EXECUTIVE SUMMARY

FOR

PROPOSED MAIZE PROCESSING UNIT OF 70000 TPA (200 TPD) AND MANUFACTURING OF STARCH 18550 TPA (53 TPD) AND SORBITOL 35000 TPA (100 TPD) PLANT

Terms of Reference No. IA-J-11011/146/2021-IA-II(I), dated 16th April, 2021
Category A, Synthetic Organic Chemicals Industry (Sector 21, 5(f))
Baseline period: Pre-Monsoon Season (1st March 2021 – 31st May 2021)

PROJECT PROPONENT

M/S. VISTAAR AGRI FOODS PVT. LTD.

AT

VILLAGE: SAGUNI AND BHERWA, CIRCLE – DHARSIWA-I, TAHSIL: TILDA AND RAIPUR, DISTRICT –RAIPUR (C.G.), PINCODE – 493221

ENVIRONMENTAL CONSULTANT

M/s Anacon Laboratories Pvt. Ltd., Nagpur

QCI-NABET Accredited EIA Consultant for
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MoEF&CC (GOI) Recognized Laboratory
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Report No. ANqr /PD/20A/2021/160

JULY 2021

EXECUTIVE SUMMARY

1.0 INTRODUCTION

M/s. Vistaar Agri Foods Pvt. Ltd. (hereafter referred as VAFPL), has proposed to setup a 70000 TPA (200 TPD) Maize processing Plant and manufacturing of Sorbitol 35000 TPA (100 TPD) and Manufacturing of Starch 18550 TPA (53 TPD)) at Village – Saguni and Bherwa, Circle – Dharsiwa-I, Tahsil Tilda and Raipur, District – Raipur (C.G.).

The project cost is estimated to be Rs. 99.6 Crores and the total land identified for the proposed project is 15.52 Ha. Proposed built-up area is 1.423020 Ha. Remaining open area will be for future development as well as green belt development, parking bay, etc. VAFPL is having freehold land measuring 38.4596 acres (15.52 Ha) (diversion already done) in the name of company. VAFPL has obtained the unit registration with Ministry of Commerce & Industry, Government of India, New Delhi. Needless to say, that Chhattisgarh and neighbor states has ample of maize, which will lead to have cheaper manufacturing cost as compared to other areas.

The proposed project is maize processing and sorbitol manufacturing falling under “A” category, Schedule No. 5(f), as per EIA Notification, 2006 and prior Environmental Clearance needs to be obtained for the project from MoEF&CC, GOI.

In order to fulfil statutory requirement for the proposed project to obtain environmental clearance, Form-1, Pre-feasibility report along with proposed draft ToR were submitted to MoEF&CC dated 05 Apr 2021, 11 Apr 2021. The committee approved the Standard Terms of Reference No.IA-J-11011/146/2021-IA-II(I), dated 16 April, 2021 and Proposal no. IA/CG/IND3/207977/2021, Ministry of Environment, Forest and Climate Change, EAC, New Delhi. Approved ToR letter enclosed as **Annexure I** and ToR compliance with cross referencing is provided in the beginning of the chapter scheme.

VAFPL has retained M/s. Anacon Laboratories Pvt. Ltd., Nagpur to undertake Environmental Impact Assessment (EIA) studies as per the Terms of Reference (ToR) approved by MoEF&CC, EAC, New Delhi incorporating baseline environmental status w.r.t. air, noise, water, land, biological and socio-economic environment, identification and prediction of impacts and environment protection measures during and after the commissioning of the project, evaluation of impacts and suggestion of environmental management plan with environmental monitoring and risk assessment studies. Disaster management plans are also incorporated in the EIA report.

Anacon Laboratories Pvt. Ltd. had conducted the baseline study for 10 Km radius Study area surrounded to the project site during pre-monsoon season **(1st March to 31st May, 2021**) accordingly.

1.1 IDENTIFICATION OF PROJECT

M/s. VAFPL has proposed to setup a 70000 TPA (200 TPD) maize processing plant and manufacturing of Sorbitol 35000 TPA (100 TPD) and manufacturing of Starch 18550TPA (53 TPD) at Village – Saguni and Bherwa, Circle – Dharsiwa-I, Tahsil Tilda and Raipur, District – Raipur (C.G.). For manufacture of Maize Starch 18550 TPA (53 TPD) and 35000 TPA (100 TPD) Sorbitol manufacturing plant to cater for the ever increasing demand of Starch/Sorbitol in the exceedingly fast developing state i.e. Chhattisgarh as well as pace the demand throughout the country.

1.2 LOCATION OF THE PROJECT

The proposed project area is located at Khasra no. 367/15, 367/16 (village Saguni), & Khasra no.600/2, 602/1, 603/1(Village Bherwa), within Latitude: 21º28’35. 92” N to 21º29’18.43” N, Longitude: 81º39’03. 00”E to 81º39’34.83” E, at Village: Saguni and Bherwa, Circle – Dharsiwa-I,

Tahsil: Tilda and Raipur, District –Raipur (C.G.), Pincode – 493221, on the Topo sheet No. F44 P11 (64 G/11). The proposed site is just 25 km from Raipur, Chhattisgarh and is located 4.3 km away from the National Highway (NH-200) and is well connected with Road and rail head. The nearest railway station is Siliyari Rly Station which is just within12.5 km from the site. The details of environmental setting are given in **Table 1.2** and the index map showing plant location and study area of 10 km radius are given in **Figure 1.1** and **Figure 1.2** respectively. **Plate 1.1** shows the proposed site photographs.

1.3 EIA/EMP REPORT

In line with the approved ToR obtained from EAC (Industry – III), MoEF&CC, New Delhi, baseline environmental monitoring was conducted during **pre-monsoon season (1st March to 31st May, 2021**) has been considered for determining the status of ambient air quality, ambient noise levels, surface and groundwater quality, soil quality, status of flora, fauna and eco-sensitive areas and socio-economic status of the villages within 10 km radius study area from the project site **(Figure 1).** The observations of the studies are incorporated in the draft EIA/EMP report. Impacts of the proposed project activities during construction and operation stages were identified and duly addressed in the draft.

EIA/EMP report along-with the proposed management plan to control/ mitigate the impacts. Environmental Management Plan is suggested to implement the pollution control in the project.

