

**DETAILED PROJECT REPORT**  
**FOR**  
**CONSTRUCTION OF**  
**ONION STORAGE GODOWNS**

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## **Abbreviations**

- DPR : Detailed Project Report
- FPO : Farmer Producers Organisation
- CSISAC : Central Sector Integrated Scheme on Agricultural Cooperation
- PLW : Physiological Loss in Weight
- MT : Metric Ton
- CPWD : Central Public Works Department
- PCC : Plain Cement Concrete
- RCC : Reinforced Cement Concrete
- AC : Asbestos Cement
- ISA : Indian Standard Angle Section
- IS SHS : Indian Standard Square Hollow Section
- MSAMB : Maharashtra State Agricultural Marketing Board
- NABARD : National Bank for Agriculture and Rural Development

## Executive Summary

Onion is one of the most Consumed vegetable in the world as well as in India, It is consumed in almost all parts of the India.

In Indian scenario, Per capita onion consumption has shown a significant growth in recent years. Total annual consumption requirement of onion (directly and indirectly) in 2017-18 is estimated at 200 lakh tonnes, while total Onion production during the year was 217.18 lakh tonnes.

Since the production is higher than the consumption, so if we prevent the losses of onion and store onion scientifically, then the price surges may be controlled, but the storage facility of onion in India is significantly low, a data shows only 48.73 lakh tonnes of onion could be stored in 2017-18 due to limited onion storage godown facility availability in India.

The data clearly shows that, the storage gap in India is huge. In Madhya Pradesh alone, the gap is about 18.76 lakh tonnes with respect to production 27.52 lakh tonnes.

Recently the new initiative of Government of India "Operation Greens" has been launched with an allocation of Rs 500 crore. on the lines of Operation Flood. Operation Greens aims to promote farmer producers organisations (FPOs), agri-logistics, processing facilities and professional management. The operation aims to aid farmers and help control and limit the erratic fluctuations in the prices of **Onions**, potatoes and tomatoes. The idea behind Operation Greens is to double the income of farmers by end of 2022. Operation is essentially a price fixation scheme that aims to ensure farmers are given the right price for their produce.

With the above encouraging Initiatives, the society has decided and passed a resolution in its board meeting that 2500 tonnes capacity of onion storage godown will be added in the state of MP. The Onion Godown will be constructed based on the guidelines & Drawing recommended by Government of India, for this society requires financial assistance of Rs.168.87 lakh (including subsidy) for construction of 50 Onion godowns of each 50 MT capacity at block cost of Rs. 217.50 lakh under the scheme Central Sector Integrated Scheme on Agricultural Cooperation (CSISAC).

The cash flow analysis for the project has been done and based on analysis the DSCR & IRR of the project calculated to be 2.83 & 29.0 Respectively.

## Goal/ Purpose

World output of onion is about more than 50 m tonnes. The notable producing countries are China, USA, USSR, Netherlands, Spain and Turkey. Most of the onion produced in India comes from the state of Maharashtra, Gujarat, Uttar Pradesh, Orissa, Karnataka, Tamil Nadu, Madhya Pradesh, Andhra Pradesh and Bihar. Maharashtra is the leading producer accounting for 20% of the area and 25% of the production.

The present storage capacity for onion in Madhya Pradesh is about 8.36 lakh tonnes lakh tonnes. This is quite inadequate compared to total production 27.52 lakh tonnes. Even most of the structures available are traditional and unscientific. If 40% of the stocks are earmarked for scientific storage the potential for new storage structures is about 5.40 lakh tonnes.

In spite of huge Onion production and demand in India, the Onion growers are still facing the price challenges, some time they don't even get the cost price. While other side, the Consumer are also facing the high purchase price challenge of onion during the month August to November, as it reaches up to 60-65 per Kg.

Even after huge Supply and Demand of Onion, India is facing the challenges because there is inadequate availability of Scientific Onion Storage Godown capacity, and Onion being perishable item, farmers have to suffer huge loss every year. Thus, if we only look the statistics of Madhya Pradesh, it clearly indicates that, there remains a vast potential for creation of Scientific Onion Storage Godown which is to be tapped, in turns helping the farmers to remain onion as a profitable business.

## 1. ASSETS:

The XYZ Society has its HO in MP State with 5 Branch Offices and 40 Depots spread all over Madhya Pradesh.

## 2. PRESENT ACTIVITIES OF SOCIETY:

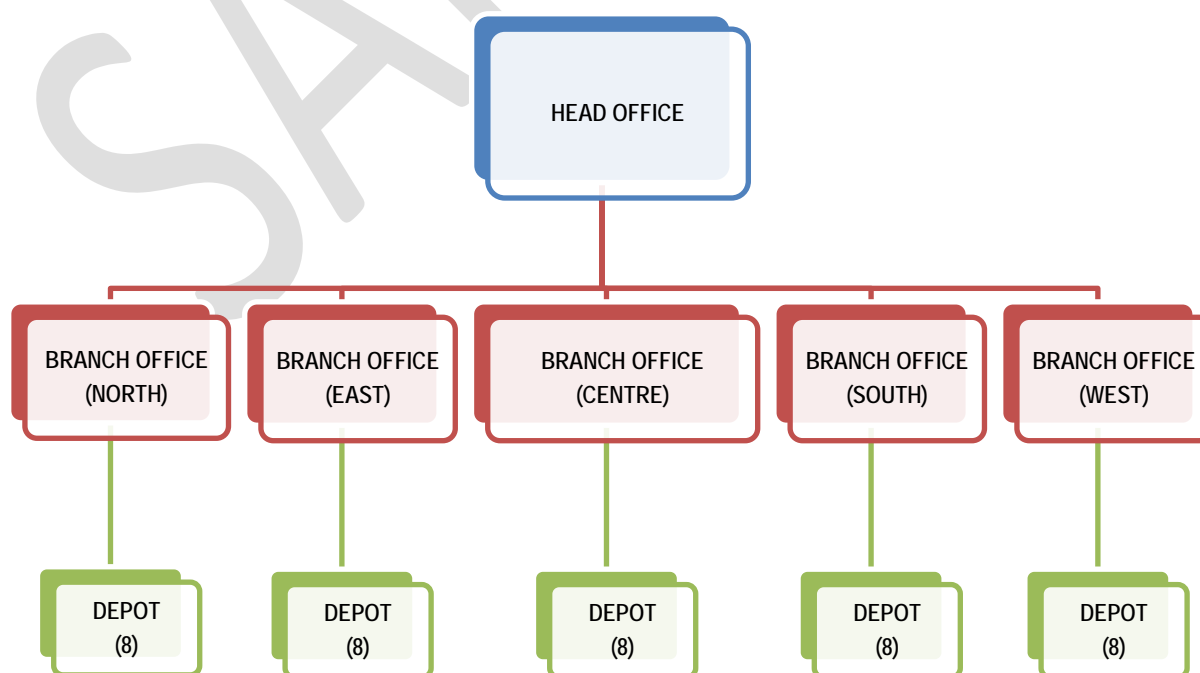
### Existing Activities:

