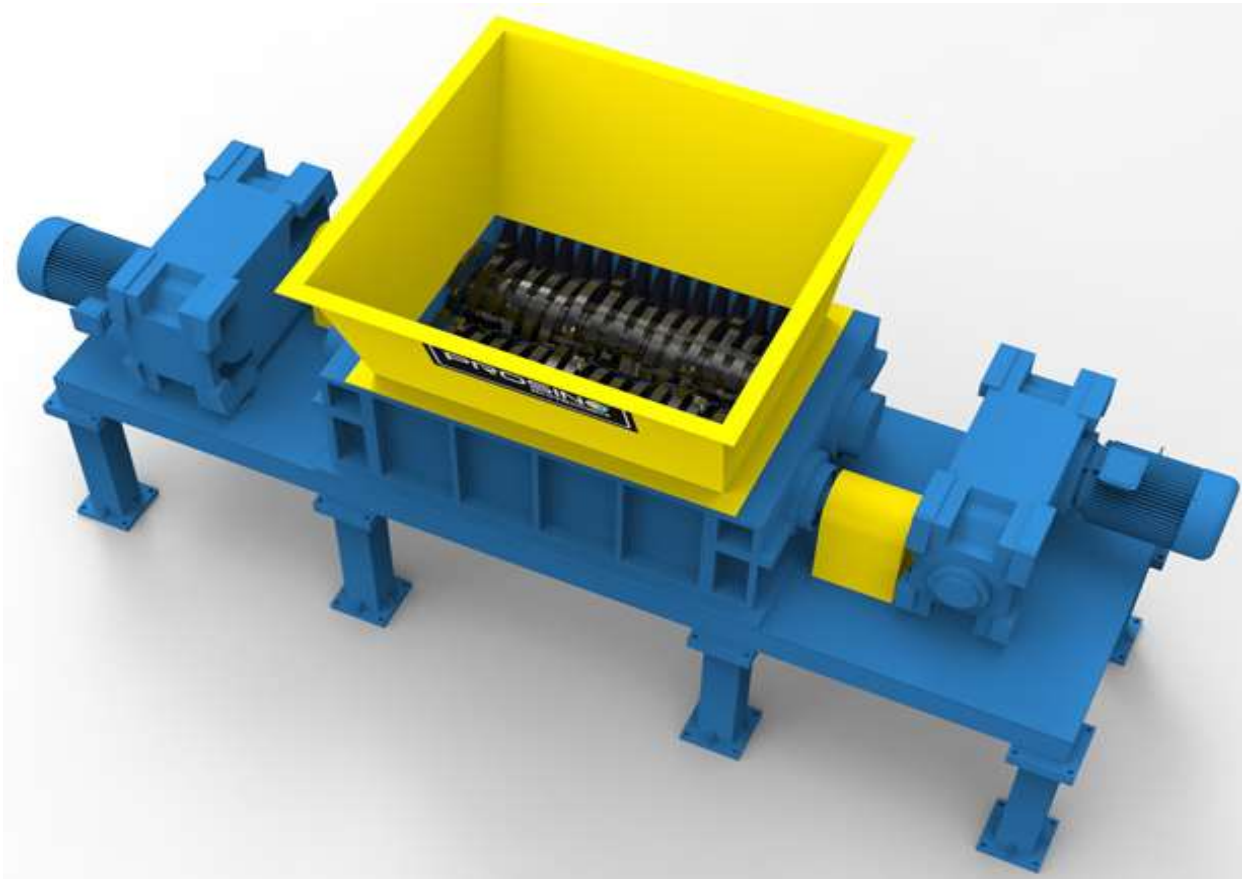
DETAILED PROJECT REPORT

Plastic Waste Management



By

2023

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1. OVERVIEW OF THE JLG MEMBERS

Name of the JLG:

Number of the members.

Name of Gram Panchayat/Taluk:

Name of the District:

Account details of JLG:

Details of JLG members with Hierarchy;

1.
2.
3.
4.
5.
6.