TABLE 1
DETAILS OF ENVIRONMENTAL SETTINGS

Sl. No.	Particulars	Details
1.	Project Location	Khasra no. 367/15, 367/16 (village Saguni), & Khasra no.600/2, 602/1, 603/1(Village Bherwa), Village: Saguni and Bherwa, Circle – Dharsiwa-I, Tahsil: Tilda and Raipur, District –Raipur (C.G.), pin code - 493221
	Registered Office	39, 3rd floor, Mohammadpur Village, Near Ram Mandir, Delhi -110066.
	Address for correspondence	4th floor, City Mall 36, GE Road, Raipur (C.G.) -492001
2.	Geographical Locations	Latitude: $21^0$28'35. 92" N to $21^0$29'18.43" N Longitude: $81^0$39'03. 00"E to $81^0$39'34. 83" E
3.	Toposheet No.	No. F44P11 (64 G/11)
4.	Climatic Conditions	Mean annual rainfall is 1252.8 mm Temperature: Pre monsoon 20.6^0 C (Min.) 41.7^0 C (Max.) : Winter 13.3^0 C (Min.) 31.0^0 C (Max) : Post monsoon 17.3^0 C (Min.) 31.8^0 C (Max.) Source: IMD, Raipur
5.	Nearest representative IMD station	IMD Raipur – 29.8 Km, S
6.	Land Form, land Use and Ownership	VAFPL is having freehold land measuring 38.4596 acres (15.52 Ha) (diversion already done) in the name of company. VAFPL has obtained the unit registration with Ministry of Commerce & industry, Government of India, New Delhi.The land will be used for industrial purpose. No additional land proposed to be acquired. Greenbelt area of 45% (i.e. 7 Ha.) will be kept.
7.	Site elevation above Mean Sea Level	268 m
8.	Nearest roadway	NH 200 & SH 2 – 4.3 Km, E
9.	Nearest Railway Station	Siliyari railway station – 12.5 km, SE

<table>
<tr><th>Sl. No.</th><th>Particulars</th><th>Details</th></tr>
<tr><td>10.</td><td>Nearest Air Port</td><td>Swami Vivekanand Airport, Mana, Raipur about 33.5 km, SSE</td></tr>
<tr><td>11.</td><td>Nearest Port</td><td>NA</td></tr>
<tr><td>12.</td><td>Nearest lake</td><td>NA</td></tr>
<tr><td>13.</td><td>Nearest State/National Boundaries</td><td>Madhya Pradesh – 91Km, WNW</td></tr>
<tr><td>14.</td><td>Nearest major city with 2,00,000 population</td><td>Raipur – 25 km, S</td></tr>
<tr><td>15.</td><td>Nearest village/major town</td><td>Dharsinwa – 8.3 km, SSE</td></tr>
<tr><td>16.</td><td>Distance for sea coast</td><td>Bay of Bengal 433.1km SE</td></tr>
<tr><td>17.</td><td>Hills/valleys</td><td>NA</td></tr>
<tr><td>18.</td><td>Nearest tourist place</td><td>Jaso Dam 13.3 km , ESE</td></tr>
<tr><td>19.</td><td>Archaeologically important places</td><td>Somnath temple 17.3 km, NNE</td></tr>
<tr><td>20.</td><td>Nearest Reserved/ Protected forests</td><td>Bilari RF 13.7Km, E</td></tr>
<tr><td>21.</td><td>Nearest water bodies</td><td>• Kharu River - 2.0 km, W
• Lor Nadi - 3.1 km, WSW
• Kirna Irrigation Channel - 4.5km, E
• Kulhan Nala - 1.0km, E
• Deorani Jethani Nala - 5.8km, NE
• Mowa Nala - 6.2km, WSW
• Ghuri Nala - 9.5km, SW
• Devsara Minor - 8.3km, SSW
• Mahanadi Main Canal - 0.5km, W</td></tr>
<tr><td>22.</td><td>Nearest Industries</td><td>
<table>
<tr><th>Industry</th><th>Dist. km</th><th>Direction</th></tr>
<tr><td>1. Shyam Steel Industries</td><td>9.4</td><td>S</td></tr>
<tr><td>2. Om Chemical Industries</td><td>5.5</td><td>SE</td></tr>
<tr><td>3. Ananya Paper Industries Pvt. Ltd.</td><td>7.2</td><td>NE</td></tr>
<tr><td>4. Viraansh Industries Pvt. Ltd.</td><td>5.3</td><td>ENE</td></tr>
<tr><td>5. Jai Mata di Paper Mill</td><td>3.0</td><td>ENE</td></tr>
<tr><td>6. Sahu Wire Industries</td><td>9.8</td><td>S</td></tr>
</table>
</td></tr>
<tr><td>23.</td><td>Areas already subjected to pollution or environmental damage</td><td>Project site is not classified or notified as severally or critically polluted area.</td></tr>
<tr><td>24.</td><td>Seismic zone</td><td>The project site falls in Zone-II as per IS 1893 (Part-I): 2002. Hence, seismically it is a stable zone.</td></tr>
</table>

