Assignment

Assignment Title : Preparing Project Profile

: Plastic Waste Recycle and Trading.

Prepared By

Naquibuddin Sarkar

Executive Summary

Plastic is an engineered material used to manufacture a wide variety of products to meet the domestic demand in Bangladesh as well as some products are exported. The plastic industry has emerged as an important industrial sector in the country during the last two decades. Plastics have substantial benefits in terms of their low weight, durability and lower cost relative to many other material types. At present there are 3000 plastic manufacturing units, 98% of which belong to the Small Medium Enterprises (SMEs) in Bangladesh. The plastic industries in Bangladesh uses polymer granules. These polymer granules can be imported or can be recycled from used plastics. As we know plastics are non-biodegradable, cannot be decayed in the landfill. But we can recycle used plastics by crushing them into granules. Markets and uses of recycled plastics are rapidly expanding. Demand for recycled plastic will continue to expand as new markets will develop as technologies permit the efficient segregation and reprocessing of high purity resins. The purpose of this document is to present a project report on plastic recycling as a financially rewarding business. This business can be highly profitable from the economic as well as environmental perspective.

Project Details

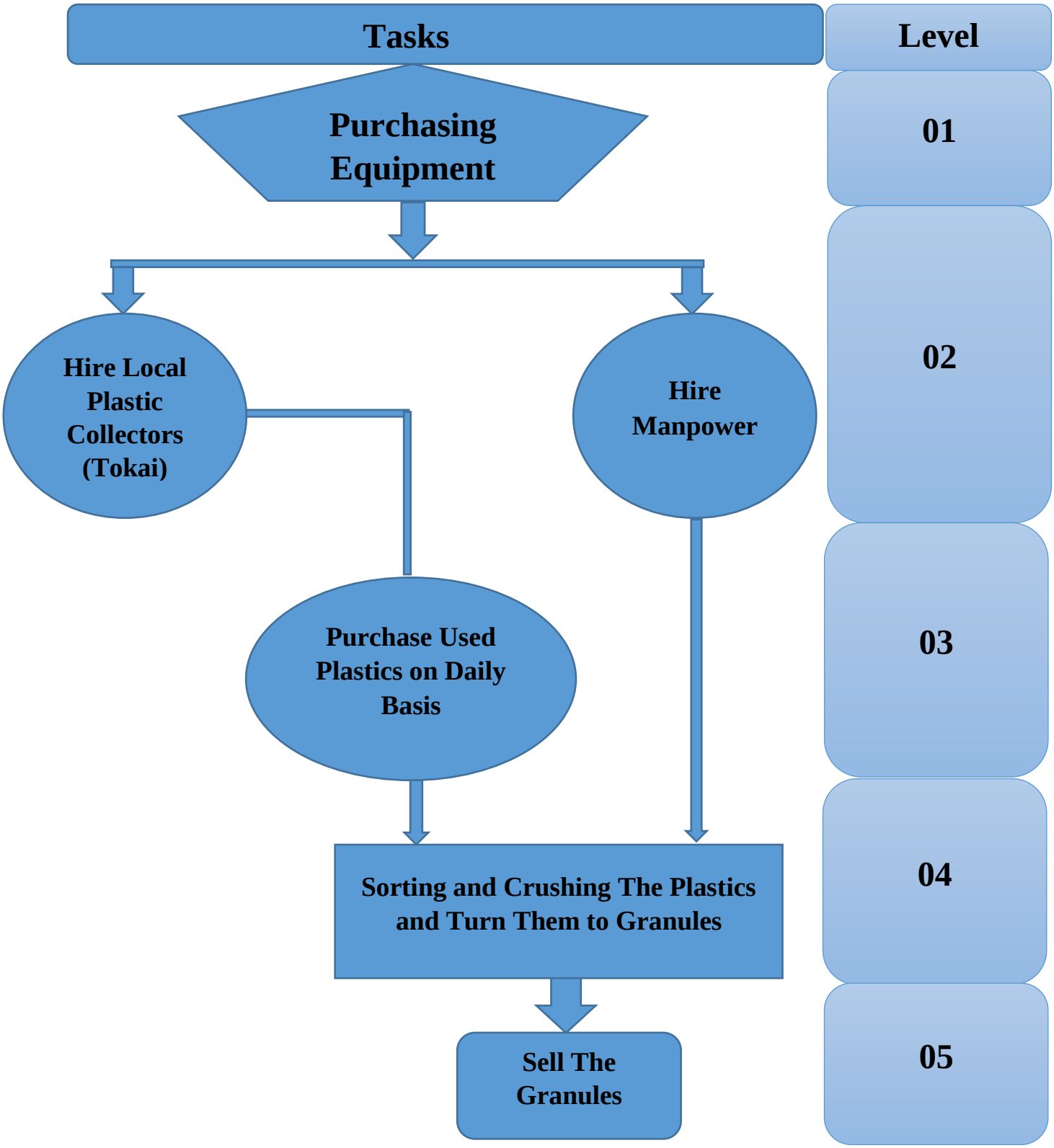
- **Project Title : Plastic Waste Recycle and Trading.**
- **Location of the Project :** Dhaka, Bangladesh
- **Start Date :** 01.01.2021
- **Finish Date :** 01.01.2026
- **Budget :** 200,000 Taka (Approximately)