KYC:

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2. OBJECTIVES OF SVSY

Under Yuva Niti 2022, the new Swami Vivekananda Yuva Shakti Yojana is proposed on the following grounds to achieve holistic development of 2.1 crore youth of the state and to bring about constructive social change by the youth in keeping with the India@2047 vision of the Hon'ble Prime Minister.

The current scenario of the state on various parameters is as follows:

i. **Political Representation:** Out of total 1,01,308 members in rural local bodies, 12,411 (12.25 per cent) youths and 360 youths (5.36 per cent) out of 6713 municipal councillors are political representatives.

ii. **Education:** Out of a total of 2.1 crore youth, 21.55 lakh (10.37 per cent) students are in high school, 11.75 lakh (5.65 per cent), 6.45 lakh (3.10 per cent) in general degree colleges, 1.51 lakh (2.72 per cent), 1.11 lakh in polytechnics. (0.53 per cent), 0.74 lakh (0.36 per cent) The total number of students studying in medical courses is 43.12 lakh, which is per cent of the total youth. 21 percent will be. Remaining 157.88 lakh youth have below 10th standard education.

iii. **Employment:** According to the National Skill Development Corporation report, out of the total 2.1 crore youth in the state, 82 lakh (41 per cent) youth are in the labour force. As the remaining 119 lakh youth (59 per cent) are not in the professional labour force, they need to be given skill training to make them self-reliant.

iv. **Skill Development:** Out of the total 82 lakh youth in the workforce, 16 lakh youth (20 per cent) have received skill vocational training. The remaining 66 lakh (80 percent) youth need to be given skill development training. Out of this, only one

lakh youth are being trained by the NLRM department every year. Therefore 65 lakh untrained rural youth need skill training. To achieve this every school needs to provide vocational education from class 6 onwards.

v. **Internship:** According to the 6th Economic Census, there are a total of 28.80 lakh enterprises in the state, out of which 78,022 enterprises employ more than 8 people. About 30 lakh youths can be trained in skills by undertaking the internship program for a period of three months in local industries related to agriculture and agri-based/MSME/self-employment/service sector.

vi. **Migration Control:** Rural people have migrated from various districts to urban areas for job opportunities, of which 40 lakh (20 percent) youth are in Bangalore city. Therefore, there is a need to provide more employment opportunities at the village level.

vii. **Consolidation of programs for rural employment:** In total there are 27,395 revenue villages in the state and it is proposed to form Swami Vivekananda Self Help Groups, one in each village, on the model of Women's Self-Help Groups to provide self-employment to the unorganized workers in these. There are about 15 to 20 youth in each group, and 5.50 lakh youth in 27,395 self-help groups have received Rs. 1.5 lakh to provide margin money estimated at Rs. 410 crores will be required.

viii. **Bank Linked Schemes:** Coordination and inclusion of Yuva Shakti schemes with schemes linked to 25 banks. There are 35000 shelves of projects under the Mudra loan scheme, and steps will be taken to select the financial activities of the self-help societies based on these models.

ix. **Training:** Skill development training will be imparted to the youth under the National Entrepreneurship Mission under the 18 programs being implemented by various departments under this scheme. Training for agriculture and other activities will be provided through the Rural Development Self Employment Training Institute (RUDSETI).

x. **Formation of State Level Committee:** It is proposed to constitute a committee under the chairmanship of the Minister of Youth Empowerment and Sports at the State level for implementation and monitoring of the programme. RDPR, Commerce and Industry, Labour, Skill Development and Bank representatives will be members of this committee.

xi. **District Level Committee:** It is proposed to constitute a District Level Committee under the Chairmanship of the Chief Executive Officer of the Zilla Panchayat for the implementation and supervision of the program at the district level. The members of this committee are the officers of Rural Development and Panchayat Raj, Commerce and Industry, Labour, Skill Development Departments and District Lead Bank Managers.

xii. **Village level stewardship:** The village level stewardship of this program will be handled by Rural Development and Panchayat Raj Departments and Youth Empowerment and Sports Departments.

3. ABOUT VKF

VKF is a Think Tank of Community Change Champions who are from various walks of Social Spaces with diverse backgrounds and specialists from their domains.

VKF is a platform that enables as a think tank to evolve an aggregation of the social impact service providers and entrepreneurs for bringing about a transformational movement of social Change that is measurable on the lines of the Strategic Sustainable Development Goals (SSDG) of United Nation (UN).

