
	M/s. Privi Organics Limited	
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## Executive Summary

### 1.0 PROJECT DESCRIPTION

#### 1.1 Introduction

M/s Privi Organics Limited was promoted by Mr D. B. Rao (Executive Director) and Mr. Mahesh.P. Babani (Managing Director) as a Private Limited Co. It was commissioned in 1999 and commercial production commenced in same year. The manufacturing plant is located at plot no. C-3/4/5/6, 6/1, 7, 8, 9 and its utility service plot is at C-33/1, X-9, 10, 11 MIDC, Taluka: Mahad, District: Raigad, Maharashtra. The unit Proposes for expansion of aroma chemicals. At present 32 products are manufacturing while it is planned to manufacture 24 new products and expansion of 5 existing products. Besides this it is also plan to install recovery plant for concentrated sulfuric acid and 4MW captive power plant.

#### 1.2 Type of Project



The proposed unit is Synthetic Organic Chemicals manufacturing unit covered under the category 'B', **5(f) of EIA notification** "Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates)" of EIA Notification-2006.

#### 1.3 Location of Project Site

The proposed expansion of Industrial project is located at plot no. C-3/4/5/6, 6/1, 7, 8, 9 & C-33/1, X-9, 10, 11, MIDC, Taluka: Mahad, District: Raigad, Maharashtra - 402309. The site is located on 18°06.397'N Latitude and 73°29.321'E Longitude. The site is well connected by national highway (NH-17) around 2.5 Km, Veer railway station (18 km) and Pune Airport (130 km) and Birwadi town (3 km).

#### 1.4 Proposed Expansion production capacity



The proposed expansion of project is the manufacturing of aroma chemicals. The details of products and by-products along with their capacity are given in Table: 1.1 and Table: 1.2

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**Table: 1.1 Details of Proposed Production Capacity**



Proposed manufacturing capacity					
No	Product	Category	Existing Qty MTPM	Proposed Qty MTPM	Total Qty MTPM
01	Isobornyl cyclohexanol (IBCH)	Aroma chemical	1.0	50.0	51.0
02	L-Carvone	Aroma chemical	-	50.0	50.0
03	Orange oil folds	Aroma chemical	-	12.0	12.0
04	D-Limonene	Aroma chemical	-	125.0	125.0
05	Myrcene	Aroma chemical	-	400.0	400.0
06	Alpha-Campholenic aldehyde	Aroma chemical	-	50.0	50.0
07	Floreol	Aroma chemical	-	80.0	80.0
08	D-Carvone	Aroma chemical	-	5.0	5.0
09	Dihydrocarvone	Aroma chemical	-	5.0	5.0
10	Carvomenthone	Aroma chemical	-	5.0	5.0
11	Nimberol	Aroma chemical	-	1.0	1.0
12	Dihydromyrcene	Aroma chemical	-	150.0	150.0
13	Sandal fleur & derivatives	Aroma chemical	-	20.0	20.0
14	Sandal touch	Aroma chemical	-	5.0	5.0
15	Citral extra pure	Aroma chemical	-	30.0	30.0
16	Citronellal	Aroma chemical	-	20.0	20.0
17	Cyclocitral (Alpha & Beta mixture)	Aroma chemical	-	2.0	2.0
18	Isocitronellene & Isomer	Aroma chemical	-	30.0	30.0
19	Citronellyl nitrile	Aroma chemical	-	30.0	30.0
20	A-Pinene from CST	Aroma chemical	666.66	945.0	1612.65
21	B-Pinene from CST	Aroma chemical	216.66	288.2	504.86
22	Limonene from CST	Aroma chemical	83.33	-42.01	41.32
23	Mixed Terpenes/Terpene biofuel from CST <b>or</b>	Aroma chemical	-	744.0	744.0
	DDTO/Carene varieties 60,90,98/ Terpene bio fuel	Aroma chemical	-	679.15	679.15
24	A-Pinene from GTO	Aroma chemical	-	537.0	537.0
25	B-Pinene from GTO	Aroma chemical	-	334.0	334.0
26	Amberfleur	Aroma chemical	-	400.0	400.0
27	MI for soap	Aroma chemical	-	1.0	1.0
28	Violetone Coeur	Aroma chemical	-	2.0	2.0
29	Timber Touch/Timber forte	Aroma chemical	2.0	3.0	5.0
	<b>Total</b>			<b>4282.19</b>	<b>5252.83</b>