Present Market Environment

- **Name of the Product :** Plastic Granules or Scraps.
- **Production Capacity :** 1200 KG
- **Market Size :** Total Population = 20 crore
  Per capita consumption of plastics = 5 kg (per year)
  Total demand of plastic = (5x20) = 100 crore kg
  Buying price of scraps = 10 taka per kg
  Selling price of scraps = 40 taka per kg (Minimum Rate)
  Market size = (40x100) = 4000 crore taka (per year)
  = (4000/12) = 334 crore taka (per month)

- **Market Entitlement** **:** Plastic Manufacturing Units
- **Targeted Market** **:** Plastic scrap market
- **Competition** **:** Local plastic scrap sellers

Implementation Plan



Tasks	Time and Duration			Cost (in Taka)
	Start	End	Duration	
Purchasing Equipment	01.01.21	10.01.21	10	170,000/=
Hire Local Plastic Collectors (Tokai)	10.01.21	11.01.21	1	1000/=
Hire Manpower	10.01.21	11.01.21	1	16,000/=
Purchase Used Plastics on Daily Basis (Per day 40 Kg minimum)	11.01.21	11.02.21	30	12,000/=
Sorting and Crushing The Plastics and Turn Them to Granules	11.01.21	11.02.21	30	900/=
Sell The Granules	12.02.21	12.02.21	30	-
Total				**199,900/=**

Equipment - Plastic Crusher Machine

Cost = 170,000 Taka Only

Hire 10 Local Collectors (Per Head 100 Taka)

Cost = (10x100) =1000 Taka Only

Hire 2 Manpower (Per Head 8000 Taka)

Cost = (2x8000) =16000 Taka Only

Power Consumption while crushing = 3.75 KW

Per Unit Electricity = 8 Taka

Cost = (3.75x8) = 30 Taka = (30x30) =900 Taka per month

Technical Approach

Project Diagram :