VKF's strong focus is on enhancing the rural mass entrepreneurship development clubbed with rural livelihood options. In this direction, VKF team is working with the rural livelihood SHGs members and handholding them to elevate themselves to newer socio-economic status and uplifting the whole geography of the cluster by setting up of Common Facility Centres.

VKF's experience spans across conceptualizing cluster mapping, conducting baseline surveys, awareness creation, trust building activities, capacity building, design thinking activities etc., to enhance capabilities of the artisans and livelihood SHGs in the clusters.

VKF also indulges in working with MSME, ESTC, IDEMI, Tribes India, NRLM and WCD to support rural masses in terms upgrading their livelihood opportunities. It also facilitates in preparation of DPR, Govt. liaising, market linkage activities, brand awareness, branding initiatives, value addition of the products produced by clusters etc.

4. NAME OF PRODUCT AND TECHNOLOGY

Plastic Shredder Machine

Plastic Shredder machine is mainly used to reduce the volume of plastics by shredding which can then be recycled. Due to the environmental crisis, it is necessary to recycle plastic waste. Hence the use of plastic shredder machine in today's scenario

is very much essential. This Plastic Shredder Machine can be used to shred plastic waste such as plastic jars, pet bottles, LDPE containers, blister packs of medicines, etc.

Shredders are an indispensable component of efficient and cost-effective operations in the recycling and waste management industry. Plastic shredders are designed for shredding a wide variety of plastics and so, they vary from low speed to moderate speed with high torque and come in varying specifications and blade sizes.

5. DELIVERABLES AND MARKET OF THE PRODUCT

Plastic powder which is handy which will support clean the environment as well as the output will be reused, which will support the circular economy of the nation. Multilayered plastic recycled plywood sheets are of demand from end markets. 2 tons of plastic granules are required for manufacturing of these plastic plywood sheets. Hence there is a huge demand for the shredder machines.

Project Assumptions:

This model DPR for Plastic Waste Management is basically on certain assumptions that may vary with capacity, location, raw materials availability etc. An entrepreneur can use this model DPR format and modify as per requirement and suitability. The assumptions made in preparation of this particular DPR are given in Table below. Therefore, land and civil infrastructures are assumed as already available with the entrepreneur.

Table: Detailed Project Assumptions		
Parameter	Value	
Assumed Capacity of the Plastic Shredder machine	250 Kg/ day	
Utilization of capacity:	Year 1	70%
	Year 2	75%
	Year 3	80%
	Year 4	85%
	Year 5	90%
Working days per year:	300 days	
Working hours per day:	8-10 hours	
Average price of raw material	Rs. 5 / kg	
Average sale price of Finished product	Rs. 30/ kg	

Details of Machinery

Plastic shredder
Shredding capacity: 100-200 kg/hr
Material: SS
Supplier: Zuci Fem Care Solutions Private Limited
Location: J.P Nagar, Bengaluru, Karnataka

Market Output:

Market Linkage	❖ **Irrigation components manufactures**
❖ **Pet Bottle makers**	❖ **Drum manufacturers**
❖ **Water pipes manufacturers**	❖ **Household articles manufacturers**
❖ **Scrap dealers**	❖ **Plastic toy manufacturer**

6. ROLE OF EACH OF THE JLG MEMBERS

How JLG will participate:

2 persons will be used to procurement

2 persons for production

2 persons for the logistics & sales

2 persons for value addition

1 person for waste management like selling the waste to end users

7. SOFT INTERVENTION

The following are the soft interventions to be arranged:

- Awareness on financial inclusion will help in getting the assistance from Government and other sources.
- Export promotional orientation for the JLG members.
- Awareness/ training programme on product quality, handling practices.
- Capacity Building activity
- Trust Building activities
- Programmes on technical skill enhancement to unit owners.
- Programmes on Business and entrepreneurship skill enhancement to unit owners
- Mass entrepreneurship development program in the JLG eco system.