The society is engaged in procurement & marketing of various agriculture produce which includes purchase & procurement, grading & shorting, transportation and sale of paddy, wheat, minor forest produce, vegetables and seeds etc.

### Existing Infrastructure facilities to support activities of society:

Head office of the Society is located in MP and 12 Branch offices at different district of MP. The Society has 12 Cooperative Bazaar, one at each branch office. To facilitate its members, the Society has also owned 40 Depots/Collection centre at different location. The society has Storage/Cold storages at various locations with different capacity. Total storage capacity available with society is about 50000 MT and Cold storage is about 1500 MT. To facilitate transportation, society owned 10 Trucks, 20 tempo travellers and other small vehicles.

### Society Organisation Structure:



### BUSINESS PERFORMANCE:

The Society started its Procurement and Marketing activities for its members since 1996-97 in the states of Madhya Pradesh. In the changing scenario of rural development, the society is expanding its business by undertaking need based projects in the areas of Agricultural Storage and Marketing of farmer's agricultural produce.

Business performance of the society **during the last 3 years** is given below:

(Rs. in lakh)

Particulars		Business Turnover		
		FY-I	FY-II	FY-III (Current/ Last Audited Financial Year)
Revenue from Operations	Sales of Agri. Produce	13444.01	10824.32	19379.86
	Sale of seeds	1032.75	1078.66	1887.26
	Sale of other product	298.62	253.95	396.83
<b>Total</b>		<b>14775.38</b>	<b>12156.93</b>	<b>21663.95</b>
Revenue from	Social & Rural Development Programmes/ Govt Schemes	<b>108.89</b>	<b>103.76</b>	<b>118.18</b>
<b>Grand Total</b>		<b>29659.65</b>	<b>24417.62</b>	<b>43446.08</b>

FINANCIAL PERFORMANCE:

The Society has earned cash profit / net profit during the last 3 years as detailed below:

(Rs. in lakh)

S.No.	Particulars	FY-I	FY-II	FY-III (Current/ Last Audited Financial Year)
1	Cash Profit	261.12	233.85	294.18
2	Net Profit	143.82	114.63	174.69

Net-worth of the Society as on last day of last 3 years is as under :

(Rs. in lakh)

Particulars	FY-I	FY-II	FY-III (Current/ Last Audited Financial Year)
Paid up share capital	174.90	178.40	188.70
Reserves and other funds	650.50	707.40	738.30
Undistributed profits	0.00	0.00	0.00
<b>Net worth</b>	<b>825.40</b>	<b>885.80</b>	<b>927.00</b>

Audited financial statements for the Bank for last 3 years & tentative financial statements for current financial year are attached.

**3. DETAILS OF THE ONION STORAGE PROJECT:**

### Proposed Onion Storage Godowns:

The Society has decide to construct Onion Storages Godowns at Indore, Shivpuri, Rewa, Sagar & Shajapur to procure the Onion. The society has owned the land at above location for constructing 50 no. of godowns of capacity 50MT each. The Block Cost of project is Rs. 2.175 crore.

(Rs. in lakh)

Sl. No.	State	District	No.	Unit Capacity (MT)	Total Capacity (MT)	Block Cost	Loan (1)	CSISAC Subsidy (2)	Society Contribution (3)	Total (1+2+3+4)
1	Madhya Pradesh	Indore	10	50	500	43.50	28.275	8.700	6.525	43.50
2		Shivpuri	10	50	500	43.50	28.275	8.700	6.525	43.50
3		Rewa	10	50	500	43.50	28.275	8.700	6.525	43.50
4		Sagar	10	50	500	43.50	28.275	8.700	6.525	43.50
5		Shajapur	10	50	500	43.50	28.275	8.700	6.525	43.50
Total =			50		2500	217.50	141.375	43.500	32.625	217.50

### Justification / requirement / Present scenario of the project:

Onion is one of the most Consumed vegetable in the world as well as in India, It is consumed in almost all parts of the India.

In Indian scenario, Per capita onion consumption has shown a significant growth in recent years. Total annual consumption requirement of onion (directly and indirectly) in 2017-18 is estimated at 200 lakh tonnes.

