Draft Environmental Impact Assessment Report

Executive Summary

Proposed 30 KLPD Molasses/Cane Juice Based Distillery Unit

Project Proponent

Shri Kedareshwar Sahakari Sakhar Karkhana Ltd.,

At- Sumannagar, P.O.- Bodhegaon,

Taluka-Shevgaon, District- Ahamednagar,

Maharashtra

1.INTRODUCTION

M/s. Shri Kedareshawar Sahakari Sakhar Karkhana Ltd. (SKSSKL) is an agro based sugar complex unit &was registered as a Co-operative Society in 1990 vide Registration No.ANR/SGN/PRG(A)/31(S)/90 dated 02.02.1990. SKSSKL obtained IEM license for distillery project dated 19.04.2019 from Ministry of Commerce and Industry, Govt. of India for setting up distillery for production of Rectified spirit(R.S.), Extra-Neutral Alcohol(ENA) and Fuel ethanol (F.A.) from cane juice/molasses as well as proposes to obtain other required NOCs/Approvals from concerned Government Authorities.

The crushing capacity of the mill is 2500 TCD with 2.50 MW captive power generation unit o venture agro-based industrial and related activities. The sugar unit generates large quantity byproducts viz. bagasse, molasses and press mud. To be economically and environmentally sustainable it is necessary for the sugar industries to convert these byproducts into high value products. Hence, the company has proposed to establish a new 30 KLPD distillery based on sugar molasses/ Cane Juice as raw material. SKSSKL is having about 11871member farmers and the area under cane sown every year is about 6000 Ha**.** SKSSKL is proposing to establish 30 KLPD molasses/cane juice-baseddistillery at the existing sugar complex.

As per the EIA notification 2006 & its subsequent amendments existing sugar project does not require Environmental Clearance**.** Existing industry have obtained consent to operate from Maharashtra Pollution Control Board (MPCB) & is complying with all the norms of CPCB & MPCB.

2. TYPE OF PROJECT

The Notification no. S. O. 1533 promulgated on 14th September 2006 & its amendment S.O. 1960 (E).on January 13th June 2019 has categorized 30 KLPD molasses/cane juice based distillery under Category–B Schedule 5 (g).

Accordingly, the project proponents have submitted prescribed application along with prefeasibility report to the Environment Department, Maharashtra seeking Terms of Reference (TOR) for conduct of EIA studies. MOEF, New Delhi has specified standard TOR and SEAC-I Maharashtra has specified additional TOR by Scoping for conduct of EIA studies and preparation of Draft EIA Report in its 169th meeting dated 10thOctober 2019. Accordingly, the EIA studies were conducted and the present report is prepared for submission to authorities for

due Public Hearing.

The Form I, PFR is submitted generally covering Justification, Nearby Land Use, Resources, Process, Pollution Control, Aesthetics, Risk Involved, Consequent Developments and Environmental Sensitive Issues.

Details of existing and proposed capacity is given in Tablebelow:

Table 1: Existing and proposed Units of SKSSKL

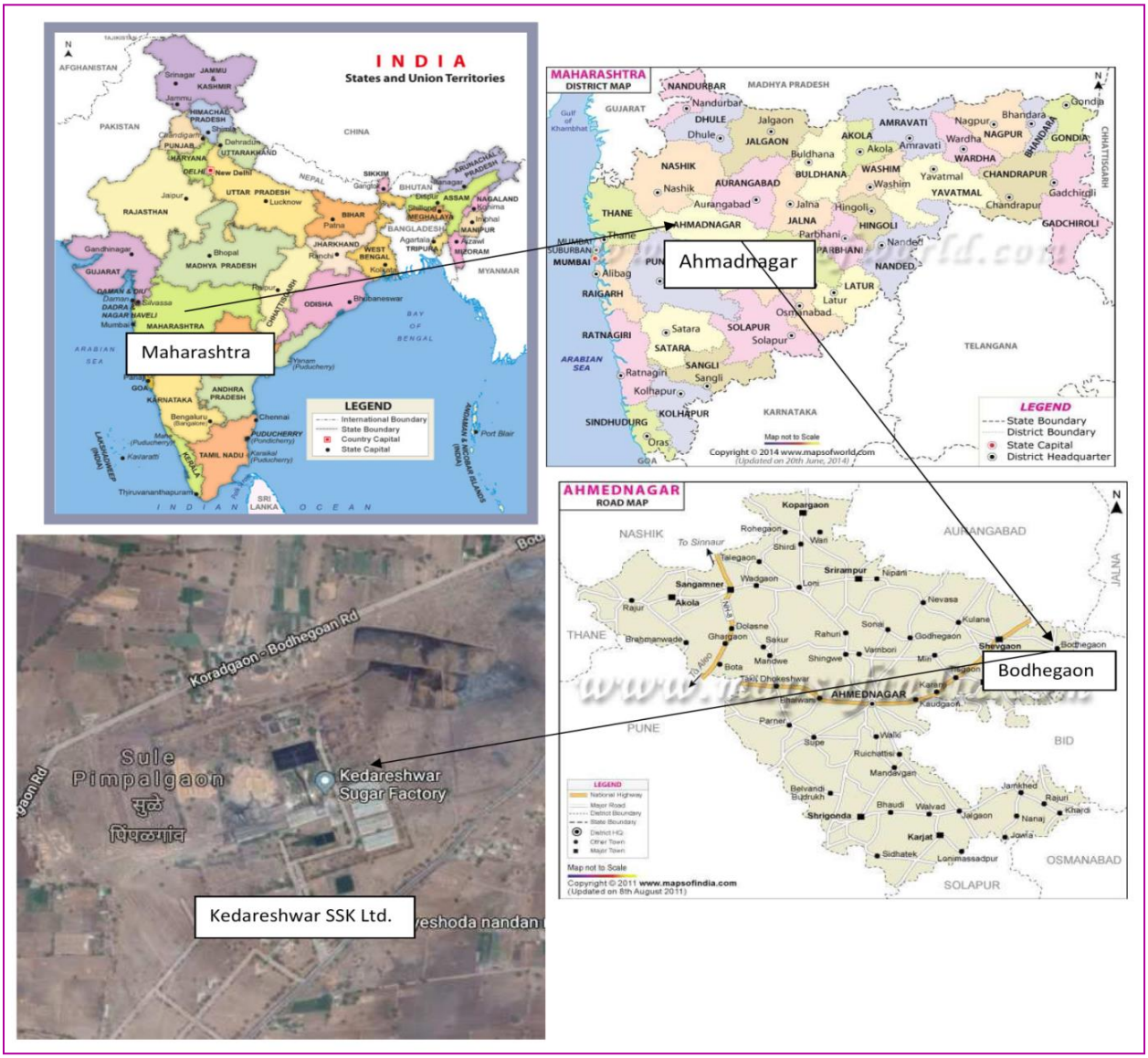
Projects Units	**Category**	**Units**	**Existing Capacity**	**Proposed Capacity**	**Total**
Distillery	5 (g)	KLPD	-	30	30
Sugar Unit	5 (j)	TCD	2500	-	2500
Captive Power generation	1 (d)	MW	2.5	-	2.5

3. LOCATION OF THE PROJECT

M/s. Shri Kedareshwar SSK Ltd. (SKSSKL) is located at- Sumannagar, P/o- Bodhegaon, Taluka- Shevgaon, Dist.- Ahmednagar, Maharashtra.

The area with sugar unit is 479613.39 Sq.m. The Geographical Location of this Industry is at 19.2947498 N Latitude &75.4189918 E Longitude with an elevation of 489 M above Mean Sea level (MSL). Location map is given below in figure no. 1.2.

Figure 1: Project Location



4. MANUFACTURINGPROCESSES Of PROPOSED DISTILLERY

Molasses and cane juiceare the chief raw materials used for production of alcohol. Molasses contains about 50% total sugars, of which 30 to 33% are cane sugar and the rest are reducing sugar. During cane crushing season, cane juice/B heavy molasses may be used and during off season, molasses (C/B heavy molasses) may be used thereby operating the distillery for a period of 270 days/annum. During the fermentation, yeast strains to the species *Saccharomyces Cerevisiae*, a living microorganism belonging to class fungi converts sugar present in the molasses/cane juice such as sucrose or glucose in to alcohol.