8. BREAK UP COST AND MARGIN OF THE PROJECT AND THE IMPLEMENTATION SCHEDULE

The proposed cost of the project is as follows:

Sl. No.	Details	Cost in Rs.	Percentage
1.	Bank Loan	4,27,500	90%
2.	JLG contribution	47,500	10%

3.	**Total**	**4,75,000**	**100%**

Sl. No.	**Details**	**Cost in Rs**
1.	Machine cost	3,10,000
2.	Furniture	35,000
3.	Working capital (Shed deposit, electric connection deposit, Miscellaneous and preoperative expenses)	1,30,000
	Total	**4,75,000**

The proposed project implementation schedule is as follows:

Sl. No.	**Project Component**	**Schedule**
1	Shed for the project on rental basis	Identified
2	Electricity and Water facility Installation	Present
3	Arrival of Machinery	Within 1 months of Order
4	Erection of Machinery	Within 5 days of arrival
5	Commissioning	Within 2-4 days of erection
6	Commercial Usage	Within 2 months from approval

9. LAND/SHED STATUS:

The JLG has already identified the shed required for the project within the project area.

10. SWOT ANALYSIS OF THE PROJECT

I. Strength

- JLG members are very young and aware of pollution.
- High potential of recycled plastic products across the globe.
- There is abundant raw material available in the district.
- The source of raw material procurement is very convenient due to local availability and helping city to keep clean.
- The JLG members are having good coordination and co-operation among themselves and are serious about resolving universal problems.
- Government is very favorable for supporting the youths.

II. Weakness

- There are hardly any systematic efforts made to improve in the plastic recycling industry which is so vital from the point of view of its importance in the circular economy and greater self-employment potential.
- Collecting waste is one of the problems as they either need to collect from dry waste or tie up with rag pickers.

- Products have lower export potential as there is poor quality due to lack of proper technologies. Hence, there is a need to popularize scientific and eco-friendly methods of plastic waste processing in future.
- The JLG members lack insufficient place for working/processing in their units. All the process was being carried at one small area.
- The JLG members are unable to purchase modern machineries due to financial limitations.
- The JLG members have poor access to national and international markets. This will affect initially the profitability of the JLG members.
- There is no branding for the product.

III. Opportunities

- It has been realized that by organizing modern plastic recycling industry on a systematic and scientific basis a good deal of national wealth could be saved.
- JLG members are still very young if they start performing well in business and in future modern process machinery with better productivity and quality as well as special features for the final products and value addition products also can be done within JLG members.
- Any kind of plastic waste like furniture waste, domestic waste, daily use accessories etc., can be processed.
- There will be a huge demand because this is a need of the hour globally.
- Young JLG members have long way to go with new innovation in the recycle production it will help to create global impact on recycling.

IV. Threats

- Due to poor market access the profitability of the JLG members may fall bit low level. This may discourage initially to JLG members.
- Main attributed to less profitability of plastic processing industry is due to lower price at the beginning and JLG members need to work hard.

11. YOUTH EMPOWERMENT IMPACT OF THE PROJECT ON ECOSYSTEM

We have surplus youths in the state, graduate, undergraduate etc. supporting them to create self-employment will motivate to become entrepreneurs, they will live independent life**.**

Entrepreneurship will greatly impact the lifestyle of the youths, if businesses work along with their involvement of all the members towards creating awareness and promoting positive impacts on others.

Ecosystem Support from Project-

- **Reduces Pollution Across Ecosystems:** Recycling plastic instead of manufacturing from the scratch hence indirectly reduces emission of hazardous greenhouse gases. Plastic waste besides contaminating land, water, and soil with harmful chemicals, is also responsible for death of thousands of animals on land, in water and in sea due to ingestion. Recycling means reduced quantum of plastic waste. This in turn reduces pollution and saves a lot of animal species crucial to the food chain.