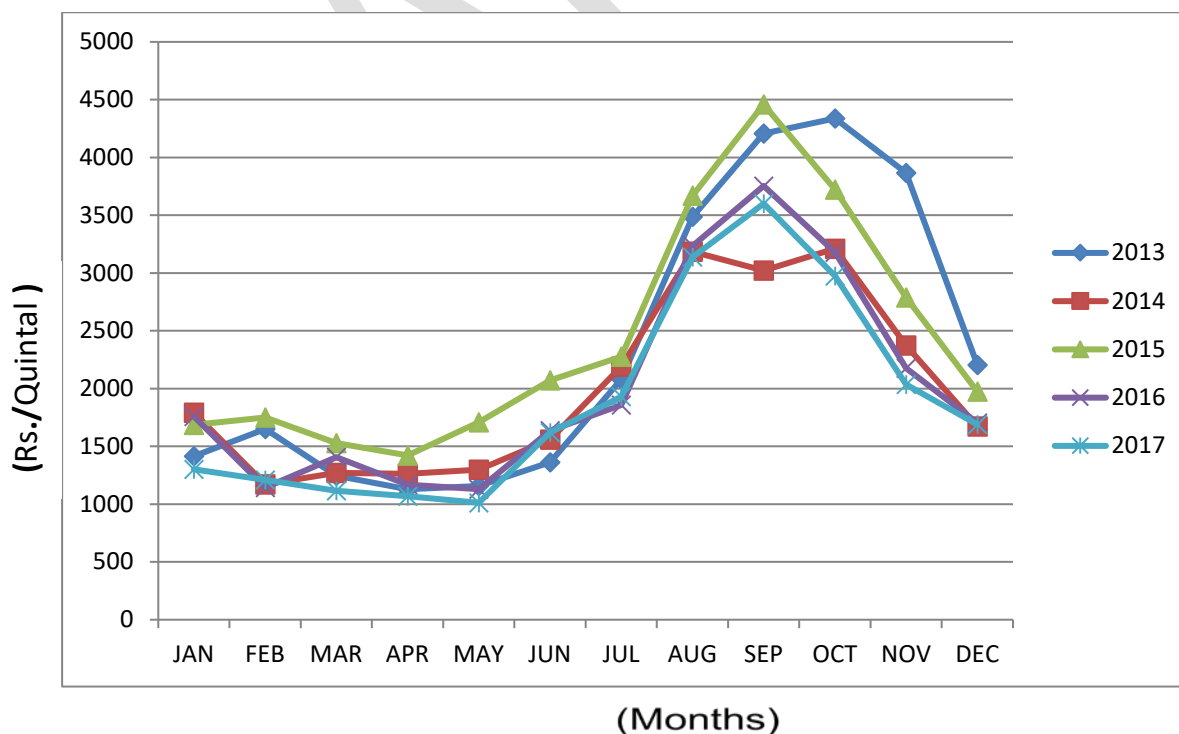
Despite the fact of huge demand and consumption of Onion, the condition of the Indian onion growers is miserable, they hardly make any profit by selling onion, Sometimes do not even get the production cost of onion. But other side, story is different, the consumers are paying much higher price for onion of what the farmer sale. The price gap is huge and even it touches to 7 to 8 times during the peak season.



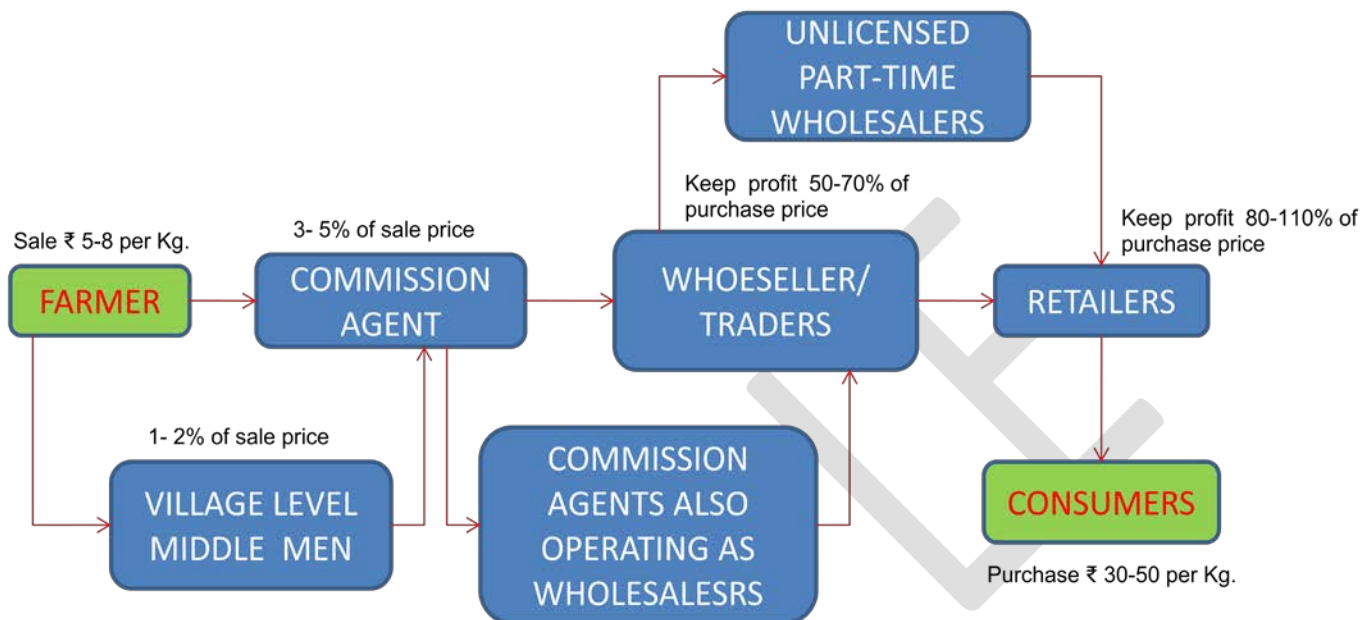
**Price Surge of Onion during the year:**

Month	(Prices in Rs./Quintal)				
	2013	2014	2015	2016	2017
<b>JANUARY</b>	1415.43	1791.26	1685.45	1759.63	1302.09
<b>FEBRUARY</b>	1651.65	1171.45	1749.74	1142.59	1210.72
<b>MARCH</b>	1246.49	1269.41	1529.05	1407.41	1114.74
<b>APRIL</b>	1128.80	1263.48	1421.68	1169.23	1067.68
<b>MAY</b>	1157.45	1298.77	1707.31	1129.78	1011.73
<b>JUNE</b>	1361.60	1558.09	2071.25	1635.07	1621.18
<b>JULY</b>	2080.53	2189.95	2275.76	1857.22	1929.27
<b>AUGUST</b>	3486.93	3183.74	3670.17	3235.03	3138.63
<b>SEPTEMBER</b>	4207.44	3020.61	4459.10	3753.71	3600.74
<b>OCTOBER</b>	4337.42	3211.24	3721.56	3179.46	2975.20
<b>NOVEMBER</b>	3866.69	2372.48	2789.24	2175.51	2036.22
<b>DECEMBER</b>	2205.57	1673.54	1974.10	1704.15	1689.25

**Graphical Representation price surge of Onion Price:**



The higher gap between the sale and purchase price is due to various commission agents at different levels,



- Cost from Harvest to Pack houses : ₹ 1.00-2.00 per Kg.
- Cost of Packing (Nylon Bag 50 Kg capacity cost ₹ 8 per bag) : ₹ 0.15-0.20 per Kg.
- Weighing Charges : ₹ 0.03-0.05 per Kg.
- Cost of Loading and Unloading : ₹ 0.02-0.05 per Kg.
- Local Transportation : ₹ 0.15-0.20 per Kg.
- Other Charges : ₹ 0.50-1.00 per Kg.

