketing; direct door to door sales by farmers etc. All of these direct marketing techniques may help overcome the limitations of APMC yards. These techniques may also yield better prices, lead to demand driven production, investment in marketing infrastructure and more. But direct marketing formats like farmers’ markets, or contract farming or private market yards will entail significant effort on part of farmers to create infrastructure for marketing, right from physical premises, weighing, grading, processing, packaging functions. Private market yards with all modern amenities are required for creating an efficient market. Public Private Partnership model will be ideal to create such market yards with modern facilities and processes which may be offered at reasonable rates to farmers.

In contract farming, bipartite agreements are made between the farmer and the company and the latter contributes directly to the management of the farm through input supply as well as technical guidance and also markets the produce. The main features of this type of contract farming are that selected crops are grown by farmers under a buy back agreement with an agency engaged in trading or processing. In such cases, the centralized processing and marketing agencies supply technology and resources, including planting materials and
occasional crop supervision. Under such contracts, the farmer assumes the production related risks, which the price risk is transferred to the company. In some cases, the company also bears the production risk, depending on the stage of crop growth at which the contract is made. If the contract is made at flowering or fruiting stage, the company bears the production risks also. In any case, the company bears the entire costs of transaction and marketing. It is this variant of contract farming which is said to be one of the ways by which small farmers can participate in the production of high value crops like fruits, vegetables, flowers etc. and benefit from market led growth. Many companies have had contract farming arrangement under the Indian Contract Act. Nearly one lakh hectares of land are under cultivation in this system in the state.4

4.1.3. Supply chain of vegetables in Maharashtra.

The supply chain assumes various forms. Some chains are short while others long. The number of intermediaries differs in each chain.

- Producer- Wholesaler- Retailer- Consumer
- Producer -Commission Agent- Wholesaler- Retailer- Consumer
- Producer -Cold storage -Commission Agent- Wholesaler-Retailer- Consumer.

Marketing costs are the actual expenses required for bringing crop from farm gate to the consumers. It includes the following: Handling charges at local points- Assembling charges – Transportation and storage costs- Handling charges by wholesaler's and retailer to consumers –Expenses on secondary services like financing, risk taking and market intelligence - Profit margins taken out by different agencies. The supply chain in agricultural marketing may be understood better with the help of the following study in the fruit marketing sector. The general marketing or supply chain of Bananas is:- Farmers (Producer)-Pre-harvest contractor-Wholesaler (distributions market)-Wholesaler (consumer market)-Retailer-Consumer.

Mali (2003) has studied marketing of banana in Jalgaon district of Maharashtra state. The marketing of banana in Jalgaon district is done through three marketing channels viz., Delhi market through cooperative marketing society, private traders through co-operative fruit sale societies and local merchants/group sale agencies. A study of supply chain of green chilli was conducted in Achalpur tahsil of Amravati district of Maharashtra with a sample of 80 farmers selected randomly from four villages. In case of green chilli there were two major channels of distribution seen in the market viz., Channel I: Producer → Commission agent → Retailer →

---

Consumer; Channel II: Producer → Commission agent → Wholesaler → Retailer → Consumer. Among these channels about 45% of the major share of produce was routed through Channel- I and about 65% of major share of produce was routed through Channel-II. It was concluded that Channel- I (Producer- Commission agent- Retailer- Consumer) was more profitable than Channel- II (Producer- Commission agent- Wholesaler- Retailer- Consumer). Price spread and producer’s share in consumer’s rupee was higher in channel I compared to channel II. It was observed that, total marketing cost was Rs.219.70 for Channel-I and Rs.289.99 for Channel-II. In both Channels the highest cost accounted for the commission charges paid by the farmer followed by the transport cost. In case of both Channels, the market margin of retailer was higher than the market margin of commission agent and wholesaler. It was also observed that the price spread in Channel-I and Channel-II was Rs.655.35 and Rs.891.10, respectively. From this it was revealed that the price spread was higher in Channel-II. It was also observed that in case of Channel-I the producer’s share in consumer’s rupee was 56.31% and in case of Channel-II it was 40.59%. Similar results were observed by Patil et al. (2007).

There is need to develop farmers’ cooperative marketing system for efficient marketing in order to increase the producer’s share in consumer’s rupee and to avoid the monopoly of traders/commission agents. There are more than 2,00,000 groups of farmers / women in the State in the form of Commodity Interest Groups (CIGs), Farmers Interest Groups (FIGs), Producers Groups (PGs). In Pune district, vegetable farmers have formed cooperatives and are marketing their produce directly outside the APMC. These cooperatives are led by experienced and educated farmers who have managed to secure orders for their produce directly from households, cooperative housing societies, banks, offices, eateries and supermarkets. The supply chain in this case is much shorter: farmer- aggregator- consumer. The new supply chain is beneficial to farmers as they are not required to pay market fees or spend on transportation of their produce to markets located very far from the farms. Further the educated leaders of the group can provide the farmers information regarding prices and how best to value their produce. These cooperatives also hold training programmes regarding the greenhouse method of production for vegetables, use of fertilizers and pesticides as well as on organic farming.

4.1.4. Important vegetable markets in Maharashtra.

Maharashtra is one of the leading states in the country in horticulture development. The area under fruit crops which was 2.42 lakh hectares in 1990 has gone up to 6.13 lakh hectares in
Similarly, the area under various vegetables, spice crops and floriculture has also increased substantially. This is mainly due to the government policies like establishment of separate department of horticulture in 1981 and linking horticulture development with “Employment Guarantee Scheme” in 1990. Creation of various infrastructure facilities like establishment of horticulture nurseries, irrigation facilities also helped for horticulture development. Following is division wise break up of APMCs in the State:

### Table 4.6. Divisionwise break-up of APMCs in Maharashtra are as follows:

<table>
<thead>
<tr>
<th>No</th>
<th>Division</th>
<th>Main Market</th>
<th>Sub Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Konkan</td>
<td>20</td>
<td>42</td>
</tr>
<tr>
<td>2</td>
<td>Nashik</td>
<td>38</td>
<td>89</td>
</tr>
<tr>
<td>3</td>
<td>Pune</td>
<td>38</td>
<td>103</td>
</tr>
<tr>
<td>4</td>
<td>Aurangabad</td>
<td>29</td>
<td>63</td>
</tr>
<tr>
<td>5</td>
<td>Latur</td>
<td>56</td>
<td>85</td>
</tr>
<tr>
<td>6</td>
<td>Amravati</td>
<td>55</td>
<td>93</td>
</tr>
<tr>
<td>7</td>
<td>Nagpur</td>
<td>48</td>
<td>71</td>
</tr>
<tr>
<td>8</td>
<td>Kolhapur</td>
<td>21</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>305</strong></td>
<td><strong>603</strong></td>
</tr>
</tbody>
</table>

### Table 4.7. Classification of APMCs (2011-2012)

<table>
<thead>
<tr>
<th>No</th>
<th>APMC Class</th>
<th>No. of APMCs</th>
<th>Total Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>“A” Class</td>
<td>146</td>
<td>Above Rs.1 Crore</td>
</tr>
<tr>
<td>2</td>
<td>“B” Class</td>
<td>74</td>
<td>Above Rs. 50 Lac to Rs. 1 Crore</td>
</tr>
<tr>
<td>3</td>
<td>“C” Class</td>
<td>37</td>
<td>Above Rs. 25to Rs. 50 Lac</td>
</tr>
<tr>
<td>4</td>
<td>“D” Class</td>
<td>48</td>
<td>Less than Rs. 25 Lac</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>305</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: MSAMMB website of government of Maharashtra.

The Vashi and Pune APMCs in Maharashtra are among the first five APMCs in the country. They are also some of the largest markets for vegetables. While the smallest of these may have a yearly turnover of below Rs. 25 lakh, the Vashi APMC is the largest and also a terminal market receiving daily over 2,000 trucks that ferry produce from both within and outside Maharashtra. Last year alone, this mandi saw arrivals of 8,93,444 tonnes of onions and potatoes, 5,64,056 tonnes of other vegetables and 6,63,831 tonnes of fruits. Fees in the Vashi
APMC amount to 6.5 per cent of the purchase price of onions and potatoes, 8 per cent for other vegetables and 10 per cent for fruits. The total no. of market functionaries is 8083. It is the largest APMC in value terms\(^5\).  

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>Arrivals (in Quintals)</th>
<th>Market value (in Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2011</td>
<td>12193211</td>
<td>11859683750</td>
</tr>
<tr>
<td>2011-2012</td>
<td>26034884</td>
<td>51531993876</td>
</tr>
<tr>
<td>2012-2013</td>
<td>24616125</td>
<td>93905332732</td>
</tr>
<tr>
<td>2013-2014</td>
<td>34697396</td>
<td>9137868934</td>
</tr>
<tr>
<td>2014-2015</td>
<td>34049659</td>
<td>222295188552</td>
</tr>
<tr>
<td>2015-2016</td>
<td>36739443</td>
<td>81937650957</td>
</tr>
</tbody>
</table>

Source: https://www.msamb.com/APMC/Regulation.pdf

The Pune market is situated at Gultekdi in Bibwewadi in Pune district. It is the fourth largest market in India, in terms of revenue. The total no. of functionaries in the market are 7421. The market arrivals are given below:

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>Arrivals (in quintals)</th>
<th>Market Value (in Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2011</td>
<td>13407890</td>
<td>20322813440</td>
</tr>
<tr>
<td>2011-2012</td>
<td>12703257</td>
<td>20006796943</td>
</tr>
<tr>
<td>2012-2013</td>
<td>13535854</td>
<td>22770904880</td>
</tr>
<tr>
<td>2013-2014</td>
<td>12096648</td>
<td>28126342609</td>
</tr>
<tr>
<td>2014-2015</td>
<td>11454399</td>
<td>24902224814</td>
</tr>
<tr>
<td>2015-2016</td>
<td>11813612</td>
<td>28782329571</td>
</tr>
</tbody>
</table>

The total storage capacity of all godowns in the market is 7070 metric tonnes. These godowns are operated by the APMC, the state government, the MSWC, the private traders and farmers’ cooperatives.

4.2. State of agricultural markets in Maharashtra and need for reforms.

Under the regulated market system, farmers have to pay numerous charges to avail the services offered by market functionaries in APMC yards. Farmers have to pay transport costs, arhat, market levies, load bearer charges, weighing and grading charges etc. in APMC market yards to the market functionaries. These charges inflate the costs of marketing for farmers. But prices

of agricultural produce are market determined on the basis of demand and supply through open auctions. These auctions may not yield the appropriate prices to cover all the production and marketing costs of farmers. Generally the auction method is practiced in the market yards. This practice is very uncertain in the final price that it may yield to farmers. Sometimes commission agents, wholesalers, retailers and market committees may form a nexus and exploit farmers. This exploitation is in the form of monopsonistic trade practice by these groups and depressed price discovery. Instances of farmers preferring to destroy their crop, rather than bear monetary and physical effort of selling at the market yard are not unheard of. In January 2017, Tomato producing farmers destroyed their own crops as the marketing cost of tomatoes was Rs.0.75 per kg and the wholesale price of tomatoes fell to Rs 0.50/- per kg, in the Pune APMC market.

The marketing of fruits could not be organized simultaneously. At present, markets are dominated by middlemen and they decide the prices of fruits. Another area of concern is that transportation is determined on quantitative basis rather than qualitative basis. Timely availability of the transport is also a matter of concern e.g. Jalgaon district is well known for banana cultivation. Wagon loads of bananas are transported to North India every day from Jalgaon. However, since the railway wagons are not specially designed for transport of fruits, great losses are incurred during April to June which are months of severe heat. Due to lack of cold chain, considerable losses are incurred in fruits and vegetables. Due to lack of processing facilities, great losses occur in fruits and vegetables. It is therefore necessary to give thrust on processing of fruits and vegetables both in informal and organized sectors.

4.2.1. Limitations of current markets in Maharashtra:
Throughout the 1970’s to 1990’s APMC market yards have reigned supreme. They were conferred monopolistic powers over the sale of all agricultural produce in the State. Fruits and vegetables over 10 kgs were in the ambit of APMC. These regulated markets were to provide an assured market place, weighing and grading facilities, to help farmers meet the highest possible bidders for their produce through open auctions and to settle disputes if any arising out of market exchange. These markets gradually transformed into political hubs. The elections to market committees came to be ruled by political parties. These parties started gaining a stronghold on the resources of the APMC. Wholesale traders and commission agents gained ground with these parties and formed a nexus to exploit farmers at one end and retailers at the other end. Market charges and levies became numerous and excessive. Farmers’ costs
escalated. Transportation costs, packaging, grading, handling charges etc. cut into the remuneration received by farmers from the markets.