- **Requires Less Energy and Helps Conserve Natural Resources**: Manufacturing of plastic from scratch requires much more energy compared to producing products from recycled plastic. The energy saved can be used for other important requirements in the economy. Also, the manufacturing process requires natural resources such as water, petroleum, natural gas and coal as raw material. Hence, plastic recycling saves precious natural resources. For example, petroleum, which is crucial for making new plastic products is - around 40% of petroleum consumption can be reduced by simply recycling discarded and old plastic waste.
- **Saves Fast-depleting Landfill Space:** Landfill sites are fast diminishing. The growing human population means that habitable land is becoming more and more valuable with each passing day. Proper waste management through reusing and recycling of plastics can save significant amount of landfill space. 7.4 cubic yards of landfill space can be saved by recycling 1 ton of plastic.
- **Eases the Demand on Fossil Fuel Consumption**: Millions of barrels of crude oil are used to fuel the demand for plastics in a single year. Recycling plastics is the most sustainable option to reduce fossil fuel consumption. Since oil is a finite natural resource, recycling plastic and recovering as much raw material as is possible, the consumption of crude oil can be reduced significantly. Besides, plastic recycling also saves the energy required to produce new materials. A ton of recycled plastic saves 7,200 kilowatt-hours of electricity or about enough energy to run a household for seven months, according to a study from Stanford University.

12. THE END PRODUCTS PRODUCED WITH THE MACHINE


Fig: Shredded plastic

Value added products from recycled shredded plastic can also be done by JLG members in future

