



# Preparation of Detailed Feasibility Report for Development of Agri-Marketing Facilities at Talegaon Dhabade, Pune

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## Table of contents

1. Introduction .....	8
1.1 Methodology .....	9
2. Project location: Talegaon Dhabade, Pune .....	11
2.1 Geographical Profile .....	11
2.2 District: Agriculture Glimpse .....	11
2.3 Cluster .....	13
3. Throughput Estimation .....	19
3.1 Commodity Projections: Methodology .....	19
3.1.1 Projections .....	21
3.1.2 Trends .....	23
3.1.3 Basis of percentage selection .....	24
3.2 Capacity Calculations .....	25
4. The Proposed Agri Marketing Facility.....	29
4.1 Planning and Design of the Infrastructure .....	29
4.2 Flow of Produce .....	29
4.3 Site Master Plan .....	29
4.4 Designing of Buildings .....	32
4.5 Land Use of Agri Marketing Facility.....	32
4.6 Salient Features of Proposed Infrastructure .....	33
5. Site Assessment .....	35
5.1 Land & Location .....	35
5.1.1 Land parcel -1.....	35
5.1.2 Land Parcel -2.....	35
5.1.3 Land Parcel -3.....	36
5.2 Proposed site location .....	36
5.2.1 Connectivity .....	37
5.2.2 Water Availability .....	38
5.2.3 Power .....	38
6. Project Components .....	37
6.1 Project Infrastructure.....	37
6.2 Common Infrastructure .....	38
6.2.1 Packhouse for Fruits and Vegetables .....	38
6.2.2 Grain Complex.....	39

6.2.3	E-auction Centre for Flowers .....	40
6.2.4	Other supporting Infrastructure .....	42
6.3	Support Infrastructure .....	43
6.4	Basic Enabling Infrastructure .....	44
7.	Available Incentives .....	48
7.1	Central Sector Scheme of financing facility under- ‘Agriculture Infrastructure Fund’ 48	
7.2	Integrated Scheme for Agricultural Marketing (ISAM) .....	48
7.3	Schemes of Ministry of Food Processing Industries, Government of India .....	48
7.3.1	Pradhan Mantri Kisan Sampada Yojana (PMKSY).....	48
7.3.2	Pradhan Mantri Formalisation of Micro Food Processing Enterprises Scheme (PMFME) .....	50
7.3.3	Production Linked Incentive Scheme for Food Processing Industry (PLISFPI) 52	
7.4	Scheme of National Horticulture Board .....	52
7.4.1	PHM/Primary Processing related components .....	52
7.5	Agricultural and Processed Food Products Export Development Authority .....	53
7.6	Schemes by Allied Ministries .....	54
7.6.1	National Agriculture Infra Financing Facility (NAIFF) Scheme .....	54
7.7	GOI Incentives for the Food Processing Sector .....	55
7.8	Mission for Integrated Development of Horticulture .....	55
7.8.1	Integrated Pack House Facility for Fresh Fruits and Vegetables .....	55
7.8.2	Cold Chain Infrastructure Assistance Scheme .....	56
7.9	Agricultural Marketing Infrastructure (AMI) by DMI .....	57
8.	Financial Analysis .....	58
8.1	Proposed project cost .....	58
8.2	Means of finance .....	58
8.3	Key Indicators .....	59
8.4	Revenue Recognition.....	59
8.5	Operation & Maintenance .....	60
	Annexure 1: Stakeholder’s consultation.....	64
	Annexure 2 .....	67
	Part 1 - Detailed Breakup of Project Cost .....	67
	Part II- Revenue and Financial Statements .....	71



## Background of Study

Maharashtra, a key player in India's agriculture, boasts a diverse landscape cultivating rice, wheat, sugarcane, and more. State dominates in fruit and vegetable production, making significant strides in export markets, showcasing immense potential for agricultural growth. State contributes significantly to India's exports, accounting for 25% of the total share in the GDP.

In total, there are 306 main markets and 621 sub-markets functioning in the state. To support export from the state, MSAMB has established basic export-oriented infrastructure for sorting, grading, packaging, handling, storage etc. Currently, there are 22 such export facility centres, 20 fruit and vegetable modern marketing facility centre and 3 flowers export facility centre.

However, there is a lack of integration of produce in the production cluster and there is need of marketing/post-harvest management/processing facilities near the farm gate, to reduce the post-harvest losses during transportation, farm operations, and storage. As a result, a projects like Maharashtra Agribusiness Network (MAGNET). State of Maharashtra Agribusiness and Rural Transformation (SMART) are being implemented in the State.

The promoter's rationale to undertake this project is the vision to develop and promote the agro processing infrastructure in the district by establishment of these Agri Marketing Facilities. These Agri Marketing Facilities will help in creation of enabling infrastructure for agro processing and a comprehensive "Farm- to-Fork" supply chain system.

These facilities would be providing state-of-the art infrastructure for agro processing in the State. This aims at reducing wastages and ensuring value addition, especially in perishable food products, spices, coarse grains etc. Agri Marketing Facility besides making storage and primary processing more economically viable will also help in reviving the agricultural sector by increasing the returns to the stakeholders. It will also help in creating large employment opportunities particularly in the rural areas of the state.

For integration of produce at farm gate, state-of-art marketing infrastructure would be developed at the six locations of Maharashtra viz. Kaldongari, Bapgaon, Talegaon, Jadhavwadi, Sillod and Shirimpur which will act as a hub in the region for value addition and marketing of produce, resulting in increased value realization for all value chain players including farmers.

With this regard MSAMB has appointed Mazars Advisory LLP – Global AgriSystem Pvt Ltd (GAPL) to undertake the study to prepare a detailed project report for the development of integrated agri-marketing Facility at proposed land at MIDC Talegaon Dhabade (Dist. Pune).

Methodology adopted to accomplish the study is to use a deliberative and consultative approach in a multi- stakeholder platform. Information in this report has been drawn from secondary resources and primary survey. The secondary resources include review of literature such as research papers, data from various state and central government portals including state agriculture and horticulture departments, MSAMB etc. The primary information collection tools included:

- Focused Group Discussions with Stakeholders
- Key Informant Interviews (KIIs) with various Government officials
- Site survey & assessment of the sites

The stakeholder included traders, exporters, importers, processors, farmers, FPOs, FPCs, mandi officials, state agriculture and horticulture officials. Structured questionnaire was used for extracting relevant information. The teams used a mixed of open and close ended questions. The team of experts visited the sites and assessed them on the basis of various parameters for establishing the proposed facility.

Based on the above approach and methodology, the Feasibility Report has been proposed.

## Executive Summary

### Introduction

MSAMB intends to provide marketing, post-harvest management, and processing facilities for major horticulture/agricultural crops at one place. The upcoming infrastructure will act as a hub in the region for value addition and marketing of horticultural produce, resulting in increased value realisation for all value chain players including farmers. State-of-art marketing infrastructure should act as a one stop solution for all the actors across the value chain of the produce.

### Concept of Agri Marketing Facility

In order to attain the objective of the project, integrated marketing infrastructure would be having four categories of infrastructure:

1. Basic enabling / Support infrastructure
2. Marketing infrastructure
3. Common infrastructure
4. Infrastructure to be developed in partnership with private players

With the based on the above concept to have an Integrated Mandi Infrastructure, MSAMB is coming up with an agri marketing facility in the region.

### Proposed Infrastructure

The proposed facility is detailed as per the requirement viz., warehouse, temperature-controlled storage, packhouse including the post-harvest treatment for increasing the shelf life of the commodity are as follows

**Table 1 Capacities for the common infrastructure**

Common infrastructure		Crops	Phase -1	Phaes-2
Packhouse for F&V Export	Fully automated grading sorting machine	Fruits and Vegetables	10MT/hour	10MT/hr
	Pre-cooling facility		4 rooms of 6 MT each	4 rooms of 6MT each
	Cold storage		3600 MT	3600 MT
Flowers	Auction Centre	Loose and Cut flowers.	5 lakh stems per day	Similar/ any other facility based on future requirement can be set up
Grains/Oilseed	Sortex Facility	Sesame, other oilseeds and grains	10 MT per hour	Based on the utilization provision can be made
	Cold storage		2000MT	2000MT

### Financial Analysis

The total cost of project is 10,756.15 crores. The details are given in the table below:

Particulars	Cost(Rs. Lakhs)
-------------	-----------------

LAND	1128.35
DEVELOPMENT COST	409.81
BASIC ENABLING INFRASTRUCTURE	1398.82
NON-CORE INFRASTRUCTURE	2051.82
CORE PROCESSING FACILITIES	5334.09
IDC	742.23
PRE-OPERATIVE EXPENSES	10.75
WORKING CAPITAL	252.00
CONTIGENCIES	428.28
Total	11,756.15

Means of Finance

The funding pattern will be as follows:

Particulars	%	Amount (in lakhs)
Equity	23.35	2744.53
Subsidy	6.62	778.02
Term Loans	70.04	8,233.60
Total	100	11,756.15

The financial indices of the project are mentioned in the following table:

Net present value	45.13
Project IRR (%)	12.08%
Equity IRR (%)	13.45%
Debt service coverage ratio (5th Year)	1.12
Break Even point (7 <sup>th</sup> Year)	70.31
Payback period (Years)	13.50

The need of the hour is a professionally managed marketing facility that provides a comprehensive solution to meet key needs of all the stakeholders. Such a facility entails a high investment cost and efficient management skills. Thus, the Agri-Marketing Infrastructure to be conceptualized with the objective of fulfilling the above goals.



# Introduction





## 1. Introduction

State has long been at the forefront of horticulture/agriculture development in the country and with its highly developed and modernised agriculture, progressive farmers, nearness to export markets, well established and efficient regulatory setup and well developed agri-marketing system is poised for next big step in the development of agriculture sector in the state that is processing/value-addition.

In lines of the above, MSAMB intends to provide marketing, post-harvest management, and processing facilities for major horticulture/agricultural crops at one place. The upcoming infrastructure will act as a hub in the region for value addition and marketing of horticultural produce, resulting in increased value realisation for all value chain players including farmers. State-of-art marketing infrastructure should act as a one stop solution for all the actors across the value chain of the produce.

The scope of work has been categorized in to following sections: -

**Inception Report:** Inception report has been shared with MSAMB dated 25<sup>th</sup> January 2024, covering overall frame of the project including work plan, approach, and methodology of the project.

**Concept Plan:** Concept plan was prepared after conducting desk research, analysing secondary data, preparing questionnaires, consulting stakeholders, and assessing the infrastructure and its capacity. based on findings and finalization of capacities concept plan was shared and presented to the client on 4th March 2024. After receiving feedback twice, the concept plan updated accordingly and finalized.

**Feasibility Report:** Next target is feasibility report, which will include assessing of existing supply chain and gaps in marketing, Mapping of existing Infrastructure, Proposed infrastructure and benchmarking, site assessment. Based on it, layout and financial will be prepared.

**Detailed Project Report:** Detailed project report will be prepared after the approval on feasibility reports from MSAMB. It will include:

- Finalization of design of Infrastructure, Capacities, technology, design etc
- Operations & Management, Mode of implementation of Project
- Socio-Economic Benefits: employment generation, remuneration to farmers, environment etc

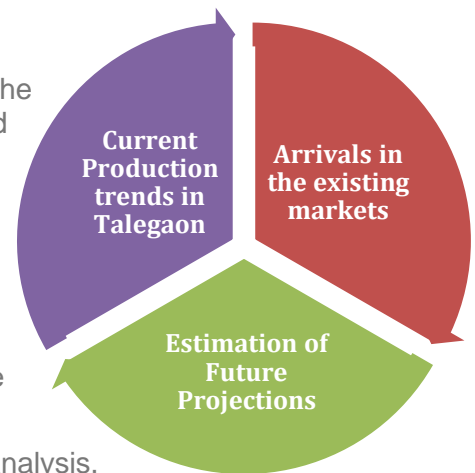
This report is feasibility of the Agri Marketing Infrastructure which has the potential to come up in Talegaon Dhabade, Dist. Pune, Maharashtra.



## 1.1 Methodology

The study involved three steps:

- **Assessment of Current Status:** This involved study of the existing marketing infrastructure, and established processes followed by a gap analysis identifying critical infrastructure gaps and deficiencies in the processes. It also involved benchmarking with best practices at national & International levels.
- **Throughput Assessment/ Market Potential Assessment:** It involved estimation of projected volumes based on past 5 years' arrival trends and future projections.
- **Development of the market design:** Based on gap analysis, throughput projections and need assessment (based on stakeholders' feedback)



*Figure 1 Parameters for designing the Agri marketing infrastructure*

In order to prepare a design for the integrated market, following parameters have been taken into consideration:

- Arrivals in the existing markets
- Current production trends in nearby existing markets and
- Estimation of future production taking into consideration the production and arrival data

# Cluster Analysis

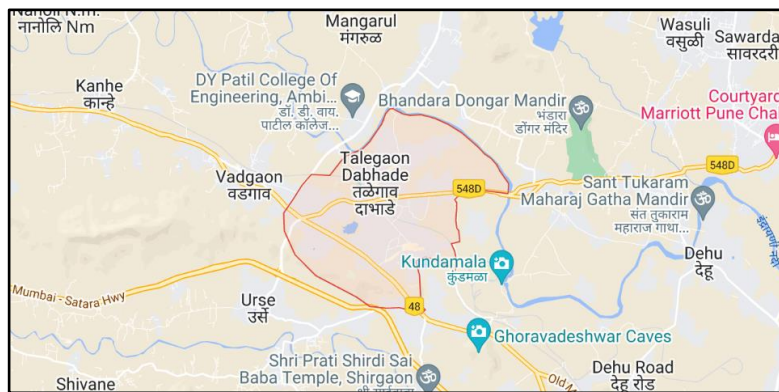


## 2. Project location: Talegaon Dhabade, Pune

Pune is the second largest district with total geographical of 15.642sqm. it is bounded by Ahmednagar on northeast, Solapur on the south-east, Satara on south, Raigad on West and thane on northern west. Talegaon is small town located in Maval taluka in outskirts of Pune city.

### 2.1 Geographical Profile

Talegaon Dabhade (MCI) is a City and Municipal Council located in Mawal Taluka of Pune district in Maharashtra. It is comprised of 2998 households and divided into 23 wards. It is situated 15km away from Vadgaon taluka and 26km away from Pune.



### 2.2 District: Agriculture Glimpse

- Field crops

In the domain of field crops, cereals, notably maize, assume a primary role, accompanied by substantial rice and wheat production. In terms of pulses, gram contribute significantly to Pune's agricultural landscape. Soybean emerges as the principal oilseed crop, followed by groundnut. The statistics for the area and production of total cereals, pulses, and oilseeds in Pune over the past year are as follows:

**Table 2 Area and production of field crops in the district (2022-23)**

Area- '00 Ha and Production- '00 T		
Crops	Area	Production
Total Cereals & Food grains	2677.07	5849.31
Total Pulses	417.54	412.73
Total Oilseeds	582.89	1319.12

Source: Department of Agriculture, Maharashtra

- Horticultural crops

The major vegetables in Pune include Onion, Potato, Tomato, Leafy vegetables, Cabbage, Brinjal, Cauliflower, Green Chilly and Okra/ Ladies Finger. The statistics regarding area and production of vegetables in Pune over the past year are as follows:

**Table 3 Crop wise area and production in the district (Vegetables, 2022-23)**

Area- '000Ha and Production- '000MT		
Crops	Area	Production
Onion	2.75	1095.98
Potato	0.30	182.63



Tomato	4.04	137.63
Leafy Vegetables	1.58	86.23
Cabbage	0.54	67.65
Brinjal	0.00	64.39
Cauliflower	1.11	46.03
Green Chilly	0.02	40.61
Okra/Ladies Finger	68.50	15.81

Source: Department of Horticulture, Maharashtra

The major fruits include Grapes, Banana, Custard Apple, Pomegranate, mango Watermelon and Lemon. The statistics regarding area and production of fruits in Pune over the past year are as follows:

**Table 4 Crop wise area and production in the district (Fruits, 2022-23)**

Area- '000Ha and Production- '000MT		
Crops	Area	Production
Grapes	4.13	82.61
Banana	1.59	66.81
Custard Apple	4.56	45.64
Pomegranate	4.49	44.88
Mango	4.25	34.03
Guava	2.35	28.22
Watermelon	0.57	11.40
Limes & Lemon	0.69	10.35
Fig	0.62	9.25
Sapota	0.60	5.79
Papaya	0.23	4.65

- Flower crops

**Table 5 Production of flowers in districts (2022)**

Loose Flowers	Production	Cut flower	Production
Marigold	22.946	Rose	21.35
Rose	3.468	Gladiolus	2.54
Chrysanthemum	2.8265	Tube Rose	1.24
Other Flowers	0.299	Jasmine	0.51
Jasmine	0.30255	Other Flowers	0.03
Tube Rose	0.691		
Gladiolus	0.0015		

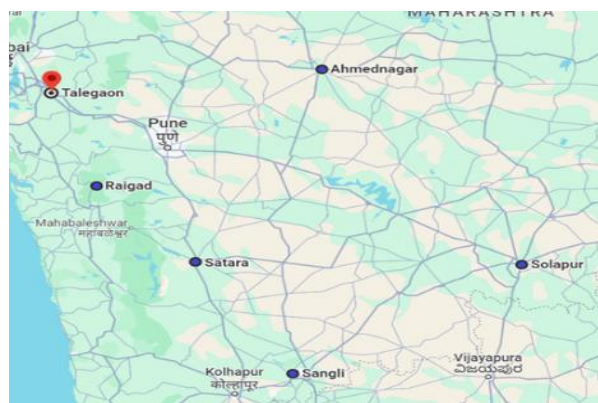
### 2.3 Cluster

Cluster for upcoming infrastructure is considered as the radius which can cater to the crops produced in the adjoining districts and mandis to be serviced by the infrastructure. On the basis of major production belts, connectivity with districts, distance and also existing trade patterns, the nearby production cluster and mandis have been identified. Coverage of mandi cluster and production cluster for the proposed facility in Talegaon is as provided below (selection of cluster was done during Concept Plan preparation).

Identified Mandis in Mandi Cluster (in the radius of 100km)	Identified Districts in Production Cluster (200-300km)
Gultekdi Junnar Manchar Mulshi	Pune Raigad Ahmednagar Satara Sangli Solapur

Basis of selection of above districts are:

- Major production belts
- Trade occurring
- Connectivity with districts



For assessment of crops produced and traded in the radius of upcoming infrastructure, the adjoining districts / mandis have been extensively analyzed through secondary research for identification of the infrastructure to be proposed in the project.