**Note:** Mixed Terpenes/Terpene biofuel from CST is taken in addition while DDTO/Carene varieties 60,90,98/ Terpene bio fuel is not included in addition because the same is the product of Mixed Terpenes/Terpene biofuel after distillation.



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**Table: 1.2 Details of by-products**



Sl.No.	Products	By-Products	Proposed Quantity (MT/M)	Utilization
1.	<b>Isobornyl Cyclohexanol</b>	Aqueous fluoroboric acid (Fluoboric acid)	43.34	Sale to MPCB registered party
2.		Recovered Toluene	128.3	Reuse or Sale to MPCB registered party
3.		Recovered catalyst	3.9	Reuse or Sale to MPCB registered party
4.		Recovered IPA	22.1	Reuse or Sale to MPCB registered
5.		Recovered Methanol	5.0	Reuse or Sale to MPCB registered
6.		Column tops	34.9	Sale to MPCB registered party
7.		Column bottom mass	41.9	Sale to MPCB registered party
8.	<b>L-Carvone</b>	Recovered cyclohexane	30.0	Reuse or Sale to MPCB registered party
9.		Recovered D-Limonene	20.6	Reuse or Sale to MPCB
10.		Spent Aq Layer (Aluminium Sulphate +IPA)	94.6	Reuse or Sale to MPCB registered party
11.		MEK+Butanol recovered	133.0	Separate mixture and Reuse or Sale to MPCB registered party
12.		Column tops	20.1	Sale to MPCB registered party
13.		Column bottom mass	22.8	Sale to MPCB registered party
14.		2-Butanol (Separated from MEK + Butanol mixture)	29.0	Reuse or Sale to MPCB registered party
15.	<b>Floreol</b>	Recovered EDC	22.73	Reuse or Sale to MPCB registered Party
16.		DHP	28.05	Reuse or Sale to MPCB registered Party
17.		Column Tops	8.64	Reuse or Sale to MPCB registered Party
18.		Column Bottom mass	7.45	Reuse or Sale to MPCB registered Party
19.	<b>A-Campholenic</b>	Recovered Toluene	110.3	Reuse or Sale to MPCB

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	<b>Aldehyde</b>			registered party
20		Column tops	4.2	Sale to MPCB registered party
21.		Column bottom mass	19.7	Sale to MPCB registered party
22	<b>D-Carvone</b>	Recovered cyclohexane	3.0	Reuse or Sale to MPCB registered party
23		Recovered L-Limonene	2.1	Reuse or Sale to MPCB registered party
24		Spent Aq.layer (Aluminium sulphate +IPA)	9.5	Reuse or Sale to MPCB registered party
25		MEK+Butanol rec	13.3	Separate mixture and Reuse or Sale to MPCB registered party
26		Column tops	2.0	Sale to MPCB registered party
27		Column bottom mass	3.1	Sale to MPCB registered party
28		2-Butanol (recovered from MEK+Butanol mixture)	2.9	Reuse or Sale to MPCB registered party
29	<b>Dihydrocarvone</b>	Recovered cyclohexane	2.5	Reuse or Sale to MPCB registered party
30		Recovered EDC	17.4	Reuse or Sale to MPCB registered party
31		Column Tops	1.3	Reuse or Sale to MPCB registered party
32		Column Bottom mass	2.9	Separate mixture and Reuse or Sale to MPCB registered party
33	<b>Carvomenthone</b>	Catalyst recovered	0.05	Reuse or Sale to MPCB registered party
34		IPA recovered	5.19	Reuse or Sale to MPCB registered party
35		Recovered cyclohexane	13.88	Reuse or Sale to MPCB registered party
36		Column Tops	4.14	Sale to MPCB registered party
37		Column Bottom mass	2.69	Sale to MPCB registered party
38	<b>Myrcene</b>	Column Bottom mass	1.80	Reuse or Sale to MPCB registered party
39	<b>Nimberol</b>	Spent Aq.Layer (27% Acid)	3.85	Sale to MPCB registered party