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**Total Charges : ₹ 1.85-3.5 per Kg.**

and unavailability of sufficient storage facility, resulting farmers have to sell their produce at a low price immediately after harvesting it. As onion is perishable in nature, farmers cannot take the risk of holding the stock for a better price.

Selling Onion immediately after harvesting, by all the farmers, leads to a huge supply and availability of onion in the market at a particular time and due to this fact, farmers are not able to negotiate on onion price. This is a win-win situation for the traders, they take advantage of this, which makes the Onion cultivation a less profitable business for the farmers.

**4. STATUS OF AVAILABILITY OF ONION STORAGE IN VARIOUS DISTRICTS OF MADHYA PRADESH:**

<b>Sl. No.</b>	<b>District</b>	<b>Estimated Storage During 2017 (In M.T.)</b>
1	Bhopal	27270.56
2	Harda	1305.14
3	Raisen	3812.08
4	Rajgarh	53053.25
5	Sehore	58797.00
6	Vidisha	1800.74
7	Shivpuri	11680.61
8	Badwani	1139.20
9	Dhar	65000.00
10	Indore	81222.10
11	Jhabua	5443.09
12	Khandwa	14005.21
13	Khargone	4952.94
14	Rewa	3237.09
15	Sagar	1509.55
16	Tikamgarh	536.75
17	Agar	31816.70
18	Dewas	127156.60
19	Mandsaur	2513.32
20	Neemuch	1345.53
21	Ratlam	64441.03
22	Shajapur	136382.84
23	Ujjain	137819.15
<b>TOTAL =</b>		<b>836240.48</b>

*Total available Onion Storage Godown in the state of Madhya Pradesh during 2017-18 was about 8.36 lakh tonnes, while the Production of Onion was about 27.52 lakh tonnes. The data clearly indicate the Storage Gap in the state MP.*

## 5. PRODUCTION OF ONION IN MADHYA PRADESH:

Total Onion production in India, during 2017-18 was 217.18 lakh tonnes, out of this Madhya Pradesh alone contributes around is 27.52 lakh tonnes.

Sl. No.	States	Capacity in M.T.		
		Production	Procurement	Additional Storage Godowns Req.
1	Bhopal	41989.00	27270.56	14718.44
2	Harda	10030.00	1305.14	8724.86
3	Raisen	12200.00	3812.08	8387.92
4	Rajgarh	102010.00	53053.25	48956.75
5	Sehore	76634.32	58797.00	17837.32
6	Vidisha	22279.00	1800.74	20478.26
7	Shivpuri	155680.00	11680.61	143999.39
8	Badwani	58675.00	1139.20	57535.80
9	Dhar	87104.29	65000.00	22104.29
10	Indore	425050.00	81222.10	343827.90
11	Jhabua	23488.00	5443.09	18044.91
12	Khandwa	143724.00	14005.21	129718.79
13	Khargone	44375.00	4952.94	39422.06
14	Rewa	311640.00	3237.09	308402.91
15	Sagar	255000.00	1509.55	253490.45
16	Tikamgarh	22140.00	536.75	21603.25
17	Agar	137250.00	31816.70	105433.30
18	Dewas	145740.00	127156.60	18583.40
19	Mandsaur	80500.00	2513.32	77986.68
20	Neemuch	64000.00	1345.53	62654.47
21	Ratlam	103950.00	64441.03	39508.97
22	Shajapur	276920.00	136382.84	140537.16
23	Ujjain	191808.00	137819.15	53988.85
<b>TOTAL =</b>		<b>2752245.00</b>	<b>876182.09</b>	<b>1876062.91</b>

Based on the above data, Districts **Shivpuri**, **Indore**, **Rewa**, **Sagar**, **Shajapur** are selected for Construction of Onion Storage Godowns, as the Storage Gap is higher in these District.

## **6. LOSSES DUE TO INSUFFICIENT ONION STORAGE GODOWNS:**

As the onion is perishable item, if not stored scientifically then losses may be huge as follows:

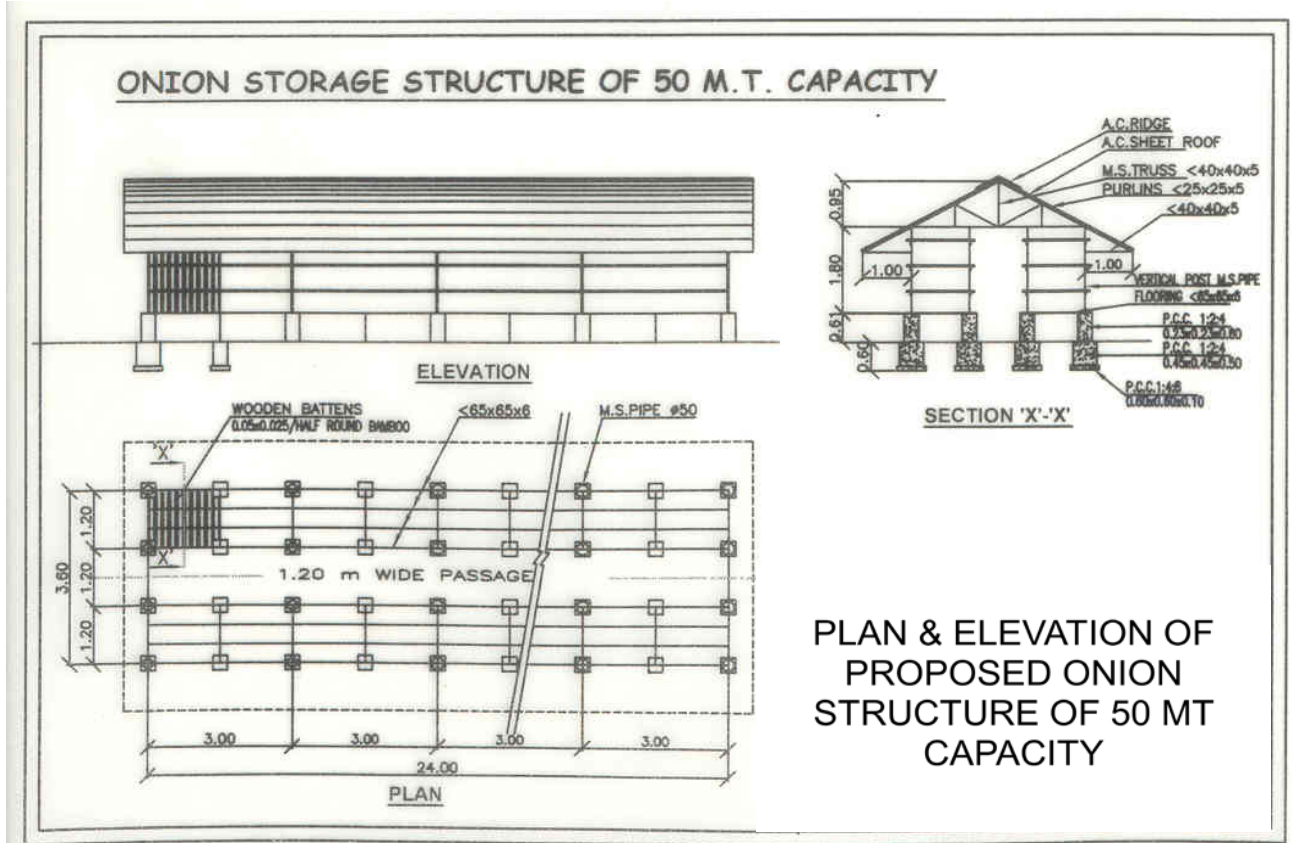
- 50-90 per cent storage losses are recorded depending upon genotype and storage conditions.
- The total storage losses are comprised of Physiological Loss in Weight (PLW) i.e. :
  - Moisture loss and shrinkage (30-40%).
  - Rotting (20-30%).
  - Sprouting (20-40%).
- The PLW can be minimized by harvesting at right time, proper curing of onion bulbs and subsequent storage at desired temperature and humidity conditions.

To overcome of above mentioned issues it is necessary to have good storage facility. For effective long storage of onion the parameters essential to be looked after are the bulb size, choice of cultivars, cultivation practices, time of harvest, field curing, removal of tops, drying, grading, packing, storage conditions (optimum storage range of relative humidity 65% to 70% with the temperature ranging between 25° C to 30° C).

## **7. SALIENT FEATURES OF PROPOSED STORAGE STRUCTURES :**

- Construction of structure on a raised platform to prevent moisture and dampness due to direct contact of bulbs with the soil.
- Use of Mangalore tile type roof or other suitable materials to prevent built up of high inside temperature.
- Increased centre height and more slope for better air circulation and preventing humid micro climate inside godown.
- Providing bottom and side ventilations for free and faster air circulation and to avoid formation of hot and humid pockets between the onion layers.
- Avoid direct sunlight or rain water falling on onion bulbs to reduce sun scald, fading of colour and quality deterioration.
- Maintenance of stacking height to avoid pressure bruising.
- Periodical disinfection of structures and premises to check rottage.
- Cost effectiveness of structures is based on utilization of locally available material for the construction.

Based on the above requirement the proposed 50 MT Onion Storage Godown drawing is as below:



Typical Model of 50 MT Onion Storage Godown:



## 8. CIVIL COST ESTIMATES OF ONE 50MT ONION GODOWN:

Sl. N.	Description	Rate In ₹*	Unit	Quantity	Amount In ₹
1	Earth Excavation for Foundation	126.00	CUM	55	6930.00
2	P.C.C. in Foundation (1:4:8)	4479.00	CUM	1.6	7166.40
3	R.C.C in Column & Footing (1:2:4) (Dia. 0.5 to 0.23 M)	7147.00	CUM	7.5	53602.50
4	Nominal Reinforcement	56.00	KG.	450	25200.00
5	Structural Steel	60.00	KG	3300	198000.00
6	A.C. Sheet roofing	150.00	SQM	165	24750.00
7	A.C. Sheet Ridge	250.00	Rmt	26	6500.00
8	2" ½ Dia Bamboo Strips @ 3" C/C	20.00	Rmt	2800	56000.00
	<b>TOTAL</b>				<b>378148.90</b>

\*Unit price based on CPWD Schedule of Rates 2016 and from internet

Detail of the Material used:

- P.C.C. in Foundation:** Plain Cement Concrete used in below Foundation is 75mm thick and Characteristic strength of the concrete is M15.
- R.C.C in Column & Footing:** Reinforced Cement Concrete used in Super & Sub Structure (Column, Foundation/ Footing ) is having characteristic strength M25, Confirming to IS 456 and Placing of reinforcement as per SP37 and Reinforcement characteristic strength is Fe 415.
- Nominal Reinforcement:** Nominal reinforcement means Reinforcement used in Grade slab of the godown having characteristic strength is Fe 250.
- Structural Steel:** Square Hollow Section (IS SHS) of 100x100x8 & Angle Section ISA 50x50x6 of Hot Rolled Medium and High Tensile Structural Steel conforming to IS: 2062 is used in Super Structure of Grade Fy 250.
- A.C. Sheet Roofing:** 10 mm Thick Asbestos Cement Sheet for roofing Specification Confirming to IS 459 and lying on the roof as per the specification confirming to IS 3007.





## **10. SCHEDULE OF CONSTRUCTION:**

The Construction of Godowns will be completed within 8 months from the date of sanction in all respect. The construction will be done as per approved drawing/ specification and as directed by Site Incharge.

## **11. SECURITY AGAINST THE LOAN:**

The FDRs maintained in schedule commercial of requisite amount, will be pledge to NCDC towards the security against the loan.

