DETAILED PROJECT REPORT

Pesticide Sprinkler Drone

By

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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:

Aadhar/PAN/Photo:

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

Pesticide Sprinkler Drone

A pesticide sprinkler drone is an unmanned aerial vehicle (UAV) designed to spray crops with pesticides, herbicides, or fertilizers. These drones use precision agriculture technology to target specific areas of a crop, which can reduce the amount of chemicals used and minimize the risk of over-spraying.

The use of pesticide sprinkler drones has several advantages. They can cover large areas of land quickly and efficiently, reducing the time and labor required for traditional ground-based spraying. They can also reach areas that are difficult or impossible for human operators to access, such as steep terrain or dense vegetation.

In addition to their efficiency and precision, pesticide sprinkler drones can also be more environmentally friendly than traditional spraying methods. By using less chemical and targeting specific areas of a crop, they can reduce the amount of chemicals released into the environment and minimize the risk of damage to non-target species.

5. DELIVERABLES AND MARKET OF THE PRODUCT

Drone technology has had a lasting effect on the productivity of India's agriculture sector. We provide farmers drone-powered solutions that will boost productivity in a variety of areas, including precision farming, livestock management, pesticide application, crop stress assessment, treatment planning, plant growth monitoring,

and scouting. Due to an increase in venture investment for the global deployment of drones in the agriculture business, the market share for agriculture drones is anticipated to experience noticeable development over the projected period. Additionally, throughout the projected period, a sharp increase in the usage of precision farming technologies would fuel market expansion. Additionally, the market study for agriculture drones is anticipated to be driven by a surge in demand for a reduction in the costs associated with human mistake.

Project Assumptions: This model DPR for Pesticide Sprinkler agricultural Drone 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. Therefore, land and civil infrastructures are assumed as already available with the entrepreneur.

Table: Detailed Project Assumptions

Parameters	Value	
Assumed Capacity of the Sprinkler Drone covers the area in acres:	8 acres	
Utilization of capacity:	Year 1	75%
	Year 2	80%
	Year 3	85%
	Year 4	90%
	Year 5	95%
Working days per year:	240 days	
Rate of Raw Material per Round:	Rs. 750/ round	
Rate per round:	Rs. 1500/round	

Market Output:

VKF will hand hold them to facilitating better market linkage.

Market Linkage ❖ **Livestock monitoring** ❖ **Precision Agriculture**	❖ **Gardening**

6. ROLE OF EACH OF THE JLG MEMBERS

How JLG will participate:

- 2 persons will be used to operate drone
- 5 persons for the logistics, Marketing & sales

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 program on product quality, handling practices.
- Capacity Building activity
- Trust Building activities
- Program on technical skill enhancement to unit owners.
- Program on Business and entrepreneurship skill enhancement to unit owners
- Mass entrepreneurship development program in the JLG eco system.

8. ESTIMATED COST OF THE PROJECT AND THE IMPLEMENTATION SCHEDULE

The proposed cost of the project is as follows:

Sl. No.	Details	Cost in Rs.
1	Bank Loan	3,42,000
2	Govt of Karnataka contribution	38,000
3	**Total**	**3,80,000**

Sl. No.	Details	Cost in Rs.
1	Machine Cost (Truck Cost)	2,40,000
2	Miscellaneous and preoperative expenses	30,000
3	Working capital (Shed deposit, electric connection deposit,)	1,10,000
	TOTAL	**3,80,000**

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 the need for ready to use products in the upcoming market as well as the local markets.
- Agricultural drones can cover large areas of farmland quickly, allowing farmers to collect data more efficiently. This can lead to cost savings and improved crop yields.
- Drones can perform many tasks that would typically require manual labor, such as crop monitoring and spraying. This can save time and reduce labor cost.
- Drones can be programmed to fly specific routes and collect data at certain times, making them more flexible than traditional methods of data collection.
- The JLG members are having good coordination and co-operation among themselves and are serious about providing solutions to the community.

- Government is very favorable for supporting the youths.

