EXECUTIVE SUMMARY
Draft Environment Impact Assessment Report

Proposed 45 KLPD Molasses Based Distillery Unit,
A/P – Ravadewadi, Tal. – Shirur,
District – Pune, Maharashtra

PROJECT PROPONENT
M/s Parag Agro Foods & Allied Products Private Limited
(PAFAPPL) A/P – Ravadewadi, Tal. – Shirur,
District – Pune, Maharashtra

EXECUTIVE SUMMARY

1.1. Introduction:

M/s Parag Agro Foods & Allied Products Private Limited is a private registered sugar factory located at Gut No. 13, 14, 15/1, 15/2, 83/1, 341/2, 342, 343/2/A, 346, 347, 349, 350, 351, 352, 353, 355/1, 428/1, Ravadewadi Tal. – Shirur, District – Pune, Maharashtra. The factory is duly registered under Companies Act, 1956 as Private Limited Company having Registration No. U15122MH2013PTC244143 dated 07th June, 2013.

The existing installed crushing capacity of sugar unit was 4,500 TCD & 14MW co-generation. The sugar unit generates by-products viz. bagasse, molasses and press mud. To be economically and environmentally sustainable it is necessary for the sugar industries to convert these by-products into high value products. Hence PAFAPPL proposed to establish molasses based distillery unit having capacity of 45KLPD within the existing premises of sugar unit.

The unit will be based on advance technology of cascade continuous fermentation. It has provision to switch over to Fed Batch fermentation when molasses quality is poor and Multi-pressure distillery. The raw material, molasses generated from the sugar plant will be utilized in the proposed distillery. The production level of Sugar unit will be kept the same as existing and consented.

As per EIA Notification S on 14th September 2006 issued by Ministry of Environment & Forests, Govt. of India vide Gazette Notification No. S.O. 1533(E) dt: 14thSep.'2006, and amended, the proposed 45 KLPD molasses based distillery shall be treated as Category–A; Schedule 5 (g). Accordingly, the project proponent has submitted prescribed application along with pre-feasibility report to the MoEF&CC New Delhi. Standard Terms of Reference was granted by EAC (vide letter F. No. IA-J-11011/226/2018-IA-II(I) dated 16th August 2018). Based on stanadard TOR, Environmental Impact Assessment studies are carried out. Draft EIA and EMP report was prepared and submitted for public consultation.

1.2. Project Location:

The proposed project located at Gut No. 13, 14, 15/1, 15/2, 83/1, 341/2, 342, 343/2/A, 346, 347, 349, 350, 351, 352, 353, 355/1, 428/1, Ravadewadi Tal. Shirur, District – Pune, Maharashtra. The site is located at rural surroundings and at distance of about 52km from Pune Railway Station,

44km from Pune International Airport, 16km from Shirur, 4km from river Ghod (flowing from North-West to South-East site). It is geographically located at latitudes – 18°52'26.49"N and longitude – 74°12'43.29"E.

1.3. Project Description

Sr. No.	Details	Sugar	Distillery + Co-generation
1	**Status**	Existing	Proposed
2	**Location**	Gut No. 13, 14, 15/1, 15/2, 83/1, 341/2, 342, 343/2/A, 346, 347, 349, 350, 351, 352, 353, 355/1, 428/1, Ravadewadi, Tal. Shirur, District – Pune, Maharashtra	
3	**Capacity**	4,500 TCD + 14 MW	45 KLPD + 1.5 MW
4	**Working days**	180	300
5	**Raw material**	Sugarcane & Bagasse	Molasses
6	**Quantity of raw material**	Sugar Cane : 4,500 TCD (8,10,000 MT)	Molasses Requirement : 52,000 T Molasses : 173.33 T/d
7	**Bioler Capacity**	75 TPH	16 TPH
8	**Bioler Fuel**	Bagasse	Coal + Slop
9	**Water source**	Ghod River	
10	**Water requirement**	570 m^3/day	415 m^3/day
11	**Total Land**	40 acre	
12	**Industrial Activity Area**	10 acre	No additional land required; Distillery will be accommodated in existing plot covering 08 acre
13	**Green Belt**	05 acre	03 acre
14	**Effluent Treatment facility**	Conventional Effluent Treatment Plant: 350 m^3/day (primary, secondary and tertiary treatment)	Spent wash concentrated in MEE, thenafter used as fuel for 16 TPH Boiler and condensate will be treated in CPU before used in process
15	**APC measures for boiler**	Common Stack 72m and ESP with 99.9% efficiency	

1.4. Basic Requirement

i. Land: The Company owns total 40 acre out of which for distillery require 08 acre of land. The project will be accommodated in the existing factory premises.

ii. Raw Materail: Molasses is one of the waste products produced from sugar factory. Molasses can be used as raw material for distillery. The resultant alcohol has various uses in chemical industry, pharmaceutical industry and as Ethanol. Distillery unit needs the raw material as molasses & this can be fulfilled by sugar factory of our own. Total requirement of Molasses

will be 52,000T. Molasses available from own sugar factory will be 32,000T and remaining 20,000 MT molasses will be procured from nearer factories.

iii. Water: Fresh Water demand is 415m^3/day. Permission of Irrigation Department is obtained. Water source is Ghod River.