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40		Recovered Toluene	3.44	Reuse / Sale to MPCB registered party
41		Spent acid layer solution	0.48	Reuse or Sale to MPCB registered party
42		Acetic acid solution (50-60%)	3.79	Sale to MPCB registered party
43		Recovered MPK	2.51	Reuse or Sale to MPCB registered party
44		recovered catalyst	0.01	Sale to MPCB registered party
45		Column Tops	0.61	Sale to MPCB registered party
46		Column bottom mass	0.48	Sale to MPCB registered party
47	<b>Dihydromyrcene</b>	Column Tops	19.5	Reuse / Sale to MPCB registered party
48		Column Bottom mass	32.3	Reuse / Sale to MPCB registered party
49	<b>Sandal fleur &amp; derivatives</b>	Recovered Cyclohexane	28.8	Reuse / Sale to MPCB registered party
50		Recovered methanol	43.0	Reuse / Sale to MPCB registered party
51		Column Tops	11.3	Sale to MPCB registered party
52		Column Bottom mass	4.7	Sale to MPCB registered party
53	<b>Sandal Touch</b>	Recovered MEK+Methanol	45.7	Reuse / Sale to MPCB registered party
54		Spent Aq.Layer (Pot.acetate)	6.5	Sale to MPCB registered party
55		Recovered Catalyst	0.2	Reuse / Sale to MPCB registered party
56		Column Tops	2.2	Sale to MPCB registered party
57		Column Bottom mass	1.4	Sale to MPCB registered party
58		Recovered 2 -butanol	3.4	Reuse / Sale to MPCB registered party
59	<b>Citronellal</b>	Column Tops	5.9	Reuse / Sale to MPCB registered party
60		Column bottom mass	1.8	Sale to MPCB registered party
61		Recovered catalyst	0.22	Sale to MPCB registered party
62	<b>Cyclocitral (A&amp;B Mixture)</b>	Aniline recovered	2.0	Reuse / Sale to MPCB registered party
63		Recovered cyclohexane	30.6	Reuse / Sale to MPCB registered party

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64		Ammonium sulphate solution (30-35 %)	47.3	Sale to MPCB registered party
65		Column Tops	0.5	Sale to MPCB registered party
66		Column bottom mass	0.9	Sale to MPCB registered party
67	<b>Isocitronellene &amp; Isomer</b>	Column Tops	1.77	Sale to MPCB registered party
68		Column bottom mass	1.24	Sale to MPCB registered party
69	<b>Citronellyl nitrile</b>	Sodium sulphate solution (18-28 %)	87.5	Sale to MPCB registered party
70		Column Tops	1.3	Sale to MPCB registered party
71		Column bottom mass	1.6	Sale to MPCB registered party
72		White oil residue	8.1	Sale to MPCB registered party
73	<b>A-Pinene from CST &amp; B-Pinene from CST &amp; Limonene from CST &amp; Mixed terpenes from CST OR DDTO/Carene 60/ 90/98 Terpene bio fuel</b>	Calcium Sulphate OR	181.56	Sale to MPCB registered party
74		Sodium Sulphate OR	189.57	Sale to MPCB registered party
75		CST DMS	85.44	Sale to MPCB registered party
76		Heavy Fractions	105.93	Sale to MPCB registered party
77		Zinc Hydroxide solution	336.43	Sale to MPCB registered party
78	<b>A-Pinene &amp; B-Pinene (From GTO)</b>	Dipnetene / Terpene bio fuel	95.0	Reuse or Sale to MPCB registered party
79		Pine tar	51.0	Sale to MPCB registered party
80	<b>Amberfleur</b>	Aqueous fluoroboric acid (Fluoboric acid)	109.34	Sale to MPCB registered party
81		Spent Phosphoric acid Layer	42.29	Sale to MPCB registered party
82		Recovered Toluene	111.51	Reuse or Sale to MPCB registered party
83		Column Tops	128.68	Sale to MPCB registered party
84		Column Bottom mass	86.5	Sale to MPCB registered party
85	<b>MI for Soap</b>	Column Tops	0.31	Sale to MPCB registered party
86		Column bottom mass	0.34	Sale to MPCB registered party
87	<b>Violetone couer</b>	Column Tops	1.20	Sale to MPCB registered party