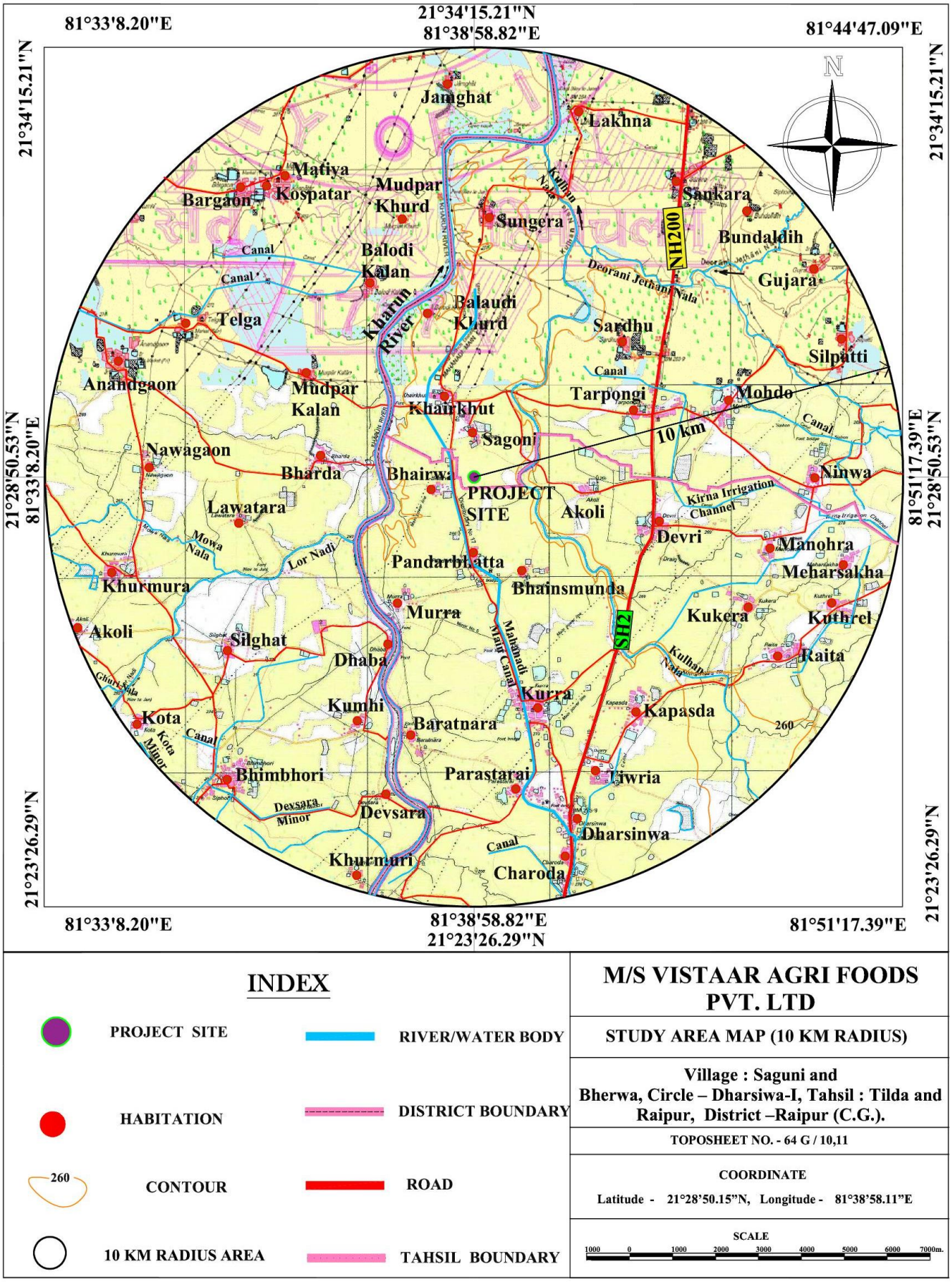

FIGURE 1: STUDY AREA (10 KM RADIAL DISTANCE)

2.0 PROJECT DESCRIPTION

2.1 PROCESS DESCRIPTION

Manufacturing Maize Processing Process

- Maize is cleaned in vibrator and foreign matters i.e. dust, sand, maize cobs etc. are removed. Blower is provided to remove dust particles. By visual inspection, precautions are taken that maize is cleaned properly.
- Cleaned maize after first washing is taken in vat with water, through pumps. Maize is steeped here for 50-72 hours to soften the maize kernel.
- Steeped maize goes for coarse grinding. It is done in two stages. Germs get separated in de-germinator.
- After coarse grinding material goes for the grinding in two stages. The material gets crushed finally for better separation of husk fiber, starch & gluten separated in next stages.
- Husk and fiber gets separated by screening & washing with water in DSM screen.
- After removal of fiber etc. remaining portion (mixer of starch& gluten) is fed to the primary separator. Here gluten get separated
- Starch is washed out in Hydro cyclone and purified and traces of fiber gluten is washed out
- Starch slurry goes to centrifuge and further goes to starch dryer and it is dried in flash dryer. It is sifted through 100+ nylon bolting cloth & removal of foreign material take place.
- Sifted Starch powder is packed in TIDPE bags with polyethylene liner from inner side or as required which is ready for dispatch in truck
- Beside above, in the process of manufacturing of Starch, Germs i.e. oily part and Gluten i.e. protein part and husk get separated
- Germ after getting separated in de-germinator are fed in press and dried in dryer and packed in gunny bags ready for dispatch in truck load
- Gluten after getting separated in primary separator, goes to Gluten Settling tank. Gluten thereafter is fed in press and solid material is taken out and dried in gluten press drier. Final product is packed in gunny bags ready for dispatch in truck load.

Process Description for Sorbitol

Sorbitol is produced by hydrogenation of glucose syrup at a pressure of 40 to 50 Bar. Starch is converted to glucose syrup by Double Enzyme Process by passing through a Jet cooking continuous convertor. The syrup so produced is refined by treatment of carbon n ion exchange process and then evaporated in tripple effect evaporator to 50% concentration. This syrup is fed to a High Pressure Autoclave and Hydrogen gas at 40 bar pressure is injected in the syrup to produce Sorbitol in presence of Raney Nickel catalyst. This Sorbitol so produced is filtered, refined by ion exchange process and then evaporated to 70% concentration for Drumming or fill in tankers for sale. Drumming or fill in tankers for sale.

2.2 LAND REQUIREMENT

VAFPL is having freehold land measuring 38.4596 acres (15.52 Ha) (diversion already done) in the name of company. VAFPL has obtained the unit registration with Ministry of Commerce & industry, Government of India, New Delhi. Present use of land is agricultural. The land will be used for

industrial purpose. No additional land proposed to be acquired. Greenbelt area of 45% (i.e. 7.00 Ha.) will be kept.

TABLE 2
AREA STATEMENT

S. No.	Particulars	Area (n Ha.)	Percentages in proposed area
1.	Building/ sheds	1.4230	9.16
2.	Road and Paved area	2.2786	14.68
3.	Open land area	4.3239	28.01
4.	Green Belt Area	7.0078	45.00
5.	Parking	0.4884	3.15
	Total	**15.5219**	**100 %**

2.3 RAW MATERIALS REQUIREMENT, SOURCE & MODE OF TRANSPORT

The raw material of plant is maize. Maize 200TPD will be procured from local market through traders as well as from other adjacent states. Methanol 6.6 KL/D is required for hydrogen generation plant which will be procured from local market. Catalyst required per day 60 kg. Chemicals which will be required for processing will be purchased from local suppliers situated at Raipur.
As the raw materials are readily available in the market and plant is located in the proximity of industrial area, raw material will be transported up to the plant through truck.

2.3.1 Solid and Hazardous waste generation

The Solid wastes generation through process is estimated to be about 20000 kg/Annum as Spent Nickel and Boiler ash 15 MTD. The solid wastes generated from the proposed plant will be recycled or reutilized within the unit. Hazardous waste generation from the plant i.e. used oil, chemical sludge and process waste will be sent for disposal of common TSDF. There will not be hazardous waste generation from the pollution control facilities. The waste oil will be sold to recycler/ reprocessors registered with CPCB whereas the others will be disposed off at common TSDF.

Domestic waste generation is estimated as 25 kg/d which will be segregated for organics (degradable) and inorganics (non-biodegradable). The organic waste will be used for composting and inorganics will be sent to the authorized vendors.

2.4 WATER REQUIREMENT & SOURCE

Daily make up water requirement after recycle will be 495 KLD and 209 KLD water uses from the recycling of industrial effluent. Thus, total water requirement will be 704 KLD. Total daily requirement of water for industrial process is 400 KLD which will be met from Kharun river as well as own pond. Required permission and NOC will be obtained from WRD and State Government. The company has proposed to construct water pond in 10 acre land with 5 meter depth which will be sufficient to meet the annual water requirement.

2.5 POWER REQUIREMENT & SUPPLY

Electricity will be sourced from Chhattisgarh state Electricity board by H.T Line for 3000 KVA capacity & permission will be obtained. One DG capacity 500 KVA will be available as standby.

2.6 MANPOWER REQUIREMENT

The proposed industry will be providing employment to about 197 people directly in operation and 100 indirectly during construction.

2.7 FIRE FIGHTING FACILITIES

In order to combat any occurrence of fire in plant premises, fire protection facilities are envisaged for the various units of the plant. All plant units, office buildings, laboratories, etc. will be provided with adequate number of portable fire extinguishers to be used as first aid fire appliances.