Plastic brooms

Plastic granules in Plywood manufacturing

Recycled Plastic Pipes

Recycled Plastic Tiles

Recycled Plastic Chairs

13. FINANCIALS

CASH FLOW STATEMENT

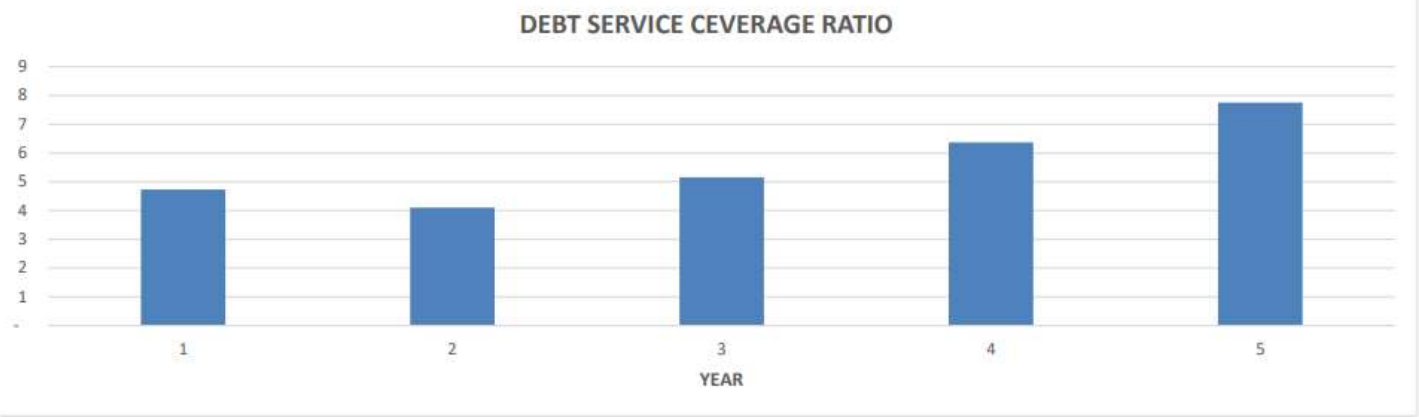
CASH FLOW STATEMENT

Particulars \ Year	Year 1	Year 2	Year 3	Year 4	Year 5
REVENUE FROM SALE OF RECYCLED PLASTIC					
No. of working days in a Year	300	300	300	300	300
Less : Days for off Season	-	-	-	-	-
No. of Machine Running days in a Year	300	300	300	300	300
Capacity of the machine in kgs per day	250	250	250	250	250
Production in KGs	100%	100%	100%	100%	100%
Utilisation of the Capacity (%)	70%	75%	80%	85%	90%
Production during the year (in KGs)	52,500	56,250	60,000	63,750	67,500
Rate per KG	30	33	36	40	44
Gross Revenue earned per annum - A	**15,75,000**	**18,56,250**	**21,78,000**	**25,45,538**	**29,64,803**
COST OF RAW MATERIALS					
Consumption of Raw Materials	52,500	56,250	60,000	63,750	67,500
Rate per KG	5	6	6	7	7
Total Cost of Raw Material per annum - B	**2,62,500**	**3,09,375**	**3,63,000**	**4,24,256**	**4,94,134**
EXPENDITURE					
Salaries and Wages	6,60,000	7,59,000	8,72,850	10,03,778	11,54,344
Electricity Charges	60,000	66,000	72,600	79,860	87,846
Transportation and Travelling	25,200	27,720	30,492	33,541	36,895
Rent	1,44,000	1,58,400	1,74,240	1,91,664	2,10,830
Packaging and Promotion Expenses	20,000	22,000	24,200	26,620	29,282
Miscellaneous Expense	30,000	33,000	36,300	39,930	43,923
Total Expenditure - C	**9,39,200**	**10,66,120**	**12,10,682**	**13,75,393**	**15,63,121**
Net Profit before Interest /Cash Flow (A-B-C)	**3,73,300**	**4,80,755**	**6,04,318**	**7,45,889**	**9,07,548**

DSCR STATEMENT

PROJECTED TERM LOAN DSCR STATEMENT

	Year 1	Year 2	Year 3	Year 4	Year 5
	Projected	Projected	Projected	Projected	Projected
Profit available to service the debt	**3,73,300**	**4,80,755**	**6,04,318**	**7,45,889**	**9,07,548**
Loan Repayment	39,018	83,799	92,116	1,01,258	1,11,308
Interest on Term Loan	39,847	33,319	25,002	15,860	5,811
Debt to be Served	**78,866**	**1,17,119**	**1,17,119**	**1,17,119**	**1,17,119**
Debt Service Coverage Ratio	5	4	5	6	8
AVERAGE DSCR	**6**				



BREAKEVEN ANALYSIS

Investment Value Including Margin Rs. 475000

Year ended	Year 1 Projected	Year 2 Projected	Year 3 Projected	Year 4 Projected	Year 5 Projected
Cash Flow as per Statement of Income	3,73,300	4,80,755	6,04,318	7,45,889	9,07,548
Less : Interest on Loan	39,847	33,319	25,002	15,860	5,811
Less : Estimated Drawings/Personal Expenses	1,86,650	2,40,378	3,02,159	3,72,944	4,53,774
Net Cash Flow	**1,46,803**	**2,07,058**	**2,77,157**	**3,57,084**	**4,47,963**
Cumulative Cash Flow	**1,46,803**	**3,53,861**	**6,31,017**	**9,88,101**	**14,36,065**
Break Even Investment (in years)	**2 Year and 5.2 Months**				

REPAYMENT SCHEDULE

DETAIL REPAYMENT SCHEDULE

Year	Quarter	Loan Installment	Principal Payment	Loan Outstanding	Interest at 9.5%	Cumulative Interest
1	1	10,153	-	4,27,500	10,153	
	2	10,153	-	4,27,500	10,153	
	3	29,280	19,278	4,08,222	10,001	
	4	29,280	19,740	3,88,482	9,540	39,847
2	1	29,280	20,212	3,68,269	9,067	
	2	29,280	20,696	3,47,573	8,583	
	3	29,280	21,192	3,26,382	8,088	
	4	29,280	21,699	3,04,683	7,581	33,319
3	1	29,280	22,218	2,82,464	7,061	
	2	29,280	22,750	2,59,714	6,529	
	3	29,280	23,295	2,36,419	5,985	
	4	29,280	23,853	2,12,566	5,427	25,002
4	1	29,280	24,424	1,88,143	4,856	
	2	29,280	25,008	1,63,135	4,271	
	3	29,280	25,607	1,37,528	3,673	
	4	29,280	26,220	1,11,308	3,060	15,860
5	1	29,280	26,848	84,461	2,432	
	2	29,280	27,490	56,970	1,789	
	3	29,280	28,148	28,822	1,131	
	4	29,280	28,822	0	458	5,811
Total		**5,47,340**	**4,27,500**		**1,19,840**	**1,19,840**

Designated Contact Details for this project

Email ID : contact@vkfoundations.org
Mobile : 9845938269 / 9986024478 / 9902256304
Website: vkfoundations.org