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88		Column bottom mass	2.32	Sale to MPCB registered party
89	<b>Timber touch/Timber forte</b>	Recovered MPK	11.04	Reuse/Sale to MPCB registered party
90		Spent Phosphoric acid	2.32	Reuse/Sale to MPCB registered party
91		Recovered Toluene	3.43	Reuse/Sale to MPCB registered party
92		Column tops	1.51	Sale to MPCB registered party
93		Column bottom mass	1.64	Sale to MPCB registered party
94		Recovered Catalyst	0.04	Sale to MPCB registered party

### 1.5 Land Details

The total land area for the proposed project is 50675.0M<sup>2</sup> (Plot no. C-3/4/5/6, 6/1,7, 8, 9) and 5081.0M<sup>2</sup> (Plot no. C-33/1, X-9,10,11) Whereas the green belt area including open space is 13812.01M<sup>2</sup> (Plot no. C-3/4/5/6, 6/1,7, 8, 9) and 2061.51 (Plot no. C-33/1, X-9,10,11).

### 1.6 Water requirement



Total Water Requirement for the proposed unit is 938.29M<sup>3</sup>/day, out of which for Industrial use is 878.29 M<sup>3</sup>/day, for domestic use is 60 M<sup>3</sup>/day and for greenbelt is 35.0 M<sup>3</sup>/day (which will be recycle). The required source of water shall be met from MIDC, Mahad water supply.

### 1.7 Waste water generation and management

The waste water generated from domestic use is 30.0 M<sup>3</sup>/day and effluent generated from process/industrial use is 105.0 M<sup>3</sup>/day and it will be treated in ETP followed by RO and MEE. The recycle water will be reuse in industrial activity and in green belt development. 98 M<sup>3</sup>/day of effluent will be transferred to CETP after treatment.

### 1.8 Solid and hazardous waste management

Domestic waste generated during the operation phase will be handed over to Authorized parties. Hazardous waste generated from process will be send to TSDf site at Talaja for further process.

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### 1.9 Power requirement

The total power requirement for the proposed project is 3295 KVA. The electricity shall be met from MSEDCL. The existing DG sets are with capacity of 1x380 KVA, 1x750 KVA and 1x1000 KVA for power back up.

### 1.10 Stack details

Table: 1.3 Stack details

S.N	Details	Capacity		Stack Ht.		Fuel/Fuel consumption		Stack Dia(mm)		Stack gas temp(°C)	
		Exist.	Pro.	Exit.	Pro.	Exit.	Pro.	Exit.	Pro.	Exit.	Pro.
1.	Boiler	18 TPH & 8 TPH	30 TPH	42 m	50 m	90 TPD (Coal)	120 TPD (coal)	1300	2500	175	160
2	Boiler	6 TPH (coal)& 6 TPH (FO)	-	30 m	-	Coal include in 90 TPD FO- 4.1 KLPD	FO- 4.1 Terpen e biofuel	550	-	120	-
3.	DG set	Exist 1000,750 380 KVA	Pro. -	Exit. 12m & 10 m	Pro. -	Exit. 125 L/hr & 80 L/hr & 45 L/hr	Pro. -	Exit. 177.8	Pro. 200	Exit. 80	Pro. 80
4.	Incinerator	Exist 75 Kg/hr	-	30 m	-	25-30 KWH	-	1100/500	-	70	-