Keeping in view the arrivals from the above mentioned mandis, arrival data of the major crops for the five years has been depicted below:

#### 1. Fruit crops

Table 6 major fruit crops arrival in the adjoining Mandis

Commodities	Arrivals (Qtl)				
	2019	2020	2021	2022	2023
Pomegranate	3,95,461	5,15,090	63,401	1,215	19,793
APPLE	1,39,737	1,27,512	1,88,509	2,14,575	1,85,420
WATER MELON	1,41,274	51,393	58,879	1,46,569	1,41,604
ORANGE	41,824	34,813	70,789	83,088	1,05,464
PAPAYA	55,418	57,949	91,350	90,679	1,01,654
MOSAMBI	58,746	51,665	75,894	84,079	92,152
GUAVA	26,974	29,928	39,680	60,388	85,520
LEMON	1,26,510	71,212	76,108	80,500	76,852
PINEAPPLE	47,816	22,348	38,176	66,985	66,748
GRAPES	41,885	16,336	18,113	72,471	55,443
OTHER FRUITS	2,56,266	1,36,637	5,88,326	6,50,512	6,31,934
TOTAL	13,31,911	11,14,883	13,09,225	15,51,061	5,62,584

Source: MSAMB

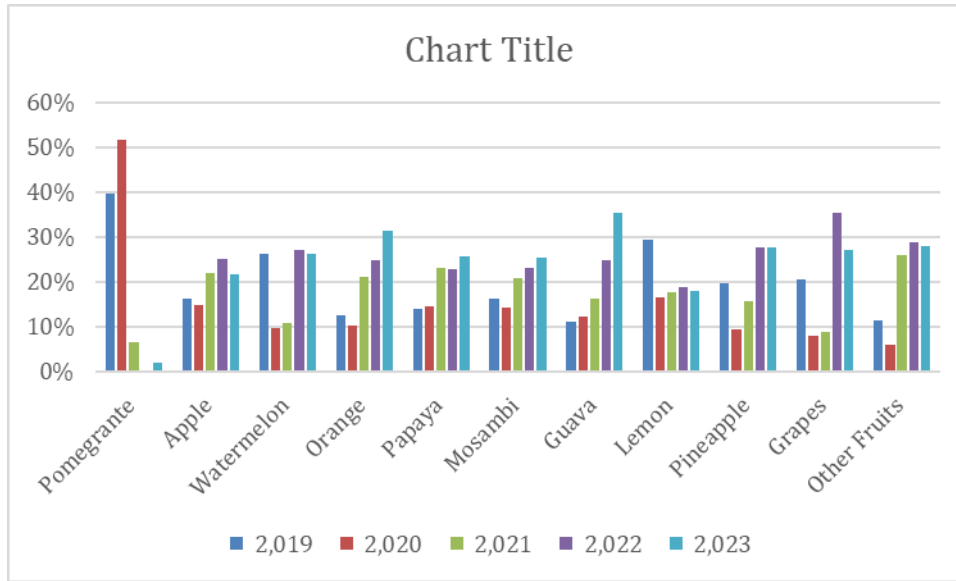


Figure 2 Five year arrival trend of the major fruit crops in the adjoining mandies

The graph given above clearly depicts that the fruits like Pomegranate, Apple, Watermelon, Orange, Mosambi, Guava and Papaya show a drastic growth over the 5 years, however, arrivals of other fruits like fig, chikoo, custard apple has decreased.

It was reported that majority of fruits are getting sold out for farms directly. The above graph shows the growth trend of the major fruit’s crops over the 5 years.

## 2. Vegetable crops

Table 9 Major vegetable crops arrival in the adjoining Mandis

Commodities	Arrivals (Qtl)				
	2019	2020	2021	2022	2023
ONION	48,14,128	35,58,451	38,53,882	44,65,978	52,74,399
POTATO	21,03,687	12,50,026	17,60,920	18,34,192	20,11,172
TOMATO	5,81,661	4,02,311	5,38,676	6,04,881	5,87,591
CABBAGE	2,36,951	1,62,597	2,15,586	2,46,054	2,68,641
CARRET	1,76,198	1,51,887	2,02,069	2,30,211	2,38,929
CUCUMBER	1,53,999	1,03,990	1,56,572	2,07,705	2,20,580
BRINJAL	1,12,974	80,300	1,04,892	1,31,825	1,25,301
CAPSICUM	1,01,045	75,308	89,183	1,11,380	1,11,398
OTHER VEGETABLES	5,82,000	5,92,425	4,83,261	6,12,056	6,47,774
<b>Total</b>	<b>88,62,643</b>	<b>63,77,295</b>	<b>74,05,041</b>	<b>84,44,282</b>	<b>94,85,785</b>

Source: MSAMB



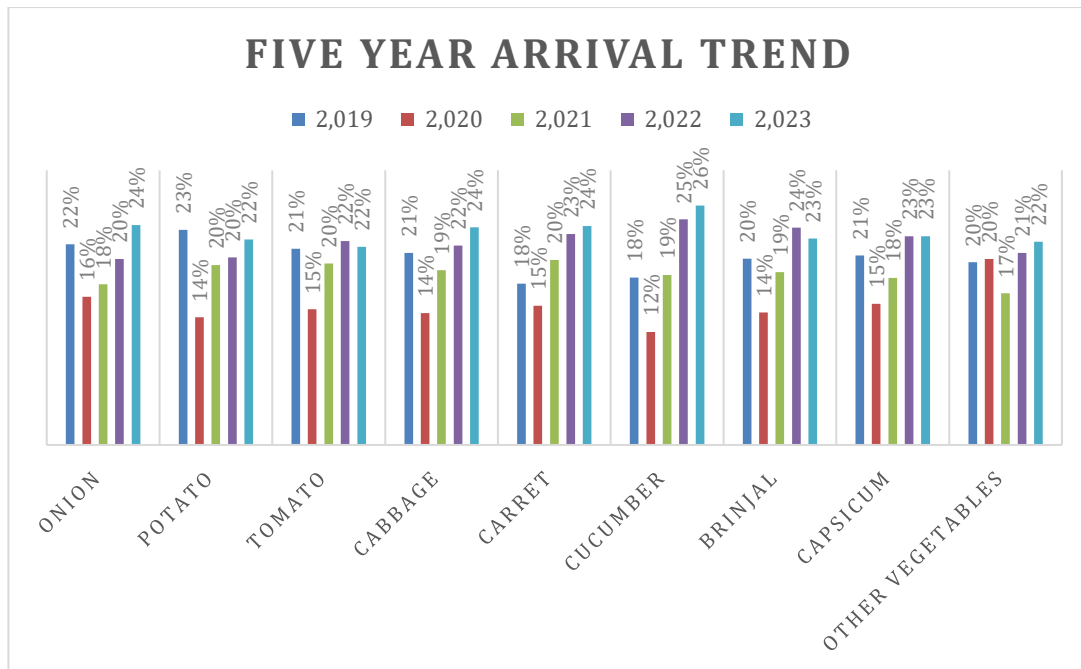


Figure 3 Five-year arrival trend of the major vegetable crops in the adjoining mandies

The graph depicts clearly depicts that the vegetables like Onion, Potato, Tomato, Cabbage, Carrot and Cucumber show a drastic growth over the 5 years, however, arrivals of other vegetables like, Ladies finger, Bitter gourd and Brinjal, etc. has decreased.

### 3. Principal crops

Table 10 Major principal crops arrival in the adjoining Mandis

Commodities	Arrivals (Qtl)				
	2019	2020	2021	2022	2023
Rice (Paddy-Hus)	4,67,838	65,141	71,213	1,95,183	2,78,439
Sorghum(Jowar)	2,14,030	18,241	25,869	73,307	1,69,989
Maize (Corn.)	51,219	51,343	46,714	93,547	93,038
Wheat (Husked)	91,891	13,048	7,927	45,562	1,34,813
Bajri	10,111	413	3,268	38,584	1,00,889
Other Principal Crops	69,921	4,947	8,727	27,993	31,808
<b>Total</b>	<b>9,05,010</b>	<b>1,53,133</b>	<b>1,63,718</b>	<b>4,74,176</b>	<b>8,08,976</b>

Source: MSAMB

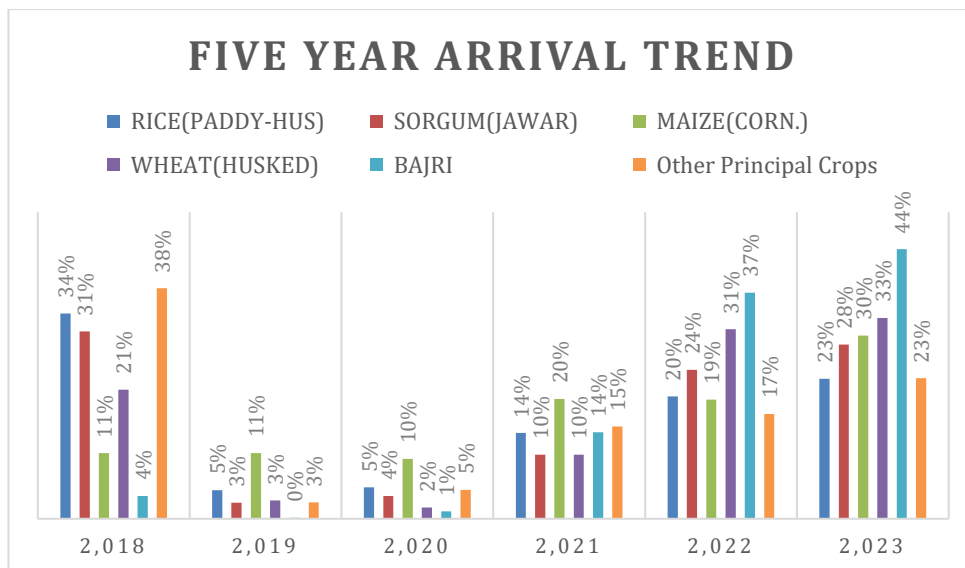


Figure 4 Five-year arrival trend of the major principal crops in the adjoining mandies

Based on arrival data Major arriving principal crops involve Rice, Sorghum, Maize and Wheat. Graph given below shows the five-year arrival trend of major principal crops. However it was reported that sesame is also getting processed and exported from Pune

#### 4. Spices

Table 11 Major spices arrival in the adjoining Mandis

Commodities	Arrivals (Qtl)				
	2019	2020	2021	2022	2023
GARLIC	2,67,702	1,62,905	2,16,659	3,29,794	2,72,673
GREEN CHILI	2,31,359	1,46,787	1,86,108	2,07,219	2,13,108
GINGER (FRESH)	1,92,841	1,32,128	1,44,863	1,47,034	1,25,998
Other Spices	75,788	19,602	30,245	9,990	54,045
Total	7,67,690	4,61,422	5,77,875	6,94,037	6,65,824

Source: MSAMB

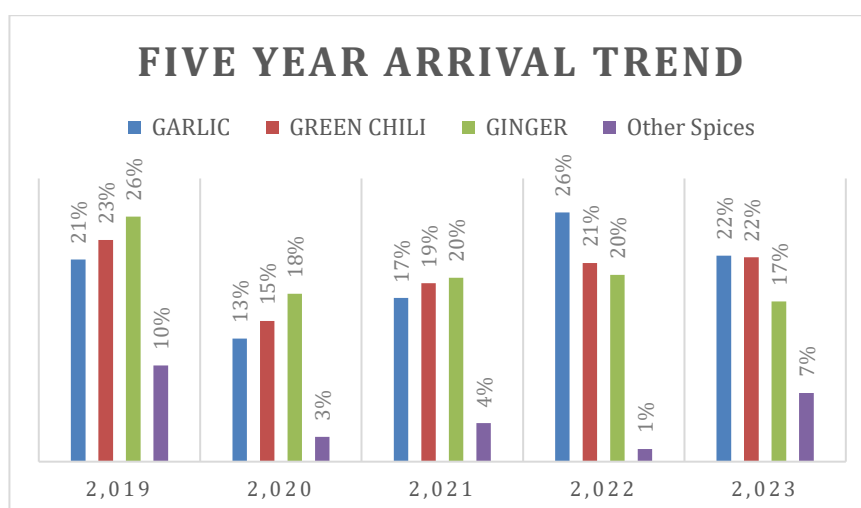


Figure 5 Five-year arrival trend of the major spices in the adjoining mandis

Based on the trend graph it was depicted that major spice coming to Pune is Garlic followed by the green chilli and Ginger.

Production & Mandi arrivals for various agricultural and Horticultural commodities were studied and mentioned focused crops were selected:

*Table 7 Identified Commodities*

<b>Major Fruits</b>	<b>Major Vegetables</b>	<b>Food grains</b>	<b>Flowers</b>
Grapes	Onion	Rice	Loose flowers
Pomegranate	Tomato	Maize	Cut flowers
Banana	Okra	Bajra	
Guava	Cabbage	Sesame seeds	
Mango	Cauliflower		
Watermelon	Brinjal		

As per the above table, the major commodities based on the secondary research (production and arrival) have been identified for the projection's calculations.



# Throughput Estimation



### 3. Throughput Estimation

Throughput is based on historical arrival trends and future projections (based on projected growth) in the existing markets in the vicinity of the proposed location, which has been identified as mandi cluster. The Agri Marketing Facility has been designed to cater to the expected volumes for next 10 years with a provision for expansion of similar capacities to cater to the volume growth for next 25-30 years.

Throughput assessment for setting up of the proposed Integrated marketing infrastructure is based on-

Data available from secondary sources, which includes

- Production of selected commodities in the identified cluster
- Arrival volumes of selected commodities in the mandi cluster
- Primary information obtained through stakeholder consultation

Throughput for food grains, spices and vegetables have been calculated mainly on the basis of arrival data along with mapping in the mandi cluster. The data provided by MSAMB, regarding the quantity of various commodities handled in the existing market served as a basis for estimation of the throughput.

However, in case of fruits, production data (in the identified production cluster) has been considered for the throughput calculation due to the following reasons:

- Inconsistence arrival of fruits in the existing mandis
- Direct purchase of fruits by traders at farmgate

The above is attributed to the delisting of fruits from APMC Act by Government of Maharashtra in 2016. As per the amended regulation, fruits & vegetables and spices & condiments can be sold outside mandi premises by the farmers and accordingly the mandi tax is not levied on such trade happening outside the mandi premises. However, the effect of the regulation is much visible on fruits and negligible on other delisted commodities.

#### 3.1 Commodity Projections: Methodology

To arrive at the projections for arrivals and production, major crops were considered under categories viz. cereals & grains, F&V and flowers. Following is the methodology adopted for the purpose of calculating projections:

##### 1. Data Collection:

- Gathered the historical data for each crop from Department of Agriculture, Department of Horticulture for Production Data and Maharashtra State Agricultural Marketing Board for arrivals.
- Calculating the proportion of each crop relative to the total agricultural production/arrival during the specified period

##### 2. Threshold Check:

- Examine the percentage of each crop contributing to the total crop production
- If the percent exceeds 0.20%, crop is selected for further analysis under the specific category.
- It is assumed that crops with lower percentage may not significantly impact overall projections.



### 3. Year-on-Year Growth Calculation:

- Focused on the last 6 years of data for each category.
- Calculate the year-on-year growth rate for each of these 6 years
- **Outliers:** In certain instances, we observed exceptionally high year-on-year growth rates. These outliers may significantly impact on overall analysis, leading to skewed results and potentially misleading projections.

### 4. Average Growth Rate:

- The total growth rate for each crop was divided by 6 to obtain the average annual growth rate
- The average growth rates represent the typical increase in arrival or production for each specific crop over recent years.

### 5. Projection Intervals:

- Used the average growth rates to project arrival or production at specific intervals for each crop (fruits, vegetables, grains, and flowers):
  - **5 years:** Multiply the current arrival or production by the growth rate raised to the power of 5.
  - **10 years:** Multiply the current arrival or production by the growth rate raised to the power of 10.

### 6. Final Projections:

- Calculated the projected arrival or production for each crop (fruits, vegetables, grains, and flowers) based on the chosen interval.
- These projections provide insights into the potential growth of each specific crop over the specified time frames.

### 7. Impact of External Factors:

- Recognize that projections are based on historical trends and assumptions.
- External factors unique to each crop (such as climate conditions, technological advancements, market dynamics, and policy changes) can significantly impact actual arrival or production.

It was further projected the quantity of commodities in next 25-30 years.



### 3.1.1 Projections

Table 8 Crop Projection

S. No.	Crops	Production (MT)					Arrivals (MT)				
		2023	2027-2028	2028-2033	2033-2043	2043-2053	2023	2027-2028	2028-2033	2033-2043	2043-2053
<b>Fruits</b>											
1	Grapes	12,53,302	18,81,607	28,24,894	63,67,200	1,43,51,421	<b>It is observed that arrival of fruit in market during last 5 year is not consistence hence it is not considered for throughput calculations</b>				
2	Pomegranate	8,95,878	14,28,462	22,77,659	57,90,670	1,47,22,068					
3	Banana	5,36,875	10,32,782	19,86,756	73,52,181	2,72,07,454					
4	Mango	92,384	2,04,117	4,50,982	22,01,513	1,07,46,898					
5	Limes and Lemons	1,49,027	1,64,906	1,82,476	2,23,434	2,73,585					
6	Guava	78,235	1,01,994	1,32,968	2,25,991	3,84,092					
8	Custard Apple	88,957	1,55,234	2,70,888	8,24,893	25,11,920					
<b>Vegetables</b>											
9	Onion	55,05,591.00	55,05,591	79,67,354	1,15,29,867	2,41,45,968	5,05,66,739	5,27,440	6,31,763	7,56,720	10,85,669
10	Tomato	4,23,238.20	4,23,238	3,88,679	3,56,942	3,01,031	2,53,878	58,759	68,227	3,15,124	4,93,757
11	Potato	2,31,907.04	2,31,907	3,80,007	6,22,686	16,71,953	44,89,305	2,01,117	2,51,747	3,15,124	4,93,757
12	Brinjal	1,29,509.00	1,29,509	1,29,480	1,29,451	1,29,393	1,29,335	13,183	21,754	37,767	1,13,836
13	Cauliflower	72,221.00	72,221	73,350	74,496	76,844	79,265				
14	Cabbage	1,42,640.00	1,42,640	2,61,174	4,78,210	16,03,230	53,74,932	26,864	47,277	83,201	7,98,068.82
15	Green Chilly	49,875.34	49,875	69,181	95,960	1,84,628	3,55,225	21,311	24,173	27,421	45,397.54
16	Okra/Ladies Finger	38,391.00	38,391	39,145	39,914	41,498	43,145	9,955	16,409	27,046	1,99,613.04
17	Peas (Green)	60,770.03	60,770	1,02,267	1,72,101	4,87,391	13,80,292	15,565	15,637	15,709	16,001.09
<b>Grains</b>											
20	Jowar	6,49,916	6,92,836	7,38,589	8,39,361	9,53,882	20,190	1,39,514	964059.28	46033655.81	2198098707.69
21	Maize	9,76,638	15,08,991	23,31,524	55,66,037	1,32,87,777	341	561	922.34	2491.85	6732.10
22	Rice	5,76,034	6,04,845	6,35,097	7,00,215	7,72,010	31,861	1,19,060	444912.19	6212904.13	86759093.07
23	Wheat	5,89,255	7,03,155	8,39,071	11,94,796	17,01,333	14,745	2,25,092	3436284.02	800838807.18	186638470821.83
24	Soyabean	6,50,653	18,41,648	52,12,715	4,17,61,742	33,45,74,774	436	235	126.36	36.62	436.00
25	Bajra	3,02,277	6,46,233	13,81,569	63,14,515	2,88,60,741					
26	Gram	2,70,667	2,48,778	2,28,659	1,93,171	1,63,191	1,346	5,630	23541.53	411680.18	7199215.14
27	Gr. Nut	1,25,016	1,39,914	1,56,587	1,96,131	2,45,662	848	1,155	1572.63	2915.77	5406.07
28	Tur	64,959	5,15,886	40,97,020	25,84,02,532	16,29,76,68,599	332	1,300	5091.54	78107.20	1198210.06
29	Mung	66,482	2,54,159	9,71,640	1,42,00,588	20,75,42,696	1,098	7,469	50812.76	2351704.95	108841083.80
30	Udid	68,135	5,15,969	39,07,309	22,40,70,820	12,84,96,95,184					
<b>Flowers</b>											
<b>Cut flowers</b>											
32	Rose	21	15	14	12	10					
33	Marigold	54	54	54	54	54					
37	Gerbera	1	20	112	3,382	1,02,061					

38	Jasmine	1	1	1	1	1	<b>Data not Available</b>
	Loose Flowers						
39	Marigold	5	162	1,216	68,098	38,14,291	
40	Rose	2	5	8	20	53	
43	Tube Rose	0	7	115	28,645	71,56,012	
44	Gladiolus	0	0	0	199	89,008	

Source: Department of Horticulture (Horticulture Production), Department of Agriculture (Agriculture Production), MSAMB (Arrivals), Outliers are marked as red.