Some particular problems in marketing of Banana in the study area are: 1. high price fluctuation, 2. Delay in payment on sale proceeds by the trader and high commission of intermediaries. 3. Lack of organized marketing facilities makes exploitation of banana producers by trader easily. 4. Lack of better road facilities up to the banana plot and also unavailability of cheap transportation facility, because of that farmers like to sale their produce on their field although they’re not getting affordable price. 5. Without grading and sorting, farmers directly sell banana to pre-harvest contractor which affects farmer’s profit. 6. In the study area there is problem of proper storage facilities. Cold storage facilities are not available. Few wholesalers are using their own cold storages.

All horticulturists across the state of Maharashtra and probably across the entire country, encounter obstacles at all stages of marketing of their produce. The level of difficulty of the obstacle differs across stages and across markets. At the initial stage there is lack of cleaning, grading, sorting and standardization facilities, lack of transportation facilities, lack of cold storage-equipped transport facilities and high costs of transport. Once the produce is brought to the market, the cultivators face inadequate market infrastructure, numerous and high market charges, trader domination and exploitation such as malpractices in weighing and loading of produce. After crossing these obstacles the next set of limitations are lack of warehousing and cold storage facilities leading to loss of weight in produce, wastages of produce and low remuneration. Similar problems as faced by banana cultivators are also encountered by other horticulturists across the state of Maharashtra. Typically, farmers complain a lack of market for their produce, while processors, exporters or supermarket retailers complain of a lack of adequate supplies of quality produce. This marketing paradox is present because often, buyers do not reach out to explore new suppliers or farmers lack an understanding of markets as well as the ability to identify new markets or to take advantage of such opportunity with value addition activities like grading, cleaning, sorting, packaging and primary processing.

Globally, and more so, in the developing world, including India, in numerous types of market linkage arrangements, success depends on the market and the efficiency of operations. Some offer higher price opportunities for growers, while others offer lower marketing costs, thus increasing producer profit margins either way. But, most of these arrangements, especially indirect ones, do not ensure that small growers are part of these arrangements. Many market linkage arrangements just provide another alternative to the primary sellers without any
commitment to buy or add value as is the case with most fresh F&V retail chains in India which procure only ‘A Grade’ produce without any contract and the producer is left to sell the rest of the produce in other channels. Most of these channels also deal with individual growers and there have just been only few attempts by private corporate players encouraging the formation of grower groups or associations through the producer company route in India.\(^6\)

**Major issues and concerns about the current market system in Maharashtra are listed below:** The limitations faced by producers and intermediaries in APMC markets are similar all across the nation. The major concerns are: there are too many intermediaries resulting in high cost of goods and services; the infrastructure for storage, sorting, grading or post-harvest management is inadequate. Private sector is unwilling to invest in logistics or infrastructure under prevailing market conditions; Price setting mechanism is not transparent and price discovery is inefficient; market functionaries and Mandi staff are ill-equipped and untrained for efficient functioning of markets; Market information is not easily accessible; the Essential Commodities Act impedes free movement, storage and transport of produce;

Primary or Periodic Markets (*haat / bazaars*) are most neglected with even basic amenities not available in market yards; Condition of cattle markets is most appalling; there is low density of regulated markets in some, the governance of APMCs is weak and management is unprofessional; market licensing system creates entry barrier to new trader / buyers. Further there is Multi-Point Levy of Market Fee (Varies from 0.5 to 2%) and Multiple Licensing System; there are restrictions on movement of goods inter-state and even intra-state due to the absence of a national market. A study to assess environmental impact of Maharashtra Agricultural Competitiveness Project, conducted in 2009 yielded that the five most frequently reported problems in Marketing are: Inadequate or no storage facility (45%); Uncertainty or lack of transportation facility (30%); Fluctuation or low prices (40%); Absence of processing or value added services (20%); Absence of grading and packaging facility (15%).\(^7\)

The report further highlights that in Maharashtra, the Agriculture Produce Market Committees (APMCs) are having 294 main market yards and 612 sub market yards and all are functioning currently. But these functioning markets have a number of inadequacies in market facilities. For example, covered auction platforms exist in only 2/3rd of the regulated markets; traders

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\(^6\)Sukhpal Singh, Naresh Singla, *Fresh Food Retail Chains in India: Organisation and Impacts* (CMA publication no 238) ch.8, pg.237.

\(^7\)Integrated Environmental and Social Assessment for Maharashtra Agriculture Competitiveness Project, January 2009, TechnoServe India (TNS) pg. 17
module exists in about 60% of the markets; grading facility is available in less than a third of the markets; farmers resting facility is present in only half of the markets; and cold storage facilities are available in less than 10% of the markets.

4.2.2. Description of the market in Sangli district:
A preliminary investigation conducted by this research student in the Sangli district of Maharashtra revealed the following:
1. The district is part of the western Maharashtra region which is a reasonably well developed agricultural zone.
2. Most prevalent crop is sugarcane. Almost all farmers, small and large, practice multi cropping, as the soil and climatic conditions are favourable.
3. Other major crops include vegetables, grapes, turmeric, soyabean and bananas.
4. Farmers depend heavily on sugar cooperatives and banks owned by them for investible funds and assured buy back of crop.
5. In case of other crops farmers sell their produce through regulated markets.
6. Some sort of complacency has set in due to the sugar cooperatives assuring a market for crops. Farmers continue to grow sugarcane despite rising costs, excessive water and labour shortage and struggle with the government and cooperatives to get a reasonable rate for their crop.
7. There are many regulated market yards set up in Sangli city, one for crops like spices (mainly chillies), jaggery, turmeric, coconuts etc. Another regulated market yard for fruits and vegetables is set up separately.
8. Since majority of farmers are small or marginal, traders and firms do not approach them prior to the harvesting season to buy crops, therefore an assured market is missing, except in grapes.
9. Farmers have to bear the cost of storing, processing and transporting their produce to the regulated market yards.
10. The brokers and commission agents then arrange for open auction of the crops. These auctions are supposed to lead to price discovery.
11. Arhatiyas and commission agents are the intermediaries between farmers and the traders. They also collect the charges to be paid by farmers and deposit receipts with the government.
12. Rajaram Solvex Pvt Ltd is the sole firm which has recently made efforts to buy soya bean oilseeds directly from farmers, for further processing. But it has met with limited success because farmers expect much more than the firm can offer. This is on account of farmers’
unawareness of the system of direct marketing and misjudging of returns that can be earned in regulated or traditional markets.

13. On my visit to the regulated market yard, I observed an open auction of turmeric. The farmers had come to this market yard from other states like Karnataka and Telangana. Inspite of high transport costs they were confident of earning better returns in this market than their own home markets.

14. The commission agents arranged for storing, grading and auctioning of the produce.

15. On interacting with some commission agents, I understood that although agri-business is a future possibility, currently regulated markets are working fine and are a support system for the farmers.

4.2.3. Need for aligning with globalized economy:

With the entry of foreign direct investment, the Indian organized retail market has become more competitive in terms of implementing newer business models on the operational format, pricing and reinventing and improving the supply chain. FDI was generally not allowed in agricultural retail marketing although it has enormous growth potential in India particularly in agricultural marketing considering the limitations of the present setup regarding infrastructure, communication network in rural economy, inefficient supply chain (Roy, 2012).

Organised retail which accounts for 5 per cent of the total retail trade is poised to grow at an annual rate of around 11 per cent and is likely to touch business levels of Rs.53,000 billion by 2020. Agri-food retailing accounts for 18 per cent of the organized retail today and is likely to have a lower share (12%) by 2020. The study has identified a few major impediments, especially structural, hampering the growth of organized retail. Direct sourcing by retailers from farmers is less prevalent though it is most desirable and in the interest of all stakeholders.8

Observing the limitations of the market yard it is imperative that, if farmers are to become competitive and survive global competition, there has to investment in market yards by the private sector and foreign players. With the latest amendment to the APMC Act, the state of Maharashtra is enabling farmers to break the monopoly of APMC markets and preventing the exploitation of farmers by market functionaries. This move is in sync with the central

8Organised Agri-Food Retailing In India, NABARD, January – 2011 preface, pp iii.
government policy permitting 100% FDI in organized food retail sector. There is an effort at liberalizing backward and forward linkages in agricultural marketing supply chains. Some organized retailers are already operational in Pune district. Foodworld in Pune: To source its daily requirement of fruits and vegetables, Food World participates in the early morning auctions at the major wholesale markets and has a set of suppliers who then grade, clean, pack and label the products in time for early morning dispatch to the stores. Nilgiri’s Pune: they have six distributors in the APMC’s who supply the food products which match their quality parameters.9

4.3. Agricultural policy changes by Central and State government.

Agricultural policy needs to be formulated to enable the farmer to fetch better price for the agricultural produce for which it is necessary to improve the farmers’ access to the markets. This could be achieved by: Formation of farmers groups which will perform the activity of aggregation of their produce, Value addition to the produce, Warehouse receipts development, establishing storage facilities for produce at the Rural Haats, Providing e- marketing platforms for trade of agricultural produce. The erstwhile Planning Commission had declared 15 flagship programmes in the agriculture & allied activities sector which include nine centrally sponsored schemes and six schemes through additional central assistance/central sector schemes. Rashtriya Krishi Vikas Yojana (RKVY) is being implemented through additional central assistance. In addition to RKVY, Five programmes viz. National Food Security Mission, National Horticulture Mission, National Mission on Sustainable Agriculture, National Oilseed & Oil Palm Mission and National Mission on Agriculture Extension & Technology are approved.

The National Horticulture Mission (NHM) has been launched with the main objective of increasing the area & productivity under horticulture and also to promote post-harvest management. Maharashtra State Horticulture & Medicinal Plant Board (MSHMPB) was established to implement schemes of NHM and National Medicinal Plants Board (NMPB). The mission is implemented as Mission for Integrated Development of Horticulture (MIDH). Since inception, the MSHMPB received grants of Rs. 1,462.90 crore and expenditure incurred is Rs. 1,462.65 cr up to November, 2015. The Government of Maharashtra introduced the Horticulture

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9Organized Food Retailing: Few Cases- Dr.VikramSingh , SPICE, National Institute of Agricultural Extension Management (MANAGE), Hyderabad, vol 1 no.7 nov 2003 pp 2
Development Programme Linked with Employment Guarantee Scheme (EGS) in 1990-91. The GoM has undertaken a programme to promote horticulture development through establishment of nurseries and granting capital subsidy to small & marginal as well as SC & ST farmers, to encourage them to grow selected fruit crops. The area under fruit crops has increased to 18.46 lakh ha by March, 2015. An expenditure of Rs. 1,913.00 crore was incurred under this scheme upto March, 2015. For promotion of organic farming, various activities like providing guidance, getting certification, marketing of the organic farm products are included in National Mission on Sustainable Agriculture (NMSA). Under organic farming about 7.51 lakh ha area of the State is covered. There are more than 17,704 organic farming groups, of which 1,683 organic farming groups (comprising of more than 44,551 farmers) are certified.

4.3.1. Strategy for Horticulture Development in Maharashtra state. The state government aims at crop productivity enhancement as the chief goal. Productivity of farm family is expected to form the basis for horticulture development. Further there will be formation of groups of farmers for adoption of GAP protocol and their networking to encourage market-linked organic farming. To improve the supply chain infrastructure there will be convergence of schemes of APEDA (AEZ), NHM, RKVY, NMPB and MSAMB (Marketing Board). Formation of SHGs of growers for post-harvest handling, marketing and primary processing will ensure inclusive growth. These SHGs will operate Agri-business centers which will reduce the burden of marketing on farmers. These changes will lead to protected cultivation and peri-urban vegetable production.