SAMPLE

**12. CASH FLOW & PROFITABILITY ANALYSIS OF PROJECT:**

SAMPLE

**SCHEDULE OF PROCUREMENT & SALE PLAN**

(Rs. In lakh & Capacity in MT)

Sl. no	P-1: Onion Purchase & Sale at phase 1 P-2: Onion Purchase & Sale at phase 2 Particulars ↓	Years															
		I		II		III		IV		V		VI		VII		VIII	
		P-1	P-2	P-1	P-2	P-1	P-2	P-1	P-2	P-1	P-2	P-1	P-2	P-1	P-2	P-1	P-2
1	Total Capacity of Godown (MT)	2500		2500		2500		2500		2500		2500		2500		2500	
2	Capacity Utilization	90%		90%		90%		90%		90%		90%		90%		90%	
3	Capacity Utilisation (MT)	2250		2250		2250		2250		2250		2250		2250		2250	
4	Targetted onion Procurement , (Quintal)	11250	11250	11250	11250	11250	11250	11250	11250	11250	11250	11250	11250	11250	11250	11250	11250
5	Purchased Quantity of Onion (Quintal) (10% more than target procurement)	12375	12375	12375	12375	12375	12375	12375	12375	12375	12375	12375	12375	12375	12375	12375	12375
6	Procurement Cost of : P-1 & P-2 @ Rs1200/- per quintal (Rs. In lakh)	148.50	148.50	148.50	148.50	148.50	148.50	148.50	148.50	148.50	148.50	148.50	148.50	148.50	148.50	148.50	148.50
7	Total cost of procurement (Rs. In lakh)	297.00		297.00		297.00		297.00		297.00		297.00		297.00		297.00	
8	Availability of Onion for Sale (quintal) (only 95% & 85% available of for sale in P-1 & P-2 after 5% & 15% losses respectively)	10688	9563	10688	9563	10688	9563	10688	9563	10688	9563	10688	9563	10688	9563	10688	9563
9	Estimated Value Realized from sale of: P-1 @ 2000 /- per quintal and P-2 @ Rs 2500/- per quintal (Rs. In lakhs)	213.75	239.06	213.75	239.06	213.75	239.06	213.75	239.06	213.75	239.06	213.75	239.06	213.75	239.06	213.75	239.06
10	Yearly Realization Sale (P-1) + (P-2) (Rs. In lakh)	452.81		452.81		452.81		452.81		452.81		452.81		452.81		452.81	

**SCHEDULE OF OPERATIONAL EXPENSES**

(Rs. In Lakhs)

S.No.	PARTICULARS	YEARS							
		I	II	III	IV	V	VI	VII	VIII
1	Purchased Quantity (quintal )	24750	24750	24750	24750	24750	24750	24750	24750
2	cost of P-1 & P-2 Onion procurement	297.00	297.00	297.00	297.00	297.00	297.00	297.00	297.00
3	Packing material @ Rs 8 per quintal	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98
4	Shorting of onion ( labour @ Rs 50 per quintal )	12.38	12.38	12.38	12.38	12.38	12.38	12.38	12.38
5	Salary Avg @ Rs 15000 for per employee (total 20 employee at 5 locations, 4 at each location )	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
6	Insurance @ 0.5% of capital cost	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
7	Repair & maintenance @1% on capital cost	-	2.18	2.18	2.18	2.18	2.18	2.18	2.18
8	Administrative & general overheads (0.5% of turn over)	2.26	2.26	2.26	2.26	2.26	2.26	2.26	2.26
9	Depriciation	10.88	10.33	9.81	9.32	8.86	8.41	7.99	7.59
10	Weighing, Transportation Selling, promotional expenses & Dealer Commission (7.5% of turn over)	33.96	33.96	33.96	33.96	33.96	33.96	33.96	33.96
	Total	362.54	364.17	363.66	363.17	362.70	362.26	361.84	361.44

**CASH FLOW CHART UNDER CSISAC**

(Rs. In Lakhs)

S.No.	Particulars	Rate	I	II	III	IV	V	VI	VII	VIII
1	Block Cost:-	Godown	217.50	-	-	-	-	-	-	-
2	<b>Total cost</b>		217.50	-	-	-	-	-	-	-
3	Revenue from sale (Income)		452.81	452.81	452.81	452.81	452.81	452.81	452.81	452.81
4	Operating expenses (Expenditure)+ Interest		378.07	377.48	374.75	372.04	369.35	366.69	364.05	361.44
5	Profit (In - Exp)		74.75	75.33	78.07	80.78	83.46	86.12	88.76	91.38
6	Corporate tax + Surcharge on Profit	33.00%	24.67	24.86	25.76	26.66	27.54	28.42	29.29	30.15
7	Net Profit ( after corporate tax + Surcharge)		50.08	50.47	52.30	54.12	55.92	57.70	59.47	61.22
8	Loan Installments		0.00	20.20	20.20	20.20	20.20	20.20	20.20	20.20
9	Loan Balance		141.38	121.18	100.99	80.79	60.59	40.39	20.20	0.00
10	Interest		15.52	13.31	11.09	8.87	6.65	4.44	2.22	0.00
11	Depreciation (SLM)	5%	10.88	10.33	9.81	9.32	8.86	8.41	7.99	7.59
12	<b>Total Income available (Net profit+dep+int.)</b>		76.48	74.11	73.21	72.31	71.43	70.55	69.68	68.82
13	DSCR		4.93	2.21	2.34	2.49	2.66	2.86	3.11	3.41
14	<b>Average DSCR</b>		<b>2.83</b>							
15	Salvage value of Godown		0.00	0.00	0.00	0.00	0.00	0.00	0.00	144.29
16	<b>Cash flow for IRR</b>	<b>-217.50</b>	<b>76.48</b>	<b>74.11</b>	<b>73.21</b>	<b>72.31</b>	<b>71.43</b>	<b>70.55</b>	<b>69.68</b>	<b>68.82</b>
17	<b>IRR</b>									<b>29%</b>

**SCHEDULE OF REPAYMENT UNDER CSISAC**

Society Contribution	32.62 lakh	Interest rate on L.T.L.	10.98%
Loan (65%)	141.38 lakh		
Subsidy (GOI) (20%)	43.50 lakh	Total Project Cost	217.50