5. BASIC REQUIREMENTS FOR THEPROJECT

5.1 Raw materials Availability:

Table 2: Raw materials requirement for Molasses/cane juice based Distillery (30 KLPD)

Sr. No.	Raw Material	Unit	Quantity
	Molasses/ Cane Juice based Distillery (30 KLPD)		
I	**Fermentation/Distillery**		
	Cane quantity for Cane juice during cane crushing season @ 70 lit/ton cane, TPD cane(Crushing season 160 days)	Tons cane/day	430
	C Molasses during off season, Tons molasses/day(Off season 110days)	Tons /day	120
	TRO	Kg/day	240
	Sulphuric acid	lit/day	90
	DAP	Kg/day	30
II	**Biogas Unit**		
	DAP	Kg/day	3.25
	Lime	Kg/day	300
III	**Compost Unit**		
	Culture	Kg/day	65
	Pressmud	MT/annum	8775
	Concentrated biomethanatedspentwash	MT/annum	17550

5.2 Land Requirement

Total land 479613.39 Sq.m. is in possession of SKSSKL. No additional land will be required for distillery unit.

Sr No	Particulars	Land in m^2
1	Existing Sugar & Cogeneration unit & Quarters	84416.50
2	Proposed Distillery Unit	38243.715
3	Green Belt	158272.42

5.3 Water requirement

The total fresh water required for Distillery will be 239.0 CMD

Source of Water– from Jayakwadi dam Right bank Canal

5.4 ETP System

The spent wash generated will be treated in anaerobic digestor thereby generating biogas to be used as a part fuel in proposed boiler, followed by concentration of biometnanated spentwash thereby minimizing quantity of effluent almost six-fold, followed by bio composting of concentrated biomethanated spent wash with press mud & ash to achieve zero liquid discharge.

The vapor condensate generated in concentration of biomethanated spent wash and other waste streams such as floor washings,spent lees, cooling tower blow down, WTP blow down etc. will be treated in Condensate Polishing Unit(CPU) in such a way to recycle the water to the extent of more than 75 percent thereby minimizing fresh water requirement for the distillery project.

5.5 Steam and Power requirement

The maximum steam requirement for the process is about 8.5 TPH. The 10 TPH bagasse cum biogas boiler is proposed. The estimated requirement of power for proposed distillery and ETP will be 800 KWH. The required electricity for 30 KLPD Distillery will be generated and supplied from the proposed one Mw TG set.