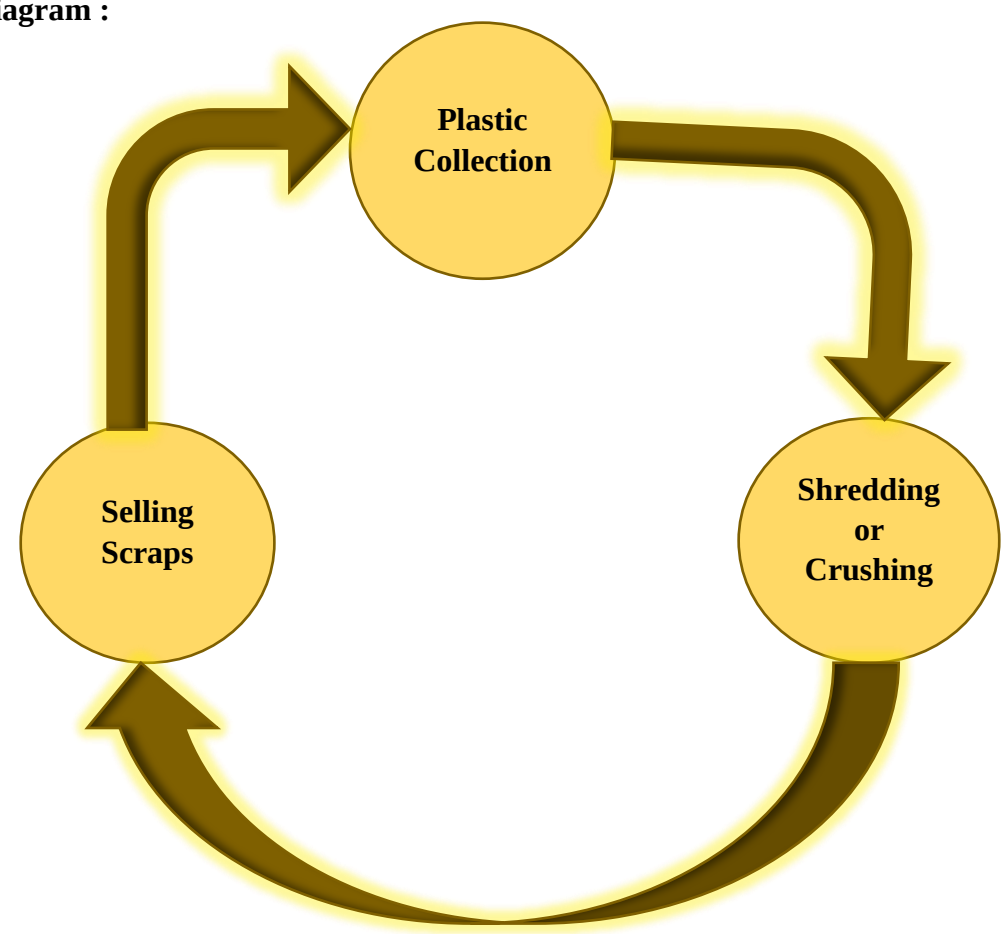


Figure : Project Diagram

Critical Issues :

1. Most of the companies export products to another country and the company does not manufacture with the recycled materials because the quality of the recycled products is almost 50% less than the virgin raw materials and the company does not like to lose their popularity for that.
2. Initial investment is high which is a risk factor.
3. Compete with the other local scrap sellers.
4. May need to reduce the selling price to cope up with the market.

Quality Check :

Before crushing the plastic materials the quality needs to be checked. Whether the plastics are clean or not. Plastic wastes must be sorted out by maintaining the plastic codes.

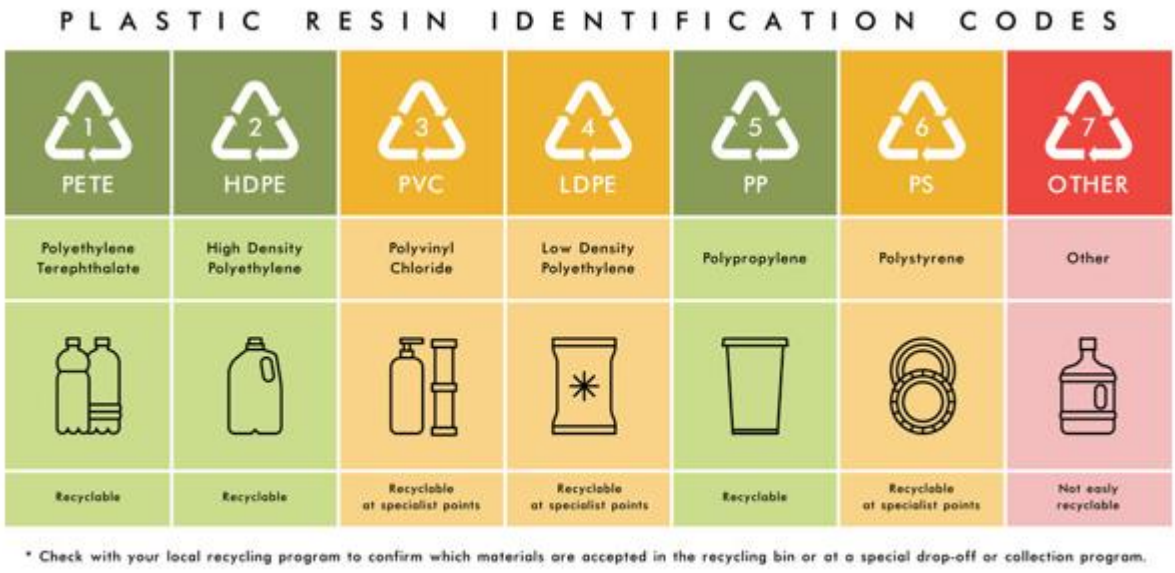


Figure : Plastic Codes.