### 1.11 Manpower requirement

During construction phase, around 60 laborers will be hired for construction activity. During operation phase around 50 skilled and 13 unskilled nos. of people will work directly in the facility other than sales and marketing team.

### 1.12 Green Belt Development

There are total of 13812.01M<sup>2</sup> & 2061.51 areas including open space will be taken for green cover / lawn development in the existing facility. Suitable plant species of local varieties will be planted with adequate spacing and density for their fast growth and survival.



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### 1.13 Cost of Project

The expected cost for the proposed project will be around Rs 67.92 Crores. Out of which Rs 4.8 Crores shall be earmarked for development of EMS (Environment Management Systems).

## 2.0 DESCRIPTION OF THE ENVIRONMENT

### 2.1 Study Area included in Environmental Setting

Studies were carried out in about 10 km radius area from the proposed site with respect to meteorology, flora, fauna, land, geology, hydrogeology and socio-economics of the area. Further, the air quality, water quality, noise level and soil quality sampling and analysis was carried out. The air quality, water quality, noise level and soil quality in the study area is evaluated based on this physical sampling and analysis.

The base line data were monitored for study period of March 2013 to May 2013. The study team conducted site surveys and field experiments to gathering the information on Meteorology, Air Quality, and Water Quality, Soil Quality, Noise Quality, Biological environment, and traffic.

### 2.2 Proximity to Water Bodies

Kal River flows at 2.6 Km (aerial distance) from the Project site.

### 2.3 Important Features within the Periphery of the Study Area



No major eco-system / biosphere reserves have been identified within the periphery of the project site. The nearest archaeological monument is Pandav Leni, which is at a distance of approximately 10 Km from the project Site.

### 2.4 Climate of the Study Area

The climate of study area varies with hot summer, cold winter and rainfall. Climate of study area is warm and dry from mid march to June, during season of summer, climate remains warm and dry, while during rainy season, from mid June to end of September climate is humid and pleasant. From October to November mild warm climate prevails and from December to February climate is cold.

#### i) Relative humidity-

The maximum relative humidity is around 94 % during July to September and minimum 78 % during November to March.

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## ii) Temperature-

The maximum temperature of the city during March and July is 32°C and the minimum temperature is 22.7°C. The maximum temperature winter season from November to February is 20°C and minimum is 15°C.

## iii) Rainfall-

The average annual rainfall of Mahad region is recorded as an average of 3413 mm.

## iv) Wind-

The average wind speed is 1.25 m/s. The minimum and maximum wind speed experienced were 0.5 m/s and 6.1 m/s respectively based on historical data.

## 2.5 Ambient Air Quality

Ambient air quality monitoring was carried out on selected locations within the 10 km radius of the proposed Project. Ambient air quality was monitored on 10 locations to generate representative ambient air quality data.

- The concentration of PM<sub>10</sub> was found in the average range of 141-419 µg/ M<sup>3</sup> and PM<sub>2.5</sub> was observed to be varying from 40-82 µg/M<sup>3</sup>.
- Concentration of SO<sub>2</sub> was observed to be varying from 16.8-24 µg/M<sup>3</sup>, NO<sub>x</sub> was observed to be varying from 33-45 µg/M<sup>3</sup> and CO was observed to be varying from 0.35 to 0.45 mg/m<sup>3</sup>.
- Concentration of PM<sub>10</sub> and PM<sub>2.5</sub> is exceeding applicable limit of 100 µg/ M<sup>3</sup> and 60 µg/ M<sup>3</sup> respectively, this may be due to the burning of dry grasses and agricultural residues.