Maharashtra government is progressive and quick to adopt agricultural marketing reforms. It has taken numerous initiatives by itself and has also simultaneously adopted the measures suggested by the central government from time to time. Further the state of Maharashtra has been a significant beneficiary of the central government initiatives in agricultural marketing reform programmes. Market Information Displays have been installed at 69 APMCs in the State. Electronic media used for this system is 54”/44” projection TVs. The APMCs are established as local authorities under the Maharashtra Agricultural Produce Marketing (Development & Regulation) Act 1963 (APMC Act) and the Rules made there under in the year 1967. The main objective of the Act is to regulate agricultural marketing of notified commodities and provide adequate protection to the producers from the exploitation of the

buyers. Approximately 40 to 50% of the total agricultural production of the state is sold through regulated markets or the Agriculture Produce Market Committees (APMCs) in the State. The State has 305 main market yards and 603 sub market yards, and of these market yards, as many as 196 market yards trade in cattle and other livestock. Therefore it is proposed to modernize 100 APMCs and 24 livestock markets under MACP.\textsuperscript{11}

The Maharashtra State Agricultural Marketing Board, Pune was established on 23rd March 1984, as per the provision of Sec. 39 (A) of the Maharashtra Agricultural Produce Marketing (Development and Regulation) Act of 1963. As per provision of Sec.39 (L) of Maharashtra Agricultural Produce Marketing (Development & Regulation) Act of 1963, sources of income of Maharashtra State Agricultural Marketing Board are, Annual contribution received from Agricultural Produce Market Committees, Interest on the loan amount disbursed to the market committees and Interest received on bank deposits and other investments. MSAMB Annual Reports reveal that as on 31st March 2015, the MSAMB has disbursed loans amounting Rs.2,00,03,698/- to 06 Agricultural Produce Market Committees for undertaking various developmental works. Till date the board has trained 34,459 farmers through 1044 training programs. Marketing Board is striving to avail funding for marketing infrastructure in state including grading, packing, handling, storages at export facility centers having pre-cooling, cold storage, farmers’ markets for farmers, market committees and producers’ cooperative societies and export promotion of agriculture produce mainly fresh fruits & vegetables.

MSAMB is carrying out activities viz. finding the suitable importer, providing samples of fresh fruits & processed products to prospective importers, participating in national & international exhibitions and promoting cooperative societies. MSAMB has provided facility centres for commercial export of Alphonso & Kesar mangoes to the destinations viz. U.S.A., Gulf sector and New Zealand. MSAMB is currently promoting products viz. pomegranate, banana, mandarin, onion, mango pulp & cashew for exports. Government of India & Government of Maharashtra established Agri Export Zones in the state for various fresh fruits viz. Alphonso Mango, Kesar Mango, Onion, Oranges, Banana & Pomegranate and MSAMB has been appointed Nodal Agency for the implementation. MSAMB took financial aid from APEDA to establish 13 facility centres in the state and invested Rs. 56.52 crores. The erected facilities attained the cold storage capacity of 605 MTs, pre-cooling 610 MTs & ripening chambers 70

\textsuperscript{11}Maharashtra State Agricultural Marketing Board, Pune Annual Report, Year 2014-2015 pg.42 retrieved from \url{http://macp.gov.in/market-information-display}
MTs. A total of 50,814 MTs of fresh produce exported was from these pack houses. Mangoes, bitter gourd, pomegranate, banana & other fresh fruits & vegetables are exported to USA, Gulf sector, Japan & Europe from these centres. MSAMB is also establishing few new export facility centres (09) and Fruits & Vegetable Modern Facility centres (20) in the State generate 975 MTs of cold storages, 135 MTs of precooling & 75 MTs of ripening facilities. Onion & Pomegranate Export Centre, Chandvad with Precooling facility of 5 MTs/6 HRs and Cold Storage 50 MTs Onion Storage Structure & onion grading facility is set up. 04 Fruits & Vegetable Export Facility Centre, Khadkiwaki, Tal. Rahata, Dist. Ahmednagar Precooling 5 MTs/6 Hrs Cold Storage 150 MTs. Irradiation Unit & Vegetable Processing Facility, Vashi, New Mumbai. Cold Storage 100 MTs Pre-cooling 5 MTs/6 Hrs Ripening Chamber 20 MTs Handling line 2 MTs/Hour Irradiation unit 5 MTs/Hr. Common Infrastructure for Vegetable Processing Unit, Vashi, Navi Mumbai, Bitter Gourd Processing Line, Okra Processing Line, Green Chilies Processing Line, Brinjals Processing Line Other Veg. Processing Line Pre Cooling Chamber Cold Store Chambers Hot Water Treatment with capacities of 10 MT/ day 18 MT /day 4 MT/day 4 MT /day 4 MT /day 5 MTs/batch 25 MTs X 2Mt/Hr correspondingly have been set up. 12.

Global GAP certification for farm is mandatory for export of agri produce to Europe. Till date 289 farms received GlobalGAP certification. MSAMB, from its own funds, provides 50% subsidy on certification charges for Global GAP Certification. Modern Market Facility Centers for Fruits and Vegetables • This project is under development at 20 various places in the State of Maharashtra. • The project includes the following components – Pre-cooling Unit – 1 No. with the capacity of 5 MT. per cycle of 6 hours, Cold Storage Unit- 1 Nos. of 25 MT., with Pack house, Plant room, Ante room, Dispatch & Receiving platform, D.G.set, Transformer, Store room, Toilet block, road and site development activity. • The land is handed over by concerned APMC / Co-operative Society respectively. • All Project are nearly completed & handing over procedure is in progress. As per govt. notification Dtd. 28 January 2015 the power of giving sanction to the proposals is transferred to Director of Marketing, Pune.

Marknet (Market Network) is network of computerized APMCs in the State. Objectives are to compile market arrivals, prices & disseminate and bring the effectiveness and transparency in the functioning of APMCs, for benefit of the farmers. Computer set with internet facilities has been provided free of cost to 294 Main markets and 66 sub yards. Daily arrival and price
data is being compiled through MSAMB website (www.msamb.com) and further disseminated. MSAMB email facility has been provided to all APMCs. The State Marketing Board website www.msamb.com is in functioning. All computerized APMCs are uploading daily arrivals and prices data on this website. The information compiled through the website is made available to APMCs, farmers and other concerned. This website provides information regarding various schemes, projects, activities and latest information about work done in the field of Agricultural marketing. This is the unique website having overall information about Agricultural marketing. This website contains brief information about all APMCs in the state, agriculture export, agri-expo zone, international Horticulture Training Center, Director of Marketing etc. in Marathi and English. Agri Business Development section is trying to develop the direct marketing system in the State to reduce the chain of middlemen, which will help to improve the income of farmers and also helps to supply fresh vegetables at fair rate to the consumers. ABD section also trying to create new markets within the state as well as in the country.

The Vegetable Initiative for Urban Cluster initiated with the objective of increasing the farmer’s income and make available quality vegetables to consumers. MSAMB is working as a Nodal Agency to run this scheme in Mumbai, Pune & Nagpur city. There are 4 parameters under which the subsidy is available for the marketing of vegetables. 1) Motorized Vending Cart 2) Grading & Packing Unit 3) atmospheric Controlled Unit & 4) Static / mobile vending cart. Beneficiaries of the scheme are - Vegetable producing Gat, Farmer’s Producing Company, Small Business Salesman sponsored by Vegetable producing Gat, Individual / institution, cooperatives, private firm, Charity Trust, Self Help group, Public sector registered companies etc. NHM and Agriculture Department transferred Rs.661.75 lakh to spend on different parameters of the scheme.

MSAMB is working on the concept of Direct Marketing, under which MSAMB organizing Farmer’s Weekly Market in Pune city with the intention to provide fresh vegetables and fruits to the consumers. It also benefits the farmers in terms of higher returns. Currently there are 6 Farmer’s Weekly Market in Pune city these are as below - Gandhi Bhavan, Kothrud – Sunday (Started on 29th June 2014.) II. Baner – Saturday (Started on 8th November 2014) III. Katraj–Wednesday (Started on 8th April 2015) IV. Balewadi – Thursday (Started on 2nd July 2015) V. Bavdhan – Friday (Started on 7th August 2015) VI. Nigadi, Pradhikaran – Sunday (Afternoon) (Started on 9th August 2015) MSAMB is planning to start 4 new Farmer’s Weekly Market in Pune city as well as MSAMB also planning to start Farmer’s Weekly Market in
major cities of Maharashtra. In one Farmer’s Weekly Market approx. Rs.15 to 20 lakh transaction takes place\(^\text{13}\).

**4.3.2. Reforms in Maharashtra since 1960s.** Maharashtra has been a progressive state in all sectors of the economy. It is one of the most industrialized states of the country and also has one of the fastest growing services sector. It is imperative that Maharashtra state should have a dynamic and strong agricultural sector to support the fast pace of its industrial and service sectors. To strengthen the agricultural sector, the agricultural marketing link has to be strengthened. Reforms in the agricultural marketing sector started with the implementation of the Maharashtra Agricultural Produce Marketing (Development and Regulation) Act 1963, which received the assent of the governor and was published in the Maharashtra Government Gazette, para IV on 5\(^{th}\) May 1964. Thereafter the Act came into being. This was the first step of the government of Maharashtra to establish regulated markets. The number of regulated markets has increased considerably since 1964. (Refer to table 1.2.1). The government has consistently reviewed and amended the Act of 1963 to align the sector with changing economic policy both at the center and the states.

**4.3.3. Legal reforms: Reform in APMC Act by Maharashtra.**

The Maharashtra Agricultural Produce Marketing (Development & Regulation) Act was passed in the year 1963, with a view to regulate the marketing of agricultural and pisciculture produce in market areas. After giving due consideration to various committee's recommendations, some important changes have been made in this Act in the year 1987 and thereafter. The APMC Act controls only the first sale of the agricultural produce. Apart from food-stuffs which are covered under the APMC Act, the commodities covered under the EC Act generally are: drugs, fertilisers, and textiles and coal. Since these State Acts created fragmented markets (2477) for agricultural commodities and curtailed the freedom of farmers to sell their produce other than through the commission agents and other functionaries licensed by the APMCs, the Ministry of Agriculture, GOI, developed a model APMC Act, 2003 and has been pursuing the state governments for over a decade now to modify their respective Acts along the lines of the Model APMC Act, 2003. The Model APMC Act:- (a) provides for direct sale of farm produce to contract farming sponsors; (b) provides for setting up “Special markets”

for “specified agricultural commodities” – mostly perishables; (c) permits private persons, farmers and consumers to establish new markets for agricultural produce in any area; (d) requires a single levy of market fee on the sale of notified agricultural commodities.

Maharashtra was one of the first states to adapt its laws to this new Model Act. The Maharashtra Agricultural Produce Marketing (Development & Regulation) Act, 1963 was amended in 2006 to include Direct Marketing, Private Market, Farmer Consumers Market, Single Licenses and Contract Farming. Maharashtra was one of the first few States to amend the APMC Act in 2006 to permit direct marketing, setting up of private markets, farmer-consumer markets, special commodity markets, single licence system and contract farming. The State was one of the first states to frame the Rules for the amended provisions in the Act in June 2007 gazette. The Maharashtra Agricultural Produce Marketing (Development & Regulation) Act, 1963 of the State has been amended, though partially, to introduce provisions for reform measures like contract farming, direct marketing and private markets. The Board had divided the state into 7 divisional offices at Pune, Nasik, Aurangabad, Latur, Amravati, Nagpur and Ratnagiri for proper co-ordination of the activities of all APMCs in the State. The changes in the Act are given below:

1. Title of the Act was The Maharashtra Agricultural Produce Marketing(Regulation) Act 1963, changed to The Maharashtra Agricultural Produce Marketing (Regulation) Act 2005.

2. Allowing setting up of Competitive Markets by private persons, farmers and consumers.

   Under Section 5 (1) - For every market area there shall be established a principal market, and there may be established one or more subsidiary markets. A new chapter 1 – B, section 5D has been inserted –under which (1) The Director may grant license to any person to establish a private market in one or more market areas for –
   a) processing of the agricultural produce;
   b) trade of the agricultural produce of particular specification.
   c) Export of the agricultural produce;
   d) Grading, packing & transactions in any other way by value addition of the agricultural produce.

   The Director may grant license to any person, who agreed or undertakes to develop the prescribed infrastructure, for establishing farmer, consumer market.

3. Direct sale/ procurement from the farmers field:

   Under clause 5 of the Rules – No person shall market any declared agricultural produce in any place in a market area other than the principal market or subsidiary market established therein.
However under section 59 of the Act, a new chapter 1-B, section 5D has been inserted – Under which the Director may grant license to any person for direct marketing\textsuperscript{14}.

A large number of licenses have been issued for direct marketing, especially of cotton as also of oilseeds, pulses, fruits and vegetables. The license holders include several top corporate houses. Maharashtra has made rapid strides in reforming marketing in agriculture. The amendment made to the State Agricultural Produce Marketing (Development and Regulation) Act in 2006 has opened up the market to competition and encouraged private investment in infrastructure development and agro processing. Some private markets are also being established. Maharashtra is one of the few States to allow e-trading. Commodity exchanges registered with the commodity futures market regulator can apply for license of private markets. The government has permitted National Dairy Development Board to establish Safal National Exchange for fruits and vegetables in Jalgaon district to promote e-trading. Two futures exchanges NCDEX and MCX have also been given licenses. Thirty-five farmer markets have been established in the State and nine single licenses have been issued to traders\textsuperscript{15}.