2.8 PROJECT COST

Total estimated cost of complete project is Rs. 99.60 Crores.

3.0 EXISTING ENVIRONMENTAL SCENARIO

3.1 BASELINE ENVIRONMENTAL STUDIES

Baseline environmental studies were conducted at project site along with 10 km radial distance from the project site. The baseline environmental quality data for various components of environment, viz. Air, Noise, Water, Land were monitored during **pre-monsoon season (1st March 2021 – 31st May 2021).**

3.2 METEOROLOGY & AMBIENT AIR QUALITY

Summary of the Meteorological Data Generated At Site (1st March 2021 – 31st May 2021)

Particular	Predominant Wind Direction Pre-monsoon season
First Predominant Wind Direction	NNE (27.56%)
Second Predominant Wind Direction	N (13.61%)
Calm conditions (%)	0.48
Avg. Wind Speed (m/s)	2.37

The status of ambient air quality within the study area was monitored for pre-monsoon season of the year 2021 for at 8 locations covering project site at Bhairwa, Sagoni, Mudpar kalan, Tarpongi, MUrra, Pandarblatta. All these 8 sampling locations were selected based on the meteorological conditions considering upwind and downwind, cross wind directions and reference point. The levels of Respirable Particulate Matter (PM_{10}), Fine Particulates ($PM_{2.5}$), Sulphur Dioxide (SO_2,), Oxides of Nitrogen (NO_X) and carbon monoxide (CO), Ammonia, Ozone, Benzene and BAP were monitored.

It has been observed that minimum and maximum concentration of PM10 is ranged between 43.4-86.7 µg/m^3. The concentrations of PM2.5 vary from 13.8-32.4 µg/m^3. SO_2 concentration level ranged from 14.2-28µg/m^3 and NO_2 concentration ranged from 10.4-24.7 µg/m^3 in the study area. CO concentration was found to be 0.245-0.460mg/m^3. Ozone in the range between 4.0-11 µg/m^3 and NH3 concentration was found to be 5.0-15.2 µg/m^3.

Heavy metals : Pb 0.18- 0.85 µg/m^3, As and Ni in PM_{10} and Benzene & BaP were found below detectable limits.

From the above results, it is observed that the ambient air quality at all the monitoring locations was within the permissible limits specified by CPCB.

3.3 AMBIENT NOISE LEVELS

Ambient noise level monitoring was carried out at the 08 monitoring locations; those were selected for ambient air quality monitoring. The monitoring results are summarized in **Table 3.**

Noise levels minimum & Maximum:

Sr. No.	Parameter	Unit	Maximum Value	Minimum Value	Prescribed Standard
(1.)	Leq(Day)	A-weighted decibels(dB(A))	64.2	44.3	75
(2.)	Leq(Night)	A-weighted decibels(dB(A))	55.7	36.8	70

TABLE 3
SUMMARY OF AMBIENT NOISE LEVEL MONITORING RESULTS

Sr. No.	Monitoring Locations	Equivalent Noise Level	
		Leq_{Day}	Leq_{Night}
Residential Area			
1.	Sagoni	52.2	42.5
2.	Pandarblatta	54.1	43.4
3.	Khairkhut	51.7	41.6
CPCB Standards dB(A)		**55.0**	**45.0**
Commercial Area			
4.	Bhairwa	54.7	49.2
5.	Akoli	56.6	47.6
CPCB Standards dB(A)		**65.0**	**55.0**
Silence Zone			
6.	Bhainsmunda	44.3	36.8
7.	Bharda	45.1	38.4
CPCB Standards dB(A)		**50.0**	**40.0**
Industrial Area			
8.	Project Site	64.2	55.7
CPCB Standards dB(A)		**75.0**	**70.0**

Source: Field monitoring and analysis by Anacon Laboratories Pvt. Ltd., Nagpur

3.4 SURFACE AND GROUND WATER RESOURCES & QUALITY

3.4.1 Local Geology and Hydrogeology

Local Geology

The lithology in 10 km study area mainly consists of Unclassified shale, limestone of Raipur group which forms part of Chhattisgarh Super Group of Meso to Neo Proterozoic age of sedimentary rock types, shale and limestone of Raipur group are grey in colour and medium to fine grained hard in nature and lineament is also present towards SE direction in the project area.

Local Hydrogeology

In the 10km study area consist of Calcareous & Argillaceous sediments (Fissured Media) and ground water occurs under phreatic or Discontinuous unconfined to semi confined aquifers down to 150 mbgl, restricted to weathered zones, fractures & contact zones with underlying basement may give good amount of water and Water table contour observed in the area is from 270 to 300m approx.

The Pre-monsoon depth to water level ranges between 6.00 to 26.00 mbgl approx. while Post-monsoon water level from 4.2 to 9.00mbgl approx.

Geomorphology

Geomorphologically the study area in 10km radius displays major part of structural plains while a small portion falls under flood plain. The average elevation of the area varies from 260 to 280m MSL in North to South direction.

3.4.4 Water Quality

Groundwater and surface water quality was assessed by identifying 8 groundwater (Borewell/ handpump) locations in different villages and 6 surface water samples.

Ground water quality

The physico-chemical characteristics of ground water are compared with the IS-10500 standards. The analysis results indicate that the pH ranged 6.87 - 7.54.
The TDS was ranging from 377-702 mg/l. Total hardness was found to be in the range of 176.01 – 481.18 mg/l. The fluoride concentration was found in the range of 0.29 – 1.6 mg/l. The nitrate and sulphate were found in the range of 6.82 – 99.18 mg/l and 16.94 – 43.59 mg/l respectively.

The reported value of Dissolved oxygen (DO) range of 5.3-5.8 mg/l. Total Suspended solid (TSS) is found to be below detection limit, The levels of chloride was found to be in the range of 17.24-73.38 mg/l.

Heavy metals content (i.e. As, Cd, Cr, Cu, Pb, Fe, Mn, Zn and Co) studied and Co, Cd, As, Pb, Ni, Cr were found to be below detection limit and within specified standards.

Other heavy metals were found to be in the range Fe: 0.09-0.3 mg/l.

Location wise Water Quality Assessment

Sr. No.	Locations	WQI	Quality	Remark
1	Project site	105.96	Poor	**Water quality assessed based upon above physico-chemical parameters and samples were found to be physico-chemically good and excellent, overall, except at project site (WQI – 105.96, poor quality)**
2	Bhairwa	48.85	Excellent	
3	Sagoni	48.66	Excellent	
4	Akoli	42.74	Excellent	
5	Tarpongi	41.46	Excellent	
6	Pandarblatta	50.85	Good	
7	Khairkhut	49.59	Excellent	
8	Mudpar Kalan	48.60	Excellent	

Surface water quality

The physico-chemical characteristics of the surface water samples collected and analysed and are compared with the IS-10500 standards. The pH ranged between 6.87 -8.31 which is well within the specified standard of 6.5 to 8.5. The pH of water indicates whether the water is acid or alkaline. The TDS was observed to be 366 - 776 mg/l which is within the permissible limit of 2000 mg/l. The total hardness recorded was in the range of 190.93 – 362.89 mg/l as $CaCO_3$ which is also within the permissible limit of 600 mg/l. Total suspended solid (TSS) was observed in the range of 18 to 32 mThe levels of chloride and sulphate were found to be in the range of 117.24 – 164.27 mg/l and 2.00 – 87.29 mg/l respectively.