## 2.6 Water Quality

### Surface Water:

- Surface water sample was collected from Kal River, Savitri River, MIDC Nala and Chavdar Tale Lake, Mahad city.
- Analysis of the samples revealed that all parameters are within the permissible limit specified for drinking water as per IS: 10500: 1991.

### Ground Water:

- Groundwater samples were collected from four different locations.
- Analysis of samples revealed that all parameters are below the permissible limit specified for

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drinking water as per IS: 10500: 1991.

## 2.7 Noise Environment

- Noise level was measured in day time and night time at six different locations.
- Comparison of the ambient noise levels with the standards specified by CPCB reveals that the noise level at all locations is below the specified limit.

## 2.8 Land Use of the Study Area

Landuse	AREA (m <sup>2</sup> )	Area (ha)	Area (%)
Water	3016850	302	0.96
Agriculture land	4813200	481	1.53
Fallow land	97188841	9719	30.97
Degraded land	24574891	2457	7.83
Forest	62610950	6261	19.95
Degraded forest	121249800	12125	38.64
Settlements	146675	15	0.05
Road	198768	20	0.06
<b>Area</b>	<b>313799975</b>	<b>31380</b>	<b>100.00</b>

- Soil: Soil samples from 7 locations were collected and analyzed to assess the soil quality prevailing in the study area.

## 2.9 Biological Environment

### Flora:



The tree plantations include Aam, Sitaphal, Ashok, Saptaparni, Kaner, Neem, Pipal, Gulmohar, Jamun; etc are found to be growing in the Mahad.

### Fauna:

The various animal species in the study area are found, detailed study is given in Baseline chapter-3. No endemic or threatened plant species were observed during the survey in the vicinity of the Project.

## 2.10 Demographic and Socio-economic Profile

- The socio-economic profile of the study area is based on Census of India 2011.
- Total of 40 villages are comes under 10 km radius of study area.

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- Total population of study area is 45241. Out of this male population is about 22831 and female population is about 22410. The sex ratio in the study area is around 981.56 females per 1000 males and the no of household is approx. 10608.
- Total literate population is 33016 and average literacy rate is 72.9 % in study area.
- In the study area SC population is about 2116 and ST population is 2008.
- Villages in study area have fairly good infrastructural, health, Drinking water, Electricity and communication facilities.

### **3.0 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

#### **3.1 Ambient Air**

- In order to estimate the ground level concentrations due to the emission from the proposed project, an EPA approved ISCST - 3 version 98356 (Industrial Source Complex Short Term dispersion model) has been employed.
- The predicted ground level concentrations of PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> are found to be 1.300 µg/M<sup>3</sup>, 0.136 µg/M<sup>3</sup>, 0.580 µg/M<sup>3</sup> respectively.
- These predicted ground level concentrations when added to baseline scenario, the overall scenario levels of PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, are well within the permissible limits specified by CPCB.
- VOCs and other NAAQS parameters are observed with below detectable limit, the detail explanation is mentioned in Basline chapter-3.
- Adequate mitigation measures will be proposed to control air pollution.



#### **3.2 Noise**

The major noise source includes various machines, pumps, motors, DG sets and vehicular traffic. The noise levels were below the stipulated standards of CPCB for residential and industrial areas.

Every effort would be taken to minimize the noise levels including Periodic maintenance of machinery, mandatory use of equipment with operable mufflers, oiling and lubrication, Noise suppression measures such as enclosures, buffers, green belt development etc.

#### **3.3 Water Environment**

Total water requirement of the plant is 938.29 M<sup>3</sup>/day. This requirement will be met from MIDC, Mahad water supply.