The Maharashtra Agricultural Produce Marketing (Development & Regulation) Act, 1963 was further amended recently in 2016, by an Ordinance to deregulate trade in fruits and vegetables and to keep this agricultural produce outside the ambit of APMC. The levies imposed on agricultural produce marketing within the premises of the AMPC yards would no longer be applicable to farmers who chose to sell their produce to traders and firms outside APMC premises. Also the arhat charged earlier to the farmers would now have to be recovered from the buyers of the goods viz; wholesalers, firms, retailers etc. With the latest amendment to the APMC Act, state of Maharashtra is empowering farmers to market produce directly. It aims at breaking the monopoly of APMC markets as well as preventing the exploitation of farmers by market functionaries. This amendment is in sync with the Central government’s announcement to permit 100percent FDI in food retail business. There is an effort at liberalizing both backward and forward linkages in agricultural marketing supply chains to create world class markets and facilitate the integration with global markets.

\textsuperscript{14} Retrieved from https://mahapanan.maharashtra.gov.in/Site/Upload/GR/The%20Maharashtra%20Agricultural%20Produce%20Marketing%20(Regulation)%20Act,1963%20(As%20modified%20upto%202005).pdf

Impact of Reforms on Agricultural Marketing:

According to the ‘Agricultural Marketing and Farmer Friendly Reforms Index’, and as per NITI Aayog’s calculation, Maharashtra tops the list with a score of 81.7. Total business as in 2015-16 is given as follows: 264 Direct Marketing Licenses with business of Rs.1324 Cr, 37 Private Markets with business of Rs. 1794 Cr. Contract Farming: Area brought under Contract Farming is around 40,000 Ha and 30 Farmers’ Markets with a business of approx.50 Lakh/per market day.16

4.4. Agricultural marketing sector in Maharashtra.

The policies and strategy implemented by the Government have reformed the state of agricultural marketing sector. The limitations of the sector are addressed although not entirely removed. This sector is equipped with modern infrastructure. A number of agencies and institutions are set up to facilitate the functioning of markets. The aim is to integrate the dispersed markets through market information systems, through terminal market complexes, export facilitation centers, floricultural and wine parks etc. Foreign aid and investment has also facilitated implementation of large projects like MACP and AIDP.

4.4.1. Agricultural Marketing Infrastructure in Maharashtra.

There are approximately 305 APMC’s, 608 sub-markets - Turnover - Rs. 50000 cr. There are 47 operational direct marketing licensees with a turnover of Rs. 900 cr. And 20 private APMCs with turnover of 2055.27cr. as of Nov 2014. The state government has signed a MoU with REUTERS for information dissemination through SMS to approximately 50000 customers. Two wine parks are established at Nashik & Sangli with 54 wineries in production. A Floriculture Park is established near Pune with 24 units in production. 10 Export Facility Centers are established under 6 AEZs. Vapour Heat Treatment facility is developed at Navi Mumbai. More than 8000 MTs fruits & vegetables are exported annually. The government has trained 40000 farmers enabling an export of more than 5000 MTs of horticulture produce. Maharashtra State Agricultural Marketing Board is the apex

16Maharashtra agri marketing reforms retrieved from http://www.mahaagribiz.com/
organization which is responsible for the gamut of regulated markets in Maharashtra as well as to formulate agricultural marketing policies and implement them throughout the state. MSAMB is committed towards smooth and orderly development of agricultural marketing in the State. The Board of Directors take all policy decisions in respect of this sphere of activity and such other important issues.

The state government in association with foreign agencies has taken a strong initiative in setting up market infrastructure to align the agricultural marketing sector with a globalised economy. The sector has benefitted with the creation of state of art facilities with special focus on horticulture. The following figure shows the infrastructure in Maharashtra:

**Agriculture Marketing Infrastructure of Maharashtra consists of:**

There are 305 APMCs in the state. Maharashtra State Warehousing Corporation has 800 Godowns with aggregated capacity of 15.73 Lakh MT capacity. 37 Private Markets are established, 20 Export Facility Centres set up by Maharashtra State Agricultural Marketing Board, Commodity specific export centres with facilities like pre cooling chambers, cold storages, pack house etc. are set up, State of art Vapour Heat Treatment Facility (VHT) set up at Navi Mumbai to control problem of fruit fly and also established irradiation facility centre at Navi Mumbai, Commodity specific cooperatives like MAHAGRAPES, MAHAMANGO, MAHAANAR, MAHAORANGE, and MAHABANANA are set up to boost export. There is a network of more than 900 Farmers Producer Companies with 4 lakh farmers base and 10 lakh acres area for backward linkages.
4.4.2. Implementation of Agricultural Marketing Reforms in Maharashtra:

The State Agricultural Marketing Act was amended in June, 2006 and the Rules were framed in June 2007. The government has issued direct marketing licenses to 72 firms. Private markets yards are to be set up. For this 07 approvals are given. 33 locations are identified to set up Farmer-Consumer Markets. There are 1 lakh Ha under various crops under contract farming arrangement. 09 private players have been granted single license system. 20 Festivals were organized under Special Commodity Markets. Following are the schemes through which the government of Maharashtra is supplementing reforms in the sector.

District Agricultural Marketing Structure (DAMS): DAMS was implemented for strengthening agriculture marketing system, for creating storage & processing infrastructural facilities and for yielding better market price to farmers. The total outlay for all the districts for next 3 years was estimated at Rs 1018 Crs. Financial Assistance for this scheme is expected under various schemes of Central & State Govt. such as RKVY, NHM, DMI, APEDA, NHB, NABARD, NCDC, MOFP. The activities that are to be included in DAMS are Pledge Loan Scheme, Fruit Festival Scheme, Rural Godown Scheme, Onion storage structure scheme, Onion transport /Ship transport freight subsidy scheme for exports, Setting up of Cold Storage and other related infrastructural projects, MARKNET / market information Project and Farmers Markets.
Terminal markets: this scheme was announced as part of the NHM in 2005-06. It is to be implemented by Public Private Partnership (PPP) mode. Project to be implemented on BOT basis by the Private Enterprises (PE) selected through Competitive Bidding process. Government land is made available for Mumbai (Thane) market & is in possession with MSAMB. Terminal Markets are to be set up at Mumbai, Nashik and Nagpur. The Estimated Project Cost is Mumbai – Rs. 250 Crores, Nashik – Rs. 60 Crores and Nagpur – Rs 55 Crores. This scheme is awaiting revised operational guidelines from GoI. The government has proposed to set up a modern market at - Kanhergaon, Tal. Vasmatnagar, Dist. Hingoli to be operated under Public Private Partnership (PPP) mode. A total 66.05 acres of land has been identified with Proposed Handling Capacity of 400 MT / day. The Estimated Project Outlay is Rs. 6229.72 Lakh. It is also proposed to establish a Terminal/Modern Market at Aurangabad under Public Private Partnership (PPP) mode at an estimated Project outlay of Rs. 60 Cr.

Convergence of Agricultural Interventions in Maharashtra (CAIM): It is an IFAD assisted project. The area of operation is Six distressed districts of Vidharbha region (Akola, Amravati, Buldhana, Wardha, Wasim, Yeotmal)Project approved by IFAD on 28th April 2009. Total project cost: US$ 118.6mn. Total IFAD financing is US$ 41.1 million, IFAD loan is US$ 40.1 million ,IFAD grant is US$ 1.0 million. Duration of the project is 8 years from 2009-2017. The project directly benefits 286,800 households, including Small and marginal farmers, landless labourers, Rural Women, Scheduled caste and Scheduled Tribes. Components of the IFAD project are: Institutional Capacity Building and Partnerships; Marketing Linkages; Sustainable Agriculture; Watershed Development; In situ water conservation; Organic Farming; Women Empowerment and Micro enterprises and SMEs. The aim of the project is to achieve increased productivity through water conservation and organic farming and sustainable, low external input agriculture. The expected outcomes of the project are, a reduction in production costs, increased household incomes and improved food security. Efforts at diversification into fruit, vegetable and livestock products will contribute to better nutrition. Increased carbon content will enhance soil fertility and increase moisture retention, allowing higher cropping intensity. The project’s innovative features include provisions for: fostering pro-poor partnerships with the private sector; using the instrument of contract farming for production of organic cotton and other crops; introducing an end-to-end subproject approach.17

17 Convergence of Agricultural Interventions in Maharashtra’s Distressed Districts Project retrieved from
Asian Development Bank Project: Agribusiness Infrastructure Development Investment Programme financing facility commenced in 2010. The project is to be implemented in the States of Maharashtra and Bihar. Project Report has been submitted to State Govt. by ADB. Major Objectives of the project are development of end-to-end projects; Convergence of Public Sector Investments; Convergence of existing subsidies schemes (VGF, NHM); Public-Private Partnerships (PPP); Integration of small farmers into value chains; Modular/Demand-driven Approach to Market infrastructure Investments. Project Outlay for Maharashtra is estimated at Rs. 983.09 Cr. Components of the Project are, On-Farm Centers for temporary collection at farm level, Agri Business Centers for consolidation, value addition and marketing, Perishable Cargo Centers for export of produce outside the State as well as in the international markets, Support infrastructure to improve physical connectivity and feasibility, Capacity building across stake holders in the value chain and Market information and intelligence.

Maharashtra Agricultural Competitiveness Project (2012-13) is another important scheme initiated by the government of Maharashtra to reform the agricultural sector. The components of the MACP project are: Upgrading & Modernization of APMC & Livestock Markets; Upgrading & Modernization of Rural Haats; Setting up of Farmer common Service Centers; E market pilots; Strengthening of Dairy societies; Fisheries Development; Implementation of warehouse receipt; Market information and market intelligence; Market led Extension Services.

Infrastructure Development for Exports and Domestic Marketing: MSAMB is Nodal Agency for agricultural exports. Proposals for 8 Export Facility Centers are submitted to APEDA. The centres are to be set up for, Banana- 2 Nos, Pomegranate - 2 Nos, Keshar Mango- 1 No, Orange- 1 No, Fruit & Veg- 1 No, VHT- 1 No. Facilities include Pre-cooling, Cold storage, Pack House, Material Handling Line, Ripening Chambers, Vapour Heat Treatment. The total investment in the project is estimated at Rs. 48.30 crores.

Proposals with APEDA: Vegetable Processing centre in Rahata, Ahmednagar. 25 Agro-Processing units were sanctioned under own equity: Govt. equity: Loan Pattern of 04:36:60 by NCDC. A MoU was signed with Citrus International, Sweden to establish 150 MT/day

http://operations.ifad.org/web/ifad/operations/country/project/tags/india/1470/project_overview.
processing facility at Amravati. Component of value addition by SHGs was included in WB/IFAD/ADB projects.

- Following table shows the projects adopted by Maharashtra government and their respective outlays:

**Table 4.10. Government of Maharashtra projects for agricultural market infrastructure:**

<table>
<thead>
<tr>
<th>Name of Project</th>
<th>Outlay(Rs.cr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maharashtra Agricultural Competitiveness Project (World Bank)</td>
<td>646.36</td>
</tr>
<tr>
<td>Asian Development Bank Project AIDP</td>
<td>983.09</td>
</tr>
<tr>
<td>CAIM</td>
<td>625</td>
</tr>
<tr>
<td>Modern Terminal Markets</td>
<td>350</td>
</tr>
<tr>
<td>RKVY Infrastructure projects</td>
<td>500</td>
</tr>
<tr>
<td>Modern Markets</td>
<td>100</td>
</tr>
<tr>
<td>District Level Agricultural Marketing Plan</td>
<td>1018</td>
</tr>
</tbody>
</table>

- **Following are some of the schemes submitted under RKVY:** Accreditation of 5000 rural godowns for pledge loan scheme @ Rs 2 lakh/godown with a total outlay Rs. 100 crore. Scheme sanctioned for 1000 godowns, Rs 20 cr. Investment in this scheme has been done. E-Governance scheme of PACS godowns @ Rs 1 lakh each. 10000 PACS with an outlay of Rs. 100 cr. were proposed. This scheme is not yet sanctioned. Connectivity to spot exchanges of MCX or NCDEX is proposed by combining accreditation with e-governance. It was proposed to link accreditation of godowns, pledge loan and marketing: MOU between MSAMB & NSEL is proposed with following concept: NSEL-e connectivity- PACS godowns. Also DCC bank and MSAMB; MOU on pledge loans- PACS godowns.