Plastics should be sorted to ensure the quality. Before selling the product we must ensure that all the granules are perfectly crushed.

Market Penetration Plan

Sales and Operation : The used plastics will be bought from the local street boys. Then the plastics will be sorted out according to the plastic codes. Then the plastic will be shredded or crushed using the plastic crusher machine. There will be two people to help. They will also help to sell the products to the manufacturing units.

SWOT Analysis :

Strengths

- Resource efficiency
- Quality control
- Non polluting
- Ease of Handling
- Needs small area

Weaknesses

- Higher safety factors
- Current low recycling rates and infrastructure
- 50% less than the raw material

Opportunities

- More possibilities of recycling in future
- Expanding global demand
- Rapidly increasing plastic consumption

Threats

- Customer perceptions towards plastics
- Disposal of plastics
- Use in unsustainable application
- Public image

Financial Analysis

Initial Investment : 200,000 Taka

Expected Profit after 5 years : 2,839,159 Taka

Salvage Value after 5 years , Original cost of the machinery, P = 170,000 Taka

Depreciation Rate I = 20% = 34,000 Taka

Useful Life ,Y= 5 years

Salvage Value , S = P-(I*Y) = 170,000- (34,000*5) = 0 Taka

Bank Interest : 10%

Inflation :2%

Payback Period : Assuming that collection of scraps per day is 40 kg if each street boys provides at least 4 kg. Per day 40 kg of plastics can be shredded through the machine. In a year we can produce = (40*365) = 14600 kg of scraps. Selling price is 40 taka per kg. Total sell after 1 year = (14600*40)=58400 taka. Payback period is in between 1 year.

Payback Period = [(365*584000)/200000]= 107 days = 3 months and 17 days

Year	Initial Investment (Taka)	Cash Inflow (Taka)	Accumulated Inflow (Taka)	Balance (Taka)
0	**200,000**	**0**	**-**	**-200,000**
1	**-**	**584,000**	**584,000**	**384,000**
2	**-**	**595,680**	**11,79,680**	**979,680**
3	**-**	**607,593**	**17,87,273**	**15,87,273**
4	**-**	**619,745**	**24,07,019**	**22,07,019**
5	**-**	**632,140**	**3,039,159**	**2,839,159**

Payback Period = 3 Months and 17 Days

Net Present Value(NPV) Calculation :

Table 1 : Present Value (Inflow)

Year(t)	Future Cash Flow (CF) (Taka)	Discount Rate (i)	PV= CF/(1+i)^t (Taka)
1	584,000	0.10	530,909.0909
2	584,000	0.10	482,644.6281
3	584,000	0.10	438,767.8437
4	584,000	0.10	398,879.8579
5	584,000	0.10	362,618.0527
Total			22,13,820.291

Table 2 : Present Value (Outflow)

Year (t)	Future Cash Flow (CF) (Taka)	Discount Rate (i)	PV= CF/(1+i)^t (Taka)
0	200,000	0.10	200,000
Total			200,000

Net Present Value (NPV) = PV(Inflow) – PV(Outflow)

= 22,13,820.291-200,000

= 20,13,820.291 Taka

We know ,

If NPV > 0 then project is profitable

If NPV <0 then project is non profitable

If NPV =0 then project is neither profitable nor non profitable

Here, NPV is greater than 0, so it is a profitable project.

Conclusion

The plastic sector has opened a new era of manufacturing plastic goods which have an excellent export potential. Since most of the plastic industries are in the small and medium categories. The negative image of the plastic sector in Bangladesh can be changed through proper management of plastic wastes. Recycling would reduce the amount of plastic wastes on the environment which can protect environment pollution. Job opportunities can be a great plus point in the country where many educated people are looking for a job to survive and recycling plastic wastes can also bring foreign currency to the national economy. This project is highly profitable if it is handled properly. With proper guideline and proper management this project could be one of the leading projects.