The DO reported value of range of 6.4-6.7 mg/l. PO_4 ranges from 0.17-0.38 mg/l. The reported value of COD found to be in the range of 9.89-16.43 mg/l. BOD ranges from 3.87-6.17 mg/l.

Heavy metals content (i.e. Co, Cd, As, Pb,Mn,Zn,Cr,Ni,) were found to be below detectable limit and Fe: 0.06 to 0.17 mg/l which is very low and within specified standards.

C. Bacteriological Characteristics

Coliform group of organisms are indicators of faecal contamination in water. All surface water samples were found to be bacteriologically contaminated. Presence of total coliforms in surface water indicates that a contamination pathway exists between any source of bacteria (septic system, animal waste, etc.) and the surface water stream. A defective well can often be the cause when coliform bacteria are found in well water. For surface water, treatment followed by chlorination or disinfection treatment is needed before use for domestic purpose. Groundwater samples were not found to be bacteriologically contaminated.

3.5 LAND USE LAND COVER CLASSIFICATION

The land-use & land cover map of the 10 km radial study area from the periphery of project site has been prepared using Resource SAT-1 (IRS-P6), sensor-LISS-3 having 23.5m spatial resolution and date of pass 15th April 2021 satellite image with reference to Google Earth data. In order to strengthen the baseline information on existing land use pattern, the following data covering 10 km radius is approximate about $21^0$26'04.54" N– $21^0$31'25.84" N and longitude $81^0$36'04.14" E – $81^0$41'54.24" E and elevation is about 260 to 280 m are used as per the project site confined within that area.

The Land Cover classes and their coverage are summarized in **Table 4.**

TABLE 4
LU/LC CLASSIFICATION SYSTEM

Sr. No.	Level-I	Level-II	Area (Km²)	Percentage (%)
1	Built-up land	Settlement	35.52	11.31
		Industrial Settlement	1.23	0.39
		Road Infrastructure	3.28	1.04
2	Agricultural Land	Cropland	222.34	70.81
4	Scrubs/Wastelands	Barren Land	6.88	2.19
		Land with scrub/Open Scrub	18.21	5.80
5	Waterbodies	River/Nala/Stream	12.41	3.95
		Pond/Tank	9.85	3.14
6	others	Mining/Stone Quarry	4.28	1.36
		Total	314	100

3.6 SOIL QUALITY

For studying soil quality of the region, sampling locations were selected to assess the existing soil conditions in and around the proposed project site representing various land use conditions. The physical, chemical properties and heavy metals concentrations were determined. The samples were collected by ramming a core-cutter into the soil up to a depth of 30 cm. Total 8 samples within the study area were collected and analyzed.

Physical Characteristics of Soil

From the analysis results of the soil samples, it was observed, the bulk density of the soil in the study area ranged between 1.429 - 1.729 g/cc which indicates favourable physical condition for plant growth. The water holding capacity is between 56.27 – 64.93%. Infiltration rate, in the soil is in the range of 21.67 – 26.53 mm/hr.

The pH of the soil in the study area is found to be neutral (6.82 – 7.48) in reaction. Electrical conductivity, is in the range of 316.29 – 436.82 µS/cm.

The important soluble cations in the soil are calcium and magnesium whose concentration levels ranged from 256.27 – 481.72 mg/Kg and 116.45 – 152.83 mg/Kg respectively. Chloride is in the range of 146.27 – 173.81 mg/Kg.

Organic matter and nitrogen were found in the range of 0.26 – 0.32% and 116.24 – 121.92 kg/ha.

The nutrient status in terms of NPK value was found to be in the range of 116.24-121.92 kg/ha, 7.92-9.73 kg/ha and 116.52-152.81 kg/ha respectively. This indicates that soil is poor in nature with very low productivity.

3.7 BIOLOGICAL ENVIRONMENT

Floral Biodiversity of the Study Area

Total 171 plant species were enlisted within the study site out of which habitwise details are given below:

a. **Trees:** Total 80 species were found in the study area
b. **Shrubs (small trees):** Total 33 species were enumerated from the study area.
c. **Herbs:** In the study area 14 species were observed.
d. **Bamboo & Grasses:** 23 species were enlisted from the study area
e. **Climbers and Twiners:** Total 19 species of climbers/ twiners were recorded in the study area.
f. **Parasite/epiphytic plant :** Each 2 species enlisted in the area

Fauna Details:

The fauna of the study area included Mammals, Reptiles, amphibians, Aves, Butterflies and fishes. For the documentation of the faunal biodiversity of the study area with respect to Mammals, Reptiles, Birds, Butterfly and Fishes species, a baseline survey was conducted during April, 2021.

The fauna of study area included black naped hare and Jackal were reported along the river bank. The other common mammalian species were, monkey, squirrel, rat, mongoose and bat etc. The common reptiles such as lizard, garden lizard and different varieties of snakes were reported in the locality. Birds were observed throughout the study area but mostly seen near woodland vegetation, paddy fields and water bodies (village ponds and nalas).

Total 83 faunal species was recorded through primary and secondary sources. Out of which 9 species belongs to class mammalian, 10 species belongs to class Reptelians and Amphibians, 45 species belongs to class Aves, 8 species belongs to class Insecta (Butterflies) and 11 species belongs to class Pisces

Rare and Endangered fauna of the study area

As per Indian Wild Life (Protection) Act, 1972

- Among mammals; *Canis aureus* (Jackal), Common Langur, *Herpestes edwardsi* (Common Mongoose), *Vulpes bengalensis* (Indian fox), are protected in schedule –II. whereas, *Lepus nigricollis* (Black-naped hare), *Funambulus pinnati* (Palm squirrel) protected in Schedule IV and Rats protected in Schedule V
- Among the Herpetofauna, Indian Cobra (*Naja naja*), and Common Rat Snake (*Ptyas mucosa*) were provided protection as per Schedule-II of Wild life protection act, (1972) and Common Indian Krait (*Bungarus caerulus*), Indian Toad (*Bufo parietalis*) were provided protection as per Schedule

– IV of Wildlife protection act 1972 and as amended**.** The detailed faunal lists provided in **Annexure VII C.**

- Among the Avifauna: All birds were observed in the study are included in schedule IV as per wildlife protection act.