- **Farmer Producer Organisations in Maharashtra:** Maharashtra has the largest number of Farmers Producers Company (more than 900) with 4 lakh farmers joining their hands in Maharashtra. There are 300+ shareholders in each Producers Company covering 900 to 1000 acreage with similar cropping pattern. These FPOs are being promoted by, Maharashtra Agricultural Competitiveness Project (MACP)- 400, Small Farmers Agribusiness Consortium (SFAC)- 71, NABARD- 88, Agribusiness Infrastructure Development Investment Program (AIDIP)- 18, Convergence of Agriculture Interventions in Maharashtra (CAIM)-12 and Self-promoted -324. Farmer Producer Organisations are engaged in diversified cropping pattern and
produce pulses, grains, high value fruits- like Mango, Strawberry, Pomegranate, Orange, Sweet Lime and Banana and Vegetables like Onion, Potato, Lady finger and Tomato. FPOs are operating Farmers Common Service Centres (FCSC). FCSCs are established for primary processing of agro produce. There are more than 500 FPOs dealing in cereals, grains and 250 FPOs are dealing in fruits and vegetables. 72 FPOs have started their input shops. Each center has primary processing unit like gravity separators, de-stoners, packaging machineries, moisture meters, electronic weighing machines, grading tables, washing tanks etc. Many FPOs have procured input licenses, Direct Marketing Licenses. State Government through various programs have trained these FPOs on market led production, legal compliance, vendor registration requirements of various input players and processors. Some of the FPOs are successfully running input service centres, doing contract farming with large companies like ADM, Tata Rallis, UPL and Mahindra Agribusiness.

It is proposed to establish Farmers Common Services Centers (FCSCs) as small scale viable entities owned by producers associations formed by producers groups. They will be formed by bringing farmers together in the form of voluntary group of about 12 to 19 active farmers and federating 15 to 20 groups into Producers Association (PA). The FCSC will be located at the village level and will have a legal status, owned and managed by PA registered as a society under Societies Registration Act of 1860. The representatives of the member farmers will manage FCSC. It is necessary to develop basic minimum infrastructure like elevated platforms with sheds, pavements, internal roads, toilets, drinking water, drainage, and electricity, in rural haats. Both farmers and consumers stand to gain because of short supply chain and improved infrastructure which will help the producers to realize better prices and create a better trading place. 200 such FCSCs are to be set up for fruits and vegetables, in the State.

Besides, the program of formation of FCSCs, warehouse receipt finance and modernizing rural haats as an alternative marketing channel, virtual mandi concept i.e. e-trading is proposed to be augmented under the project. An additional option of e-trading has been included in the project. The trade of agricultural produce on exchange requires observance of certain requirements viz. volume of produce, grading / standardization of produce. This will open up a huge market to the producer with an added advantage of not being required to bring the produce to the APMC yard and farmers will also be able to realize better price. It has been proposed to setup e-trading in 294 locations in the State which will be operated by an e-trader by obtaining e-trading license from Director of Agriculture Marketing. These e- trading
platforms will perform the trade by providing the facility / information to the buyers and the sellers registered with them.

4.4.3. Institutions involved in development of horticulture and agricultural markets in Maharashtra.

The Maharashtra State Agricultural Marketing Board (MSAMB), Pune was established on 23rd, March 1984, under section 39A of Maharashtra Agricultural Produce Marketing (Development & Regulation) Act, 1963. The Maharashtra State Agricultural Marketing Board (MSAMB) is mainly entrusted with activities such as keeping necessary coordination in working of market committees, development & promotional activities of Agriculture Produce Marketing Committee (APMC), establishment of agro-export zones, horticultural training centres and grading & packing facilities etc. Under the amended Maharashtra Agricultural Produce Marketing (Development & Regulation) Act, 236 direct marketing licenses have been issued upto December, 2015, of which 128 are functional. Apart from these, 41 private market licenses have also been issued, of which 32 markets are functioning and the National Commodity & Derivatives Exchange (NCDEX) is operating through internet.

The State has launched Agri-business Infrastructure Development Investment Programme with the assistance of Asian Development Bank in September 2010. Land owned by APMCs/Co-operatives is being provided to private investors on 20 years lease to build and operate integrated value chains for agriculture produce on PPP basis. Private investment of at least 60 per cent of project cost is sought while the State provides maximum 40 per cent Viability Gap Funding (VGF). Through the provision of ` 400 crore as VGF, this project is supposed to leverage more than ` 600 crore private investment.

The National Horticultural Research and Development Foundation (NHRDF) was established by National Agricultural Co-operative Marketing Federation of India Ltd. (NAFED) and its Associate Shippers of onion on 3 November, 1977 under Societies Registration Act, 1860 at New Delhi. During 1989, the Head Office of NHRDF was shifted to Nasik. The aim of establishment of NHRDF was to guide the farmers, exporters and others concerned for improving the productivity and quality of horticultural good, to make available

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sufficient quantity for domestic requirement and to boost up export of onion and other such export oriented horticultural crops in the country. Laboratories on plant protection (Plant Pathology and Entomology), Plant Physiology and Biochemistry and Seed Technology have been established at Nasik and Karnal. One Seed and Soil Testing laboratory has also been established at Lasalgaon in Nasik district of Maharashtra. The NHRDF has established one of the most sophisticated and modern Pesticide Residue Analysis laboratory (PRAL) at Head Office, Nasik. The PRA Laboratory has also been recognized by APEDA and accredited by NABL for pesticide residue analysis of all the Agriculture produce. The NHRDF has also established a laboratory for production of bio-pesticides at Nashik and is producing bio-pesticides, i.e. Trichoderma and SNPV.

There is one Model Post Harvest Research Complex (PHRC) at Lasalgaon (MS) having 10 handling sheds of 100 MT capacity each. 20 modern storage godowns of 50 MT capacity each have also been established by NHRDF for training and providing infrastructural support to onion growers, traders, and exporters on post-harvest management of onion. The seed processing plants are established at Lasalgaon (Maharashtra). The seed stores with controlled temperature and humidity facilities are also established at Lasalgaon and Chitegaon in Nashik district of Maharashtra. Onion was the first crop on which the NHRDF has started its Research and Development programmes to meet the above mentioned aim and subsequently garlic, okra, chilli, French bean crops etc. have been added. The NHRDF initially started as a small centre at New Delhi in 1978 and now it has 3 Regional Research Stations, Laboratories on different aspects and 17 Extension Centres spread all over the major onion and garlic growing pockets of the country. It has also established one KrishiVigyan Kendra at Ujwa in New Delhi to cater the needs of farmers of Delhi State.

Maharashtra State Co-operative Marketing Federation: The number of co-operative marketing societies including District / central Marketing Federation was 1380 with a membership of 10.92 lakh and working capital of Rs. 447 crore. The turnover of these societies was Rs. 1,570 crore.

MSAMBR is implementing the Maharashtra Agricultural Competitiveness Project in Maharashtra with the support of the Government of Maharashtra (GoM) and the World Bank. Prior to MACP implementation, MSAMBR has proposed to carry out an Integrated Environmental and Social Assessment (IESA) study to assess the environmental and social
concerns associated with the proposed project interventions and factor in the key learnings in the project planning and implementation. A sub component of MACP is expanding market infrastructure and increasing farmer access to market opportunities. Sub-objectives of this component: increasing and upgrading market infrastructure, making market management more efficient and responsive to farmers’ need, promoting private investment in agribusiness, improving the relevance of market information and regulatory framework and Improving supply chain management.

Maharashtra-Shetkari Bazar: The scheme named Shetkari bazaar (farmers/consumers market) is being implemented by Maharashtra State Agricultural Marketing Board since 2003. Term loan upto Rs. 10 lakh is advanced to the APMCs for erection of Shetkari bazar. There are 12 Shetkari bazaars operating in the state. As per Government resolution No. APMC-1099/P.C.305/11-C dated 2nd July 2002, Govt. of Maharashtra has decided to set up Shetkari Bazars in the State and the MSAMB has been appointed as nodal agency for implementing this scheme. The Shetkari Bazars in all District and key taluka places by APMCs from the area and the produce brought by farmers will not be levied cess on. As per this resolution a state level committee is setup under the chairmanship of Hon. Minister of Marketing, Govt. of Maharashtra, for implementation and monitoring of this scheme. The district level committees are also set up under the chairmanship of respective district collectors.

The MSAMB has planned setting up of 100 Shetkari Bazars in the State within next two years. The cost of setting up Shetkari Bazar is around Rs. 20 to 25 Lakhs. MSAMB is providing subsidised interest loan up to 50% of the total subject to maximum of Rs.10 Lakh per beneficiary. The rate of interest for this loan is 5% p.a. with 10 years pay-back period. To avail this loan the APMC has to submit the proposal to MSAMB along with detailed plan and estimate and get prior approval for the same before starting the construction. For speedy construction of shetkari bazars, the Directorate of Marketing, Govt. of Maharashtra, has conveyed its general sanction to all the APMCs for setting up shetkari bazars required under clause no.12(1) of Maharashtra Agricultural Produce Marketing Regulation Act of 1963 subject to total cost below Rs. 30 Lakhs vide its office order dated 15 March 2002. As of now, the MSAMB has received 80 proposals for setting up shetkari bazars by APMCs and there are 05 Shetkari Bazars in operation.
MARKNET (Agricultural Market intelligence Network in Maharashtra State)

MARKNET is network of computerised APMCs in the State. Under this project, the state marketing board has computerised APMCs and connected through internet. Its Objectives are: To exchange and disseminate market arrivals and prices of Agricultural commodities, for the benefits of farmers. And to bring effectiveness and transparency in the functioning of APMCs. **Figure 4.7.** MARKNET- an agricultural market intelligence network in Maharashtra state.

Presently 294 main APMCs and 66 sub yards have been computerised under Marknet Project. All 360 computer sets have been provided to APMCs free of cost under AGMARKNET scheme of Director of Marketing & Inspection, Govt. of India. Each computerised APMC has one computer, UPS, modem, printer, and internet facility. Daily arrivals and prices data is being entered into the computer at APMCs and uploaded on the MSAMB's website (www.msamb.com).

**Pre Cooling and Cold Storage (PC AND CS)**

The Maharashtra State Agricultural Marketing Board undertook the first initiative in the State (1990), and even in the country, to promote the use of Temperature Management Technology (TMT) by setting up of PC & CS facilities under the Co-operative sector. The principle objective was to promote exports of fresh fruits and vegetables from the State. The MSAMB then identified technology, imported the technology, planned and implemented PC & CS facilities. Since then, under the guidance of the MSAMB, 32 PC & CS facilities have been set up in the Co-operative sector in the State. Due to this pioneering effort by the MSAMB, today Maharashtra is the largest exporter of fresh Grapes from the country and exports nearly 70% of all fresh fruits and vegetables from the country. The State has also successfully exported fresh Pomegranate and Mango using the PC & CS facilities. MSAMB has given technical guidance to establish 32 pre-cooling and cold storage facilities of co-operative societies in the State. Grapes have been exported from these facilities.
The Maharashtra State Warehousing Corporation (MSWC) Maharashtra State Warehousing Corporation: MSWC has 187 centres with more than 800 godowns. The storage capacity is 16.6lakh MT as of 31st march 2015. Of these, 40 godowns with 72,000 MT storage capacity have been identified by MSWC under the FCSC project which will have a tie up with the Banks and the commodity exchange. The food grain producing farmer will store the produce in these godowns, avail credit from the banks through the warehouse receipts and will have the option to sell the food grain through the commodity exchange at a future date. Within the vicinity of these selected MSWC godown, some of the APMCs (40 nos.) will be identified which will also undertake warehouse receipt program. Assistance to the MSWC and APMCs will be given in the project to undertake investments in their godowns. The successful implementation of this activity will result in i) usage of large no of godowns for storage purpose, ii) increase finance under warehouse receipt and iii) increase in trade on commodity exchange.

Table 4.11: Shown below are the Components and respective locations under MACP:

<table>
<thead>
<tr>
<th>Agri-marts</th>
<th>APMC modernization</th>
<th>Livestock APMC</th>
<th>AquaMart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narayangaon</td>
<td>Nagpur</td>
<td>Rashim</td>
<td>Bhigvan</td>
</tr>
<tr>
<td>Shingwe</td>
<td>Chandrapur</td>
<td>Rahta/Loni</td>
<td>Ramtek</td>
</tr>
<tr>
<td>Pimpri</td>
<td>Indapur</td>
<td>Kathi</td>
<td>Washim</td>
</tr>
<tr>
<td>Varud</td>
<td>Vashi</td>
<td>Junnar</td>
<td>Kolhapur</td>
</tr>
<tr>
<td>Deogad</td>
<td>Akola</td>
<td>Peth Vadgaon</td>
<td>Palghar</td>
</tr>
</tbody>
</table>

Figure 4.8. Components and respective locations under MACP.

The facilities proposed to be provided in this component are -
- Electronic auction hall: This would cover trading operations for fruits and vegetables with display hall, trader’s shops, weighing scales, ripening chambers, crates, furniture, etc.

- Modernization of perishable product trading section: This would cover the fruits and vegetables washing, cleaning, grading and packing units with pack-house.