5.6Man power requirement

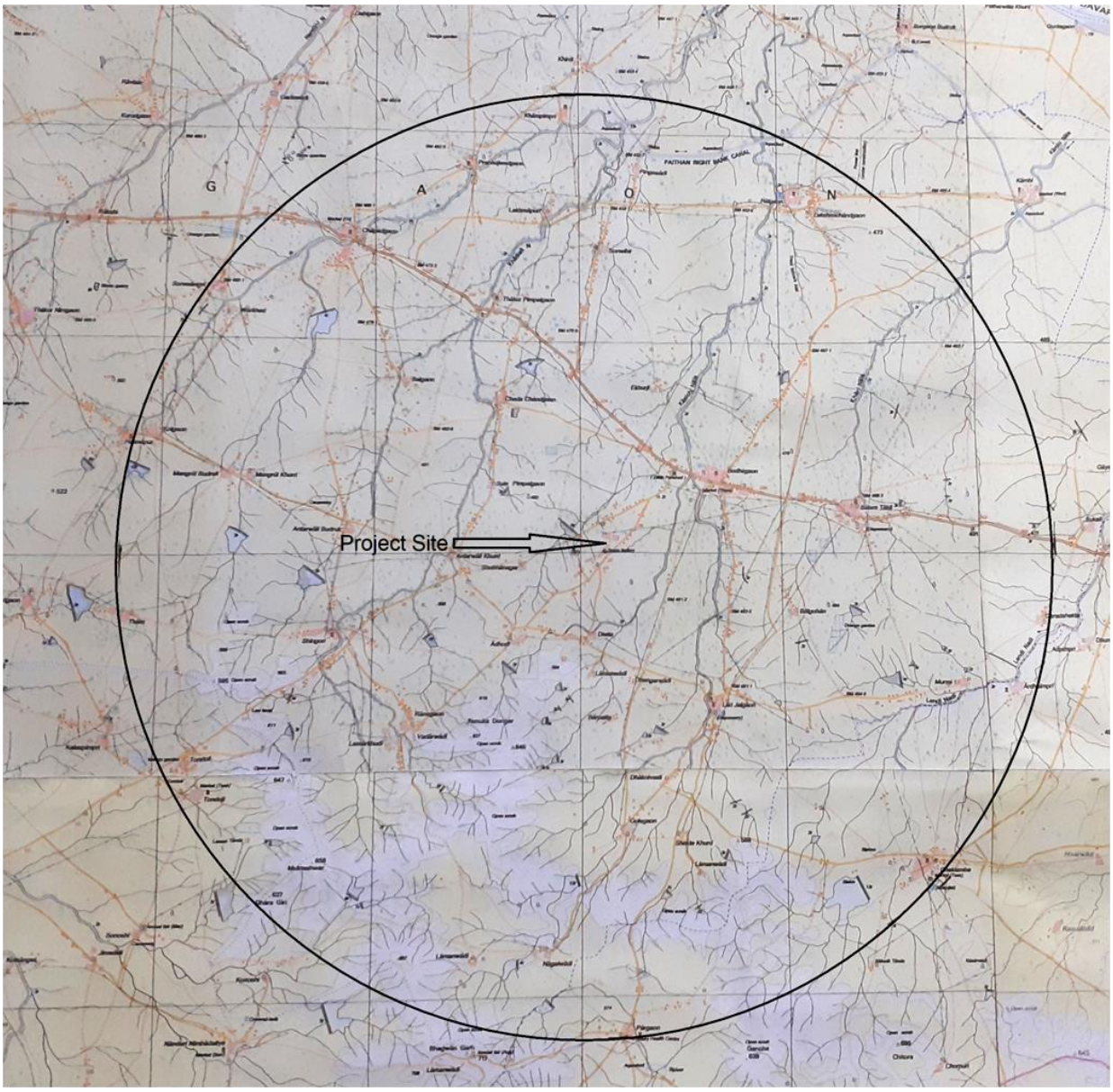
For Proposed distillery Unit - 83 Nos. More than 85 % of the manpower requirement will be fulfilled by employing the local people. Man power requirement for construction work i.e. on contract basis will be about 50.

6. BASELINE ENVIRONMENT STUDIES

To understand the present status of the environment near project site, Baseline Monitoring was schedule during period October 2019 to December 2019. Environmental parameters such as Ambient Air, Ambient Noise, Soil quality, Water Quality, Ecological study, Socio Economic survey were examined priory for the Impact Mitigation study. As per 2011 census data, about 63458populations is recorded in the project site. It is necessary to evaluate the impacts of the project activities, so that the surrounding area and communities are as far as feasible, insulated from the negative impacts. The primary study area is considered to be within 10 km radius of the project site for baseline environment monitoring.

Topographical sheet (SOI) scale 1:50000 No. E43D7, E43D8, E43D 11, E43D 12were studied for spatial features, ground control points, latitude, longitude and geo-registration of the satellite imageries

Figure 2: Toposheet covering 10km study area



Meteorological data: Meteorological data was recorded at project site for the month of October, November and December 2019. From the above data record, we can say thatthe minimum temperature recorded is 12°C while maximum temperature was recorded to be 32°C.

The Relative Humidity was found to be in range between 40 % to 98 % in the study period.

Baseline monitoring was carried during the October 2019 to December 2019. Following Environmental parameters were monitored to understand baseline status

Ambient Air Quality: Ambient Air Quality monitoring was carried out at nine locations within

10 km radius. From the analysis results it can be depicted that concentration of PM_{10}, $PM_{2.5}$, NOx and SO_2 are within the permissible limit prescribed byCPCB.

Ambient Noise quality: Noise monitoring was carried out with respect to Noise zone classification. From the monitoring results it can be depicted that noise levels are within prescribedlimits.

WaterEnvironment

Ground water quality: To understand the Groundwater quality status, sampling was done at 9 different locations within 10 km radius. From the obtained results, it can be depicted concentration of TDS, pH and Total Hardness are within the prescribed limits and hence the water quality is applicable for drinkingpurpose.

Surface Water quality: Surface water sampling was done at 9 different locations at Bandharasinthe study area. SKSSKL is going to achieve Zero liquid discharge in surface water for the proposed distillery project& hence there is no effect on the river water quality due to this industry.

