

# UP MSME 1-Connect

## PROJECT REPORT

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**PROJECT:**

**PET Jar Manufacturing Unit**

**PROJECT REPORT**  
**OF**  
**PET JAR MANUFACTURING UNIT**  
**PURPOSE OF THE DOCUMENT**

This particular pre-feasibility is regarding PET Jar Manufacturing Unit.

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]

## PROJECT AT GLANCE

<b>1 Name of Proprietor/Director</b>	XXXXXXXXXX		
<b>2 Firm Name</b>	XXXXXXXXXX		
<b>3 Registered Address</b>	XXXXXXXXXX		
<b>4 Nature of Activity</b>	XXXXXXXXXX		
<b>5 Category of Applicant</b>	XXXXXXXXXX		
<b>6 Location of Unit</b>	XXXXXXXXXX		
<b>7 Cost of Project</b>	18.95	Rs. In Lakhs	
<b>8 Means of Finance</b>			
<b>i) Own Contribution</b>	1.89	Rs. In Lakhs	
<b>ii) Term Loan</b>	12.05	Rs. In Lakhs	
<b>iii) Working Capital</b>	5.00	Rs. In Lakhs	
<b>9 Debt Service Coverage Ratio</b>	3.37		
<b>10 Break Even Point</b>	33%		
<b>11 Power Requirement</b>	25	KW	
<b>12 Employment</b>	9	Persons	
<b>13 Details of Cost of Project &amp; Means of Finance</b>			

<b>COST OF PROJECT</b>	
(in Lacs)	
<b>PARTICULARS</b>	<b>Amount</b>
Land & Building	Owned/Rented
Plant & Machinery	11.39
Furniture & Fixtures	0.50
Miscellaneous Assets	1.50
Working capital Required	5.56
<b>Total</b>	<b>18.95</b>

<b>MEANS OF FINANCE</b>	
(in Lacs)	
<b>PARTICULARS</b>	<b>Amount</b>
Own Contribution @ 10%	1.89
Term Loan @ 90%	12.05
Working Capital (Bank Finance)	5.00
<b>Total</b>	<b>18.95</b>

# PET JAR MANUFACTURING UNIT

## 1. INTRODUCTION



A PET Jar is a rigid, cylindrical or Oval, round container, typically made of Plastic, with a wide mouth or opening that can be closed with a lid, screw cap, lug cap, cork stopper, roll-on cap, crimp-on cap, press-on cap, plastic shrink, heat sealed lidding film, an inner seal, a Tamper-evident band, or other suitable means.

JAR made of polyethylene terephthalate (PET) can be recycled and used to manufacture new Jars, JARs and containers, thermoform packaging, strapping and are also used in fiber applications such as carpet and apparel.

Due to some inherent properties of PET resin, these Jars are transparent, light-weight, high in strength and impermeable to carbon dioxide. Their manufacturing is based on a stretch blow-molding process, which provides strength and high resistance to bear internal pressure and enables them to be stacked like glass JARs. Unlike other plastic containers that use PP or HDPE or PVC; PET JAR have no shortcomings of leaving residues, translucency and non-recyclability.

## **2. MARKET POTENTIAL:**

Being light in weight and easy to handle, they are preferred in the packaging of food products and are continuously replacing glass JARs due to their tendency to break and the inconvenience created while returning them after consumption. As a result of an increasing demand for packaged food products, glass and metal containers replaced with PET JARs, the global consumption of PET JARs is expected to show a continuous growth in the short and medium terms.

Plastic and Polymer industries in India is growing at about 5% per annum.

According to the India Brand Equity Foundation (IBEF), the market demand for plastic Jars and bottles continues to expand in the country, with plastic export of USD 7.045 billion during the period of April 2019 - January 2020.

The plastic JAR market is moderately competitive and consists of several major players. In terms of market share, few of the major players currently dominate the market. These players with a prominent share in the market are focusing on expanding their customer base across foreign countries. These companies are leveraging strategic collaborative initiatives to increase their market share and increase their profitability.

## **3. PRODUCT DESCRIPTION**

### **3.1 PRODUCT & ITS APPLICATION**

Most of the Food processing companies prefer PET JAR because of its convenience both for the consumers and producers. It is easy to handle and less weight compared to glass/tin bottles. While marketing it is advantageous to have very distinct shapes and colours. Additional products besides food which can be packed in PET JAR would be talcum powder, creams, hair tonic, containers, skin lotions etc.

### 3.2 RAW MATERIAL

- Main raw material required for PET JAR Manufacturing unit is PET Preform:  
The PET preform, better known as preform, is accomplished through a molding process. The fused PET injected into a mold become a preform, which, by an additional processing step (blowing), takes the form of JAR, Bottle for beverages for elementary, oil or detergents use.