- Modernization of food grain trading section: This would include food grains cleaning grading packing units. Two APMCs (at Amravati and Baramati) have already shown the success of food grain cleaning and grading units, a larger acceptance of such facilities is envisaged through this project.

Farmers Common Service Centers (FCSC) earlier called as AgriMarts are envisaged as aggregation-cum-market linkage facilities to be set up in rural areas. FCSCs are conceived as having basic market infrastructure, built around farmers’ organizations and located in the production areas.

Only two APMCs i.e. Mumbai and Nagpur are selected as pilots for the investment electronic auction system within the selected APMCs for the MACP project. The grading and packing centers for perishable product are proposed for other 18 centers (of which three in the pilot year). The last component, that of food grain grading and packing unit would be implemented in all selected APMCs under MACP. The APMCs are selected based on the production areas for the crops, linkages with up country and distant markets, land availability within existing APMC premises, operations of traders from distant markets and high arrivals.

4.4.4. Impact on vegetable supply chain.

Maharashtra has seen tremendous change in the supply chain of agricultural produce on account of the agricultural marketing reforms undertaken by the State government from 1963 and more recently post the adoption of Model APMC Act in 2005. The traditional supply chain of farmer- pre harvest trader- wholesaler- retailer- consumer was a long chain. Moneylenders and landlords would many a time play the role of pre harvest trader. Farmers, especially small and marginal would be indebted to these pre harvest traders and would have to accept low prices for their produce. In 1963 when the Agricultural Produce Marketing (Regulation) Act was enacted, regulated markets came into prominence. An area was designated as the market area and it consisted of one principal market yard and sub market yards. The APMC was an elected body of representatives from amongst the many stakeholders in Agricultural marketing. These committees were then supervised by the State Agricultural Marketing Boards. The
APMC carried out numerous functions. The market yard became an assembly point for wholesalers, retailers, processing firms and farmers. Market functionaries emerged as important agents to facilitate marketing and exchange of agricultural produce. Market functionaries include market committee, commission agents, arhatiyas, auctioneers, wholesale traders, load bearers, weighing and grading facility operators, transporters etc. The arhatiyas try to get the best possible rate for farmers and is also bound by law to make payment within 24 hours of receiving the goods from farmer irrespective of when he receives payment from traders. This gives farmers assurance of payment and security of trade. The supply chain then transformed to:

Farmer- local middlemen-APMC commission agent- wholesale trader- retailer- consumer.

Regulated markets ensured farmers a market place to meet buyers, facilities such as storage, grading, standardization, weighing, transportation etc. Auctions are conducted which made price discovery transparent. Farmers could also avail dispute settlement facility (vanda committee). The drawback was that APMC market yard became monopolistic in nature, farmers were unable to sell outside the ambit of the yard. Market levies and charges became excessive. Traders and commission agents often formed a nexus to exploit farmers. Elections to APMC were politically aligned and party politics seeped into these committees. The committee operated on dictates of particular political outfits. This reduced the freedom of farmers and made markets opaque and price discovery non transparent. Gradually many other modes of agricultural marketing have emerged leading to a change in the supply chain corresponding to each mode. For eg; Contract farming supply chain: contracting firm( food processor)- farmer- firm- consumer; Supermarket procurement: farmer- supermarket( organized retailer)- consumer; shetkari bazaar supply chain: farmer- consumer; private market yards: farmer- wholesale trader-retailer- consumer.

Table 4.12: Quantity & value of arrivals in all the market committees in Maharashtra:

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantity (lakh MT)</th>
<th>Values (` crore)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-10</td>
<td>226.11</td>
<td>37,098.65</td>
</tr>
<tr>
<td>2010-11</td>
<td>227.51</td>
<td>33,122.02</td>
</tr>
<tr>
<td>2011-12</td>
<td>240.94</td>
<td>31,563.41</td>
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<tr>
<td>2012-13</td>
<td>360.50</td>
<td>38,895.19</td>
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<tr>
<td>2013-14</td>
<td>242.65</td>
<td>44,977.48</td>
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</tbody>
</table>
The fall in market arrivals in volume terms points to the increasing number of farmers willing to market their produce directly through alternative methods of marketing rather than through APMC. But the value indicates inflationary price rise of farm produce over the years. Increase in the marketing licenses has encouraged formation of cooperatives, bulk procurement arrangements by super markets and eateries, direct sales to consumers through online marketing and many more alternative forms of marketing in Pune district. Under the new Act, 236 direct marketing licenses have been issued of which 128 are functional. Apart from this 41 private market licenses have been issued of which 32 are functional. NCDEX is operating over the internet.

Many of the supply chain players (like loading unloading labourers, weigh men and commission agents) expressed their concerns about their role once the modernization of the APMC comes in place. A careful analysis of the activities proposed under this component reveals that most activities would only facilitate the work being done by these supply chain players rather than displacing them. Only in case of electronic auction chambers (in the two large APMCs), there is a possibility of reduction in the role played by commission agents. In this case also, the proportion of arrivals being marketed through this channel vis-à-vis the commission agents would be small. Once the facility is functional, it would be available for use by the commission agents (who also run trading enterprises) as well as by the farmers. Hence the agents will be more than compensated for their loss of procurement from the farmers by better marketing of their stock in distant markets through the electronic auction system.

4.4.4.a. Food Retailing stores in Maharashtra:

A very significant event in the Agricultural marketing sector has been the foray of big business retailers in this sector. According to a study titled ‘Food processing sector-Challenges & growth enablers,’ jointly conducted by ASSOCHAM and Grant Thornton, the Indian food and retail market is expected to touch $482 billion by 2020 from $258 bn in 2015. Food & Grocery accounts for about 69 percent of the total retail industry in India according to panel members at the seventh Food and Grocery Forum India. The proliferation of organized retailing in India

is also altering food consumption patterns, promoting imported foods, branded foods, processed foods, and a wider assortment thereof.

A number of players have already established their presence in several cities and towns across the country. One of the pioneers in organized, fruits and vegetable retail was Safal, a unit of Delhi-based Mother Dairy, under the aegis of National Dairy Development Board, which having pioneered the concept almost 25 years ago, it currently runs 350 Safal stores. The company says it intends to provide a continuous and reliable supply of fresh produce to its customers, all the year around, without compromising on the core values of safety, freshness, and value for money. Large retail chains like Reliance Fresh, Food Bazaar, More, Easyday, Spencer’s, and Safal also have networking with farmers for direct sourcing. Additionally, they buy from local markets to maintain daily stock requirement. Says Safal’s Mr. Sahoo, “We have contacts with farmers’ association across 14 states and they supply us fruits and vegetable round the year. Our field team empowers them with information on crop planning, good agricultural practices, and most importantly, with market linkages.” Major Players in Indian Organized Food Retailing are: Big Bazaar (Hyper Market)Star Bazaar (hyper market chain)KB’s Fair Price (Essential Products), Reliance Group’s Reliance Fresh (neighborhood store) Reliance Mart (super market), Reliance super(mini mart). Some of these organizations have set up a centralised warehouses integrated with the cold chain facilities.

Some key players in the food retail business are:

**Future Group:** Big Bazaars journey began in October 2001, when the young, first generation entrepreneur Kishore Biyani opened the country’s first hypermarket retail outlet in Kolkatta (then Calcutta). The first Food Bazaar format was added as Shop-In-Shop within Big Bazaar in the year 2002. Kishore Biyani-led, Mumbai-based Future Group’s food and grocery business spans multiple retail formats such as hypermarkets, supermarkets, neighbourhood stores, etc. Presently, the retailer has pan India footprints in over 95 cities through 163 Big Bazaar stores, 186 Food Bazaar outlets, and other formats like KB’s FairPrice, Big Apple, Adhaar, and the newest specialty format storeFoodhall.²⁰

**Godrej Nature’s Basket:** Headquartered in Mumbai, Godrej Nature’s Basket (GNB), a premium gourmet food concept store by Godrej Group, began its journey in 2005. The chain

²⁰ Story of food Bazaar retrieved from www.futureretail.in/about-us/milestones.aspx
currently has 32 stores in key cities of Mumbai, Pune, Delhi/NCR, Bangalore and Hyderabad. During 2013, the chain registered same store growth of 25 percent and its annual turnover was INR 1857 (€22 mn). Targeting to have at least 10 percent of sales through new products every year, Natures Basket has fine-tuned its product selection approach to make it consumer centric. Nature’s Basket offers e-commerce across stores locations.

**Spencer’s:** Since 1863, Spencer’s has been a part of the Indian retail landscape. John William Spencer and Charles Durrant commenced business as Auctioneers and Commission salesman at 187, Mount Road, Chennai. It became part of the RPG Group in 1989. In 1995, RPG Enterprises, the flagship company of the RPG Group, launched 'Foodworld' as a joint venture with Hong-Kong based Dairy Farm International. The joint venture, which operated supermarkets under the name 'Foodworld' and hypermarkets under the name 'Giant', was terminated in 2006. RPG retained 48 of the 93 stores it owned. These were re-furbished and their launch under the brand name, Spencer’s, kicked off a new phase in both the history of the Spencer’s brand, and retail in India. Back in 1920, they were the first grocery chain in India. In 1980, they became the first supermarket chain, and in 2001, they started the hypermarket format of retailing. RP-SG Group owned Spencer’s Retail Ltd operates 128 outlets comprising convenience stores, called Spencer’s and hypermarkets called Spencer’s hyper in 40 cities across India. It has also introduced a new format called Compact Hypers. Spencer’s has widely expanded the gourmet food range in its hypermarkets, especially in metros. It has rolled out an innovative, experiential food retailing concept called Epicuisine in select hypers. These specially designed ‘hubs’ offer quick and healthy ‘on the go’ meal solutions to shoppers.21

**Reliance Group:** Reliance Retail started its journey in 2006 with the opening of its first Reliance Fresh store. Today Reliance Retail operates over 500 Reliance Fresh stores across 80 cities and sells over 200 metric tonnes of Fruits and over 300 metric tonnes of Vegetables every day. Continuing Reliance’s hallowed tradition of backward integration, Reliance Retail directly partners with a large number of farmers and small vendors in a farm-to-fork model. The linkages with the farm has brought about transformational changes in the quality of life of the farmers as also enhancing the quality of produce, reducing wastage by shortening the time to move fresh produce and reducing intermediaries in the value chain thereby benefiting

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21Story of Spencer's Retail retrieved from http://www.spencersretail.com/heritage
all. Reliance Fresh Direct started in 2016, offers over 6,000+ products at comfort of your home, office or on the move.

**STAR Bazaar**, a TATA & TESCO ENTERPRISE, is a multi-format hypermarket chain present in Mumbai, Pune, Kolhapur, Aurangabad and Bengaluru. They are also present in express format known as Star Daily in Pune. Each of their 11 hypermarket stores are spread over a large area (40000 – 80000 sq. ft.) and offer the entire spectrum of product categories. Star Bazaar is a unit of Trent Hypermarket Pvt. Ltd. which is part of the Trent Limited, a Tata Group Company in retailing, is a Rs. 1,845 Crore enterprise with 100 stores in 38 cities across the formats like Westside, Star Bazaar and Landmark. There are only 20 Star Bazaars, since the first one opened in 2004. Ten of them are hypermarkets of approximately 50,000 sq. ft—the large-size format it initially preferred. The remaining 10 are Star Market and Star Daily outlets, which came after Trent partnered Tesco in 2013. The Daily is up to 5000 sq.ft and the Market is 5,000-15,000 sq.ft. Under Fiora Hypermarkets, the firm has launched an online grocery portal—www.my247market.com—to explore the online grocery retailing opportunity in the proximity of select Star banner stores.

**Aditya Birla Retail Limited** is the retail arm of Aditya Birla Group, a USD 41 billion corporation in the league of Fortune 500 companies. The Company ventured into food and grocery retail in 2007 through the acquisition of Trinethra Super Retail and subsequently expanded its presence nationally under the brand 'More' across Supermarkets & Hypermarkets. There are currently 485 Supermarkets and 19 Hypermarkets.

**Mahindra Shubhlabh Services Ltd. (MSSL)** is the Agri-business company of the Mahindra Group with an equity stake of International Finance Corporation (IFC, Washington). MSSL’s business mission is to integrate the agriculture value chain from Agri-inputs through to farm outputs or Agricultural commodities. The company now address crops like pomegranates, grapes, gherkins, garlic, onions, potatoes as well as crops destined for the seed industry. At present, within the agri Inputs area, MSSL has also launched brands related to seed potato, wheat, maize and sunflower seed, as well as a range of Agrochemicals.