(Rs. In lakh)

Year	Disbursement	Out standing at beginning of year	Interest on L.T.L.	Benefit from sale	Operating expenses	Corporate Tax + Surcharge	Net Benefit (A)	Principal Repayment	Repayment Interest
I	141.38	141.38	15.52	452.81	378.07	24.67	50.08	0	15.524
II		121.18	13.31	452.81	377.48	24.86	50.47	20.197	13.306
III		100.99	11.09	452.81	374.75	25.76	52.30	20.197	11.088
IV		80.79	8.87	452.81	372.04	26.66	54.12	20.197	8.871
V		60.59	6.65	452.81	369.35	27.54	55.92	20.197	6.653
VI		40.39	4.44	452.81	366.69	28.42	57.70	20.197	4.435
VII		20.20	2.22	452.81	364.05	29.29	59.47	20.197	2.218
VIII		0.00	0.00	452.81	361.44	30.15	61.22	20.197	0.000
<b>Total</b>								<b>141.38</b>	<b>62.09</b>

### CASH FLOW CHART UNDER AMI

(Rs. In Lakhs)

S.No.	Particulars	Rate	I	II	III	IV	V	VI	VII	VIII
1	Block Cost:-	Godown	217.50	-	-	-	-	-	-	-
2	<b>Total cost</b>		217.50	-	-	-	-	-	-	-
3	Revenue from sale (Income)		452.81	452.81	452.81	452.81	452.81	452.81	452.81	452.81
4	Operating expenses (Expenditure)+ Interest		374.48	374.41	372.19	369.99	367.82	365.67	363.54	361.44
5	Profit (In - Exp)		78.33	78.40	80.63	82.82	84.99	87.14	89.27	91.38
6	Corporate tax + Surcharge on Profit	33.00%	25.85	25.87	26.61	27.33	28.05	28.76	29.46	30.15
7	Net Profit ( after corporate tax + Surcharge)		52.48	52.53	54.02	55.49	56.95	58.39	59.81	61.22
8	Loan Installments		0.00	15.54	15.54	15.54	15.54	15.54	15.54	15.54
9	Loan Balance		108.75	93.21	77.68	62.14	46.61	31.07	15.54	0.00
10	Interest		11.94	10.23	8.53	6.82	5.12	3.41	1.71	0.00
11	Depreciation (SLM)	5%	10.88	10.33	9.81	9.32	8.86	8.41	7.99	7.59
12	<b>Total Income available (Net profit+dep+int.)</b>		75.30	73.10	72.36	71.64	70.92	70.21	69.51	68.82
13	DSCR		6.31	2.84	3.01	3.20	3.43	3.71	4.03	4.43
14	<b>Average DSCR</b>		<b>3.65</b>							
15	Salvage value of Godown		0.00	0.00	0.00	0.00	0.00	0.00	0.00	144.29
16	<b>Cash flow for IRR</b>	<b>-217.50</b>	<b>75.30</b>	<b>73.10</b>	<b>72.36</b>	<b>71.64</b>	<b>70.92</b>	<b>70.21</b>	<b>69.51</b>	<b>68.82</b>
17	<b>IRR</b>									<b>29%</b>

### SCHEDULE OF REPAYMENT UNDER AMI

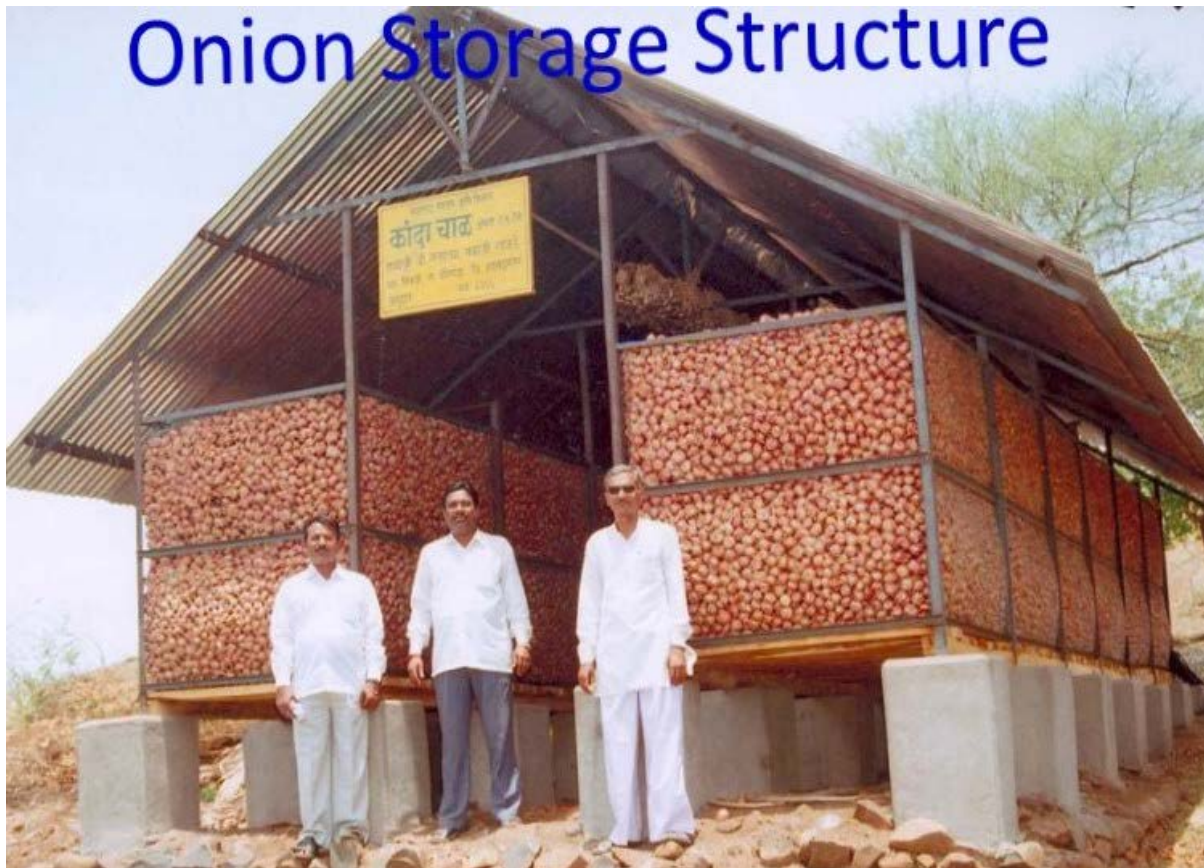
Society Contribution	65.00 lakh	Interest rate on L.T.L.	10.98%
Loan (50%)	108.75 lakh		
Subsidy (GOI) (25%)	43.75 lakh	Total Project Cost	217.50