### 3.1.2 Trends

#### 1. Fruits

The projection for fruits has been depicted from past production data of last 5 years, which shows an average growth of 4.05 % in the Identified focused fruits. The current major producing crops are pomegranate and grapes. Keeping-in-view, the projections, Banana, Mango, Sapota and custard apple are the emerging crops in the district. It was also notified that the trading of the crops happens mainly outside the mandi directly from farm gate, therefore, very less arrival is reported in the data. Currently there are two Fruit & Vegetable Modern Facility Centres are available in the cluster viz.,

- Fruit and Vegetable Modern Facility Centre, Shelpimpalgaon, Tal- Khed, Dist.-Pune, under APMC Committee
- Fruit and Vegetable Modern Facility Centre, Barshi, Dist. Solapur, under APMC Committee

To cater to the fruits and vegetable export potential from the region it is proposed that upcoming infrastructure for fruits and vegetables will be sufficient in uplifting the overall fruit scenario in the region.

#### 2. Vegetables

The projection for vegetables have been depicted from production data last 5 years which shows an average growth of 3.68 % in the identified focused crops. The district accounts major arrival of for onion and potato, the commodity is increasing at a rate of 3.68% and 4.59%.

It was also notified that the trading of the crops happens mainly outside the mandi directly from farm gate, therefore very less arrival is reported in the data. It was reported that there is no dedicated infrastructure available in the area for the vegetables.

#### 3. Grains

The projections for field crops, depicted from arrival data of last 5 years which shows an average growth of 40 % in the identified focused grains. The major growth can be seen in Wheat and Jowar whereas a decline in soyabean (-11.65%) is observed.

The overall growth of grains has been projected on the basis of mandi arrival. Major growth has been depicted in wheat, sorghum, gram and maize, however, there are certain outliers observed which have been marked in the above table.

#### 4. Flowers

Based on the depicted projections, cut flowers have shown increasing trend in next 10 years however loose flower has been declining over the years. It has been reported that there is no dedicated infrastructure available in the region and trade usually occur outside the mandi premises. Most of the cut-flowers are purchased at farmgate by the traders from distant places visiting the cluster from all over the country.

It is expected that a dedicated infrastructure such as electronic auction centre coupled with packhouse, cold store etc. will help in uplifting the sector by ensuring transparent and fair price discovery mechanism.

**Table 9 Average growth % from past 5 years of major crops**

Crop	Growth Average
Grains	40.86%
Cut Flower	37.73%
Fruits	4.05%
Vegetables	3.68%

There is an anticipation that a dedicated infrastructure such as packhouse, cold store etc. will help in uplifting the sector.

### 3.1.3 Basis of percentage selection

In this section, the basis of percentage selection for different commodities have been analysed and triangulated through desk research, data analysis and multi-level stakeholder consultations (farmers, wholesalers, commission agents, exporters, importers, traders, mandi officials, department of agriculture and horticulture, cold store owners etc. Capacity estimates were based on capturing an informed estimate of daily throughput that was based on stakeholder consultations, technical experts and based on potential storage per commodity bands.

The commodity wise percentage assessment is given below.

**Table 10 Basis of Percentage Selection**

Crops	Rationale	Percentage considered for storage based on projections	Percentage considered for storage based on peak arrivals
<b>Fruits and vegetable</b>			
Grapes	As presented above, there is no dedicated infrastructure such as packhouse, cold store etc. are available in the area. Therefore, a packhouse with a pre-cooling room, sorting and grading line and cold storage for storing and transit for fruits and vegetable is proposed in the upcoming infrastructure.	5%-10%	5%-10%
Pomegranate		5%-10%	5%-10%
Banana		5%-10%	5%-10%
Mango		5%-10%	5%-10%
Other fruits		5%-10%	5%-10%
Onion		5%-10%	5%-10%
Potato		5%-10%	5%-10%
Green chilli		5%-10%	5%-10%
Other vegetables		5%-10%	5%-10%
<b>Grains</b>			
Jowar	Though the cluster have good number of warehouses, still there is no proper facility for handling, sorting and grading of grains. However, facility has been proposed to cater the demand by setting an accredited storage facility for stocking period of 2-3 months.	10-15%	10-15%
Maize		10-15%	10-15%
Wheat		10-15%	10-15%
Soyabean		10-15%	10-15%
Gram		10-15%	10-15%
<b>Flowers</b>			
Loose and Cut Flowers	Since the surrounding area of the proposed site is a major flower production belt, Presently, traders buy flowers directly from farm through direct negotiation with individual farmers. Hence, farmers need a transparent and competitive way to sale their produce. Proposed infrastructure will be an electronic auction centre, with capacity to cater 5 lakh stems per day, facility will have proper handling, storage and marketing infrastructure which will eventually reduce the chances of any losses.	5-10%	5-10%



### 3.2 Capacity Calculations

Table 11 Capacity Calculations

Crops	Seasonality (In days)	Per Day Handling (MT) 2023		Per Day Handling (MT) 2027-2028		Per Day Handling (MT) 2028-2033		Per Day Handling (MT) 2033-2043		Annual Throughput (MT) 2027-2028		Annual Throughput (MT) 2027-2028		Annual Throughput (MT) 2028-2033	
		Production (MT)	Arrivals (MT)	Production (MT)	Arrivals (MT)	Production (MT)	Arrivals (MT)	Production (MT)	Arrivals (MT)	Production	Arrivals	Production	Arrivals	Production	Arrivals
Fruits and Vegetables															
Grapes	180.00	6963	-	10453.37	-	15,694	-	35,373	-	62665	14934	94080	14934	141245	14934
Pomegranate	150.00	5973	-	9523.08	-	15,184	-	38,604	-	44794	13785	71423	13785	113883	13785
Banana	240.00	2237	-	4303	-	8,278	-	30,634	-	26844	880	51639	880	99338	880
Mango	90.00	1026	-	2268	-	5,011	-	24,461	-	4619	44181	10206	44181	22549	44181
Onion	240.00	22940	2,198	33197	2,632	48,041	3,153	1,00,608	4,524	275280	506970	398368	512186	576493	518434
Potato	300.00	773	670	1267	839	2,076	1,050	5,573	1,646	11595	353137	19000	355669	31134	358838
Green Chilly	90.00	554	237	769	269	1,066	305	2,051	392	2494	10908	3459	11052	4798	11214
Grains															
Jowar	300.00	2166	67	2309	465	2,462	3,214	2,798	1,53,446	32496	27312	34642	33278	36929	74505
Maize	300.00	3255	1	5030	2	7,772	3	18,553	8	48832	184	75450	195	116576	213
Rice	300.00	1920	106	2016	397	2,117	1,483	2,334	20,710	28802	44246	30242	48605	31755	64898
Wheat	300.00	1964	49	2344	750	2,797	11,454	3,983	26,69,463	29463	25591	35158	36108	41954	196668
Gram	300.00	902	4	829	19	762	78	644	1,372	27067	3087	24878	3515	22866	5306
Gr. Nut	300.00	417	3	466	4	522	5	654	10	12502	50989	13991	51019	15659	51061
Tur	300.00	217	1	1720	4	13,657	17	8,61,342	260	6496	33	51589	130	409702	509
Mung	300.00	222	4	847	25	3,239	169	47,335	7,839	6648	2978	25416	3615	97164	7949
Flowers															
Gerbera	90.00	0	-	0	-	1	-	38	-	0.1	0.0	1.0	0.0	5.6	0.0
Marigold	90.00	0	-	2	-	14	-	757	-	0.2	0.0	8.1	0.0	60.8	0.0
Tube Rose	90.00	0	-	0	-	1	-	318	-	0.0	0.0	0.4	0.0	5.7	0.0

Source: Gapl analysis

Based on the stakeholder consultations (as mentioned in the concept note), probable per day handling and storage days the capacity of the infrastructure has been estimated. Based on the different categories, the desired infrastructure along with the calculated capacity has been estimated below. The proposed facility is detailed as per the requirement viz., packhouse for export of fruits and vegetable, Auction centre for flowers including the post-harvest treatment for increasing the shelf life of the commodity and sortex facility for grains.

**Table 12 Capacities for the common infrastructure**

Common infrastructure		Crops	Phase -1	Phaes-2
Packhouse for F&V Export	Fully automated grading sorting machine	Fruits and Vegetables	10MT/hour	10MT/hr
	Pre-cooling facility		4 rooms of 6 MT each	4 rooms of 6MT each
	Cold storage		3600 MT	3600 MT
Flowers	Auction Centre	Loose and Cut flowers.	5 lakh stems per day	Similar/ any other facility based on future requirement can be set up
Grains/Oilseed	Sortex Facility	Sesame, other oilseeds and grains	10 MT per hour	Based on the utilization provision can be made
	Cold storage		2000MT	2000MT

The above-mentioned facilities and capacities will facilitate the demand for next 5-10 years. Once the facility is implemented and based on the increased demand and utilisation of the proposed facilities, the proposed project can be further expanded. It is proposed that for several units similar facilities will be replicated in phase 2.

However, Keeping-in-view the merging crops like Sweet Orange / Mosambi, Papaya, Kinnow, Sapota, Onion, Tomato, Potato, Tur, Gram, Sesame, loose flowers etc. can be considered for the next phase. Since there is no dedicated flower in region It is anticipated that facility proposed for flower will attract the farmers and traders towards these facilities and it will uplift the production and trading of flowers.





# Project Agri Marketing Facility



## 4. The Proposed Agri Marketing Facility

### 4.1 Planning and Design of the Infrastructure

The design of various facilities such as building, parking, waste disposal, site plan and environmental features of the Agri-market has been undertaken as per the estimated load and by benchmarking with other markets / infrastructures.

The local trade practices have also been considered while designing the facilities and location of various facilities within the proposed infrastructure.

### 4.2 Flow of Produce

APMC Pune, where majorly the trade happens outside the mandis specifically in case of flowers (as shown in the stakeholder assessment). Keeping-in-view, the traditional produce flow in the cluster is from farm to the market and thereafter to the secondary markets which will have very critical influence on sizing of infrastructure, layouts and configuration of various facilities.

The proposed infrastructure will have easy access from production belts in the catchment area. The markets in Talegaon will cater to the upcoming infrastructure which will fulfil the needs of the beneficiaries.

Further, on account of its integrated infrastructure, it is expected that a greater number of farmers, commission agents, traders, exporters, processors etc. from nearby areas will bring their produce to the facility.

Therefore, the agri-marketing infrastructure will also function as the transit market for surplus fruits & vegetables grown in the catchment area. The planned capacity of the infrastructure is capable of handling increased volumes.

### 4.3 Site Master Plan

The AMF is proposed to be located on an area of 45.35 acres, which will house the proposed facilities and also have a provision for future expansion.

A model layout has been proposed to be developed in such a way to meet international standards with a futuristic view.

The facility should be able to cater to the requirements of the stakeholders for the identified commodities for next 20-25 years.

The design of the site master plan is expected to ensure the following:

- Modern facility for handling agriculture and horticulture produces in an efficient manner
- Relationship between different commodities, movement of these commodities and stakeholders involved such as the farmers, commission agents, wholesalers, buyers etc.
- Adequate space for storage of the commodities in a dedicated infrastructure like dry commodities in warehouses and perishable commodities in cold storages
- Adequate space for product handling, weighing, cleaning, grading and packing etc.;
- Minimizing traffic hassles within the facility.
- Adequate parking space for commercial as well as personal vehicles entering into the facility;
- Facilitation of export by keeping container plug points & parking

A layout plan of various facilities to be provided in the Agri-marketing infrastructure such as shops, auction area, car parking, trucks parking, rest rooms, packhouses, cold storages, warehouses etc. has been depicted in the enclosed drawings.



## 4.4 Designing of Buildings

The designing of the buildings has been done keeping in view the trade practices being followed in the cluster.

- The traffic movement in the arrivals in the cluster have also been taken into consideration while planning the design of buildings of the facility
- The horticulture produce requires optimum temperature without too much variation within the building.
- Various options for the construction of buildings have been evaluated. A simple type of construction with brick and mortar is suggested for all kinds of buildings.
- International practices and standard codes have been taken into consideration while designing the buildings.
- For effective traffic management, it has been proposed that the traffic in the facility will be one-way only.

## 4.5 Land Use of Agri Marketing Facility

The land use is shown in table below:

S.No.	Land Use	Area (Sqm)	Total Area(acre)
	Total Land (in acre)		
A.	PPP Mode	6,661.98	1.65
	Sub Total	6,661.98	<b>1.65</b>
B	Leasable Plots		
	commercial	6,288.00	1.55
Total	Sub Total	6,288.00	<b>1.55</b>
C.	Core Processing Infrastructure		
	F&V market	10,563.68	<b>2.61</b>
	Flower Auction Market	14,248.00	<b>3.52</b>
	Food testing lab	-	
	Grains Zone	5,824.00	<b>1.44</b>
	SUB TOTAL	30,635.68	<b>7.57</b>
D.	Support infrastructure		
	Admin Block	6,288.00	<b>1.55</b>
	SUB TOTAL	6,288.00	<b>1.55</b>
E	Mandi Infrastructure		
	Truck Loading/unloading area	-	<b>0.00</b>
	SUB TOTAL	-	<b>0.00</b>
E.	Enabling Basic Infrastructure		
	Area under Fire station, Utility Sub station ETP, STP	2,730.00	<b>0.67</b>
	Weighbridge & Gate House	638.00	<b>0.16</b>
	Boundary Wall (RMT)	1,954.80	0.48
	Roads		<b>0.00</b>
	4M wide road	112.80	<b>0.03</b>
	9M wide road	5,832.28	



	12M Wide road	1,015.69	
	18M wide road	30,401.35	
	Container Parking	3,361.31	<b>0.83</b>
	Sub Total	46,046.23	<b>2.17</b>
G	Future expansion		
	Future expansion	18,829.00	<b>4.65</b>
	Sub Total	18,829.00	<b>4.65</b>

Summary	Total Area in Sqm	Total Area in Acres
Grand Total - Core Facilities	30,635.68	7.57
Grand Total for Support infrastructure	6,288.00	1.55
Grand Total of Basic Enabling facilities	46,046.23	11.38
Grand Total for mandi infrastructure	-	0.00
PPP Mode	6,661.98	1.65
Future expansion	18,829.00	4.65
Leasable / saleable plots	6,288.00	1.55
Green Area	67,907.71	16.78
<b>Total Area</b>	<b>1,82,656.60</b>	<b>45.13</b>

## 4.6 Salient Features of Proposed Infrastructure

All the sections of the facility will work as independent units, but at the same time will be integrated and complementary to each other. For effective traffic management, it has been proposed that the traffic in the facility will be one-way only.

All the sections would have their own infrastructural facilities as per the throughput and requirements of the proposed facility.



# Project Site Assessment





## 5. Site Assessment

### 5.1 Land & Location

The dedicated Team of Senior Civil Engineer and Senior Architect along with MSAMB officials, visited the proposed site at Talegaon, Maharashtra on 30<sup>th</sup> Jan 2024 for assessment of site for implementation of integrated marketing infrastructure.

A total of three land parcel were available in Talegaon. The location of the sites are as follows:

#### 5.1.1 Land parcel -1

The total land area available at this parcel is 82-acre, parcel is divided into 2 parts in which approx 40 acre of pond and remaining is land. Around 7 to 8 build structures utilizing about 5 acres.

Moreover, there is Fishpond of approx. 2 acres. Usable land available at this parcel of land is approx 30 acre.

- **Coordinates of the site:** 18.713182;73.690933
- **Connectivity:** Site is located at 32km from Pune city and is well connected to Old Bombay- Pune highway. Nearest railway station-Talegaon railway station which is about 5km.
- **Flood History:** No flood history reported.

Based on preliminary assessment, it was reported that boundary wall of 1.2-meter height already constructed in usable land parcel. No environmental issues has been identified.



*Figure 3 Site Location*

#### 5.1.2 Land Parcel -2

The total land area available at this parcel is 8-acre, Land contour is more or less plain on lease of 99 years period starting from 1992.

- **Coordinates of the site:** 18.718229,73.689995
- **Connectivity:** Site is located at 33 km from Pune city and 1 km from the first parcel of land. Site is well connected to Old Bombay- Pune highway at 2 km. Nearest railway station-Talegaon railway station which is about 5km.
- **Power:** Few electric poles are passing through the project site, substation/dp within land parcel.
- **Flood History:** No flood history reported

Based on the preliminary analysis, Land was not recommended for the usage in project.



Figure 6 Land parcel 2 and its approach road

### 5.1.3 Land Parcel -3

The total land area available at this parcel is 50 acres, The parcel is divided into 2 parts on which approx 22 acres of land has been occupied by the Institute and remaining is land. Usable land available at this parcel of land is approx. 25 acres.

- **Coordinates of the site:** 18.718164,73.662476
- **Connectivity:** Site is located 35 km from Pune city and is well connected to Old Bombay- Pune highway at National Institute of Post-Harvest. Site is well connected through 6m wide bitumen road. Nearest railway station-Talegaon railway station which is about 6.3 km
- **Power:** Few electric poles are passing through the project site, substation/dp within land parcel.
- **Flood History:** No flood history reported

Based on preliminary assessment, Land contour is more undulating however site is not recommended usage. However, based on the assessment of all three-land parcel, it has been anticipated that Proposed Agri marketing facility is going to develop on the Land parcel -1.