Ecological status of the study area: Ten km radius area from the project site does not contain any forest area, while most of the area is dry, open, grassland & agricultural field. Based on field survey, primary data were generated by preparing a general checklist of the plants encountered in this area.

There are no any national parks, wildlife sanctuaries, biosphere reserves or critically polluted areas in the 10 km radius from the proposed project site. No Archeological site is present within the study area. No forest is located in the study area. No Schedule - I fauna was found during the field survey. There is intense anthropogenic pressure on flora, fauna and forest resources, which are observed to be dwindling. However, no rare, endangered & threatened plant species was observed in the study area.

Floristic survey reveals that the study area is having dominance of trees viz. *Acacianilotica, Cassia auriculata, Azadirachtaindica, Ziziphus, mauritiana, Cocus nucifera* etc. certain shrubs *viz,.Calatropis sp., Hibiscus sp, Lantana camara* & *Psidium guajava* and herbs like *Alternanthera sessilis, Argemone Mexicana, Ageratum conyzoides & Cassia tora*., were most common within studyarea.

Socio Economic status: Socio economic survey was carried out during December 2019. The

study area is witnessing a rapid growth in its population beginning from last decade due to rapid urbanization andindustrialization.

Population of study area is 63458. Scheduled Caste fraction of the population of the study area (10 km) is 7795(12.28%) and Scheduled Tribe 452 (0.71%). Literacy rate of the area is 59.90 %. Population of the workers engaged in occupation is 57.46 %. Of these 31678 (49.92 %)are main workers and 4785 (7.54%) are marginal workers. Remaining, 29272 (46.13%) of the total population is considered as non-workers.

The socio-economic analysis of the study area showsthat in terms of education could be improved as the literacy rate is quite low i.e. 59.90%. With a high dependency ratio, the overall socio-economic status of the target population could improve with increase in work participation rate. Hence, the long-term positive impacts on socio-economic conditions of the area are anticipated.

7. ENVIRONMENT MANAGEMENT PLAN

The Environmental Management Plan (EMP) provides an essential link between predicted impacts and mitigation measures during implementation and operational activities. EMP outlines the mitigation, monitoring and institutional measures to be taken during project implementation and operation to avoid or mitigate adverse environmental impacts, and the actions needed to implement measures.

Air Pollution Control Measures

During dry season water sprinkling will be done on dry/ dusty road surface in factory premises which will reduce the particulate matter emissions

- Workers will be provided with noise mask min dust pronearea.
- Existing green belt will help in attenuation of fugitiveemission.

Table 3: Propose Air pollution control measures

Sr.No	Source	Fuel	Pollutant	Control Equipment
1	Existing Sugar Unit Boilers 2 Nos. x each32 TPH	Bagasse	PM, SO2 &NOx	Common stack with 45 m height is provided as per CPCB Norms with Fly ash arrester & Multicyclone dust collector (2 No.s) to achieve maximum collection of fly ash
2	Proposed 10 TPHBoiler	Bagasse, Biogas	PM, SO2 &NOx	40 m stack height will be provided as per CPCB Norms with Wet Scrubber to achieve maximum collection of fly ash

Noise Environment

Equipment's will be maintained appropriately to keep the noise level within 85 dB (A). Wherever possible, equipment will be provided with silencers and mufflers. Greenbelt development will be undertaken from the construction stage itself. Further, workers deployed. In high noise areas will be provided with necessary protective devices such as ear plug, ear-muffs etc. High noise generating sources will be insulated adequately by providing suitableenclosures;

The insulation provided for prevention of loss of heat and personnel safety will also act as noise reducers. The rotating equipment shall be provided with silencers wherever required to meet the noise pollution.

Water Quality Environment

Maximum care shall be taken to reduce the groundwater/ surface water contamination during construction as well operational phase of the project. Runoff from the untidy concrete base site shall be avoided during rainy season. Waste water generated from industrial process will be treated in ETP followed with regular water quality testing parameters. Treated effluent will be used in process/farm fields/ greenbelt development.

Biological Environment

Workers during construction as well as operational phase will be guided on ecological benefits so that there are fewer disturbances due to factory operations. Fire wood burning shall be strictly prohibited in factory premises. Artificial nests will be set up on trees in order to provide shelter forbirds.