- **Types of PET Preform:** Multiple PET Preform are available in market according to their weight size for example: 10 Grams, 25 Grams, 50 Grams, 100 Grams etc.

**Note:** This project report is prepared on the basis of 50 gram PET Reform weight size.

- **Packaging Material Required**

1. Cardboard Containers (Corrugated box)



### **3.3 MACHINE DESCRIPTION**

- **Blow Molding machine**
- **Preform Heater**
- **Compressor**
- **Chiller**

### **3.4 MANUFACTURING PROCESS**

The raw material is procured from the authorized vendor and stored in the inventory. After this profile dies are mounted into the Stretch Blow Molding Machine as per the desired dimension of the PET Jar after approval from the production team.

After this, the PET Preforms are fed into heater that raises the temperature to a certain specific temperature limit. In the next step, these preforms are fed into the Stretch Blow Molding Machine and a long needle pushes up through the preform, which is suspended with the screw end facing downward. After this, mold closes and food grade compressed air is passed through the preform.

This process gives the preform to desired shape of the die fitted inside the mold. After this, the circulating water through the mold cavities extracts the heat and cools down the jar. In the next step, the mold opens and final jars are separated out.

After this, they are quality tested, packed and dispatched as per required quantity.

## **4. PROJECT COMPONENTS**

### **Plant & Machinery**

#### **4.1 Semi-Automatic Machine**

<b>S.N.</b>	<b>Description</b>
1	SEMI AUTO BLOW MOULDING MACHINE-1100BPH(2CAVITY)- Including Compressor, Chiller & Refrigerated Air Drye
2	Design and Molds-Ls

#### **4.2 Misc. Assets**

<b>S.N.</b>	<b>Item Description</b>
1	Electric fitting
2	Furniture & Administrative setup

<b>PROJECTED PROFITABILITY STATEMENT</b>					(in Lacs)
<b>PARTICULARS</b>	<b>1st year</b>	<b>2nd year</b>	<b>3rd year</b>	<b>4th year</b>	<b>5th year</b>
Capacity Utilisation %	<b>45%</b>	<b>50%</b>	<b>55%</b>	<b>60%</b>	<b>65%</b>
<b><u>SALES</u></b>					
<b>Gross Sale</b>					
PET JAR	98.19	118.11	136.46	156.34	177.88
<b>Total</b>	<b>98.19</b>	<b>118.11</b>	<b>136.46</b>	<b>156.34</b>	<b>177.88</b>
<b><u>COST OF SALES</u></b>					
Raw Material Consumed	71.28	83.16	96.05	110.02	125.15
Electricity Expenses	3.38	4.50	4.95	5.40	5.85
Depreciation	1.98	1.69	1.44	1.22	1.04
Wages & labour	7.20	7.92	8.71	9.15	9.60
Repair & maintenance	1.96	2.36	2.73	3.13	3.56
Packaging	1.47	1.77	2.05	2.35	2.67
Consumables	3.14	3.54	4.09	4.69	5.34
<b>Cost of Production</b>	<b>90.42</b>	<b>104.95</b>	<b>120.02</b>	<b>135.95</b>	<b>153.21</b>
<b>Add: Opening Stock</b>	-	3.01	3.50	4.00	4.53
<b>Less: Closing Stock</b>	3.01	3.50	4.00	4.53	5.11
Cost of Sales	87.40	104.46	119.52	135.42	152.63
<b>GROSS PROFIT</b>	<b>10.78</b>	<b>13.65</b>	<b>16.94</b>	<b>20.92</b>	<b>25.25</b>
<b>Gross Profit Ratio</b>	<b>10.98%</b>	<b>11.55%</b>	<b>12.41%</b>	<b>13.38%</b>	<b>14.19%</b>
Salary to Staff	2.64	3.04	3.49	4.02	4.42
Interest on Term Loan	1.18	1.04	0.75	0.45	0.16
Interest on working Capital	0.55	0.55	0.55	0.55	0.55
Rent	1.80	1.98	2.18	2.40	2.64
Selling & Administrative Exp.	0.98	1.18	1.36	1.56	1.78
<b>TOTAL</b>	<b>7.16</b>	<b>7.79</b>	<b>8.33</b>	<b>8.98</b>	<b>9.54</b>
NET PROFIT	3.63	5.86	8.61	11.94	15.71
Taxation	0.06	0.21	0.54	1.14	2.09
PROFIT (After Tax)	3.57	5.65	8.07	10.80	13.62
<b>Net Profit Ratio</b>	<b>3.64%</b>	<b>4.78%</b>	<b>5.91%</b>	<b>6.91%</b>	<b>7.66%</b>