## 5.2 Proposed site location

The proposed Agri Marketing Facility has been proposed at 48.76 acre of area situated at Talegaon dhabade district Pune. The land available at site has land contour more or less plain.

**Coordinates:** 18.713182;73.690933



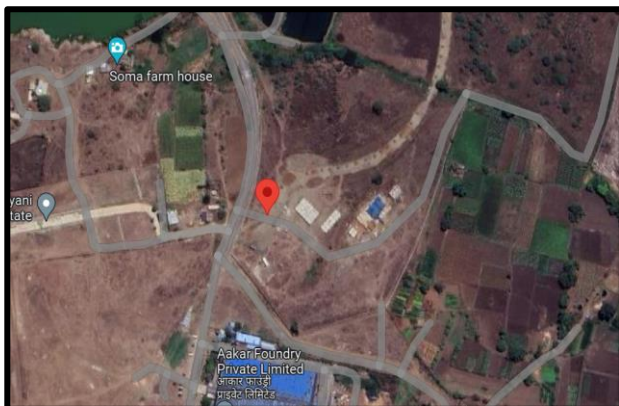


Figure 7 site available for usage

### 5.2.1 Connectivity

**Connectivity to Road** - Highway starts in Shivaji Nagar and ends at Dehu Road, it passes through the boundaries of the cities of Pune and Pimpri-Chinchwad. At several locations within Pune, Highway divides into the Nasik-Pune and Talegaon-Dabhade highways.

Old Bombay -Pune Highway connects at 1km through 6-meter-wide bitumen road. The New Mumbai Pune Highway Toll Road and the Old Mumbai Pune Highway are runs parallel.



Figure 8 Connectivity of proposed location with Old Bombay- Pune Highway

**Connectivity to Rail:** Talegaon railway station is well connected to proposed location at a distance of 5 km serves as terminal for Pune railway station, it has well connectivity with Chhatrapati Shivaji Maharaj Terminus and Pune Railway Station.

Other Nearby Major Railway stations:

- Pune Railway Station – 35 km
- CSMT railway station - 124 km

**Connectivity to Air:** Pune International Airport is nearby airport that connects the proposed location at 37.5 km. other than this proposed location also have good connectivity with other major airports.

Nearby Airports:

- Chhatrapati Shivaji Maharaj International Airport- 126km

### 5.2.2 Water Availability

The proposed site has good water availability. A water pond is available near the proposed facility through which water canal of 2m wide is crossing the site.



*Figure 9 Available water pond near the site*

### 5.2.3 Power

The proposed site has few electric poles are passing through the project site. There is once substation/dp available within the land parcel.

***The project site is feasible for development of Agri-marketing facility.***



# Project Components



## 6. Project Components

### 6.1 Project Infrastructure

Total 48.76 acre of land has been proposed by MSAMB for the development of Agri Marketing Facility in Talegaon. In order to attain the objective of the project, different types of common infrastructure, support infrastructure, mandi infrastructure, mode and basic enabling facilities will be established to add value to the crop. The upcoming Integrated Infrastructure would comprise of three major components:

- Common facilities: these facilities will be used by farmer producer groups, wholesalers, traders, processors, and others on unit charge basis for value addition of the crops
- Basic Enabling Infrastructure which will ensure the efficient and smooth running of the facilities such as roads, drainage, ETP, STP etc.
- Plots kept for upcoming Units along with Support and Mandi Infrastructure via different models like PPP or others
- Support Infrastructure such as commercial space, administrative block, rest rooms, farmer training centre etc.

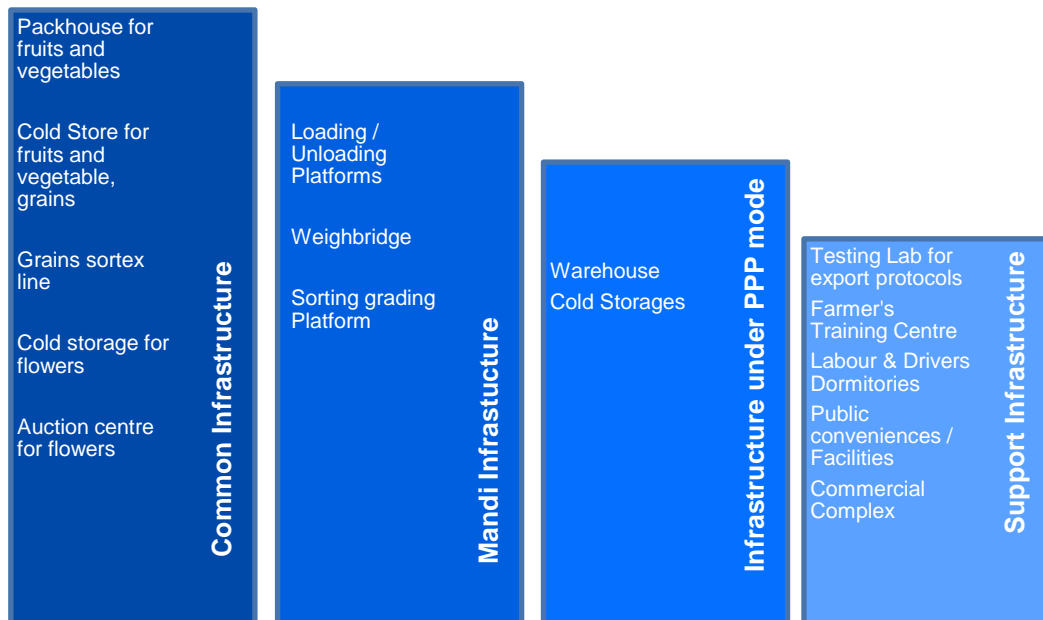
The above listed facilities will be used by various stakeholders and cross- sections.

Common Infrastructure have been described in detail further below.

Agri Marketing Facility will include all the activities which are directly or will be indirectly involved in primary processing like sorting, grading, and cleaning sections, warehouses, cold store etc.

The AMF will also have support facilities like Admin Block comprising of canteen, training center, offices, meeting rooms etc.

Basic enabling facilities will include roads, power, water, weigh bridge, ETP, STP, water tanks, electrical supply, etc. to support the smooth operationalization of the facility.





## 6.2 Common Infrastructure

On the basis of throughput analysis and data related to production, consumption and market arrivals, the following sections are being proposed:

- Fruits and Vegetable Section
- Flower Section
- Grains Section

The proposed infrastructure will essentially be catering to the needs of the stakeholders. Therefore, the proposed facility will also function as the transit market for surplus produce grown in the catchment area. The Agri-marketing Facility has been designed to handle seasonal spikes in the production and undulated high arrivals.

The infrastructure to be established under common infrastructure are depicted in the table below.

*Table 7 Facilities under common Infrastructure*

Facility	Common infrastructure	Crops	Capacities
Packhouse for F&V Export	Fully automated grading sorting machine	Fruits and Vegetables	10MT/hour
	Pre-cooling facility		4 rooms of 6 MT each
	Cold storage		4000 MT
Flowers	Auction Centre	Loose and Cut flowers	5 lakh stems per day
Grains/Oilseed	Sortex Facility	Sesame, other oilseeds and grains	10 MT per hour
	Cold storage		2000MT

Each facility will also have provision of material handling equipment like Crates, HPT, weighing scale etc. Miscellaneous tools and accessories required for repair & maintenance of plant machinery, office furniture, computer, telephones etc. will also be kept at the facility to carry out smooth day to day operation.

The detailed description for various common infrastructure is as follows:

### 6.2.1 Packhouse for Fruits and Vegetables

A packhouse is a facility used for cleaning, sorting, grading, and packaging of fresh produce.

APEDA recognition for the packhouse would be obtained. It would be designed based on general requirements for EU countries/ other importing countries such as

- Handle of inflow to outflow in a unidirectional manner with no chances of cross infestation/contamination.
- Loading of consignment will be ensured in clean and disinfested cargo containers preventing cross contamination.
- Plant Quarantine Information System (PQIS) would be adopted to maintain the backward traceability information for the consignment.
- Other necessary requirement meeting the export protocols would be considered.
- 

The packhouse process involves:



**Pack house for fruit and Vegetables**

The pack house for fruits and vegetables is designed to handle 160 MT of produce per day. Major components of the pack house would be as follows.

S. No.	Component	Specifications
1.	Sorting, Grading & Packaging Area	10MT/hr for primary processing of the produce
2.	Pre-cooling Chambers	4 chambers of 6 MT each adjacent to receiving area and pre-cooling chambers
3.	Cold Storage	4 rooms (could be further divided in smaller rooms as per the requirement)
4.	Loading/unloading platform	6-meter-wide platform on all four sides of the facility

**6.2.2 Grain Complex**

- **Sortex Facility**

This facility is mainly designed for coarse grains which is a major foodgrain commodity traded in Talegaon. It is designed to detect and remove impurities, foreign materials, and defective products based on color, size, and shape.

Along with the sortex, a storage facility for storing grains has been provisioned. Details and sizing of the components are as provided below.

A separate State-of-the-art facility of 10 MT/hr is proposed with sorting & grading, along with separate packaging infrastructure which will be used for grading and sorting of food grains including cereal, pulses and oilseeds using a Sortex assembly.

- **Cold Storage**

Cold storage for the identified commodities is crucial in preserving the quality and extending the shelf life of perishable agricultural products. It aims to maintain the produce at an optimum temperature in order to extend its shelf life. These facilities maintain low temperatures and optimum humidity levels as per the crop requirements to ensure optimal storage conditions. Cold storage facilities can significantly reduce post-harvest loss and increase the value of agricultural commodities in the market. It is proposed to have Cold storage facility of 2000MT for storing of grains.

- **Grain complex specification**

S. No.	Component	Specifications
1.	Sortex of grains	10MT/hr
2.	Cold Storage	2000MT

### 6.2.3 E-auction Centre for Flowers

Most of the flower markets are not regulated and lack even basic infrastructure. Lack of transparency in the selling system, even of organized markets for agriculture produce in Agriculture Produce Market Committees (APMC) is prevalent across the length and width of the country. In addition, these markets are not well equipped to handle the highly perishable items like flowers.

A modern electronic auction centre for cut and loose flowers along with other requisite infrastructure and facilities to handle 5 lakh stems of flowers per day is proposed to be set up. The site at Talegaon Dhabade is quite suitable for the proposed auction centre due to Production of good quality cut flowers and loose flowers in the cluster.

However, the Total area of proposed facility will have 14,248 sqm area, which will be sufficient to meet the requirement of the trade for next 5 years only after which expansion of facilities can be done based on the 60% utilization of facility. The market will operate for 310 days in a year.

The proposed e-auction centre will be designed keeping in view the specialized facilities to be created to cater to the demands of different operations in fair auctioning and delivery of the cargoes.

Total area for these facilities is about 14,248 sqm.

Different sections of the facility includes:

- **Flower Receiving Zone**

The trucks carrying flowers will be docked to the building in this zone and the flowers will be unloaded and wherever necessary the grading will be done. Since most of the consignments will be received in ambient temperature conditions, air-conditioning of this area has not been considered. However, the flowers received in refrigerated trucks will be directly taken to the set-up zone and inspection etc will be carried out there. After the auction the flowers will be put on trolleys.

Loose flower will be unloaded to this section however in case of cut flowers the unloading and transfer of flowers to the plastic crates will take place in this zone.

- **Trolley Display area**

This will be an air-conditioned area in which the temperature should not exceed 19°C. In this zone the buyers will carry out visual inspection before the start of the auction. A special feature of this zone will be lighting, which will enable the flower colors to be perfectly displayed in their natural form. For this purpose, special lamps are proposed to be installed.

Total area dedicated to this zone will be 640 sqm.

- **The Auction Room**

In the Auction Room the process of auctioning will take place. The room will be air-conditioned and will accommodate 100 buyers. It is also proposed that there will be a visitor's gallery from where the visitors will see the auctioning and display of flowers in set up and delivery zone which will become quite attractive for visitors and could even become a tourist attraction.

- **Distribution Zone**

After the auctioning, the flowers will be brought to the distribution zone. This area will be air-conditioned. Here the purchased flowers are checked by the auction personnel and sorted for distribution per buyer. The auction will provide all necessary administrative documents before shipment of the goods.

Combined area of 1024sqm has been kept for auction and distribution of flowers.

- **Storage for trolleys**

A separate of 640 sqm adjacent to trolley display area has been kept for storage of trolleys for 1-day auction.

- **Cold Store**

A cold storage will be provided with three chambers (each chamber will be 8\*24 meters). The flowers will be stored in the cold storage if these are unsold and have to remain within the auction premises for various reasons for more than 12 hours. The cold storage will also be hired out to the wholesalers, buyers and sellers for storage of flowers.

- **Transportation corridor**

The material will be delivered through trolleys to the wholesale market through a connecting corridor, which will connect auction and distribution centre . the corridor will have an exit in the centre as shown in the drawing to connect wholesale market with the truck loading area and cold storage

### **Traders Shops (40 in Nos.) and Wholesale shops (19 in Nos.)**

Buyers are an important part of any marketing network. In the proposed system, the first buyer in the chain, after auction, will be the wholesaler or trader. In order to facilitate his business activities, shops of two (small and big) sizes will be constructed and allotted to the registered wholesalers and traders. The shops will be near to the auctioning platforms so that delivery of produce from auction hall to the buyers through trolleys is facilitated. The auction platform can accommodate 40 trolleys at a time.



### **Food Testing Laboratory: Admin Building-First Floor; Area: 200 sqm.**

For ensuring the quality of raw and processed products in the facility, the various quality tests will be carried out at the common Food Testing Laboratory designed for the upcoming Agri Marketing Facility. FTL will be state of the art laboratory and would act as a single window clearance for quality related aspects of various processed items. The FTL would have quality testing lab, certification agencies and commodity exchange office.

It is conceptualized to provide services to the proposed units of the AMF to ensure smooth inspection, testing and maintenance of quality standards of processed products for which they will not be required to set up their own dedicated laboratories. In addition to the above, lab will also be equipped with water testing, set ups for Effluent Treatment Analysis like chemical oxygen demand and **biological** oxygen demand (BOD).

Mainly following equipment will be installed to fulfil aforesaid quality assurance requirement:

- Equipment for Chemical analysis (Refractometer, Rheometer, Flash Point apparatus, pH meter, Titrator, muffle furnace, sample preparation equipment etc.)
- Microbiology testing (Laminar air flow chamber, incubators, autoclave etc.)
- Physiological testing of raw material: (Colorimeter, grains testing, texture etc.)

## **6.2.4 Other supporting Infrastructure**

### **Auction system**

Auction system will be fully automatic computer controlled and interlinked right from the receipt of the consignment till final delivery. The heart of the system will be the auction equipment. There is a general tendency of installing auction clocks (Dutch type auctions) in the new auctions being set up world over. Similar type of system is proposed to be imported and installed. This system will come along with operational hardware and software.

### **Reconditioning Equipment**

In order to carry out various activities involving receipt, reconditioning and despatch of the cargoes, a reconditioning system consisting of chopping, grading, aquafill, sleeving and bunching equipments is proposed to be installed. Equipment for this system will have to be imported since no such system is available locally.

### **Trolleys**

In order to facilitate movement of flowers from an area to other area without causing handling damage, trolleys will be used. Design and broad specifications of the trolley are given in the annexure. These trolleys will be the same as are being used in the auctions worldwide. These trolleys will also be available to growers and buyers on rent basis.

### **Capacity calculation of the number of trolleys required**

The required number of trolleys to support 5,00,000 stems per day will be 300 trolleys each accommodating 1920 stems.

### **Plastic buckets**

Flowers particularly cut flowers should be put in water as soon as possible. Since the process of auctioning and thereafter delivery to buyers is expected to take upto 8-10 hours, it is proposed

that flowers may be transferred in to the buckets having water and shelf life enhancement chemicals.

### **Capacity calculation of the number of buckets required**

The required number of buckets to support 5,00,000 stems per day will be 3130 buckets each accommodating 160 stems.

### **Cold store**

There are 3 cold rooms each having the dimensions of 8X24x3. 3 m (height). The interior insulation material will be the expanded polystyrene slab 100-mm thick. The cold rooms will have temperate range of 2-10°C with 90% humidity and each room can maintain different temperature and humidity conditions so that different flowers storage conditions could be met by storing them in separate rooms.

Standard air-cooled units having facility of maintaining adjustable humidity and temperature will be installed.

## **6.3 Support Infrastructure**

### **1) Administrative Block and Commercial Complex**

The administrative block will house the management offices, training facility for farmers/ traders/ exporters, conference rooms, testing lab, offices for transporters and traders etc. It will be a two storied building equipped with all day-to-day requirement of the people enhancing the Agri-marketing Facilities like Bank etc. It will house the administrative office where day to day information and records will be maintained. An area of 6,661.98 sq. m. has been proposed to construct the administrative block. Also, offices of various other departments will be located on the ground floor of the administrative block.

Sufficient two-wheeler and car parking has been provided around this block for the convenience of the visitors.

### **2) Container Yard**

A designated area for staking of containers has been provided for 50 Containers admeasuring. An area of 3,361 sq. m. has been kept for container parking.

### **3) Non-Market Facilities**

The market will have other commercial facilities, to serve the interests of the stakeholders.

- Input Store
- Banks/ ATM
- Cafeteria
- Rest Rooms / Dormitories
- Toilets

### **4) Area for future expansion**

An area of 18,829 sqm has been left for future expansion, it has been proposed that based on the utilization of these facilities similar units can be replicated or any other unit can be proposed in that area.

## 6.4 Basic Enabling Infrastructure

The state of art basic enabling infrastructure will be provided to support the common infrastructure in the Agri Marketing Facility. The basic enabling infrastructure will be directly supporting the facilities in the upcoming units. The basic enabling infrastructure within the Agri marketing facility will have the following classification:

- Site Development
- Roads, main gate & boundary wall
- Drainage
- Power supply
- Water Supply
- Waste treatment and disposal
- Fire fighting

### 1) Main Gate & Boundary Wall

There will be one gate in the Agri Marketing Facility, opening towards the main road, for smooth entry and exit of commercial vehicles. The gate will be comprehensively planned and will have other requisite infrastructure to exercise proper control such as information board, check posts, control room, security, and parking space etc. Entry road to the facility will be before the security gate.

The road width and circulation areas have been calculated based on CPWD Norms prevailing.

The facility will also be enclosed with a boundary wall surrounding the entire complex of Agri Marketing Facility. The height of boundary wall will be 2.5 m.

### 2) Roads

To support the smooth movement of operations within the facility, road will be developed. There will be different type's roads as described below:

The facilities will be connected through 4m,9m 12m & 18 m wide road. This road will be used for access to the common infrastructure as well the saleable plots. They have been designed based on CPWD norms.