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### 3.4 Waste Water generation and treatment

The waste water generated from domestic use is 30.0 M<sup>3</sup>/day and it will be disposed into soak pit and septic tank followed by ETP. Effluent generated from process/industrial use is 105.0 M<sup>3</sup>/day and it will be treated by ETP followed by RO and MEE. The recycle effluent will be use in industrial process and gardening and about 98.0 M<sup>3</sup>/day of effluent will be forwarded to CETP after treatment.

### 3.5 Land Environment

Development of green belt and other landscape on the proposed site would enhance the visual aesthetics of the area. No construction activity will carried out during rainy season. There is no discharge of solid as well as liquid effluent in open land. Thus no adverse impact envisaged on land environment.

### 3.6 Biological Environment

**Flora:** Analysis of abiotic factors reveals that ambient air and fresh water quality will remain practically unaffected. Thus, indirect adverse impact on flora is ruled out.

**Fauna:** The quality of ambient air and fresh water system will remain practically unaffected. Thus indirect impact on fauna, due to these abiotic factors is ruled out.

### 3.7 Socio - Economic Environment



- The project will contribute to the socio-economic development of the area at the local level.
- The direct and indirect employment to the local population during the operation of the project.
- All these will be beneficial to the local economy.

## 4.0 ENVIRONMENTAL MONITORING PROGRAM

Environmental Monitoring Network is designed for construction and operation phase of the project for monitoring of various environmental parameters like air, water, noise, soil and ecology etc.

### 4.1 Implementing Schedule of Monitoring Measures

Monitoring should be done as periodically to understand the environmental condition of the site. The mitigation measures suggested in the Chapter-4 should be implemented so as to reduce the impact on environment due to the operations of the proposed project. In order to facilitate easy

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implementation, mitigation measures are phased as per the priority implementation. Air pollution control measures will be installed as per CPCB norms. During construction phase monthly monitoring will be carried out and during operation phase monitoring will be done on quarterly basis or as per MPCB/CPCB guideline.

## **5.0 PROJECT BENEFITS**

Growth in the industrial sector creates new opportunities for employment and can also help diversify the economy.

### **5.1 Improvement in Social Infrastructure**

From the very initial stage of the inception of the project, infrastructure development in and around the project site has been kept into consideration. Infrastructure development will be done based on actual requirement rolled out as part of company's CSR activity.



### **5.2 CSR Activities**

- Planning to create residential, medical, educational and recreational facilities for our employees.
- Rural development programs for upliftment of people in the form of de-addiction, self help, vocational training and guidance etc.
- Blood donation camp
- Food and cloths distribution to old age home.
- Sponsoring /providing hobby workshop for ladies and children.
- Tree plantation in rural areas.
- Special Health awareness camp and medical camps for primary check up will be arranged at least once in a year in nearby villages for health check-ups, etc.

## **6.0 ENVIRONMENT MANAGEMENT PLAN**

The EMP presents the project specific guidelines on:

- Environmental management strategies
- Specialized engineering construction procedures in relation to environmental guidelines of the country
- Spill prevention and control
- Management of wastes and hazardous chemicals

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	REPORT NO.:-	

- Air, water and soil quality protection
- Noise control
- Soil erosion control and slope stabilization
- Vegetation, wildlife and habitat protection
- Socio-economic and welfare considerations
- Risk and disaster management plan
- To prepare a checklist for statutory compliance
- Budget allocation for environment management plan.

### 6.1 Environmental Objectives

- To adopt construction and operational methods that will limit environmental degradation.
- To protect physical environmental components such as air, water and soil.
- To conserve terrestrial and aquatic flora and fauna.
- To protect historic and cultural sites.
- To incorporate the views and perceptions of the local inhabitants in the project.
- To generate employment opportunities wherever possible and feasible.
- To provide environmental guidelines and stipulations to the construction contractors to minimize the impact of those activities around the proposed site.
- To establish a long term program to monitor effects of the project on the environment.