<b>PROJECTED BALANCE SHEET</b>						(in Lacs)
<b>PARTICULARS</b>	<b>1st year</b>	<b>2nd year</b>	<b>3rd year</b>	<b>4th year</b>	<b>5th year</b>	
<b><u>Liabilities</u></b>						
<b>Capital</b>						
Opening balance		4.47	7.11	10.18	13.48	
Add: - Own Capital	1.89					
Add: - Retained Profit	3.57	5.65	8.07	10.80	13.62	
Less: - Drawings	1.00	3.00	5.00	7.50	10.00	
<b>Closing Balance</b>	<b><u>4.47</u></b>	<b><u>7.11</u></b>	<b><u>10.18</u></b>	<b><u>13.48</u></b>	<b><u>17.10</u></b>	
Term Loan	10.71	8.03	5.36	2.68	-	
Working Capital Limit	5.00	5.00	5.00	5.00	5.00	
Sundry Creditors	3.56	4.16	4.80	5.50	6.26	
Provisions & Other Liability	0.40	0.48	0.58	0.69	0.83	
<b>TOTAL:</b>	<b>24.14</b>	<b>24.78</b>	<b>25.91</b>	<b>27.35</b>	<b>29.19</b>	
<b><u>Assets</u></b>						
<b>Fixed Assets (Gross)</b>						
Gross Dep.	1.98	3.67	5.11	6.33	7.38	
<b>Net Fixed Assets</b>	<b>11.41</b>	<b>9.72</b>	<b>8.28</b>	<b>7.06</b>	<b>6.01</b>	
<b>Current Assets</b>						
Sundry Debtors	3.93	4.72	5.46	6.25	7.12	
Stock in Hand	5.39	6.27	7.20	8.20	9.28	
Cash and Bank	2.92	3.07	3.57	3.84	4.28	
Loans & Advances	0.50	1.00	1.40	2.00	2.50	
<b>TOTAL:</b>	<b>24.14</b>	<b>24.78</b>	<b>25.91</b>	<b>27.35</b>	<b>29.19</b>	

<b>PROJECTED CASH FLOW STATEMENT</b>					<b>(in Lacs)</b>
<b>PARTICULARS</b>	<b>1st year</b>	<b>2nd year</b>	<b>3rd year</b>	<b>4th year</b>	<b>5th year</b>
<b><u>SOURCES OF FUND</u></b>					
Own Margin	1.89				
Net Profit	3.63	5.86	8.61	11.94	15.71
Depreciation & Exp. W/off	1.98	1.69	1.44	1.22	1.04
Increase in Cash Credit	5.00	-	-	-	-
Increase In Term Loan	12.05	-	-	-	-
Increase in Creditors	3.56	0.59	0.64	0.70	0.76
Increase in Provisions & Oth liabilities	0.40	0.08	0.10	0.12	0.14
	-				
<b>TOTAL:</b>	<b>28.52</b>	<b>8.22</b>	<b>10.79</b>	<b>13.98</b>	<b>17.64</b>
<b><u>APPLICATION OF FUND</u></b>					
Increase in Fixed Assets	13.39				
Increase in Stock	5.39	0.88	0.93	1.00	1.08
Increase in Debtors	3.93	0.80	0.73	0.80	0.86
Repayment of Term Loan	1.34	2.68	2.68	2.68	2.68
Loans & Advances	0.50	0.50	0.40	0.60	0.50
Drawings	1.00	3.00	5.00	7.50	10.00
Taxation	0.06	0.21	0.54	1.14	2.09
<b>TOTAL:</b>	<b>25.60</b>	<b>8.07</b>	<b>10.29</b>	<b>13.71</b>	<b>17.21</b>
Opening Cash & Bank Balance	-	2.92	3.07	3.57	3.84
Add : Surplus	2.92	0.15	0.50	0.27	0.44
Closing Cash & Bank Balance	<b>2.92</b>	<b>3.07</b>	<b>3.57</b>	<b>3.84</b>	<b>4.28</b>

<b>CALCULATION OF D.S.C.R.</b>					
<b>PARTICULARS</b>	<b>1st year</b>	<b>2nd year</b>	<b>3rd year</b>	<b>4th year</b>	<b>5th year</b>
CASH ACCRUALS	5.56	7.33	9.50	12.03	14.66
Interest on Term Loan	1.18	1.04	0.75	0.45	0.16
<b>Total</b>	<b>6.74</b>	<b>8.38</b>	<b>10.25</b>	<b>12.48</b>	<b>14.82</b>
<b><u>REPAYMENT</u></b>					
Instalment of Term Loan	1.34	2.68	2.68	2.68	2.68
Interest on Term Loan	1.18	1.04	0.75	0.45	0.16
<b>Total</b>	<b>2.52</b>	<b>3.72</b>	<b>3.43</b>	<b>3.13</b>	<b>2.84</b>
<b>DEBT SERVICE COVERAGE RATIO</b>	<b>2.67</b>	<b>2.25</b>	<b>2.99</b>	<b>3.99</b>	<b>5.22</b>
<b>AVERAGE D.S.C.R.</b>					<b>3.37</b>