### 3) Parking and Weighbridge

Combined parking space for various vehicles visiting the Agri Marketing Facility is an important requirement an area is allotted for the parking calculation. The parking space made with concrete is demarcated for goods carrying vehicles and for general parking of private cars, scooters, trucks etc., a paver type parking provision is taken into consideration. Separate parking place has also been earmarked in the administrative corridor and commercial complex.

Provision of two fully welded Sandwich Type Modular weighbridge of requisite 60 MT\*2 capacity have been made in the facility. Modular weighbridge needs no foundation, just smooth hard surface on which the load cell plates rest. This saves lots of cost and time.

Generally, for pit / pit less foundation type weighbridge, the installation normally takes 2-3 months while in Modular weighbridge it can be installed in 2 hours. The modular design helps with easy cost-effective transportation and re-installation. weigh bridge cabin cum security cabin Along with Public amenities will also be built to monitor and direct man and material through the AMF. The location of weighbridges is near to the entrance of the proposed facility. Any goods vehicle coming inside the AMF premises or going outside the premises shall be weighed & records shall be kept. The proposed area for the weighbridge and security cabin is 638 sqm.

### 4) Drainage

Agro industry is very sensitive to the hygienic conditions not only within the premises of the unit but also in the surrounding areas. Therefore, a strong drainage system for rainwater along with

proper discharge facilities of sewerage and effluents from industries and facilities will be developed along the roadside so that water and sewerage does not stagnate on the roads and idle areas. External drains for storm water will be built with 500 mm diameter pipeline will be laid with the external and internal roads for the same.

Drainage system for rainwater along with proper discharge facilities of sewerage and effluents from industries and facilities will be developed along the roadside so that water and sewerage does not stagnate on the roads and idle areas.

For sewerage system and ETP lines cement trench line with proper circular manhole facilities is planned so as to efficiently manage the sewerage system in the AMF. Individual facilities will connect their respective pipes to these main pipes (for rainwater harvesting, storm water drainage, sewerage and ETP) for forward movement and treatment.

### 5) Power Supply

The power requirement of the Agri Marketing Facility will be met through the following ways:

- **HT power supply from State Electricity Board**

A stable power supply shall be provided to the entire AMF. A grid substation of 1.5 MW (has been designed based on the requirement from common infra and upcoming units) will be installed at the project site. Additional power requirements of the facility for illumination purpose and for units inside the AMF will be considered while designing the facility by developing both HT and LT line transmission.

- **Diesel Generators**

In addition, DG sets for each common facility as per the individual unit's load requirement and has been proposed to keep the unit's function uninterrupted even when power supply is not constant from the supply sources.

### 6) Fire Fighting

All facilities (Common infrastructure, Mandi infrastructure, enabling and upcoming PPP mode infrastructure) will be separately and independently supported by both external and internal firefighting as per industry standard. Dedicated underground water storage tank with piping and pumping facilities would be designed for each facility.

### 7) Public Facilities

The public facility for the AMF will be envisaged with the facility of computer systems and other IT hardware, Info-com lines, hardware for telecommunication and info com network, telephone networking, security posts and office furniture. The security posts will help the verification of goods, identification of trucks and smooth flow of traffic within the facility. Info-com lines will be laid down within the AMF for the facility for easy and smooth communication and prompt exchange of information, leading to seamless communication within one department or with other departments, if necessary.

### 8) Common Utilities

Separate common area of 2,730 sqm has been kept where the facilities like Fire Station, Water Tank, STP, Scrap Yard etc will be set up.

Main utilities that will serve the Agri Marketing Facility are as follows:

- **Effluent Treatment Plant (ETP)**

As the upcoming units are mostly primary processed and not generating any effluent, however wastewater which is generated during various operations like washing of floors, equipment, CIP etc. will be treated in Effluent Treatment Plant (ETP) in order to maintain the BOD, COD limits and other specifications led by state's pollution control board before disposing off to environment.



It is also proposed to keep a provision of ETP, if in future any secondary processing unit would be established in the AMF as a PPP mode infrastructure.

In the view of above common Effluent Treatment Plant (CETP) of 50 KLD is proposed. The proposed facility will ensure zero effluent disposal from the facility.

- **Sewerage Treatment Plant (STP)**

A common Sewerage Treatment Plant (STP) of capacity 50 KLD is proposed on the basis of the fact that at full capacity approximately 1500-2000 workforces will directly use the AMF, Garbage collection and disposal. A power load of mere 15 kW will be imposed by STP.

A network of garbage collection boxes would be installed in the premise of the facility. Facility would have provision for the collection and transportation of garbage and solid waste to the garbage disposal area.

- **Underground and Overhead Water Tanks**

A provision of underground water reservoir with capacity of 200 KI and separate 50,000 L overhead tank for industrial usage will be constructed. The planning and construction of the common facilities will be as per the requirement of Codex Alimentations.

# Available Incentives



## 7. Available Incentives

Government of India is actively promoting sector development through robust infrastructure initiatives, financial aid, and fiscal incentives. National and State financial institutions are channelizing significant funds to support viable projects in areas like cold chain development and packhouses. Numerous schemes from government agencies offer financial and fiscal assistance in this regard are mentioned below:

### 7.1 Central Sector Scheme of financing facility under- 'Agriculture Infrastructure Fund'

Launched on August 9, 2020, the 'Agriculture Infrastructure Fund' is a Rs. 1 lakh crore medium-long term debt financing facility, addressing India's agricultural infrastructure gaps. The 10-year scheme provides interest subvention and financial support for credit guarantees, focusing on post-harvest management projects and community farming assets. Banks and financial institutions extend loans to various entities, including PACS, FPOs, SHGs, and startups, with credit guarantee coverage up to Rs. 2 crores. The government covers the guaranteed fee. Notably, a 3% per annum interest subvention is granted for loans up to Rs. 2 crores for a maximum of 7 years, stimulating agricultural investment and development.

### 7.2 Integrated Scheme for Agricultural Marketing (ISAM)

The Government of India has approved the Integrated Scheme for Agricultural Marketing (ISAM) to enhance agricultural marketing infrastructure, scientific storage capacity, and promote value chains. With a budget of Rs. 4548 Crores, ISAM includes sub-schemes like:

Agriculture Marketing Infrastructure (AMI), Marketing Research and Information Network (MRIN), Strengthening of Agmark Grading Facilities (SAGF), Agribusiness Development through Venture Capital Assistance (VCA) and Project Development Facility (PDF) and Choudhary Charan Singh National Institute of Agricultural Marketing (NIAM), aiming to boost farmers' income, ensure market information dissemination, and catalyse private investment in agribusiness.

### 7.3 Schemes of Ministry of Food Processing Industries, Government of India

#### 7.3.1 Pradhan Mantri Kisan Sampada Yojana (PMKSY)

**Introduction:** The Pradhan Mantri Kisan Sampada Yojana (PMKSY), initiated by the Ministry of Food Processing Industries, integrates various schemes to attract private investment in the food processing sector. Launched on May 3rd, 2017, PMKSY aims to enhance infrastructure, expand processing capacity, and support the overall growth of the industry through a comprehensive program.

PMKSY has the following component schemes:

- **Integrated Addition Cold Chain and Value Infrastructure:** This scheme aims to establish a seamless cold chain from farm to consumer, encompassing pre-cooling, sorting, storage, and distribution facilities. Eligible entities include partnerships, corporations, NGOs, and more. Financial assistance is capped at Rs 10 crore per project, with grant-in-aid ranging from 35-50% for storage infrastructure and 50-75% for value addition and processing, depending on the region. This includes frozen storage, irradiation facilities, and transport infrastructure. The scheme encourages project flexibility,

emphasizing cold chain development at the farm level to enhance the preservation and quality of agricultural products.

- **Creation/Expansion of Food Processing & Preservation Capacities (Unit Scheme):** The Scheme aims to enhance food processing capacities, modernize existing units, and reduce wastage by promoting post-harvest processes. It supports the establishment, expansion, and upgrading of processing units through Central & State PSUs, Joint Ventures, FPOs, NGOs, Cooperatives, SHGs, Pvt. Ltd companies, and individual proprietorship firms. Grants-in-aid are provided at 35% in general areas and 50% in Northeast States, Himalayan States, ITDP areas, and Islands, with a maximum limit of Rs. 5.00 crore per project. The focus is on incorporating modern technology to improve efficiency and product quality, ultimately contributing to increased value addition in food processing.
- **Food Safety and Quality Assurance Infrastructure:** Ensuring quality and food safety is crucial for the global competitiveness of food products. The government supports the food processing sector through financial assistance, focusing on setting up/upgrading Quality Control/Food Testing Laboratories. These labs play a vital role in monitoring contaminants, additives, and pesticide residues, ensuring compliance with domestic and international standards. Central/State Governments, universities, and private sector organizations are eligible for grants to establish these laboratories. Government entities receive 100% funding for approved equipment, while private organizations receive 50-70% funding. There is also support for Technical Civil Work and Furniture & Fixtures. Government-established labs have flexible funding based on project needs.
- **Infrastructure for Agro-Processing Clusters:** The scheme aims at development of modern infrastructure and common facilities to encourage group of entrepreneurs to set up food processing units based on cluster approach by linking groups of producers/farmers to the processors and markets through well-equipped supply chain with modern infrastructure. Each agro processing clusters under the scheme have two basic components i.e. Basic Enabling Infrastructure (roads, water supply, power supply, drainage, ETP etc.), Core Infrastructure/ Common facilities (warehouses, cold storages, IQF, tetra pack, sorting, grading etc) and at least 5 food processing units with a minimum investment of Rs. 25 crores. The units are set up simultaneous along with creation of common infrastructure. At least 10 acres of land is required to be arranged either by purchase or on lease for at least 50 years for setting up of Agro Processing Cluster.
- **Creation of Backward and Forward Linkages:** The objective of the scheme has been to provide effective and seamless backward and forward integration for processed food industry by plugging the gaps in supply chain in terms of availability of raw material and linkages with the market. Under the scheme, financial assistance is being provided for setting up of primary processing centres/ collection centres at farm gate and modern retail outlets at the front end along with connectivity through insulated/ refrigerated transport. The Scheme has been applicable to perishable horticulture and non-horticulture produce such as fruits, vegetables, dairy products, meat, poultry, fish, Ready to Cook Food Products, Honey, Coconut, Spices, Mushroom, Retails Shops for Perishable Food Products etc.
- **Operation Greens:** Initially, Ministry has been implementing the scheme for development of Tomato, Onion and Potato (TOP) value chain since November 2018. However, the scheme is expanded to all fruits and vegetables (22 perishable crops). The scheme has



two components namely (I) Long Term Intervention-Integrated Value Chain Development Projects and (II) Short-Term Interventions. Subsidy is provided @ 50% on the following two components as per the provisions of scheme guidelines

**(I) Long Term Interventions**

- Enhancing value realisation of farmers by targeted interventions to strengthen production clusters and FPOs and linking/ connecting the farmers with the market.
- Reduction in post-harvest losses by creation of farm gate infrastructure, development of suitable agri-logistics, creation of appropriate storage capacity linking consumption centres.
- Increase in food processing capacities and value addition in value chain by creating firm linkages with identified production clusters.

**(II) Short Term Interventions**

- The objective of the Scheme is to protect the growers of Eligible Crops from making distress sale and to reduce post-harvest losses.

The Pradhan Mantri Kisan SAMPADA Yojana (PMKSY) is a comprehensive initiative aimed at establishing modern infrastructure with efficient supply chain management in the food processing sector, from farm gate to retail outlet. With an initial budget of INR 6,000 Crore for 2016-20, later extended to FY 2020-21, the government has now restructured the component schemes for the 15th Finance Commission, allocating a total outlay of INR 4,600 crore. While some schemes have been discontinued, others like Integrated Cold Chain, Food Processing Capacities, Agro-Processing Clusters, Food Safety Infrastructure, and Human Resource Development will continue. PMKSY plays a crucial role in doubling farmers' income, generating rural employment, reducing wastage, promoting processing, and boosting exports, contributing significantly to the growth of the food processing sector in India.

SCHEME NAME	NO. OF PROJECTS APPROVED	TOTAL PROJECT COST (INR CR.)
MEGA FOOD PARK	3	356.21
COLD CHAIN	68	1922.16
AGRO PROCESSING CLUSTERS	14	431.19
CEFPPC UNIT	87	1299.53
CREATION OF BACKWARD AND FORWARD LINKAGES	11	118.73
FOOD TESTING LABORATORY	28	150.04
OPERATION GREENS	8	355.45

Achievement of PMKSY Scheme in Maharashtra (as on date: 31.05.2023)

### 7.3.2 Pradhan Mantri Formalisation of Micro Food Processing Enterprises Scheme (PMFME)

**Introduction:** The Ministry of Food Processing Industries, under the Aatmanirbhar Bharat Abhiyan, launched the "PM Formalisation of Micro food processing Enterprises (PMFME) Scheme" to support micro food processing units. Approved on May 20, 2020, and guided by directives from June 19, 2020, the scheme, spanning from 2020-21 to 2024-25 with a budget of INR 10,000 Crore, aims to assist two lakh units through financial, technical, and business aid, with credit-linked subsidies as a key component.

**Objectives:**

- Increased access to credit by existing Micro Food Processing entrepreneurs, FPOs, Self Help Groups and Co-operatives.
- Integration with organized supply chain by strengthening branding & marketing
- Support for transition of existing 2,00,000 enterprises into formal framework.
- Increased access to common services like common processing facility, laboratories, storage, packaging, marketing, and incubation services.
- Strengthening of institutions, research, and training in the food processing sector.
- Increased access for the enterprises to professional and technical support.

**Provisions under the Scheme:**

Support for setting / upgrading of Micro Food Processing Enterprises:

The scheme supports the establishment and upgrading of micro food processing enterprises, catering to various organizations like individual entrepreneurs, firms, FPOs, NGOs, cooperatives, SHGs, and Pvt. Ltd. Companies. Financial assistance includes a credit-linked capital subsidy of 35% of the eligible project cost, up to INR 10 lakhs per unit, with a beneficiary contribution of a minimum of 10%. The eligible project cost covers plant and machinery, technical civil work (limited to 30% of the project cost), excluding land/rental. Applicants can avail of bank loans, interest subvention, and top-up convergence with other government schemes, with no subsidy on working capital.

**Support for setting up of common Infrastructure Facilities:**

Financial assistance is available for Farmer Producer Organizations (FPOs), Farmer Producer Companies (FPCs), Cooperatives, Self-Help Groups (SHGs), and related entities establishing food processing lines. Credit-linked capital subsidy of 35%, up to INR 3 Crore per unit, is offered. Eligible project cost includes plant/machinery and technical civil work (limited to 30%). The total project cost should not exceed INR 10 Crore, with no turnover or experience precondition. The organization must contribute a minimum of 10%, and the remaining funds can be obtained through a bank loan, requiring in-principal approval for project financing. A grant of INR 50,000 is provided for preparing a Detailed Project Report.

**Support to Self-Help Groups (SHGs):**

Seed capital of INR 40,000 per Self-Help Group (SHG) member supports working capital and small tools. Grant provided to SHG Federations acts as a loan for SHG members, empowering them economically and facilitating sustainable entrepreneurship within the community.

**Branding and Marketing Support:**

Provide up to 50% funding for branding and marketing assistance to groups of FPOs/SHGs/Cooperatives or an SPV of micro food processing enterprises. This includes developing a common brand and packaging, establishing quality standards, and forming partnerships with national and regional retail chains for competitive pricing.

**Capacity Building:**

The Scheme focuses on comprehensive capacity development, empowering institutions and individuals through various initiatives. Training is pivotal, targeting stakeholders like Master Trainers, District Level Trainers, and Resource Persons. It extends to existing and new food processing entrepreneurs, including members of SHGs, FPOs, and Cooperatives. DRPs, appointed by SNAs, offer continuous support, aiding with application processes, DPR preparation, and operational guidance.

SCHEME NAME	NO. OF PROJECTS APPROVED
MICRO ENTERPRISES APPROVED UNDER FME (Formalisation of Micro Food Processing Enterprises Scheme)	7483
INCUBATION CENTRES	3

Achievement of PMFME Scheme in Maharashtra (as on date: 31.05.2023)

### 7.3.3 Production Linked Incentive Scheme for Food Processing Industry (PLISFPI)

The Indian food processing industry, ranging from micro to large enterprises, holds a competitive advantage with abundant resources and a vast domestic market. The Production Linked Incentive Scheme for Food Processing Industry (PLISFPI), with a budget of INR 10,900 crore, aims to enhance global competitiveness, promote Indian brands internationally, and generate employment. Implemented from 2021-22 to 2026-27, the scheme focuses on supporting food manufacturing entities, incentivizing investment, and facilitating the development of strong Indian food product brands. Components include incentives for primary food segments, support for SMEs producing innovative products, and branding initiatives, with a special focus on millet-based products for domestic and export markets.

SCHEME NAME	NO. OF PROJECTS APPROVED	TOTAL PROJECT COST (INR CR.)
FOOD PROCESSING FACTORIES UNDER PLI (production linked incentive)	42	998.44

Achievement of PLISFPI Scheme in Maharashtra (as on date: 31.05.2023)

## 7.4 Scheme of National Horticulture Board

### 7.4.1 PHM/Primary Processing related components

#### Eligible Projects for Assistance:

- Washing, drying, sorting, grading, waxing, packing, palletizing, freezing units, etc.
- Pre-cooling units / Cool Stores
- Reefer Van / Containers
- Specialized Transport Vehicle
- Retail outlets
- Auction platform
- Ripening / curing chamber
- Market yards / rope ways
- Irradiation / Vapour Heat Treatment unit
- Primary processing of products (Fermentation, extraction, distillation, juice vending, pulping, dressing, cutting, chopping, dehydration, etc.)
- Natural color and dyes extraction
- Essential oils, perfumery, and cosmetics from horticulture products
- Products from horticulture waste
- Horticulture ancillary industry for indigenous manufacturing of farm tools, machinery, plastics containers, packaging, etc.

- Adoption of Quality Assurance Systems (HACCP, TQM, ISO, EurepGap, etc.)
- For Plastic Crates and Bins, Cartons, Aseptic Packaging, and Nets (50% subsidy)

#### Pattern of Assistance:

#### Credit-linked back-ended subsidy:

- 40% of the total project cost (limited to Rs 50 lakh) in general areas.
- 5% of project cost (limited to Rs 60.00 lakh) in Hilly and Scheduled areas.
- 50% subsidy for plastic crates.