As per Indian Wild Life (Protection) Act, 1972

Among mammals; Jackal (*Canis aureus*), Indian Fox (*Vulpus beghalensis)*, Common Langur (*Presbytis entellus*), *Herpestes edwardsi* (Common Mongoose), are protected under schedule –II, Indian wildboar (*Sus scrofa)* are categorized under schedule – III, Indian hare (*Lepus nigricollis*), squirrel (*Funambulus pennanti*), are protected under Schedule IV, whereas Common house rat (*Rattus rattus*) is scheduled under V as per Wildlife Protection Act, 1972 & subsequent amendments.

Among the reptiles, Indian Cobra (*Naja naja*), Common Rat Snake (*Ptyas mucosus*) and Russell's viper (*Daboia russelli*) are categorized under Schedule-II and Common Indian Krait (*Bungarus caeruleus*) under, Schedule – IV of Wildlife protection act.

Among the Avifuana: All birds were observed in the study are included in schedule IV as per wildlife protection act.

- **As per IUCN RED (2013) list**

Among the reported animals all wild fauna including avifauna are categorized under least concern category.

3.6.5 Observation and Interpretation of Results

M/s. Vistaar Agri Foods Pvt. Ltd. Project site is surrounded by agriculture fields. Paddy (Oryza sativa) is predominant crop throughout the study area. River Kharun is 2.0 KM in W direction from the project site. No forest land exists in close proximity at project site. The development of greenbelt within plant premises will definitely helpful to develop ecological layout and helpful for local avifauna for perching and breeding ground, provided pollutants specific environmental management plant should be implemented before commissioning of project.

3.8 SOCIO-ECONOMIC ENVIRONMENT

Information on socio-demographic status and the trends of the communities in the 10 km radius was collected through primary social survey and secondary data collection from census 2011 & District Census hand book 2011. Summary of the socio-economic status of the study area is given in Table 5. Details regarding education and infrastructure facilities 2011 are presented in Table 6 respectively

TABLE 5
SUMMARY OF SOCIO-ECONOMIC ENVIRONMENT OF VILLAGES WITHIN 10 KM RADIUS AREA

No. of villages	**48**
Total households	15664
Total population	79402
Male Population	39849
Female population	39553
SC Population	7080
ST Population	2347
Total literates	49627
Total Illiterates	29775
Total workers	38797
Total main workers	28988

No. of villages	**48**
Total marginal workers	9809
Total non-workers	40605

Source: Primary census abstract 2011, District Raipur & Durg State Chhattisgarh.

TABLE 6
INFRASTRUCTURE FACILITIES AVAILABLE IN THE STUDY AREA

Yr. 2011	**In percentage (%)**									
	Education	**Drinking water**	**Road**	**Power**	**Communication**	**Transportation**	**Govt. PHC & SC**	**Bank**	**Drainage**	**Recreation**
Availability	100	100	100	100	47.92	79.7	45.83	20.83	45.83	93.75

Source: Primary census abstract 2011, District Raipur & Durg State Chhattisgarh.

Interpretation

Socio-economic survey was carried out to know the infrastructural activities amenities available within 10 km Radius project Site. The information regarding facilities available and the opinion of the people was sought by floating questionnaires and interaction with the people. This is done for observing the impact due to the project wrt social aspects so that proper actions / measures could be taken up for the benefit of the people (economically and wrt quality of life) and the project.

During the primary survey it was observed that almost pakka road facility is available in all villages within 10 km Radius project Site. The sanitation coverage has increased from 60 % in 2011 to 70 % in 2021. Literacy rate of the study region is from 62.50%. On the basis of survey for literacy rate data it is interpreted that there is a need to promote the education & educate more and more people. Almost all the villages have more than 51.14% people as non-workers. It indicates that the problem of unemployment can be solved by providing proper training and education. There is also need to establish more industries so that maximum number of employment can be generated. Basic amenities like Health care facilities, irrigation facilities, water supply, Sanitation, mode of transportation etc. are not proper available in maximum villages.

The Proposed project shall generate direct/indirect employment and indirect service sector enhancement in the region and would help in the socioeconomic upliftment of the state as well as the local area.

4.0 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.1 AIR ENVIRONMENT

The implementation of proposed project will have impact on the air quality parameters like PM_{10}, $PM_{2.5}$, SO_2, NO_X and CO. The raw material handling plant will emit dust and fumes. Apart from the above, there will be fugitive dust emissions due to transportation, storage and processing of raw materials.

The stack details viz, height, diameter, temperature, velocity, volumetric flow and emission rates are presented in **Table 4.1.** Total 2 stacks were considered which is attached to the respective equipment through which the emissions are likely come out.

The mathematical Model ISCST-3, was used for predicting the GLCs, which is entirely in line with the requirement of Central Pollution Control Board, New Delhi. The maximum ground level concentrations (GLCs) for particulate matter and gaseous emission of SO_2, NO_2 due to proposed new installations were carried out. The predicted 24 hourly maximum concentrations for proposed facilities

(Boiler and DG set) for particulate matter, SO2 and NO2 are found to be 0.85 µg/m^3, 1.9µg/m^3 and 5.6 µg/m^3 respectively.. No significant incremental concentration was found due to proposed installation activities.

TABLE 7
RESULTANT CONCENTRATIONS DUE TO PROPOSED PROJECT WITH PROCESS UNIT

Scenario	Pollutant	Maximum Baseline Concentration (µg/m^3)	Incremental concentration (µg/m^3)	Resultant Concentration (µg/m^3)	Limits (Industrial/ Residential, Rural) Concentration (µg/m^3)
Proposed (Boiler and DG set 500 KVA)	Particulate Matter10	80.9	0.85	81.75	100
	PM2.5	29.0	0.2	29.2	60
	SO_2	25.0	1.9	26.9	80
	NO_2	21.9	5.6	27.5	80

The resultant concentration levels (Ambient + proposed incremental) revealed that the concentration levels for particulate matter, SO_2 and NO_2 likely to be encountered in the operation of the project are well within the NAAQS levels prescribed by CPCB. Hence it is inferred that considering cumulative concentration levels, the pollution load exerted due to proposed project will be insignificant.

The mitigation measures adopted are:

- Suitable air pollution control system (dust collector) shall be provided to trap air pollutants at all sources i.e. thermic fluid heater and boiler
- Fire bed shall be cleaned at appropriate time to avoid build-up of "fire bed thickness", if not, this would reduce the primary air supply successively & result into improper combustion.
- The emissions from the stack shall be monitored regularly for concentration of PM, SO_2 and NO_2. Sampling port shall be provided in the stacks according to CPCB guidelines.
- Asphalting the road within the plant premises to reduce generation of dust.
- All material handling sections shall be provided with dust suppression / dust collection systems. Water sprinkling shall be practiced to restrict air pollutants.
- Covered conveyor belts gallery to prevent fugitive emissions
- Greenbelt maintenance within the project area along the boundary walls and any other suitable areas.
- Regular ambient air quality monitoring shall be performed at baseline stations especially in downwind directions for checking compliance with NAAQ standards

4.2 NOISE ENVIRONMENT:

During the normal operation of manufacturing process noise will be generated due to Maize Cleaning Section, Sulpher Water Preparation Plant, Milling Unit, Starch and Gluten Separation, Unit, Sorbitol Plant, ETP Plant, DM Plant, Boiler Section, DG Sets, Air Compressor with Dryer etc. the ambient noise levels are expected to increase significantly with the attributes of the respective equipment, but this noise will be restricted close to the concerned equipment.