II. Weakness

- Agricultural drones can be expensive to purchase and maintain, especially for small-scale farmers who may not have the budget for such technology.
- Operating a drone requires technical expertise, which may be a challenge for farmers who are not familiar with this type of technology.
- Drone flights are often dependent on weather conditions, which can limit their effectiveness in certain regions or during certain times of year.
- 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 have poor access to national and international markets. This will affect initially the profitability of the JLG members.

Opportunities

- The use of drones in precision agriculture has the potential to revolutionize farming practices by providing more accurate and detailed data on crop health and yields.
- 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.

- By using drones to monitor crops and manage pests, farmers can potentially increase their productivity and yields.

III. 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 the business 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.

12. THE END SERVICE PROVIDED WITH AGRICULTURAL DRONE

13. FINANCIALS

CASH FLOW STATEMENT

Particulars \ Year	Year 1	Year 2	Year 3	Year 4	Year 5
REVENUE FROM SPRINKLING PESTICIDES SERVICE					
No. of working days in a Year	300	300	300	300	300
Less : Days for off Season	60	60	60	60	60
No. of Machine Running days in a Year	240	240	240	240	240
Capacity of the machine to cover the area in acres	8	8	8	8	8
Production per Acre	100%	100%	100%	100%	100%
Utilisation of the Capacity (%)	75%	80%	85%	90%	95%
Coverage of area in acres (Per Year)	1,440	1,536	1,632	1,728	1,824
Rate per Round	1,500	1,650	1,815	1,997	2,196
Gross Revenue earned per annum – A	**21,60,000**	**25,34,400**	**29,62,080**	**34,49,952**	**40,05,778**
COST OF RAW MATERIALS					
Consumption of Raw Materials	1,440	1,536	1,632	1,728	1,824
Rate per Round	750	825	908	998	1,098
Total Cost of Raw Material per annum – B	**10,80,000**	**12,67,200**	**14,81,040**	**17,24,976**	**20,02,889**
EXPENDITURE					
Salaries and Wages	5,04,000	5,54,400	6,09,840	6,70,824	7,37,906
Fuel Charges	78,000	85,800	94,380	1,03,818	1,14,200
Transportation and Travelling	48,000	52,800	58,080	63,888	70,277
Rent	48,000	52,800	58,080	63,888	70,277
Business Promotion Expenses	90,000	99,000	1,08,900	1,19,79	1,31,769

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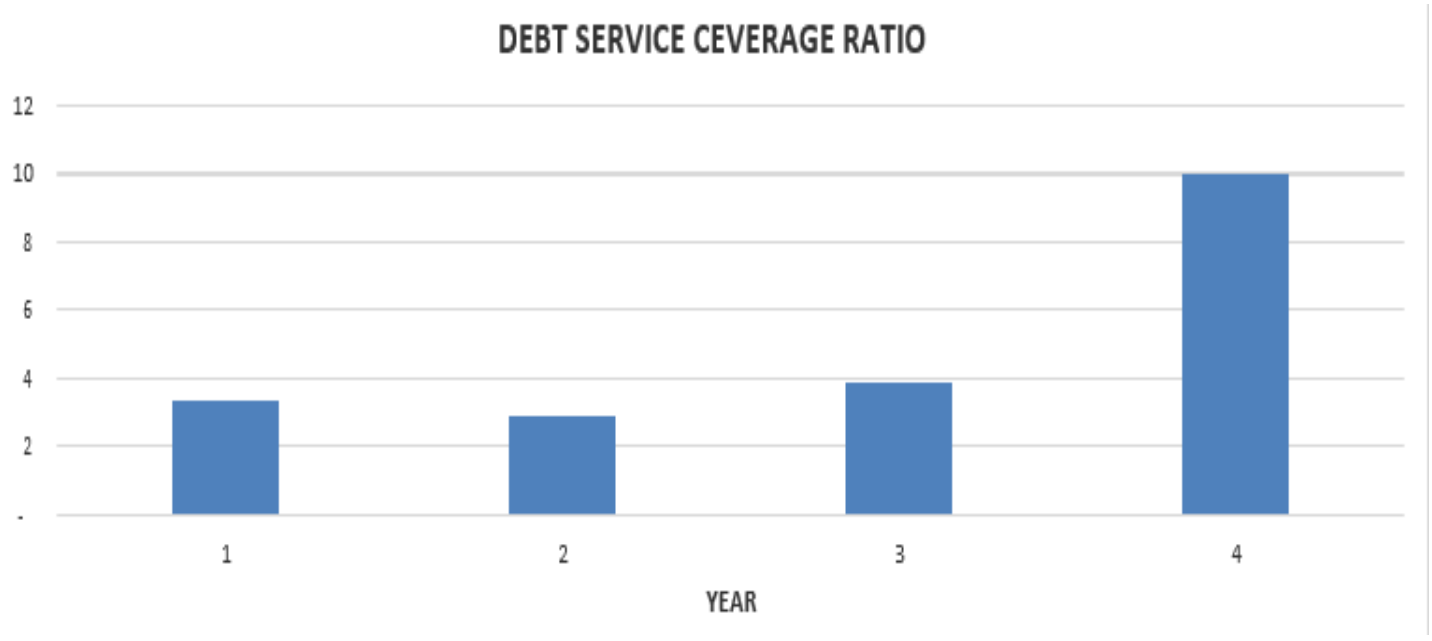
Miscellaneous Expenses	36,000	39,600	43,560	47,916	52,708
Total Expenditure – C	**8,04,000**	**8,84,400**	**9,72,840**	**10,70,124**	**11,77,136**
Net Profit before Interest /Cash Flow (A-B-C)	**2,76,000**	**3,82,800**	**5,08,200**	**6,54,852**	**8,25,752**