#### General conditions from PHM/PP projects:

- Implement PHM projects as on-farm or common facilities for commercial horticulture. Consider new automation or tech, excluding regular maintenance.
- Provide one-time 50% subsidy for crates and nets in commercial horticulture projects at fruiting/harvesting stages, released separately for crates.
- Offer assistance for plastic crates/bins as part of credit-linked pack-house/processing projects led by Producers' Company/Association/PSU, subject to appraisal by the lending bank.
- Grant one-time assistance for shade nets, anti-hail nets, CFB cartons, aseptic packaging, punnets/poly bags in credit-linked projects meeting area norms.
- Extend benefits of cold storage scheme as additional support for integrated production and PHM projects beyond Commercial Horticulture Scheme assistance.
- Select units for indigenous manufacturing of specific items under NHB Committee's discretion.
- Ensure at least 15% more term loan from financial institutions than the admissible subsidy for project financing.
- Appraise new production units for technical and financial feasibility, emphasizing the incorporation of latest technology for quality, cost efficiency, energy savings, safety, and environmental considerations.
- Integrate projects within new or existing production-related projects, on-farm or off-farm, led by service providers/traders/processors with proper backward linkages.
- NHB will periodically prescribe normative costs for various project components.

## 7.5 Agricultural and Processed Food Products Export Development Authority

The APEDA's Agriculture Export Promotion Plan Scheme champions the export growth of diverse products such as fruits, vegetables, meat, poultry, dairy, confectionery, and bakery items. Tailored to uplift agricultural exports, the initiative tackles industry challenges through targeted support, encompassing infrastructure development, market development, and product quality development, thereby ensuring comprehensive assistance for exporters.

- **Scheme Component for Infrastructure Development**

The Pattern of Assistance under the Infrastructure Development Scheme comprises three parts.

In Part I, common infrastructure facilities are established by APEDA or other government agencies, with 90% grant-in-aid from APEDA and 10% from another government or public sector agency. However, assistance for land procurement is not provided.

Part II outlines assistance for the purchase of specialized transport units and infrastructure for APEDA scheduled products. This includes setting up storage sheds, mechanized handling facilities, pre-cooling and cold storage, treatment facilities, integrated post-harvest handling



systems, cable cars for plantations, vapor heat treatment, electronic beam processing, irradiation facilities, and environment control systems. The assistance ranges from 40% of the cost with various ceilings, such as INR 7.5 lakh to INR 75 lakh per beneficiary.

Part III focuses on assistance for fresh and processed horticultural produce, providing support for specialized storage facilities like high humidity cold storage, deep freezers, controlled atmosphere storage, etc., with a 40% assistance and a ceiling of INR 25 lakh per beneficiary.

The maximum assistance per unit per plan period under Part II-B is capped at INR 75 lakhs.

- **Scheme Component for Quality Development**

The Pattern of Assistance under the Quality and Quality Control Promotion scheme comprises several sub-components. Sub-Component 1 provides a 50% subsidy, up to Rs 25 lakh per beneficiary, for installing quality testing equipment, with adherence to quality standards. Sub-Component 2 offers 50% assistance, capped at Rs 5 lakh, for installing quality management systems like ISO series, HACCP, etc. Sub-Component 3 supports standardization and quality control activities with 100% funding for APEDA. Sub-Component 4 includes upgradation of labs with varying percentages of cost coverage based on the lab type. Sub-Component 5 allows 50% assistance for testing agricultural produce contaminants. Sub-Component 6 facilitates adoption of global standards with various funding percentages and ceilings. In the Capacity Building and Organisation Management section, Sub-Component 1 aids in skill upgradation with 100% funding for APEDA and farmers, while Sub-Component 2 supports seminars with 50% assistance, and Sub-Component 5 provides 100% funding for relevant research activities.

- **Scheme Component for Market Development**

The assistance program comprises three main components: Packaging Development, Feasibility Studies, Surveys, Consultancy, and Database Up-gradation, and Export Promotion and Market Development.

Under Packaging Development, APEDA supports the development and up-gradation of packaging standards, offering 100% assistance for internal schemes. Additionally, registered exporters of specific products receive 25% assistance for packaging material costs, capped at Rs 5 lakh per beneficiary annually.

Feasibility Studies, Surveys, Consultancy, and Database Up-gradation involve 100% support for market information dissemination, 50% for feasibility studies (up to Rs 10 lakh per beneficiary), and assistance for common benefit surveys.

Export Promotion includes various sub-components, such as material supply, brand publicity, and market facilitation centers, with APEDA providing different levels of financial assistance for each.

The Brand Image Development sub-component aids in establishing Indian product identity overseas, focusing on high value-added processed food products. This includes activities like display in international departmental stores, publicity campaigns, and brand promotion for eligible products listed, with APEDA offering 100% financial support.

## 7.6 Schemes by Allied Ministries

### 7.6.1 National Agriculture Infra Financing Facility (NAIFF) Scheme

The National Agriculture Infra Financing Facility (NAIFF) operates as a centralized online platform, overseen by the Department of Agriculture & Farmers Welfare. This initiative aims to catalyse the growth of farm gate and aggregation points, as well as establish cost-effective and economically sustainable Post Harvest Management infrastructure. The financing facility, amounting to INR

1,00,000 Crores, is designed to integrate various central and state government schemes, streamlining the process for enhanced agricultural development.

## 7.7 GOI Incentives for the Food Processing Sector

- **Income tax incentive to the food processing sector**

New Food Processing Units are eligible for a complete deduction of profits and gains during their initial 5 assessment years. Following this, they can benefit from a 25% deduction (30% for companies) for the subsequent 5 years.

Additionally, there is a provision for a 100% deduction on the capital invested in establishing and operating Cold Chain and Warehouse Storage facilities for agricultural produce.

- **Agro - Processing included in Priority Sector Lending**

Under RBI Master Directions as of September 4, 2020, Priority Sector Lending (PSL) includes loans for agricultural activities, specifically food and agro processing, with an aggregate limit of INR 100 crore per borrower. Loans to MSMEs in the "food and agro processing" sector also qualify for PSL classification.

- **100% FDI Permitted**

Since 2016-17, 100% Foreign Direct Investment (FDI) is automatically permitted in the manufacturing of food products. Additionally, 100% FDI in retail trading, including e-commerce, for food products produced in India is allowed through government approval.

## 7.8 Mission for Integrated Development of Horticulture

### 7.8.1 Integrated Pack House Facility for Fresh Fruits and Vegetables

With the objective of establishing a prominent position for Indian horticultural produce in the global market and ensuring the export of high-quality products, APEDA has developed integrated facilities such as pack houses. These facilities aim to provide intending exporters with the necessary infrastructure and support to meet international standards in terms of product quality and quarantine safety.

#### **Objective:**

The primary goal of these pack houses is to encourage the horticultural produce to meet international quality standards. This includes ensuring the quality of produce, adherence to quarantine safety measures, and compliance with internationally accepted standards and practices. The pack houses are designed to handle various stages of postharvest management, from material handling and pre-inspection to packaging, cold storage, and quarantine checks. Additionally, the pack houses play a crucial role in maintaining traceability, promoting and publicizing Indian produce at the international level, and creating a competitive environment among exporters.

#### **Provisions:**

- Pack houses are applicable for handling and processing all horticulture produce intended for export.
- APEDA Recognition for pack houses is granted based on appropriate facilities and procedural compliances verified through inspections by an Inspection Committee.

- Stakeholders are responsible for complying with procedural formalities to ensure quality export as per the requirements of importing countries.

#### Traceability:

- Approved pack houses are responsible for maintaining backward traceability information for each consignment.
- Exporters must file applications for Plant Quarantine Service Certificates (PSC) through the web-based Plant Quarantine Information System (PQIS).
- Each consignment is assigned a unique registration number printed on the PSC for traceability.
- Responsibilities of Pack Houses for Vegetable & Fruit Export to EU, etc.
- Design the pack house to ensure unidirectional flow of commodities to prevent cross-infestation/contamination.
- Procure fruits and vegetables only from registered farmers.
- Maintain hygiene and cleanliness records.
- Implement pest control measures and maintain records.
- Provide exclusive areas for plant quarantine inspection, proper inspection tables, required equipment, and separate storage areas.
- Install insect-proof nets, traps, and ensure insect-proof packing.
- Maintain all requisite registers and ensure compliance with standard operating procedures (SOPs).

### 7.8.2 Cold Chain Infrastructure Assistance Scheme

The Cold Chain Infrastructure Assistance Scheme aims to promote the establishment of energy-efficient multi-chamber cold storage units equipped with advanced technologies such as thermal insulation, humidity control, advanced cooling systems, and automation. The scheme provides financial assistance for the setting up of new cold storage infrastructure to ensure efficient storage and distribution of agricultural produce.

#### Objective:

- To promote the establishment of energy-efficient multi-chamber cold storage units with advanced technologies.
- To encourage the construction of cold storages with specifications and standards approved by the Ministry.
- To enhance the capacity of cold storage facilities for long-term storage and distribution of agricultural produce.
- To support the integration of cold chain components into single projects.
- To facilitate the development of long-distance transport solutions for perishable goods.

#### Provisions:

- Financial assistance for setting up new cold storage infrastructure will be available only to multi-chamber cold storage units with energy-efficient technologies.
- Cold storages with a capacity of up to 5000 MT will be promoted under NHM/HMNEH sub-schemes, while those with a capacity above 5000 MT up to 10000 MT will be promoted under NHB sub-scheme.
- For cold storages, 3.4 cubic metres (cum.) (120 cubic feet (cft.) of chamber volume is considered equivalent to one MT of storage capacity.
- Assistance for pre-cooling units will be linked to pack-houses and cold rooms.
- Extant specifications, standards, and protocols on cold storage and cold-chain components will be adhered to while approving cold storage projects.

- Assistance can be availed by individuals, groups of farmers/growers/consumers, partnerships, proprietary firms, self-help groups (SHGs), Farmers Producer Organizations (FPOs), companies, corporations, cooperatives, cooperative marketing federations, local bodies, Agricultural Produce Market Committees (APMC), Marketing Boards, and State Governments.
- Assistance will be available for taking up cold chain components to integrate the activities into a single project.
- Proposals on long-distance transport solutions on a project basis shall be supported under NHB sub-scheme.

## 7.9 Agricultural Marketing Infrastructure (AMI) by DMI

The agricultural sector has achieved self-sufficiency in food production, necessitating a focus on improving remuneration for producers by enhancing the agricultural marketing sector. To achieve this, investments in infrastructure for value addition, reduction of post-harvest losses, and strengthening the supply chain are imperative. The XII Plan Working Group on Agricultural Marketing Infrastructure and Policy, as well as the Planning Commission Working Group on Warehousing Development, have highlighted the need for substantial investments in marketing infrastructure and storage capacity. To address these requirements, schemes like Grameen Bhandaran Yojana (GBY) and Scheme for Development/Strengthening of Agricultural Marketing Infrastructure, Grading & Standardisation (AMIGS) have been implemented, and now, they are consolidated into the Integrated Scheme for Agriculture Marketing (ISAM), specifically Agricultural Marketing Infrastructure (AMI).

### Objective:

- To develop agricultural marketing infrastructure for effectively managing marketable surplus of agriculture, horticulture, and allied sectors.
- To promote innovative technologies in agricultural marketing infrastructure.
- To encourage private and cooperative sector investments in competitive alternative agricultural marketing infrastructure.
- To facilitate direct marketing, reducing intermediaries and enhancing farmers' income.
- To create scientific storage capacity to minimize post-harvest losses.
- To provide infrastructure for grading, standardization, and quality certification, ensuring fair prices to farmers and promoting marketing credit systems.
- To foster Integrated Value Chains (up to primary processing stage) for vertical integration of farmers with primary processors.
- To impart training and awareness on agricultural marketing to farmers, entrepreneurs, and other stakeholders.

### Provision:

- During the XII Plan period, a central assistance of Rs. 4000 crores will be allocated for the AMI sub-scheme.
- The sub-scheme aims to create 4000 marketing infrastructure projects and a storage capacity of 230 lakh tonnes across the country.
- Eligible beneficiaries include individuals, farmer groups, cooperatives, NGOs, corporations, and government agencies.
- Projects must comply with state APMC Acts and promote storage or marketing infrastructure up to the primary processing stage.
- Ancillary facilities, functional infrastructure, direct marketing infrastructure, and mobile infrastructure are among the eligible projects.
- Subsidy is linked to institutional credit and released through agencies like NABARD and NCDC.



- Promoter's contribution should be a minimum of 20% of the project cost, with a minimum term loan of 50% sanctioned by financial institutions.

## 8. Financial Analysis

Detailed financial analysis of investment has been carried out based on estimated costs (as per quotations and CPWD DSR plinth rates for 2019) and projected revenues (based on industry norms, Government norms). Contingencies have been considered @ 5% of the estimated cost.

*Detailed breakup of Project Cost, Revenue and Financial Statements are given at Annexure 2.*

### 8.1 Proposed project cost

The total project cost is estimated to be Rs. 10,634.62 lakhs. This includes the cost of Land development, Basis Enabling Infrastructure, Core Processing, Non-Core Infrastructure and Project Implementation Expenses Facilities as given in table below. All the components of the project have been discussed and rationalized in this section.

PROJECT COST (Rs. In Lacs)	Total Cost
Land Cost	1,128.35
Land Development	409.81
Basis Enabling Infrastructure	1,398.82
Core Processing Facilities	5,334.09
Non-Core Infrastructure	2,051.82
Margin for WC	252.00
Project Implementation Expenses	10.75
Contingencies	428.28
Interest During Construction	742.23
TOTAL	11,756.15

### 8.2 Means of finance

The means of finance has been calculated in table below:

MEANS OF FINANCE		
Promoters Contribution	23.35%	2,744.53
Subsidy	6.62%	778.02
Term Loan	70.04%	8,233.60
TOTAL		11,756.15

The funds will be generated from following sources i.e.-

Equity: MSAMB would be putting an equity of Rs. 2,744.53 Lakh, which is 23.35% of the project cost.

\*Financial Assistance from MoFPI: -

- 25 % of the project cost in general areas, maximum upto 100 crore per project under MIDH
- 35 % of the capital cost; Rs. 50.00 lakh per unit with size of 9Mx18M under MIDH
- 35 % of the capital cost; Rs. 25.00 lakh per unit with a capacity of 6 MT per unit under MIDH
- 35 % of the capital cost; Rs. 8000 per MT for max. 5000 capacity under MIDH
- 15% of the capital cost of the project, subject to a maximum of INR 1.35 crores under Gramin Bhandarn Yojana / Gramin Warehouse Yojana
- 25 % of the capital cost; upto 875 Rs per MT for maximum 1000 MT, upto Rs 750 Rs per MT for above 1000 MT upto 10000 MT. Maximum subsidy amount is Rs. 75 Lakh under Agricultural Marketing Infrastructure scheme

### 8.3 Key Indicators

Key Indicators	Envisaged	
NET PROFIT AFTER TAX	658.75	As per 7th year
Project IRR (Post Tax)	12.08%	Over 25years
Equity IRR	13.45%	Over 25years
Break Even Point	70.31	As per 7th year
Cash Break Even Point	44.60	As per 7th year
Ave DSCR	1.12	
PAY BACK PERIOD (YEARS)	13.50	

### 8.4 Revenue Recognition

The Proposed infrastructure will be established to ensure that the processing units and common facilities that are set up in the processing cluster can carry out their business efficiently. The main components have been classified below:

A. Development of land and creation of basic infrastructure such as road, water, power and other facilities to enable setting up of food processing units in the proposed infrastructure.

B. Creation of common infrastructure and processing facilities which can be used as common facilities by various units' setup in the proposed infrastructure for efficient business operations.

Based on the above-mentioned components, following types of revenue streams emerge, which are:

- Lease Rent from Commercial Complex (40 Sqm)
- Parking Fees
- Common Infrastructure
- Service charges for Core Processing Facilities
- Lease Rent from plots

Particulars	Capacity		Charges
Container Parking	50	Per Day	1700.00
Flower auction market	5,00,000	Stem Per Day	120.00
Sorting Grading facility	10	MT/Per day	750.00

Cold Storage	2,000	MT/Per Month	1800.00
Pree-cooling	6	MT/Per Month	1,700.00
Cold Room	3,600	MT/Per Month	1,800.00

### Food Testing Laboratory

Type of test for Lab Testing	Tests per day	No of days operational	Price per test
Chemical Test	2	250	5,000
Bacterial Test & Microbiological	2	250	8,000
Analytical test	2	250	10,000
Millet and cereal products testing	2	250	7,000

## 8.5 Operation & Maintenance

### Manpower requirement:

S.No.	PARTICULARS	No. of Shift	No. of personnel	Monthly Salary	Amount/ Annum
	<b>Operations</b>				
1	Flower Auction Market				
	Auction Manager	1	1	45,000	5.40
	Auction Assistants	1	2	25,000	6.00
	Collection Centre Staff	1	3	20,000	7.20
	Quality Inspectors	1	2	35,000	8.40
	Electrician	1	1	15,000	1.80
	Maintenance Eng.	1	1	25,000	3.00
	Security	1	4	15,000	7.20
	<b>Sub-Total</b>		<b>14</b>		<b>39.00</b>
2	Food Testing Lab				
	Laboratory Head	1	1	75,000	9.00
	Senior Technicians	1	1	35,000	4.20
	Lab Assistants	1	1	20,000	2.40
	Semi-Skilled Worker	1	3	15,000	5.40
	<b>Sub-Total</b>		<b>6</b>		<b>21.00</b>
3	Grain Complex				
	Unit In Charge	1	2	45000	10.80

	Operator	1	2	25,000	6.00
	Technician ITI	1	2	20,000	4.80
	Skilled Labour	1	3	20,000	7.20
	Semi-Skilled Labour	1	4	15,000	7.20
	<b>Sub-Total</b>		<b>13</b>		<b>36.00</b>
4	F&V Market				
	Unit In charge	1	1	45,000	5.40
	Operator	1	1	25,000	3.00
	Technician ITI	1	1	20,000	2.40
	Un-Skilled Labour	1	4	15,000	7.20
	<b>Sub-Total</b>		<b>7</b>		<b>18.00</b>
7	Central Departments				
	Management				
	General Manager	1	1	1,25,000	15.00
	Finance Manager	1	1	50,000	6.00
	Estate Manager-Civil Works & Roads	1	1	50,000	6.00
	Accountants	1	1	30,000	3.60
	Executives	1	1	20,000	2.40
	Exec - Mktg	1	1	20,000	2.40
	Technical				
	In charge Engineering, Electrical	1	1	50,000	6.00
	Water Treatment Plant, ETP & Utilities	2	1	25,000	6.00
	<b>Sub-Total</b>		<b>8</b>		<b>47.40</b>
8	Security				
	In charge Security	1	1	40,000	4.80
	Security - Supervisors	3	2	25,000	18.00
	Security Guards	3	4	15,000	21.60
	<b>Sub Total</b>				<b>44.40</b>
9	House Keeping Staff and Sweepers	1	1	15,000	1.80
	<b>Sub Total</b>				<b>1.80</b>
	<b>Total At CPC</b>			-	<b>207.60</b>



**Other expenses:**

Particulars	Charges
Marketing Expenses	1.50%
Direct Expense	1.00%
Repair & Maintenance Escalation	3.00%
Insurance	0.50%
Communication	5000 Per Month
Printing & Stationery	5000 Per Month
Travel & Conveyance	5000 Per Month
Miscellaneous Exp.	5000 Per Month
Internet connection	1000 Per Month



An aerial photograph of a lush green forest with a complex network of winding rivers and streams. The water bodies are dark blue and meander through the dense green canopy. A prominent circular bend in a river is visible in the lower-left quadrant. The overall scene is a vibrant, natural landscape.