Farm2Kitchen is working on being the producer, processor and retailer of organic food. It has collaborated with Nashik-headquartered Sahyadri Farmers Producer Company Ltd, a leader in

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food safety practices especially pertaining to fresh F&V, to help with procurement and logistics. “We have moved into offline retailing along with our online business. With the recent roll out of Farm2Kitchen Organic Food & Lifestyle Retail Store in Pune, we plan to open more outlets in major cities in 2014,” discloses Dholi.  

4.4.5. Issues arising out of reforms.

APMCs have numerous limitations as listed earlier. APMCs were originally established with a view to prevent exploitation of farmers by intermediaries, who compelled them to dispose of their produce at the farmgate at very low prices. By mandating all farm produce to be brought to regulated market yards and sold through auctions, the APMC mechanism was meant to ensure fair prices to farmers. But in many cases, these bodies have themselves become dens for cartelisation by traders, who control prices and charge hefty commission fees on produce transactions. An extreme case that surfaced recently was of Devidas Maruti Parbhane. This farmer from Vadgaon Rasai, a village in Pune district’s Shirur taluka, supplied one tonne of onions early this month at the local market yard under the Pune APMC’s jurisdiction. The price he got — a little more than Rs 1.5 per kg — was itself very low. But adding insult to injury was the various “cuts” imposed on top of this. A scrutiny of Parbhane’s patti (trade slip) by The Indian Express revealed his total revenues from the sale of one tonne of onions at Rs 1,523.20. The total cuts even on this meager amount added up to Rs 1,522.20. That included commission fees of Rs 91.30, hamali or labour charges of Rs 59, bharai or filling-in-bags charges of Rs 18.55, tolai or loading charges of Rs 33.30, and transport charges of Rs 1,320 (as the kutcha patti issued in Shirur was billed for delivery at Pune). Parbhane, at the end of it, was left with a net earning of Re 1. These kind of occurrences made it imperative for the political leaders to take cognizance of the situation and correct it through continuous and comprehensive reforms.

The same article reports that in 2012, Radhakrishna VikhePatil, who was agriculture minister in the previous Congress-NCP regime, had announced the intent at delisting horticultural produce from the state APMC Act’s purview. A final decision, however, could not be taken following strong trader protests. A major reason for it is that the APMCs — like sugar and

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various other rural-based cooperatives — are largely controlled by the NCP and Congress. The ruling alliance partners have little presence in APMC boards that are supposed to have elected directors representing all stakeholders, including farmers, traders and mandi labourers. The Vashi APMC is now under a state government-appointed administrator, with the earlier board of directors superseded for alleged malpractices. “The total turnover of APMCs in Maharashtra is roughly Rs 50,000 crore. Delisting of F&V may bring this down by Rs 10,000 crore. But even this needn’t be the case, as we have seen in Delhi, where business at Azadpur mandi has not suffered after delisting. We are only giving farmers an option, which includes supplying directly to processors or supermarkets. There’s nothing stopping them from continuing to sell through APMCs,” pointed out Patil. Fruits & Vegetables contribute over Rs 3,000 crore to the Vashi APMC’s yearly turnover of Rs 10,000-12,000 crore.

On 12th July 2016, the Government of Maharashtra, issued an Ordinance amending the APMC Act 1963, deregulating fruits and vegetables and removing them from the purview of APMCs in the State. This reform is expected to allow farmers to sell produce directly to traders, retailers, processors and consumers. It will break the monopoly of APMC traders and make the process of price discovery transparent. It will also reduce the burden on farmers, of paying market fees, commissions and service charges. This will ensure better returns to farmers and freedom of selling their produce to whosoever pays the best. On the other hand, APMCs will have to become competitive. They will have to offer better facilities, better services and better returns to farmers to attract farmers to their yards. This will break their monopolistic, underhand practices that have exploited the farmers for long. APMCs will have to offer transport, storage, scientific weighing and grading facilities as well as adequate infrastructure in the APMC premises. Information dissemination and extension will also have to improve.

Traders argue that currently there is government supervision of weighing and grading facilities. In case of disagreement between farmers, traders, commission agents and wholesalers there is a dispute settlement body (vanda committee) which ensures fair settlement of farmers woes. Open auctions conducted in the APMC premises ensure that farmers get the highest possible bids for their produce. All consumers, wholesalers, retailers and processors come into the

APMC yards to buy farm produce. This ensures fair level of competition and appropriate price discovery.

Market functionaries and agents at APMCs are not completely opposed to the idea of deregulation. They support complete deregulation. They do not agree with the partial deregulation where rules differ for trade within and outside the APMC premises. Traders within the premises have to pay market fees and arhat while those selling outside the APMC premises are exempt from these charges. This creates an uneven playing field between the traders. The government of Maharashtra had deregulated processed food on 3rd March 2014; similar guidelines have not been implemented in case of fruits and vegetables. Gujarat government which deregulated fruits and vegetables in April 2015 does not discriminate between areas within the APMC yard and areas outside. The APMCs are of the opinion that government should refer to these two reform measures before implementing the current ordinance.

The general argument against current reform measures is that farmers will be unable to transport and sell their own produce directly. They are ill equipped to face the large scale wholesalers, traders and big business retailers. Initially these agencies will offer better returns to farmers but gradually they may collude and exploit the farmer. Consumers are dispersed and competition will fall leading to inefficient price discovery. There will be no dispute settlement mechanism. Farmers may have to take on legal disputes which will be very time-consuming and costly. Unless they form cooperatives, farmers will be unable to market their produce. Auctions will not be conducted so best bids cannot be attained. Gujarat farmers have faced some of these limitations since deregulation.

In response to government of Maharashtra’s ordinance, there have been strong protests by APMC traders, wholesalers and workers. Traders shut down shutters and prices of fruits and vegetables in the State sky rocketed. The State government roped in direct market licensees and farm produce companies to directly sell fruits and vegetables in the city. The government planned to make available 14 markets for direct selling. The APMC strike on account of deregulation of fruits and vegetables ended as the state government agreed to allow free trade for wholesalers operating in the APMC yards. But they will now levy the 6.5% commission on buyers who are generally the neighborhood vendors, instead of farmers. These vendors will naturally relay the price to the common householders. Market cess will not be levied on farmers anymore. They are free to sell their produce inside and outside the APMC without permission.
4.5. The changing system of marketing in Pune District.

The study is based in district of Pune in Maharashtra. This district is known for its varied agricultural production as well as for the production of vegetables of both traditional and exotic varieties. Farmers in this district have shown themselves to be reasonably rational and progressive in nature. They are not only implementing technology in farms, but are also willing to explore alternative forms of agricultural marketing. Having realized that the weak link in agricultural sector, is the agricultural marketing sub sector, restricting the flow of reasonable returns to farmers and leaving them impoverished. It is this area that farmers are now addressing aggressively. Farmers have forayed into cooperative marketing, direct marketing, online marketing and contract farming in large numbers. Their efforts are yielding good results, as seen from the experiences of individual farmers and farmer groups, reported by numerous newspapers.

4.5.1. Description of Pune District:

Pune district has 12 APMC (Principal Markets) and 38 sub-markets under these APMCs (Annexure – III). The name of 12 APMCs operating under Pune Districts are given below: (i) Baramati (iii) Bhor (iii) Dound (iv) Indapur (v) Junnar (vi) Khed (vii) Manchar (viii) Nira (ix) Pune (x) Shirur (xi) TalegaonDabhade (xii) Mulshi

The major commodities transacted in the APMCs of Pune Districts are Wheat, Paddy, Bajra, Jowar, Maize, Gram, Green Gram, Soybean, Pigeon Pea, Groundnut, Groundnut Kernels, Cashewnut, Onion, Potato, Tomato, Garlic, Chillies, other vegetables, Tamarind, Banana, Jaggery and Fish. With a view to giving a thrust to the agro processing sector in rural areas, Government of Maharashtra has created a new department viz., Department of Agro Processing and Agri Business, which has its headquarters at Pune. Maratha Chamber of Commerce, Industries and Agriculture (MCCIA), Pune is involved in setting up a Food Processing Cluster with the financial assistance from Government of India. It has already established a Food Testing Laboratory as a part of the proposed Food Processing Cluster. Some reputed companies

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in the field of agro-processing have their presence in Pune, viz; Alfa Laval, Praj Industries, SSEngineers, Tetra Pak, Nichrome, Gits Foods, Cargill Foods, Pravin Masalewale, Chordia Foods, Dohler India, Weikfield, Dynamix Dairy, Frito Lays, etc.

Table 4.13: Details of some APMC Markets in Pune:

<table>
<thead>
<tr>
<th>Market</th>
<th>Sub-yard</th>
<th>Main Commodity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Baramati</td>
<td>Wheat, Rice, Bajra, Jaggery</td>
</tr>
<tr>
<td>2</td>
<td>Bhor</td>
<td>Wheat, Rice</td>
</tr>
<tr>
<td>3</td>
<td>Dound</td>
<td>Jaggery, groundnut, Red chillies, Soyabean, Paddy, Cashewnut</td>
</tr>
<tr>
<td>4</td>
<td>Indapur</td>
<td>Jawar, Bajara, Wheat, Gram, Pigeon pea, Maize,</td>
</tr>
<tr>
<td>5</td>
<td>Junnar</td>
<td>Onion, Potato, Rice, Wheat, Garlic, Green chillies, Tomato, Groundnut</td>
</tr>
<tr>
<td>6</td>
<td>Khed</td>
<td>Onion, Potato, Groundnut pods, Vegetables</td>
</tr>
</tbody>
</table>

4.5.2. Actual changes in vegetable supply chain in Pune district:

A supply chain is a group of business linked together. It is one of the important marketing functions. Supply chain management may be defined as an integrative approach to dealing with the planning and control of materials flow from suppliers to end-users. An efficient supply chain drives consumer satisfaction, industry profitability and facilitates reasonable return to the farmers.

Figure 4.9. Vegetable Supply Chain in Pune.
A study by the Boston Consulting Group in 2011, showed that the supply chain of vegetables such as tomatoes has five levels between farmers in Narayangaon in Pune, APMC market in Vashi, Navi Mumbai, and consumers in Mumbai. The chain involves a farmer- aggregator- market trader- wholesaler- sub wholesaler and retailer- consumer. In the process 30% is farmer realization, 24% is value addition such as sorting and grading, 23% is leakages and 23% is gross profit. A retail executive at a hypermarket chain says farmer sells cabbage for Rs. 1 or Rs.1.5 per kg to a local broker, who sells it for Rs.7 or Rs.8 to a mandi broker, who sells it at Rs. 16- rs.17 to retailers who in turn sell it at Rs. 20 to the consumer. A Mumbai based retailer says, he buys tomatoes at Vashi market. Per cart transportation cost is Rs.28. they keep a margin of 50% in addition to mandi tax.

Hadaspar vegetable market in Pune is a model market for direct marketing of vegetables in Pune city. This sub-market yard situated 9 kms away from Pune city belongs to the Pune Municipal Corporation and the fee for using the space in the market is collected by the Municipal Corporation from the farmers. It is one of the ideal markets in the country for marketing of vegetables. In this market, there are no commission agents or middlemen. The market has modern weighing machines for weighing the products. Buyers (retailers) purchase vegetables in lots of100 kg or 100 numbers. The produce is weighed in the presence of licensed weighment of the Market Committee and sale bill is prepared. The purchasers make payment of the value of produce directly to the farmer. The purchaser is allowed to leave the market place along with the produce after showing the sale bill at the gate of the market. Payment is made in cash. Disputes, if any, arising between buyers and sellers are settled by the supervisor of the Market Committee after calling the concerned parties. The Market Committee collects
one per cent sale proceeds as market fee for the services and facilities provided by the committee to the farmer-sellers and buyers. A common problem faced by the direct market systems is the infiltration of the bazaars by middlemen in the guise of farmers. Though identity cards have been introduced and there are periodical checks, the problem still persists.26

In Pune district, farmers have been cultivating vegetables on a commercial scale for many decades. Recently they have even diversified into cultivation of exotic vegetables which are now demanded by consumers on a considerable scale. Demand for exotic vegetables comes from eateries and also for household consumption. There is also increasing preference by households for agricultural produce cultivated using organic farming techniques. Large number of farmers has diversified production. They now produce exotic vegetables and practice organic farming. This indicates that there is now market driven production. Farmers are also assured of markets and demand both local and foreign. Farmers are investing in techniques like greenhouse production, with controlled production of produce to fit specifications as required by buyers. There is also an initiative on part of farmers to sell their produce directly to consumers. The objectives are to eliminate intermediaries, to reduce the charges paid to market functionaries and avoid exploitation by traders and pre harvest operators. Farmers are organizing themselves into groups with common interests. These groups have members producing similar products. Members of these groups share resources and information on pricing, investment, disease control etc. This process helps to resolve problems and increase returns to farmers.