**REPAYMENT SCHEDULE OF TERM LOAN**

Interest 11.00%

<b>Year</b>	<b>Particulars</b>	<b>Amount</b>	<b>Addition</b>	<b>Total</b>	<b>Interest</b>	<b>Repayment</b>	<b>Closing Balance</b>
<b>1st</b>	Opening Balance						
	1st month	-	12.05	12.05	-	-	12.05
	2nd month	12.05	-	12.05	0.11	-	12.05
	3rd month	12.05	-	12.05	0.11	-	12.05
	4th month	12.05	-	12.05	0.11		12.05
	5th month	12.05	-	12.05	0.11		12.05
	6th month	12.05	-	12.05	0.11		12.05
	7th month	12.05	-	12.05	0.11	0.22	11.83
	8th month	11.83	-	11.83	0.11	0.22	11.60
	9th month	11.60	-	11.60	0.11	0.22	11.38
	10th month	11.38	-	11.38	0.10	0.22	11.16
	11th month	11.16	-	11.16	0.10	0.22	10.94
	12th month	10.94	-	10.94	0.10	0.22	10.71
					<b>1.18</b>	<b>1.34</b>	
<b>2nd</b>	Opening Balance						
	1st month	10.71	-	10.71	0.10	0.22	10.49
	2nd month	10.49	-	10.49	0.10	0.22	10.27
	3rd month	10.27	-	10.27	0.09	0.22	10.04
	4th month	10.04	-	10.04	0.09	0.22	9.82
	5th month	9.82	-	9.82	0.09	0.22	9.60
	6th month	9.60	-	9.60	0.09	0.22	9.37
	7th month	9.37	-	9.37	0.09	0.22	9.15
	8th month	9.15	-	9.15	0.08	0.22	8.93
	9th month	8.93	-	8.93	0.08	0.22	8.70
	10th month	8.70	-	8.70	0.08	0.22	8.48
	11th month	8.48	-	8.48	0.08	0.22	8.26
	12th month	8.26	-	8.26	0.08	0.22	8.03
					<b>1.04</b>	<b>2.68</b>	
<b>3rd</b>	Opening Balance						
	1st month	8.03	-	8.03	0.07	0.22	7.81
	2nd month	7.81	-	7.81	0.07	0.22	7.59
	3rd month	7.59	-	7.59	0.07	0.22	7.36
	4th month	7.36	-	7.36	0.07	0.22	7.14
	5th month	7.14	-	7.14	0.07	0.22	6.92
	6th month	6.92	-	6.92	0.06	0.22	6.70
	7th month	6.70	-	6.70	0.06	0.22	6.47
	8th month	6.47	-	6.47	0.06	0.22	6.25
	9th month	6.25	-	6.25	0.06	0.22	6.03
	10th month	6.03	-	6.03	0.06	0.22	5.80
	11th month	5.80	-	5.80	0.05	0.22	5.58
	12th month	5.58	-	5.58	0.05	0.22	5.36

				<b>0.75</b>	<b>2.68</b>	
<b>4th</b>	Opening Balance					
	1st month	5.36	-	5.36	0.05	5.13
	2nd month	5.13	-	5.13	0.05	4.91
	3rd month	4.91	-	4.91	0.05	4.69
	4th month	4.69	-	4.69	0.04	4.46
	5th month	4.46	-	4.46	0.04	4.24
	6th month	4.24	-	4.24	0.04	4.02
	7th month	4.02	-	4.02	0.04	3.79
	8th month	3.79	-	3.79	0.03	3.57
	9th month	3.57	-	3.57	0.03	3.35
	10th month	3.35	-	3.35	0.03	3.12
	11th month	3.12	-	3.12	0.03	2.90
	12th month	2.90	-	2.90	0.03	2.68
				<b>0.45</b>	<b>2.68</b>	
<b>5th</b>	Opening Balance					
	1st month	2.68	-	2.68	0.02	2.45
	2nd month	2.45	-	2.45	0.02	2.23
	3rd month	2.23	-	2.23	0.02	2.01
	4th month	2.01	-	2.01	0.02	1.79
	5th month	1.79	-	1.79	0.02	1.56
	6th month	1.56	-	1.56	0.01	1.34
	7th month	1.34	-	1.34	0.01	1.12
	8th month	1.12	-	1.12	0.01	0.89
	9th month	0.89	-	0.89	0.01	0.67
	10th month	0.67	-	0.67	0.01	0.45
	11th month	0.45	-	0.45	0.00	0.22
	12th month	0.22	-	0.22	0.00	-
				<b>0.16</b>	<b>2.68</b>	
	DOOR TO DOOR	60	MONTHS			
	MORATORIUM PERIOD	6	MONTHS			
	REPAYMENT PERIOD	54	MONTHS			

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