## Annexure 1: Stakeholder's consultation



**Annexure 1: Stakeholder's consultation**

The consultation was organized in the respective Mandi premises viz. APMC Gultekedi, Pune.

The mandis identified for the upcoming Agro Marketing Facility based on the distance, connectivity and trade occurring around 100 km radius of Talegaon, Pune. Major stakeholders involved in the meeting includes FPC's, traders, commission agents, and mandi officials arranged by the Pune Agricultural Produce Market Committee was interviewed.



Figure 10 Stakeholder Consultation at Gultekedi Mandi (Pune)

**Major outcomes from the consultation**

For enlisting of information assessment, value chain approach was followed. Questions pertaining to value chain of major identified crop in section 3.3 were asked. The assessment is as follows:

**1. Flowers**

**a) Production statistics**

It was reported that Pune is main hub of flowers production. Roses among the cut flowers hold majority of production as well as arrival.

The FPOs/farmers have reported that cut flowers are produced in entire Mawal taluka stretching from Talegaon till Lonawala  
Producers are feeling threatened due to increasing use of artificial flowers

**b) Collection, Aggregation and Primary Sorting**

- It was reported that flowers are being directly collected from the farm.
- There is no auction centre for flowers, so farmers sell flowers directly to the traders visiting their farm.

**c) Marketing**

- Cut flowers are being sent to many regions of the country including, Delhi, Ahmedabad, Jaipur, Assam etc. through the traders after direct procurement from the farmers
- Also, supply of flowers is done to nearby cities like Pune, Lonavala etc.
- The FPOs also mentioned that they transport flowers via train and cycle, as well as by road and air depending on the distance of the market.
- However, no proper marketing infrastructure available for flowers
- There is no auction centre available for Flowers.

**d) Post-Harvest infrastructure**

- Privately owned polyhouses by the growers
- Packhouses owned by some large cut flower growers
  - Due to lack of infrastructure to store flowers it was reported that Farmers have to sell out there produce anyhow by end of day

**Suggested intervention**

- Requirement of auction centre for flower.
- Integrated Cold Storage for flower.
- Custom clearance/ Certifications window.

**2. Fruits**

**a) Production statistics**

- Pune dominates in production of Pomegranate, Grapes and Banana.
- Other than this sapota, custard apple, figs etc are also available in sufficient quantity

**b) Collection, Aggregation and Primary Sorting**

Majority of Fruits are getting sold out directly from the farm.  
It was reported that majority of traders, exporters are storing there produce in their own packhouse.

**c) Marketing**

- Banana, Mango (Usually kesar and Alphonso), Pomegranate, Grapes are major fruits exported from Pune.
- For export, cargo capacity is limited only few airlines (6-7 airlines) are available for perishable commodity.
- Procurement charges kesar Mango average Price: Rs 150/kg.
- Cost of Transportation: farm to Packhouse and Packhouse to Airport-Rs. 8/Kg.
- Export Transportation Charges as per Country
  - Mango Export by Plane: London charges by Air: Rs.120/kg.
  - US Charges by Air: Rs. 240/kg.



- Australia charges by Air: 350/kg.

**d) Post-Harvest infrastructure**

- Pune has some pack houses in the grape growing areas, which are owned privately
- There is an export facility centre set up by MSAMB in Baramati, which is used by exporters on lease.
- Pune APMC lacks in any post-harvest or storage facility for fresh produce
- Traders/ Exporters have their own privately own packhouse, but it was reported that capacity is not enough to store all of their produce.

**Suggested intervention**

- Requirement of export facility for fruits.
- Integrated Plug in Parking facility
- Custom clearance/ Certifications window.
- Requirement of proper loading and unloading space.
- Requirement of waste management facility.

**3. Vegetables:**

**a) Production Statistics**

- Onion, tomato, cauliflower and cabbage are the major vegetables produced in Pune region
- Onion is one of the major vegetables getting produced in the region
- Around 7-8 lakh MT of onion is getting produce on annual basis.

**b) Marketing**

- Onion:
  - The supply of onions is primarily directed towards Middle Eastern countries such as Malaysia, Dubai, Muscat, Kuwait, Qatar, etc.
  - Majority of onions from Pune are being supplied to Bombay for repackaging due to the unavailability of infrastructure.
  - The price for supply is mainly determined in Lasalgaon and Pimpalgaon markets.
- Other vegetables:
  - Mostly supplied to Pune APMC for local consumption and sent to Mumbai

**c) Post-Harvest infrastructure**

- Pune usually lacks in infrastructure facility; traders prefer to take produce to Vashi.

**Suggested intervention**

- Requirement of proper loading and unloading space.
- Requirement of waste management facility.
- Grading sorting line
- Pack house for vegetable exports

Annexure 2

Part 1 - Detailed Breakup of Project Cost

Land cost

Particulars	Unit Basis	Qty.	Unit Rate	Cost	Contingency	Total Cost
<b>A. LAND</b>				<b>1,128.35</b>	<b>-</b>	<b>1,128.35</b>
<b>Cost of Land Acquisition</b>						
Total area ( acres)						
Land Premium (one time payment)	Sq M	1,82,657.00				
	Acre	45.13	25,00,000	1,128.35		1128.35
<b>SUB-TOTAL</b>				<b>1,128.35</b>	<b>-</b>	<b>1,128.35</b>
Particulars	Unit Basis	Qty.	Unit Rate	Cost	Contingency	Total Cost
<b>B. SITE DEVELOPMENT</b>		<b>4047.0</b>		<b>409.81</b>	<b>20.49</b>	<b>430.31</b>
<b>Cost of Development</b>						
<b>Land Development</b>						
Earthwork in Cutting, filling and compaction	Sqm	43,653.0	340	148.42	7.42	155.84
Land scaping (plinth area rate)	Sqm	43,653	40	17.46	0.87	18.33
Boundary wall	rmt	1,955	9,160.00	179.06	8.95	188.01
Parking And Loading/Unloading area	Sqm	3,361	1,930	64.87	3.24	68.12
<b>SUB-TOTAL</b>				<b>409.81</b>	<b>20.49</b>	<b>430.31</b>

Basic Enabling Infrastructure

<b>C. ENABLING BASIC INFRASTRUCTURE</b>				<b>1,398.82</b>	<b>69.94</b>	<b>1,468.76</b>
<b>Internal Road(Bituminous Road)</b>						
Road	Sq M	37,362	1,930	721.09	36.05	757.14
Security cabin Main gate (Entry Point)	Sq M	4	12,000	0.48	0.02	0.50
Boom Barrier	No.	2	1,25,000	2.50	0.13	2.63
Main gate	LS	1	10,00,000	10.00	0.50	10.50
Other gates	LS	-	-	-	-	-
<b>SUB-TOTAL</b>				<b>734.07</b>	<b>36.70</b>	<b>770.77</b>
<b>Drainage</b>						
Drains for storm / rain water (Road running metre)	RMT	2,450	10,150	248.66	12.43	261.09
Sewarage	RMT	2,450	3,810	93.34	4.67	98.01
<b>SUB-TOTAL</b>				<b>342.00</b>	<b>17.10</b>	<b>359.10</b>
<b>Electrification and Water Supply</b>						
HT line from State Electricity Board	Kms	2	1000000.00	20.00	1.00	21.00
<b>Internal Electrification</b>						
Grid Sub - Station & Switch yard( 1.5 MW)	KVA	1,500	6000.00	90.00	4.50	94.50
Internal HT distribution( including cable, fitting, joints, panel) - along	Kms	2.4	1280000.00	31.36	1.57	32.93
Street light with double arm bracket( along side boundary wall, road	Nos	98	30000.00	29.40	1.47	30.87
Water storage tank (underground) ( 200 Kl )	Ltr	2,00,000	23	46.00	2.30	48.30
Water storage Tank( Overhead Tank with staging height between 25	Ltr	50,000	34	17.00	0.85	17.85
Bore Well & Pump House	LS	1	5,00,000	5.00	0.25	5.25
<b>SUB-TOTAL</b>				<b>238.76</b>	<b>11.94</b>	<b>250.69</b>
<b>Utilities and Power backup</b>						
Effluent Treatment Plant (50 KLD)	APQ	50	60,000	30.00	1.50	31.50
STP -50KLD	APQ	50	60,000	30.00	1.50	31.50
Weighbridge (60 MT)	APQ	2	12,00,000	24.00	1.20	25.20
<b>SUB-TOTAL</b>				<b>84.00</b>	<b>4.20</b>	<b>88.20</b>

### Core Processing Infrastructure

CORE PROCESSING FACILITIES				5,334	235	5,569
Particulars	Unit Basis	Qty.	Unit Rate	Cost	Contingency	Total Cost
<b>General Civil Works</b>						
Flower Auction		1	-	-	-	-
Grains Zone		1	-	-	-	-
Food Testing Lab		1	-	-	-	-
F&V Market		1	-	-	-	-
<b>SUB-TOTAL</b>				-	-	-
<b>BUILDINGS</b>						
Flower Auction Market		1	4,64,46,720.00	464.47	23.22	487.69
Grains Zone		1	4,77,27,280.00	477.27	23.86	501.14
Food Testing Lab		1	-	-	-	-
F&V Market		1	9,24,93,680.00	924.94	46.25	971.18
<b>SUB-TOTAL</b>				<b>1,866.68</b>	<b>93.33</b>	<b>1,960.01</b>
<b>Plant &amp; Machinery</b>						
Flower Auction		1	7,24,57,814	724.58	36.23	760.81
Grains Zone		1	10,85,21,299	1,085.21	54.26	1,139.47
Food Testing Lab		1	59,00,000	59.00	2.95	61.95
F&V Market		1	7,70,47,809	770.48	38.52	809.00
<b>SUB-TOTAL</b>				<b>2,639.27</b>	<b>131.96</b>	<b>2,771.23</b>
<b>Miscellaneous Fixed Assets</b>						
Flower Auction Market		1	80,00,000	80.00	4.00	84.00
Grains Zone		1	1,50,000	1.50	0.08	1.58
Food Testing Lab		1	7,00,000	7.00	0.35	7.35
F&V Market		1	1,50,000	1.50	0.08	1.58
<b>SUB-TOTAL</b>				<b>90.00</b>	<b>4.50</b>	<b>94.50</b>
<b>Services - Core &amp; Non Core</b>						
<b>Fire Fighting</b>						
Manual fire alarm system	Sqm	43,653	250	109.13	5.46	114.59
Internal electrification & installation (12.5% of total civil cost)	12.50%			476.52		476.52
Internal water supply & sanitary installation (4% of total civil cost)	4%			152.49		152.49
<b>SUB-TOTAL</b>				<b>738.14</b>	<b>5.46</b>	<b>743.60</b>

### Non-Core Infrastructure

D. NON CORE INFRASTRUCTURE				2,051.82	102.59	2,154.41
Particulars	Unit Basis	Qty.	Unit Rate	Cost	Contingency	Total Cost
<b>BUILDING/CIVIL WORK - Common Facilities</b>						
Admin block-Ground floor office & First Floor	Sq M	6,288	30,940	1,945.51	97.28	2,042.78
Internal road for admin	Sq M	2340	1930	45.162	2.2581	47.4201
Parking	Sq M	500	1930	9.65	0.4825	10.1325
<b>Public Facility</b>						
Computer Systems & other IT Hardwares	LS	1	15,00,000	15.00	0.75	15.75
Supplying, installation, testing & commissioning of LAN system	LS	1	10,00,000	10.00	0.50	10.50
Office Furniture	LS	1	20,00,000	20.00	1.00	21.00
Hardware for tele communication & infocom Network	LS	1	1,00,000	1.00	0.05	1.05
DG set-50KVA	KVA	50	11,000	5.50	0.28	5.78
<b>SUB-TOTAL</b>				<b>2,051.82</b>	<b>102.59</b>	<b>2,154.41</b>

Flower Auction						
Particulars	Unit Basis	Qty.	Unit Rate	Cost	Sub-Schedule-ii Contingency	(Rs Lacs) Total Cost
<b>BUILDING (RCC STRUCTURE &amp; Pre-engineered Building)</b>						
Auction and Distribution area (32*32)		32	1024			
Trolley display area (32*20)		20	1280			
Loose flower platform (24*32)		32	768			
Cold Storage (24*8)		8	192			
Pre-engineered Building and Civil Works	Sq M		3264	14,230	464.47	23.22
<b>SUB-TOTAL</b>					<b>464.47</b>	<b>23.22</b>
<b>PLANT &amp; MACHINERY</b>						
Cold Storage (200 Ton *3)	Nos	1	72,62,814.00	72.63	3.63	76
Air Conditioning	Nos	1	2,36,00,000.00	236.00	11.80	248
Auction Equipment	LS	1	2,47,80,000.00	247.80	12.39	260
Trolleys	Nos	225	35,400.00	79.65	3.98	84
Buckets	Nos	3,000	354.00	10.62	0.53	11
Crate Washing machine	Nos	1	28,32,000.00	28.32	1.42	30
Acqual fill grading Line	Nos	1	47,20,000.00	47.20	2.36	50
Weighing machine	LS	2	1,18,000.00	2.36	0.12	2
<b>SUB-TOTAL</b>				<b>724.58</b>	<b>36.23</b>	<b>760.81</b>
<b>MISCELLANEOUS FIXED ASSETS</b>						
Computer Sysytem	Nos	1	10,00,000.00	10.00	0.50	10.50
Software Development	LS	1	10,00,000.00	10.00	0.50	10.50
Furniture	LS	1	15,00,000.00	15.00	0.75	15.75
Office Equipment	LS	1	5,00,000.00	5.00	0.25	5.25
DG Set	LS	1	15,00,000.00	15.00	0.75	15.75
Refer vans	LS	2	12,50,000.00	25.00	1.25	26.25
<b>SUB-TOTAL</b>				<b>80.00</b>	<b>4.00</b>	<b>84.00</b>
<b>GRAND TOTAL</b>				<b>1,269.05</b>	<b>63.45</b>	<b>1,332.50</b>

Grains Zone						
Particulars	Unit Basis	Qty.	Unit Rate	Cost	Sub-Schedule-ii Contingency	(Rs Lacs) Total Cost
<b>BUILDING (RCC STRUCTURE &amp; Pre-engineered Building)</b>						
Grain Sortex Area (32*16)		16.00	512.00			
Cold Store (40*32)		32.00	1,280.00			
Pre-engineered Building and civil works shed	Sq M		1,792.00	14,230.00	255.00	12.75
Loading/unloading area	Sq M	32.00	1,536.00	10,460.00	160.67	8.03
Internal Road	Sq M		3,024.00	1,930.00	58.36	2.92
			168.00	1,930	3.24	0.16
<b>SUB-TOTAL</b>				<b>477.27</b>	<b>23.86</b>	<b>501.14</b>
<b>PLANT &amp; MACHINERY</b>						
Cold store For Grains (2000 MT)	Nos	1	6,37,25,073.00	637.25	31.86	669.11
Mezzanine	Per Kg	1,80,000	80.24	144.43	7.22	151.65
Sortex grading line (10 Ton)	APQ	1	3,03,53,025.54	303.53	15.18	318.71
<b>SUB-TOTAL</b>				<b>1,085.21</b>	<b>54.26</b>	<b>1,139.47</b>
<b>MISCELLANEOUS FIXED ASSETS</b>						
TOOLS & ACCESSORIES	LS	1	50,000	0.50	0.03	0.53
Furniture	LS	1	1,00,000	1.00	0.05	1.05
<b>SUB-TOTAL</b>				<b>1.50</b>	<b>0.08</b>	<b>1.58</b>
<b>GRAND TOTAL</b>				<b>1,563.99</b>	<b>78.20</b>	<b>1,642.19</b>

Food Testing Lab						
Particulars	Unit Basis	Qty.	Unit Rate	Cost	Sub-Schedule-ii Contingency	(Rs Lacs) Total Cost
Technical Building	Sq M	-	-	20500	-	-
<b>SUB-TOTAL</b>				<b>-</b>	<b>-</b>	<b>-</b>
<b>Plant and Machineries</b>						
Lab instruments and glasswares	APQ	1.00	59,00,000	59.00	2.95	61.95
<b>SUB-TOTAL</b>				<b>59.00</b>	<b>2.95</b>	<b>61.95</b>
<b>MISCELLANEOUS FIXED ASSETS</b>						
Tools	Lot	1.00	1,00,000	3.00	0.15	3.15
Accessories	Lot	1.00	1,00,000	2.00	0.10	2.10
Furniture	Lot	1.00	3,00,000	2.00	0.10	2.10
<b>SUB-TOTAL</b>				<b>7.00</b>	<b>0.35</b>	<b>7.35</b>
<b>G total</b>				<b>66.00</b>	<b>3.30</b>	<b>69.30</b>



F&V Market						
Particulars	Unit Basis	Qty.	Unit Rate	Cost	Contingency	Total Cost
<b>BUILDING (RCC STRUCTURE &amp; Pre-engineered Building)</b>						
Technical Building(Preecooler, Cold Room, Loading/Unloading area)					-	
Packhouse (80*24)		24	1920			
Cold Rooms (32*32)		32	4096			
Pre-cooling(8*8)		8	64			
Pre-engineered Building and Civil works	Sqm	6080	14,230.00	865.18	43.26	908.44
Loading/unloading area	Sqm	1992	1,930.00	38.45	1.92	40.37
Internal Road	Sqm	1104	1,930.00	21.31	1.07	22.37
<b>SUB-TOTAL</b>				<b>924.94</b>	<b>46.25</b>	<b>971.18</b>
<b>PLANT &amp; MACHINERY</b>						
Integrated Pack House						
Preecooling (6 Ton)	Nos	4.00	1740693.52	69.63	3.48	73.11
Cold Rooms (3600 ton)	Mt	3600.00	11800.00	424.80	21.24	446.04
Material handling equipments						
Racking system	Mt	3600.00	5000.00	180.00	9.00	189.00
Crates	Nos	500.00	413.00	2.07	0.10	2.17
Weighing Equip	Nos	6.00	27708.76	1.66	0.08	1.75
Hand Pallet truck	Nos	4.00	33070.68	1.32	0.07	1.39
Forlift	Nos	2.00	1300000.00	26.00	1.30	27.30
Reach Truck	Nos	1.00	6500000.00	65.00	3.25	68.25
<b>SUB-TOTAL</b>				<b>770.48</b>	<b>38.52</b>	<b>809.00</b>
<b>MISCELLANEOUS FIXED ASSETS</b>						
Furniture	LS	1.00	50,000	0.50	0.03	0.53
TOOLS & ACCESSORIES	LS	1.00	1,00,000	1.00	0.05	1.05
<b>SUB-TOTAL</b>				<b>1.50</b>	<b>0.08</b>	<b>1.58</b>
<b>GRAND TOTAL</b>				<b>1,696.91</b>	<b>84.85</b>	<b>1,781.76</b>