The old supply chain of vegetables: farmer- pre harvest trader- wholesalers- retailers- consumers. The new supply chain of vegetables: farmers- consolidators- consumers. In the old supply chain, farmers would have to depend on pre harvest operators like money lenders or landlords to obtain money capital for investment. Then the farmers would sell their produce to the same pre harvest operator. The operator would offer very low prices to the farmers. This produce would then be sold to wholesale traders at the Gultekdi market yard. From there it would be procured by retailers and finally sold to consumers. The process of price discovery involved the hatta/ undercover system. Hatta Sale (Under Cover). This method of sale is legally not permitted to be practiced in the regulated markets. But it is learnt that Hatta or undercover sale is still practiced in the fruit and vegetables market. Codes 1 finger = Rs 10. 1 tapping = Re

26Organised Agri-Food Retailing in India, NABARD, January – 2011 Preface, Pp77
1 Fist = Rs100 e.g. holding 3 fingers and then tapping the finger 2 times would communicate Price of Rs.32/kg. If the prices are acceptable to both the parties, lapping hands signals the deal is done. The main reason why it is practiced is well justified by the wholesalers in the market. According to them there has been a sharp increase in the number of retail clients visiting the A.P.M.C market. If the prices offered to the wholesale buyers are negotiated via talking or discussing loudly, even the retail buyers would demand a similar price which would not be acceptable to the wholesale buyers or sellers.

An example of the new supply chain: in Hinjewadi region of Pune district there is a group of vegetable cultivating farmers under the aegis of Abhinav farmers’ club. Mr Dyaneshwar Bodke is the head of this club. This initiative was started 15 years ago. The members of this club consolidate their produce at the office of Mr.Bodke. The first customers were 11 officers of NABARD office in Pune. Then this produce got sold in housing societies directly to consumers. They are selling to 109 societies managed by marketing teams. There are 56 vans which roam the breath of Pune city to sell vegetables at the same price to consumers. The farmers have been practicing organic farming since 12 years now. Seeds and certification is done by AFC. There have been tie ups with the vegetable stores in Koregaon area of Pune central region and Transcool at Chinchwad as well as Organic Garden. The services of self-help groups(SHGs) of women are used to grade and pack the produce. Some of the final produce is also sold at Gultekdi market in Pune. Farmers have benefitted as they can recover production costs and also receive 30 percent over and above production costs.

At Pune APMC, changes have been introduced to facilitate the sale of all agricultural produce. This APMC was established first in 1957, under the Bombay Agricultural Produce Markets Act 1939. It started functioning on April 1st 1959. In January 2008 it was declared a regional APMC. This was divided in May 2012 and started functioning at Gultekdi, Pune 37 under the APMC Act, 1963.

Table 4.14. Working of APMC market at Pune:

<table>
<thead>
<tr>
<th>Department</th>
<th>Established</th>
<th>Total area in acres</th>
<th>Total shops / plots</th>
<th>Working hours</th>
<th>Weekly holiday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of jaggery bhusari</td>
<td>1995</td>
<td>125</td>
<td>724</td>
<td>10am to 8pm</td>
<td>Sunday</td>
</tr>
</tbody>
</table>

27HISTORY AND LEGISLATION OF AGRICULTURAL PRODUCE MARKET COMMITTEE
http://shodhganga.inflibnet.ac.in/bitstream/10603/97022/9/09_chapter2.pdf
<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Details</th>
<th>Vehicles coming every day</th>
<th>Total vehicles</th>
<th>Arrivals in the projections of the QT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vegetable Department</td>
<td>truck 25, Tractor 5, tempo 70</td>
<td>100</td>
<td>3,750</td>
</tr>
<tr>
<td>2</td>
<td>Fruit sector</td>
<td>16</td>
<td>34</td>
<td>2350</td>
</tr>
<tr>
<td>3</td>
<td>Onion potato sector</td>
<td>112</td>
<td>137</td>
<td>16500</td>
</tr>
<tr>
<td>4</td>
<td>Department of jaggery bhusari</td>
<td>102</td>
<td>154</td>
<td>18200</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>255</td>
<td>425</td>
<td>40800</td>
</tr>
</tbody>
</table>

Table 4.15: Details of vehicles and arrivals of agri-produce in the main market premises in general:

Table 4.16. Sub markets of Pune APMC.

<table>
<thead>
<tr>
<th>No.</th>
<th>Upabazar name</th>
<th>Established</th>
<th>work time</th>
<th>weekly holiday</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pimpri-Chinchwad</td>
<td>1 9 77</td>
<td>5am to 5pm</td>
<td>No</td>
</tr>
<tr>
<td>2</td>
<td>Khadki</td>
<td>1 9 77</td>
<td>6am to 2pm</td>
<td>No</td>
</tr>
</tbody>
</table>

Source: www.puneapmc.org.

Farmers are allowed to sell directly to the customers in the APMC market premises. Farmers themselves can decide their own price for agricultural produce and get a price advantage of 100 per cent. One way traffic regulation has been imposed on vehicles for faster delivery of produce to the Commission agents. From 13 September 2009, a group of 170 farmers from Kalewadi, in Junnar taluka have started selling vegetables directly to consumers in the APMC yard in Gultekdi. “Dial for Bhaji is an phone/email based service to provide vegetables at the consumers’ doorstep. The mail id is kvm.kalewadi@gmail.com. Separate shed arrangement is also made to encourage farmers to sell their organic, agricultural produce in the market. Farmers are given space on a first come first serve basis. Market information regarding prices
is provided on the market’s website www.puneapmc.org. based on coding of each agricultural produce. This information is updated daily. Farmers can also get this information on their mobile phones via SMS by sending the code to a particular phone number stated on the website.

4.5.2.a. Changing nature of vegetable supply chain in Pune:

The supply chain of vegetables has become shorter and also changed in form. More importantly the nature of marketing has changed considerably over time on account of modernization, technology and liberalization. Modernization is a movement away from traditional crude marketing techniques like the dara sale, moghum sale or hatha system to regulated markets and direct marketing by organized retailers. Technology is enabling better and faster transport, electronic weighing and grading, auctions, online trading and information dissemination.

Farmers in Maharashtra are adapting to policy changes in agricultural marketing sector. Marketing arrangements are changing rapidly. The traditional format of sale in local bazaars and mandis continues no doubt, but that is in case of very marginal farmers. Small, medium and large farmers are now producing commercially on large scale and adapting to variety of marketing modes. APMC market yards are still the preferred mode of selling produce. But formats such as direct marketing and contract farming are soon gaining ground.

In areas with proximity to urban clusters, there is a discernible trend of farmers willing to experiment with direct marketing. For eg; farmers in Hinjewadi area of Pune district are now selling their fruits and vegetables to housing societies, offices, eateries, supermarkets and food processing firms. It is not only the length of the vegetable supply chain, but also the nature of marketing modes that is undergoing change. There is considerable use of internet and computing. Farmers are referring to the daily market information related to market supply and prices available on government websites and other marketing websites to determine their preferred time and place of sale. Online marketing has also started in many clusters. There is use of computing to manage accounts and logistics of supply to markets. Farmers’ groups are sharing information related to agricultural inputs and marketing techniques through seminars, workshops, training programmes and via the SMS mode. Call centres are accessed on mobile phones to obtain specialized information from authentic sources.
Farmers are investing in purchase of vehicles and cold storage vans to reduce dependence on costly transport facilities. Also cold storage vans increase the shelf life of their produce cutting down the risk of distress sales. The efforts of farmers are receiving support both technological and financial from the State agencies such as Maharashtra Krushi Utpann Panan Mandal. Thus the nature of vegetable supply chain is constantly changing. Modernization and liberalization are hallmarks of the vegetable supply chain post model APMC Act 2005.

4.5.3. Direction of future reforms:

To overcome the limitations of APMC market yards, government adopted the Model APMC Act in 2006. This Act would encourage direct marketing and private participation in Agricultural markets. It facilitated the procurement of agricultural produce. Farmers would be directly associated with traders, retailers, food processing firms and consumers. The role of APMC would be limited. Farmers’ cooperative markets and private market yards would be established to conduct direct marketing activities. If APMCs are to survive they will have to offer similar facilities to farmers and also charge competitive prices.

APMC traders and functionaries are worried about the loss of livelihoods of all market functionaries if the government gradually delists all agricultural produce from the APMC purview. They fear that traders and retail firms or food processing firms will emerge strong due to the governments’ liberalization policy. The supply chain will alter in such a way that most intermediaries will be eliminated resulting in a loss of livelihoods. Another real concern voiced by market functionaries is that, removing fruits and vegetables from the ambit of APMC will leave farmers at the mercy of local traders or organized big business retail firms leading to their exploitation. Although initially these firms may offer good remuneration to farmers, once their monopsony is established they may start exploiting farmers. One such case was reported by the Abhinav Farmers Club at Pune. The club was selling vegetables to a supermarket store. Now they are in a legal tangle with the same store as they were not paid their dues and also because their produce was not collected even after assurances of purchase by the management of the supermarket.

One more possibility of farmers being dealt a raw deal is when processing firms buy only A grade produce from farmers and leave the remaining produce to be sold in the market yard. This issue had cropped up in the Jalandhar market yard when Reliance Fresh bought only A grade produce from farmers. The remaining produce then had to be transported to the market.
yard. Farmers had to make distress sales at depressed prices due to supply glut. Traders in the market yard would be already antagonized as farmers were selling the best quality produce to Reliance Fresh.

Another major reform being encouraged is contract farming. Under this arrangement a bipartite agreement is made between farmers and food processing firms. These parties would agree on certain terms of contract pertaining to the quantity of produce, quality specifications, time frame of production and price to be paid besides logistics of supply like transportation packaging etc. farmers were committed to these terms and some pre-trade support and extension would be offered to farmers such as inputs and credit. In Punjab, Pepsico Ltd. entered into such agreements with large number of farmers for potato production. The produce was later rejected as it did not meet the specification of the firm, stated in the contract. This left farmers in a lurch. They were forced to undertake distress sales of the produce. Investments made by farmers were also not recovered. It led to a legal tangle between farmers and Pepsico Ltd.

With 100 percent FDI in food retail, very large players like Walmart, Carrefour, Metro etc are expected to make forays into the Indian agricultural sector. These firms will be cash rich and will pre determine the products they stock on their shelves. Consumer choices will be affected by the availability of produce in these stores. The business of local retailers or mom and pop grocery stores would be lost. Farmers will also start catering to market demand leading to mono cropping and loss of fertility of soil which can only be maintained by alternating crop production. Further cropping of same crops by large number of farmers will depress prices in the markets causing distress to farmers. There is a real possibility of limited number of crops being produced driven by specifications of large market players in the long run. Consumers will lose on options and consumption of regional and nutrition offering varieties of food.

4.6. Conclusion.

The policy changes and reforms in agricultural marketing sector aim at creating a vibrant marketing sector. Legal reforms and strategy of modernizing infrastructure will have an immense effect on the supply chain. In South Korea, for instance, as a consequence of expansion of direct marketing of agricultural products, consumer prices declined by 20 to 30 per cent and producer-received prices rose by 10 to 20 per cent. This also provided incentive to large-scale marketing companies to increase their purchases directly from producing areas.
Direct procurement by retailers has been feasible in case of only fresh fruits and vegetables. Direct procurement also gives the farmers certain indirect benefits like knowledge of what needs to be produced when, technological inputs and access to credit on account of assured market etc. However, of late, direct procurement has been reduced by many organised retailers and is being restricted to seasonal operations by major national level players due to non-feasibility of such operations. The major reasons for the same are high backend investment requirement, low volumes of purchase, increasing cost of operations, high transaction costs etc. Even regional retailers expressed their interest to procure directly from farmers but they are not able to do so as it is a very costly affair to deal with numerous individual farmers. There is a need to promote farmer clusters but smaller organized retailers do not have the financial capacity and volume requirement to justify the creation of such clusters.²⁸

There are number of areas and aspects of agricultural marketing sector still awaiting reforms. Second generation of reforms will be required to consolidate the gains of the reforms since 1960s. The Model APMC Act has laid the roadmap for the second generation reforms. More recent announcements like FDI in retailing and delisting of fruits and vegetables from APMC purview show the government’s intentions of vigorous and continuous reform of the sector. In Pune district there coexist, marginal farmers selling at local bazars, weekly bazaars, farmers cooperatives, farmer group tie ups with agri business retailers, supermarkets’ direct procurement from farmers as well as APMC sales. Thus the Pune market displays the real impact of reforms and technological interventions in agricultural marketing.

²⁸ Organised Agri-Food Retailing In India, Nabard, January – 2011 Preface, Pp107.
References.