DG sets are likely to be used during power failure. Predictions have been made taking into account even DG set in operation and thus reflecting the worst case scenario. The maximum predicted noise level within the plant boundary (0.2 km radius) is 57.1 dB (A).

Impacts on Community

Day and night sound pressure levels are often used to describe the community exposure. The nearest human settlement (Sagoni) is 0.9 km from project site and resultant noise level at this village are 52.8 dB(A) & 46.3 dB(A) at day night respectively.

The preventive measures are given below:

1. Equipment should be standard and equipped with silencer. The equipment should be in good working conditions, properly lubricated and maintained to keep noise within permissible limits.
2. High noise zone should be marked and earplugs shall be provided to the workmen near high noise producing equipment. The workmen should be made aware of noise and vibration impacts on their health and mandatory use earplugs.
3. Proper shifting arrangement shall be made to prevent over exposure to noise and vibration.
4. Tall trees with heavy foliage shall be planted along the boundary / project site / plantation area, which will act as a natural barrier to propagating noise.
5. Silent DG sets shall be used at project site.
6. Speed limits shall be enforced on vehicle.
7. Use of horns / sirens shall be prohibited.
8. Use of loud speakers shall comply with the regulations set forth by CPCB.
9. Regular noise monitoring shall be carried at construction camp / project site to check compliance with prevailing rules.

4.3 WATER ENVIRONMENT:

The implementation of proposed project may have some impact on the water environment. The impact may be on the source of water in the form of depletion of water resources of the area and in the form of deterioration of quality of natural water resources due to discharge of plant effluent.

The various control measures that will be adopted are:

Daily make up water requirement after recycle will be 495 KLD and 209 KLD water uses from the recycling of industrial effluent. Thus, total water requirement will be 704 KLD. Total daily requirement of water for industrial process is 400 KLD which will be met from surface water (Kharun River 2 km W) as well as own pond. Required permission and NOC will be obtained from WRD and State Government. The company has proposed to construct water pond in 10 acre land with 5 meter depth which will be sufficient to meet the annual water requirement. Zero liquid discharge will be maintained. Domestic wastewater (20 KLD) will be treated in STP and used for plantation/gardening. Total quantity of wastewater from various treatment systems will be **507 KLD (ETP) +20KLD (STP).**

Effluent Treatment scheme

The company will be setting up an effluent treatment plant of 525 KLD capacities with necessary units for the treatment of 477 KLD effluent generated from the process unit. The effluent generation from the plant will be 507 KLD. The treated effluent will be under the prescribed limit of CECB norms.

Zero liquid discharge will be maintained.

Vehicular Movement

Overall **360TPD** materials will be transported through road (considering 350 working days) for the plant. Thus, around **17 trucks per day** will be required to transport the materials by road with the capacity of each truck 21 Tons is being considered.

Solid/Hazardous Waste generation and mitigation

Total Domestic waste generation is estimated as 25 kg/d. Segregation of Organic (degradable) and Inorganic waste (non-biodegradable) will be done. The organic waste will be used for composting and inorganics will be sent to the authorized vendors. The solid wastes generated from the proposed plant will be recycled or reutilized within the unit. Spent Nickel : 20000 kg per annum and Sold to Nickel catalyst supplier, Boiler Ash15 MTD will be used for Land filling.

4.4 BIOLOGICAL ENVIRONMENT

There is no ecological sensitive area like national park, sanctuary, biosphere reserve, wetland, forest, etc. within 10 km radial distance from the project site.

Surrounding Pollution Aspects

The increased concentration levels of particulate matter, SO_2, NO_x, in the atmosphere could, lead to decline the rate of photosynthesis, thus retarding the growth of plant. However, air quality modelling outputs study revealed that, the resultant concentrations of particulate matter, sulphur di-oxide and oxides of nitrogen are well within the prescribed limits. The impact due to proposed project would be minimal as project activity will be carried out within the plant boundary limit with proper control measures.

The proposed project does not involve destruction of habitat as there is no forest land exists in the project site. Project activity will be confined within the already acquired non-forest land.

Greenbelt development

Plantation/Greenbelt Development

Plantation will be done in 45% of total land area. Total plot area is 155219.54sq.m. (15.5219ha), proposed greenbelt area will be around 70078.5sq.m. (7.00ha). The detail about green belt/plantation is given in **Chapter 10.**

Socio-economic Impacts:

The impact on the land use is not going to be changed as the modification/enhancement of the plant will be coming up within the existing plant premises. Therefore, there will not be any adverse impact on the land use of the plant and its surrounding area. However the establishment of the said activities will result industrial growth, which in term will generate direct and indirect opportunities of employment and business in the area.

5.0 ANALYSIS OF ALTERNATIVES (SITE AND TECHNOLOGY)

5.1 ALTERNATIVE SITES

The proposed project area located at Khasra no. 367/15, 367/16(village Saguni), & Khasra no.600/2, 602/1, 603/1(Village Bherwa), Village: Saguni and Bherwa, Circle – Dharsiwa-I, Tahsil: Tilda and Raipur, District –Raipur (C.G.) pin code – 493221. The site is situated on flat terrain.

The land area of 38.4596 Acres (15.52 Ha.) is available with Vistaar Agri Foods Pvt. Ltd. for manufacturing of proposed products. Selected site is fit for the proposed project hence no alternative site is required.

The site is selected based on the resources availability like raw materials, water, electricity, transport logistics, manpower etc. The land is acquired in the private area. There will be change in land use on permanent basis due to installation of machineries and equipment. The land use will be converted to Industrial use in due course of time.

5.2 SELECTION OF ALTERNATIVE TECHNOLOGY

Latest clean & environment friendly technology which is internationally available will be adopted by Vistaar Agri Foods Pvt. Ltd. during proposed project. The company is in the process of reviewing and shortlisting the different alternative technology and technology suppliers of various products. In respect of the other products the Company has the necessary know-how and do-how to manufacture these products. The company has also identified the routes they intend to take for manufacturing of the products.

The management has decided to adopt the best operating practices to suit world class requirements. As the products are going to be exported, external audits to fulfill QA/QC requirements. So that there is minimum emission and minimum wastewater generation also adopt zero liquid discharge during manufacturing process. The products manufacturing is based on the need of the products and market availability.

Hence best technological environment friendly approach is selected.

6.0 ENVIRONMENTAL MONITORING PROGRAM

An Environmental Management Cell (EMC) will be established for the proposed project under the control of Executive Director followed by General Manager. The EMC will be headed by an Environmental Officer having adequate qualification and experience in the field of environmental management. Environmental monitoring of ambient air quality, surface and ground water quality, ambient noise levels, etc. will be carried out through MoEF&CC accredited agencies regularly and reports will be submitted to CECB/MoEF&CC**.** A provision of Rs. 12.00 lakhs will be made available towards recurring cost for environmental monitoring programme.