(Rs. In lakh)

Year	Disbursement	Out standing at beginning of year	Interest on L.T.L.	Benefit from sale	Operating expenses	Corporate Tax + Surcharge	Net Benefit (A)	Principal Repayment	Repayment Interest
I	108.75	108.75	11.94	452.81	374.48	25.85	52.48	0	11.941
II		93.21	10.23	452.81	374.41	25.87	52.53	15.536	10.235
III		77.68	8.53	452.81	372.19	26.61	54.02	15.536	8.529
IV		62.14	6.82	452.81	369.99	27.33	55.49	15.536	6.823
V		46.61	5.12	452.81	367.82	28.05	56.95	15.536	5.117
VI		31.07	3.41	452.81	365.67	28.76	58.39	15.536	3.412
VII		15.54	1.71	452.81	363.54	29.46	59.81	15.536	1.706
VIII		0.00	0.00	452.81	361.44	30.15	61.22	15.536	0.000
<b>Total</b>								<b>108.75</b>	<b>47.76</b>

### 13. FEASIBILITY / CASE STUDY OF THE ONION STORAGE GODOWN:

- MSAMB with the help of NABARD and National Research Centre for Onion and Garlic, Rajguru nagar has developed revised plan for scientific onion storage (Kanda chawl) to promote onion producers for scientific onion storage.



- The onion storage as per this plan will minimize the storage losses and quality deterioration of the onion which will in turn help the farmers to fetch better prices for their produce.
- To encourage the farmers for setting up of scientific onion storage systems, MSAMB has formulated the subsidy scheme for scientific onion storage.
- On the same line, Department of Agriculture, Maharashtra State is also implementing the subsidy scheme for scientific onion storage. To get benefit of this scheme farmer should erect onion storage structure according to proposed plan only.
- As per the scheme, subsidy to the extent of Rs.1500/- per MT storage capacity.
- The onion storage structure of 5, 10, 15, 20, 25 & 50 MT capacity are eligible for subsidy.
- Agriculture department is giving subsidy of Rs. 1000/- per MT for onion storage & after that MSAMB will give Rs. 500/- subsidy for above mentioned capacity of onion storage.

- The scientific drawing on modern lines and cost estimates for onion storage structures are available at free of cost with Head Office, Divisional Offices of MSAMB and Taluka Agriculture Officer, Assistant Registrar, Co-operative Societies.

#### **14. FROM THE BUDGET 2018-19 SPEECH “OPERATION GREENS”:**

##### What is Operation Greens?

- Operation Greens aims to promote farmer producers organisations (FPOs), agri-logistics, processing facilities and professional management. The operation aims to aid farmers and help control and limit the erratic fluctuations in the prices of onions, potatoes and tomatoes.
- The idea behind Operation Greens is to double the income of farmers by end of 2022. Operation is essentially a price fixation scheme that aims to ensure farmers are given the right price for their produce.
- Operation Greens would be launched with an allocation of Rs 500 crore. on the lines of Operation Flood.

#### **15. ENCOURAGING GOVERNMENT PLAN:**

- According to The Economic Times May, 2016 Report, to reduce wastage of onion, the government has decided to add 56,800 tonnes of storage capacity for the vegetable in three different states namely Maharashtra, Madhya Pradesh and Odisha to reduce its wastage.
- As per the plans, the storage capacity will be added in:
  - Madhya Pradesh : 38,000 tonnes
  - Maharashtra : 12,000 tonnes
  - Odisha : 6,800 tonnes



## 16. SWOT ANALYSIS

### **Strength:**

- The demand of onion is constant for entire year so godowns will remain profitable business in terms of Rent value.
- Cost of Godown is low.
- Structure is light weight and life of godowns are 30 to 35 year.
- Natural air draft, no electricity required.
- Low maintenance cost.
- Farmers can negotiate the market price, as they can hold the stock for longer duration.

### **Weakness:**

- Side walls of godown is made up of Bamboo, so moisture treatment /good seasoning is required for protection in rainy reason.
- Structure Cannot be constructed in isolation, as it is open structure.
- Nearby area required to be free from vegetation, open drain, water logging.

### **Opportunity:**

- There is huge gap between onion production and storage requirement in the Madhya Pradesh.
- Every year tonnes of onion gets rotted due to inadequate availability of scientific onion storage.
- If onion stored scientifically then the profit of farmers may be doubled, considering the demand.

### **Threats:**

- As the godown cost is low, farmers can have their own Godown instead of hiring it.
- Low cost of godown may leads to number of godowns at one place, which in turns less profit.
- Big player can direct procure the onion from farmers which leads to situation that godown remain empty.

## 17. ASSUMPTIONS

Assumptions of the following points are taken while preparing the DPR:

- The Production of the onion will remain intact as in now days.
- The Demand of onion will remain intact as in now days.
- Private player will not procure onion directly from the farmers.
- Mandi Concept will remain exist.
- The onion godown is easy accessible for Farmers.
- The transportation cost will increase gradually as in now days.
- Road connectivity between Godown and Agricultural Mandi is proper.
- No middle man will control the market price.
- Support of State Government in various levels will be there.
- Civil cost will increase gradually as in now days.
- The quality of construction is ensured as per design data.
- Inspection of moisture and insects will be done in regular interval.
- Proper sanitary and cleanness facility will be ensured in nearby area of godown.
- No water logging area should be chosen for construction of godown.
- The godown is not in isolation, preferred to be constructed in premises of on farm residential pocket.
- Any other requirement as per the site location, may be taken care of by site in charge.

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