## Part II-Revenue and Financial Statements

### Projected Revenue

Revenue calculataion as per differen	1-Apr-25 31-Mar-26	1-Apr-26 31-Mar-27	1-Apr-27 31-Mar-28	1-Apr-28 31-Mar-29	1-Apr-29 31-Mar-30	1-Apr-30 31-Mar-31	1-Apr-31 31-Mar-32	1-Apr-32 31-Mar-33
Lease of plots	13.95	40.48	47.22	53.97	60.72	67.46	67.46	67.46
	<b>13.95</b>	<b>40.48</b>	<b>47.22</b>	<b>53.97</b>	<b>60.72</b>	<b>67.46</b>	<b>67.46</b>	<b>67.46</b>
Container Parking	153.00	183.60	214.20	244.80	275.40	306.00	306.00	306.00
Flower auction market	300.00	360.00	420.00	480.00	540.00	600.00	600.00	600.00
Food Testing Lab	75.00	90.00	105.00	120.00	135.00	150.00	150.00	150.00
Sorting Grading facility	180.00	216.00	252.00	288.00	324.00	360.00	360.00	360.00
Cold Storage	180.00	216.00	252.00	288.00	324.00	360.00	360.00	360.00
Preecooling	117.50	141.00	164.51	188.01	211.51	235.01	235.01	235.01
Cold Room	324.00	388.80	453.60	518.40	583.20	648.00	648.00	648.00
<b>TOTAL</b>	<b>1,343.46</b>	<b>1,635.88</b>	<b>1,908.53</b>	<b>2,181.18</b>	<b>2,453.82</b>	<b>2,726.47</b>	<b>2,726.47</b>	<b>2,726.47</b>

Revenue calculataion as per differen	1-Apr-33 31-Mar-34	1-Apr-34 31-Mar-35	1-Apr-35 31-Mar-36	1-Apr-36 31-Mar-37	1-Apr-37 31-Mar-38	1-Apr-38 31-Mar-39	1-Apr-39 31-Mar-40	1-Apr-40 31-Mar-41	1-Apr-41 31-Mar-42
Lease of plots	67.46	67.46	67.46	67.46	67.46	67.46	67.46	67.46	67.46
	<b>67.46</b>	<b>67.46</b>	<b>67.46</b>	<b>67.46</b>	<b>67.46</b>	<b>67.46</b>	<b>67.46</b>	<b>67.46</b>	<b>67.46</b>
Container Parking	306.00	306.00	306.00	306.00	306.00	306.00	306.00	306.00	306.00
Flower auction market	600.00	600.00	600.00	600.00	600.00	600.00	600.00	600.00	600.00
Food Testing Lab	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00
Sorting Grading facility	360.00	360.00	360.00	360.00	360.00	360.00	360.00	360.00	360.00
Cold Storage	360.00	360.00	360.00	360.00	360.00	360.00	360.00	360.00	360.00
Preecooling	235.01	235.01	235.01	235.01	235.01	235.01	235.01	235.01	235.01
Cold Room	648.00	648.00	648.00	648.00	648.00	648.00	648.00	648.00	648.00
<b>TOTAL</b>	<b>2,726.47</b>	<b>2,726.47</b>	<b>2,726.47</b>	<b>2,726.47</b>	<b>2,726.47</b>	<b>2,726.47</b>	<b>2,726.47</b>	<b>2,726.47</b>	<b>2,726.47</b>

Revenue calculataion as per differen	1-Apr-42 31-Mar-43	1-Apr-43 31-Mar-44	1-Apr-44 31-Mar-45	1-Apr-45 31-Mar-46	1-Apr-46 31-Mar-47	1-Apr-47 31-Mar-48	1-Apr-48 31-Mar-49	1-Apr-49 31-Mar-50
Lease of plots	67.46	67.46	67.46	67.46	67.46	67.46	67.46	39.55
	<b>67.46</b>	<b>67.46</b>	<b>67.46</b>	<b>67.46</b>	<b>67.46</b>	<b>67.46</b>	<b>67.46</b>	<b>39.55</b>
Container Parking	306.00	306.00	306.00	306.00	306.00	306.00	306.00	306.00
Flower auction market	600.00	600.00	600.00	600.00	600.00	600.00	600.00	600.00
Food Testing Lab	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00
Sorting Grading facility	360.00	360.00	360.00	360.00	360.00	360.00	360.00	360.00
Cold Storage	360.00	360.00	360.00	360.00	360.00	360.00	360.00	360.00
Preecooling	235.01	235.01	235.01	235.01	235.01	235.01	235.01	235.01
Cold Room	648.00	648.00	648.00	648.00	648.00	648.00	648.00	648.00
<b>TOTAL</b>	<b>2,726.47</b>	<b>2,726.47</b>	<b>2,726.47</b>	<b>2,726.47</b>	<b>2,726.47</b>	<b>2,726.47</b>	<b>2,726.47</b>	<b>2,698.56</b>

### Projected Balance Sheet

	1-Apr-24 31-Mar-25	1-Apr-25 31-Mar-26	1-Apr-26 31-Mar-27	1-Apr-27 31-Mar-28	1-Apr-28 31-Mar-29	1-Apr-29 31-Mar-30	1-Apr-30 31-Mar-31	1-Apr-31 31-Mar-32
<b>PARTICULARS</b>								
<b>LIABILITIES</b>								
SHARE CAPITAL	2,744.53	2,744.53	2,744.53	2,744.53	2,744.53	2,744.53	2,744.53	2,744.53
RESERVES & SURPLUSES	-	770.92	985.34	382.29	58.17	12.86	246.27	612.18
TERM LOAN	19.75	5,007.42	8,233.60	7,410.24	6,586.88	5,763.52	4,940.16	4,116.80
WORKING CAPITAL LOAN	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>2,764.28</b>	<b>8,522.87</b>	<b>12,741.48</b>	<b>11,315.08</b>	<b>10,167.60</b>	<b>9,298.93</b>	<b>8,708.98</b>	<b>8,251.53</b>
<b>ASSETS</b>								
FIXED ASSETS	2,330.25	8,053.91	11,745.40	11,745.40	11,745.40	11,745.40	11,745.40	11,745.40
LESS DEPRECIATION	-	-	331.44	1,132.60	1,933.75	2,734.91	3,536.07	4,302.63
NET BLOCK	2,330.25	8,053.91	11,413.96	10,612.80	9,811.64	9,010.48	8,209.32	7,442.76
NET CURRENT ASSETS	224.00	252.00	261.00	298.00	336.00	374.00	366.00	366.00
PRELIMINARY EXP. NOT W/O	-	-	9.68	8.60	7.53	6.45	5.38	4.30
CASH & BANK BALANCE	210.02	216.97	1,056.85	395.68	12.43	(92.00)	128.28	438.47
<b>TOTAL</b>	<b>2,764.28</b>	<b>8,522.87</b>	<b>12,741.48</b>	<b>11,315.08</b>	<b>10,167.60</b>	<b>9,298.93</b>	<b>8,708.98</b>	<b>8,251.53</b>

	1-Apr-32	1-Apr-33	1-Apr-34	1-Apr-35	1-Apr-36	1-Apr-37	1-Apr-38	1-Apr-39	1-Apr-40
PARTICULARS	31-Mar-33	31-Mar-34	31-Mar-35	31-Mar-36	31-Mar-37	31-Mar-38	31-Mar-39	31-Mar-40	31-Mar-41
<b>LIABILITIES</b>									
SHARE CAPITAL	2,744.53	2,744.53	2,744.53	2,744.53	2,744.53	2,744.53	2,744.53	2,744.53	2,744.53
	778.02	778.02	778.02	778.02	778.02	778.02	778.02	778.02	778.02
RESERVES & SURPLUSES	1,197.11	1,693.11	2,239.42	3,200.45	4,216.63	5,341.42	6,464.72	7,576.46	8,677.65
TERM LOAN	3,293.44	2,470.08	1,646.72	823.36	0.00	0.00	-	-	-
WORKING CAPITAL LOAN	-	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>8,013.10</b>	<b>7,685.74</b>	<b>7,408.69</b>	<b>7,546.36</b>	<b>7,739.18</b>	<b>8,863.96</b>	<b>9,987.27</b>	<b>11,099.01</b>	<b>12,200.19</b>
<b>ASSETS</b>									
FIXED ASSETS	11,745.40	11,745.40	11,745.40	11,745.40	11,745.40	11,745.40	11,745.40	11,745.40	11,745.40
LESS DEPRECIATION	4,873.98	5,445.33	6,016.68	6,225.76	6,433.46	6,552.99	6,661.33	6,769.67	6,878.02
NET BLOCK	6,871.41	6,300.07	5,728.72	5,519.63	5,311.94	5,192.41	5,084.06	4,975.72	4,867.38
NET CURRENT ASSETS	366.00	366.00	366.00	366.00	366.00	366.00	365.00	365.00	365.00
PRELIMINARY EXP. NOT W/O	3.23	2.15	1.08	0.00	0.00	0.00	0.00	0.00	0.00
CASH & BANK BALANCE	772.46	1,017.52	1,312.90	1,660.73	2,061.25	3,305.56	4,538.20	5,758.29	6,967.82
<b>TOTAL</b>	<b>8,013.10</b>	<b>7,685.74</b>	<b>7,408.69</b>	<b>7,546.36</b>	<b>7,739.18</b>	<b>8,863.96</b>	<b>9,987.27</b>	<b>11,099.01</b>	<b>12,200.19</b>

	1-Apr-41	1-Apr-42	1-Apr-43	1-Apr-44	1-Apr-45	1-Apr-46	1-Apr-47	1-Apr-48	1-Apr-49
PARTICULARS	31-Mar-42	31-Mar-43	31-Mar-44	31-Mar-45	31-Mar-46	31-Mar-47	31-Mar-48	31-Mar-49	31-Mar-50
<b>LIABILITIES</b>									
SHARE CAPITAL	2,744.53	2,744.53	2,744.53	2,744.53	2,744.53	2,744.53	2,744.53	2,744.53	2,744.53
	778.02	778.02	778.02	778.02	778.02	778.02	778.02	778.02	778.02
RESERVES & SURPLUSES	9,769.12	10,851.61	11,925.73	12,991.99	14,050.82	15,102.59	16,147.59	17,186.05	18,556.37
TERM LOAN	-	-	-	-	-	-	-	-	-
WORKING CAPITAL LOAN	-	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>13,291.67</b>	<b>14,374.16</b>	<b>15,448.28</b>	<b>16,514.54</b>	<b>17,573.37</b>	<b>18,625.14</b>	<b>19,670.13</b>	<b>20,708.60</b>	<b>22,078.92</b>
<b>ASSETS</b>									
FIXED ASSETS	11,745.40	11,745.40	11,745.40	11,745.40	11,745.40	11,745.40	11,745.40	11,745.40	11,745.40
LESS DEPRECIATION	6,986.36	7,094.70	7,203.04	7,311.39	7,419.73	7,528.07	7,636.41	7,744.76	7,808.28
NET BLOCK	4,759.04	4,650.69	4,542.35	4,434.01	4,325.67	4,217.32	4,108.98	4,000.64	3,937.12
NET CURRENT ASSETS	364.00	364.00	363.00	363.00	363.00	362.00	362.00	357.00	(56.00)
PRELIMINARY EXP. NOT W/O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CASH & BANK BALANCE	8,168.64	9,359.47	10,542.93	11,717.53	12,884.70	14,045.81	15,199.15	16,350.96	18,197.80
<b>TOTAL</b>	<b>13,291.67</b>	<b>14,374.16</b>	<b>15,448.28</b>	<b>16,514.54</b>	<b>17,573.37</b>	<b>18,625.14</b>	<b>19,670.13</b>	<b>20,708.60</b>	<b>22,078.92</b>

## Projected Profit & Loss

	1-Apr-24	1-Apr-25	1-Apr-26	1-Apr-27	1-Apr-28	1-Apr-29	1-Apr-30	1-Apr-31
PARTICULARS	31-Mar-25	31-Mar-26	31-Mar-27	31-Mar-28	31-Mar-29	31-Mar-30	31-Mar-31	31-Mar-32
	0.00%	41.37%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
NET SALES REALISATION	-	1,343.46	1,635.88	1,908.53	2,181.18	2,453.82	2,726.47	2,726.47
TOTAL COSTS	-	242.13	689.01	782.44	873.74	965.14	1,056.63	1,056.30
GROSS PROFIT	-	1,101.32	946.87	1,126.09	1,307.44	1,488.69	1,669.84	1,670.17
DEPRECIATION	-	-	331.44	801.16	801.16	801.16	801.16	766.56
INTEREST	-	-	399.95	926.90	829.33	731.76	634.19	536.62
PRELIMINARY EXP. W/O	-	-	1.08	1.08	1.08	1.08	1.08	1.08
PROFIT BEFORE TAX	-	1,101.32	214.41	(603.04)	(324.13)	(45.31)	233.41	365.91
TAXES	-	330.40	-	-	-	-	-	-
PROFIT AFTER TAX	-	770.92	214.41	(603.04)	(324.13)	(45.31)	233.41	365.91
DIVIDEND	-	-	-	-	-	-	-	-
DIVIDEND TAX	-	-	-	-	-	-	-	-
RETAINED PROFIT	-	770.92	214.41	(603.04)	(324.13)	(45.31)	233.41	365.91
NET CASH ACCURALS	-	770.92	546.92	199.19	478.11	756.93	1,035.64	1,133.55
<b>PROFIT &amp; LOSS ACCOUNT</b>								
OPENING BALANCE	-	-	770.92	214.41	(388.63)	(712.76)	(758.06)	(524.65)
CLOSING BALANCE	-	770.92	214.41	(388.63)	(712.76)	(758.06)	(524.65)	(158.74)

PARTICULARS	1-Apr-32	1-Apr-33	1-Apr-34	1-Apr-35	1-Apr-36	1-Apr-37	1-Apr-38	1-Apr-39	1-Apr-40
	31-Mar-33	31-Mar-34	31-Mar-35	31-Mar-36	31-Mar-37	31-Mar-38	31-Mar-39	31-Mar-40	31-Mar-41
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
NET SALES REALISATION	2,726.47	2,726.47	2,726.47	2,726.47	2,726.47	2,726.47	2,726.47	2,726.47	2,726.47
TOTAL COSTS	1,056.24	1,057.28	1,058.42	1,059.69	1,062.89	1,066.22	1,070.12	1,074.21	1,078.43
GROSS PROFIT	1,670.23	1,669.19	1,668.05	1,666.78	1,663.58	1,660.25	1,656.35	1,652.26	1,648.04
DEPRECIATION	571.35	571.35	571.35	209.08	207.70	119.53	108.34	108.34	108.34
INTEREST	439.06	341.49	243.92	146.35	48.78	0.00	-	-	-
PRELIMINARY EXP.W/O	1.08	1.08	1.08	1.08	-	-	-	-	-
PROFIT BEFORE TAX	658.75	755.28	851.70	1,310.27	1,407.10	1,540.72	1,548.01	1,543.92	1,539.70
TAXES	73.82	259.28	305.39	349.24	390.92	415.94	424.71	432.18	438.51
PROFIT AFTER TAX	584.93	496.00	546.31	961.03	1,016.18	1,124.78	1,123.30	1,111.74	1,101.19
DIVIDEND	-	-	-	-	-	-	-	-	-
DIVIDEND TAX	-	-	-	-	-	-	-	-	-
RETAINED PROFIT	584.93	496.00	546.31	961.03	1,016.18	1,124.78	1,123.30	1,111.74	1,101.19
NET CASH ACCURALS	1,157.35	1,068.42	1,118.74	1,171.19	1,223.88	1,244.31	1,231.64	1,220.08	1,209.53
<b>PROFIT &amp; LOSS ACCOUNT</b>									
OPENING BALANCE	(158.74)	426.18	922.19	1,468.50	2,429.53	3,445.71	4,570.49	5,693.79	6,805.54
CLOSING BALANCE	426.18	922.19	1,468.50	2,429.53	3,445.71	4,570.49	5,693.79	6,805.54	7,906.72

PARTICULARS	1-Apr-41	1-Apr-42	1-Apr-43	1-Apr-44	1-Apr-45	1-Apr-46	1-Apr-47	1-Apr-48	1-Apr-49
	31-Mar-42	31-Mar-43	31-Mar-44	31-Mar-45	31-Mar-46	31-Mar-47	31-Mar-48	31-Mar-49	31-Mar-50
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	58.63%
NET SALES REALISATION	2,726.47	2,726.47	2,726.47	2,726.47	2,726.47	2,726.47	2,726.47	2,726.47	2,698.56
TOTAL COSTS	1,082.80	1,087.32	1,091.98	1,096.81	1,101.79	1,106.94	1,112.26	1,117.76	676.43
GROSS PROFIT	1,643.67	1,639.15	1,634.49	1,629.66	1,624.68	1,619.53	1,614.21	1,608.71	2,022.13
DEPRECIATION	108.34	108.34	108.34	108.34	108.34	108.34	108.34	108.34	63.52
INTEREST	-	-	-	-	-	-	-	-	-
PRELIMINARY EXP.W/O	-	-	-	-	-	-	-	-	-
PROFIT BEFORE TAX	1,535.33	1,530.81	1,526.14	1,521.32	1,516.34	1,511.19	1,505.87	1,500.37	1,958.61
TAXES	443.85	448.32	452.03	455.06	457.51	459.42	460.87	461.90	588.29
PROFIT AFTER TAX	1,091.48	1,082.49	1,074.11	1,066.26	1,058.83	1,051.77	1,045.00	1,038.47	1,370.32
DIVIDEND	-	-	-	-	-	-	-	-	-
DIVIDEND TAX	-	-	-	-	-	-	-	-	-
RETAINED PROFIT	1,091.48	1,082.49	1,074.11	1,066.26	1,058.83	1,051.77	1,045.00	1,038.47	1,370.32
NET CASH ACCURALS	1,199.82	1,190.83	1,182.46	1,174.60	1,167.17	1,160.11	1,153.34	1,146.81	1,433.84
<b>PROFIT &amp; LOSS ACCOUNT</b>									
OPENING BALANCE	7,906.72	8,998.20	10,080.69	11,154.80	12,221.07	13,279.89	14,331.66	15,376.66	16,415.13
CLOSING BALANCE	8,998.20	10,080.69	11,154.80	12,221.07	13,279.89	14,331.66	15,376.66	16,415.13	17,785.45



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