7.0 ADDITIONAL STUDIES

7.1 PUBLIC CONSULTATION

The Draft EIA-EMP report for proposed Maize processing of 70000 TPA (200 TPD) and manufacturing of Starch 18550 TPA (53 TPD) & Sorbitol 35000 TPA (100 TPD) Plant at Village: Saguni and Bherwa, Circle - Dharsiwa-I, Tahsil : Tilda & Raipur, District - Raipur, Chhattisgarh – 493221 is prepared as per the auto generated standard ToR issued by EAC (Industry –3), MoEF&CC, New Delhi and the report is submitted for public consultation process as per the provisions of EIA Notification 2006 and amendments thereof.

After completing the public consultation process, the points raised and commitment of project proponent during the public hearing will be incorporated in the final EIA/EMP report for final submission to Environmental Clearance.

7.2 RISK ASSESSMENT & DISASTER MANAGEMENT PLAN

The assessment of risk in the proposed project has been estimated for fire, explosion and toxicity and corresponding mitigation measures are suggested in the EIA/EMP report.

A detailed Disaster Management Plan for facing disasters due to natural effects and human reasons is prepared and incorporated in the draft EIA/EMP report for ensuring safety of life, protection of environment, protection of installation, restoration of production and salvage operations in this same

order of priorities. For effective implementation of Disaster Management Plan, it will be widely circulated and personnel training through rehearsals. Site facilities, procedures, duties and responsibilities, communications, etc. are considered in details in the Disaster Management Plan.

8.0 PROJECT BENEFITS

8.1 PROPOSED SOCIAL WELFARE ARRANGEMENT

The proposed project would provide development of area and consequent indirect and direct job opportunities which would finally result in improvement in the quality of life of people in the central region. M/s. VAFPL will carry community welfare activities in the following areas:

- Community development
- Education
- Health& medical care
- Drainage and sanitation
- Roads

The project proponent will comply with its obligation for CSR as per Company's Act too.

As per latest O.M. dated 25.2.2021 & 20.10.2020, 30.9.2020, 01/05/2018 issued by MoEF&CC, New Delhi proposals regarding Corporate Environment Responsibility (C.E.R.).

Although the MOEF&CC vide its OM dated 30th September 2020 has provided that the CER value for the project would be based on Public Hearing outcome and as per the commitments made by the project promoters during the Public hearing however the provisions for CER are made in the proposal as per TOR which required to consider as per O.M. dated 01/05/2018 issued by MoEF&CC, New Delhi proposals regarding Corporate Environment Responsibility (C.E.R.). The CER budget along with capital expenses with different heads are given below.

The proposed cost of the project is Rs. 9960 lakhs (99.6 Crores). Thus, as per CER 1.0% i.e., 99.6 lakhs will be spent towards the Improvement of Environment. The final heads of expenditure and amount will be decided as per Public consultation and requirement of the region to improve and strengthen surrounding environment which may be slightly impacted due to implementation of the proposed project activity. The following budget provisions are provisional.

TABLE 8
ACTION PLAN WITH BUDGETARY PROVISIONS TOWARDS CORPORATE ENVIRONMENT RESPONSIBILITY

General Head of expense	Amount to be spent for head (in percentage)	Amount to be spent for head (in Rs. (Lakhs)
Economic Development activities	12%	11.95
Education facility	20%	19.92
Medical development	40%	39.84
Plantation in Community areas	7%	6.97
Solid Waste Management area	8%	7.97
Women empowerment	13%	12.95
Total	**100%**	**99.60**

8.0 ENVIRONMENTAL COST BENEFIT ANALYSIS

The environmental cost for the project includes cost for controlling adverse impacts on ambient environmental components like air quality, noise levels, water resources and quality, land

environment, socio-economic environment, etc. M/s. VAFPL will incur the environmental cost by adopting the pollution control measures to minimize impacts on the environmental parameters.

9.0 ENVIRONMENTAL MANAGEMENT PLAN

An Environmental Management Plan comprising following set of mitigation, management, monitoring and institutional measures to be taken during implementation and operation of the project, to eliminate adverse environmental impacts or reduce them to acceptable levels.

- Overall conservation of environment.
- Minimization of natural resources and water.
- Ensure effective operation of all control measures.
- Monitoring of cumulative and longtime impacts.
- Ensure effective operation of all control measures.
- Control of waste generation and pollution.
- It is observed that total recharge potential of Rain Water is 63486.05 KL of rainfall run-off can be harvested annually within the premises of M/s. Vistaar Agri foods Pvt. Ltd**.** RWH Structure with Bore-well: Total no. of Structures required: 7 Nos. approx.

Judicious use of the environmental management will be implemented with addressing of components of environment, which will be likely affected during construction and operation of the proposed project. The capital cost required to implement the EMP for proposed project is estimated to be Rs. 480 Lakhs. The annual recurring expenses will be Rs. 80 Lakhs has been allocated for implementation of the Environmental Management Plan for proposed project.

10.0 CONCLUSION

The proposed project of M/s. VAFPL will be beneficial for the overall development of the nearby villages. Some environmental aspects like dust emission, noise, wastewater, traffic density, etc. will have to be controlled better than the permissible norms to avoid impacts on the surrounding environment. Necessary pollution control equipment like bag filter, water sprinklers, enclosures, etc. form integral part of the plant infrastructure. Additional pollution control measures and environmental conservation measures will be adopted to control/minimize impacts on the environment and socio-economic environment of the area. Measures like development of green belt and plantation in nearby village and along transport road, adoption of rainwater harvesting/recharging in the plant and in nearby villages will be carried out. The proposed CSR/CER activities to be initiated by the industry will be helpful to improve the social, economic and infrastructure availability status of the nearby villages.

Thus, it can be concluded that with the judicious and proper implementation of the pollution control and mitigation measures, the proposed project will not add adverse pollution levels to the environment, moreover, it will be beneficial to the society and will help to reduce the demand-supply gap of bio-fuel to some extent and will contribute to the economic development of the region and thereby the country.

11.0 DISCLOSURE OF CONSULTANTS

The Environmental studies for proposed project of M/s. VAFPL are carried out by M/s. Anacon Laboratories Pvt. Ltd., Nagpur (M/s. ALPL). Anacon established in 1993 as an analytical testing laboratory and now a leading Environmental Consultancy firm backed by testing lab for environment

and food in Central India region. M/s. ALPL is a group of experienced former Scientists from the Government Institutions and excellent young scientist of brilliant career with subject expertise. It is recognized by Ministry of Environment & Forests, New Delhi for carrying out environmental Studies & accredited by Quality Council of India (QCI) for conducting Environmental studies having Accreditation Certificate No.: NABET/EIA/1922/RA 0150 dtd. 03 Feb 2020 Valid till September 30, 2022.