PROJECTED TERM LOAN DSCR STATEMENT

	Year 1	Year 2	Year 3	Year 4
	Projected	**Projected**	**Projected**	**Projected**
Profit available to service the debt	**2,76,000**	**3,82,800**	**5,08,200**	**6,54,852**
Loan Repayment	50,476	1,08,408	1,19,167	63,948
Interest on Term Loan	31,500	23,055	12,296	1,784
Debt to be Served	**81,977**	**1,31,463**	**1,31,463**	**65,732**
Debt Service Coverage Ratio	3	3	4	10
AVERAGE DSCR	**5**			



BREAKEVEN ANALYSIS

Investment Value Including Margin Rs. 380000

Year ended	Year 1 Projected	Year 2 Projected	Year 3 Projected	Year 4 Projected	Year 5 Projected
Cash Flow as per Statement of Income	2,76,000	3,82,800	5,08,200	6,54,852	8,25,752
Less: Interest on Loan	31,500	23,055	12,296	1,784	-
Less: Estimated Drawings/Personal Expenses	1,38,000	1,91,400	2,54,100	3,27,426	4,12,876
Net Cash Flow	**1,06,500**	**1,68,345**	**2,41,804**	**3,25,642**	**4,12,876**
Cumulative Cash Flow	**1,06,500**	**2,74,845**	**5,16,649**	**8,42,291**	**12,55,168**
Break Even Investment (in years)		**2 Year and 5.2 Months**			

DETAIL REPAYMENT SCHEDULE

Year	Quarter	Loan Installment	Principal Payment	Loan Outstanding	Interest at 9.5%	Cumulative Interest
1	1	8,123	-	3,42,000	8,123	
	2	8,123	-	3,42,000	8,123	
	3	32,866	24,940	3,17,060	7,926	
	4	32,866	25,537	2,91,524	7,329	31,500
2	1	32,866	26,148	2,65,376	6,718	
	2	32,866	26,774	2,38,602	6,092	
	3	32,866	27,415	2,11,187	5,451	
	4	32,866	28,071	1,83,115	4,795	23,055
3	1	32,866	28,743	1,54,372	4,123	
	2	32,866	29,431	1,24,941	3,435	
	3	32,866	30,136	94,805	2,730	
	4	32,866	30,857	63,948	2,009	12,296
4	1	32,866	31,596	32,352	1,270	
	2	32,866	32,352	0	514	1,784
Total		**4,10,635**	**3,42,000**		**68,635**	**68,635**

Designated Contact Details for this project

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Ministry of MSME, Govt. of India