Solid Waste Management

Table 4: Industrial Solid waste management and disposal techniques

Sr. No.	Type of waste	Quantity,		Total	Unit	Treatment	Disposal
		Existing Sugar Unit	Proposed Distillery				
1	Used/spent oil	0.50	-	0.50	TPM	-	Mixed in bagasse & burnt in boiler
2	ETP sludge	0.60	0.50	1.10	TPM	Drying	For biocomposting
3	Fermentation residue	-	3.0	3.0	TPD	Drying	For biocomposting
4	Biogas plant residue	-	4.0	4.0	TPM	Drying	For Biocomposting
5	Pressmud	90	-	90	TPD	-	For Biocomposting
6	Boiler ash	10.80	1.62	12.42	TPD	Mixed with Pressmud	For biocomposting
7	Canteen waste	o.50		0.50	TPD	compost	Factory Garden & trees manure
8	Domestic waste	1.50		1.50	TPD	Compost	Factory Garden & tree manure

8. CORPORATE ENVIRONMENT RESPONSIBILITY (CER)PLAN

Corporate Environment Responsibility (CER) Plan is being prepared & following activities will be implemented under CER Plan. Major facets are given below;

- Education and Boarding for children ofWorkers
- Seminars and training forfarmers
- Health camp, medicalfacilities
- Tree plantation and providingsaplings
- Womenempowerment
- Vocational training for youth
- Funds for facilities in village and surroundingarea
- Funds to Chief Minister/Prime Minister ReliefFund

The OM dated 01.05.2018 illustrates, cost of CER is to be in addition to the cost envisaged for the implementation of EIA/EMP. It includes the cost for the pollution control, environmental protection and conservation, R&.R, wildlife and forest conservation/protection measures including compensatory afforestation, required.

The total project cost is Rs. 53.50 crore. 2% of the total cost it becomes Rs. 1.07 crore approx. Company has proposed Rs. 1.07 crore as CER fund. A provision of 1.10 Cr. Has been made under CER. These will be spent within first 5 years.

Table 5: CER Funds

Sr.No.	Project Area/ Sector	Proposed Amount Rs. Lakh
1	Entry Point Activities	2.2
2	Educational Program	13.5
3	Health and FamilyWelfare Program	10.4
4	Infrastructure Development	64.0
5	Sustainable LivelihoodProgram	11.9
6	Social Issues Intervention	8.0
	Total	**110.0**

9. COST AND IMPLEMENTATION

Total estimated cost of the proposed project is 53.50 Cr. Time required for the implementation of the proposed project is 12 months after getting all the permissions from the statutory authorities.

10. BUDGETARY ALLOCATION FOR ENVIRONMENT MANAGEMENT PLAN

SKSSKL has proposed a capital investment of Rs. 1560.25 lakh-and a recurring cost of Rs 122.0 lakh per annum for environmental protection measures. The details of investment for procuring the equipment for efficient control and monitoring of Pollution along with annual recurring cost are given in **Table below.**

Table 6: Cost of Environmental Protection Measures

Sr. No.	Environment Aspect	Capital Cost lakh	Recurring cost in Lakh
1	Air Pollution Control	130.00	5.50
2	Effluent Treatment plant	1200.00	40.00
3	Noise Abatement	0.25	0.10
4	Occupational Health	30.00	5.00
5	Safety Management fire fighting& safety aspects	85.00	5.00
6	Env. Laboratory, equipments& chemicals	75.00	7.50
7	Rainwater Harvesting	20.00	2.50
8	Green Belt	20.00	3.00
9	Remuneration of technical staff for environment management	-	53.40
	Total	**1560.25**	**122.00**

11. CONCLUSION

The proposed project will prove beneficialto the local people as more infrastructure development, improvement in education and health facilities, roads, availability of drinking water, etc. in near-by villages will be done.

There will be no significant impact on the area, as adequate preventive measures arebeing/will be adopted to contain the various pollutants within permissible limits. Regularmonitoring of all the components of environment is being / will be done. Increased socialwelfare measures taken by the company will bring development in the near-by villages.Greenbelt development around the area is being /will be also taken up as an effective pollution mitigative technique, as well as to control the pollutants.