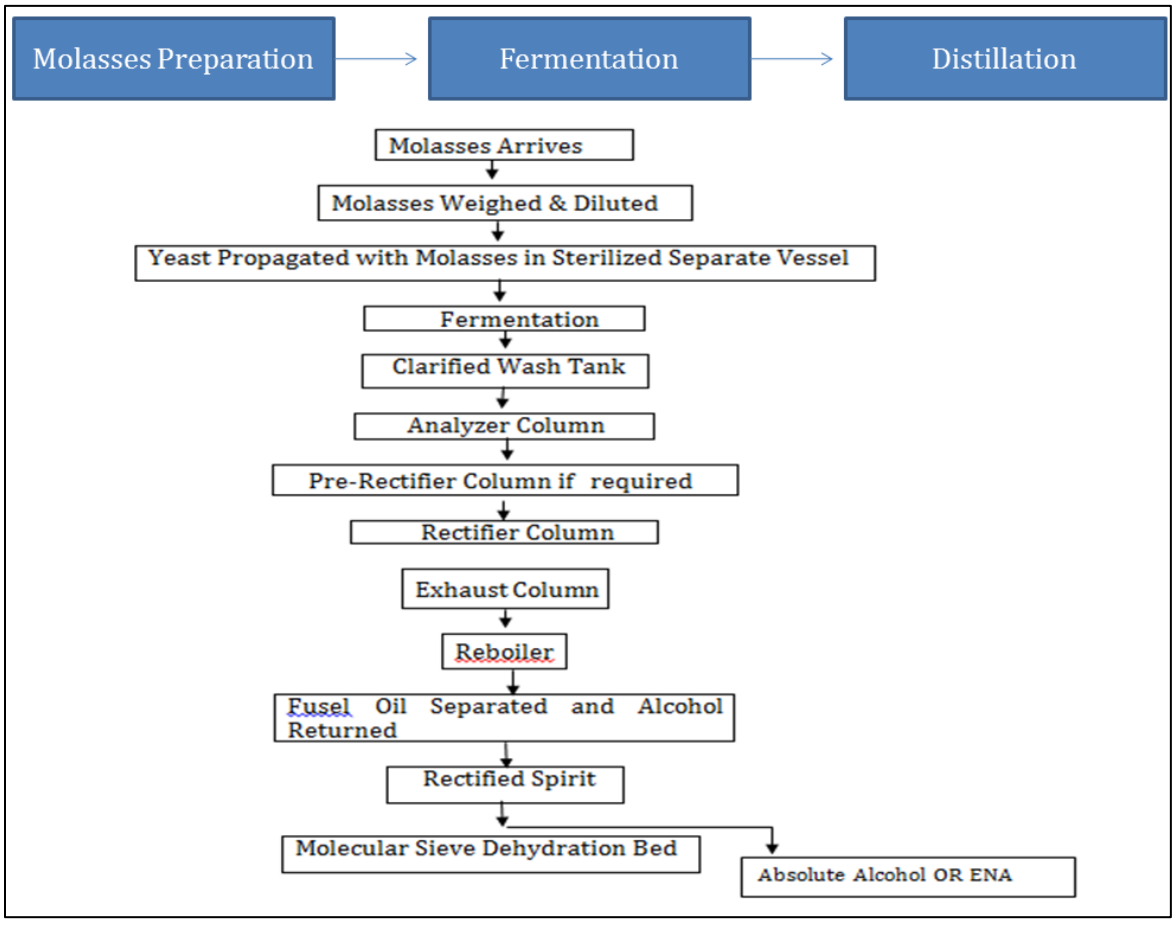
iv. Power: Project has existing 75TPH boiler. The steam and power requirement for the proposed ethanol plant will be made available by installing separate 16 TPH boiler.

v. Fuel: Slop and coal will be used as fuel for the 16TPH boiler, the requirement will be fulfill from facorty and nearby spplier.

vi. Man Power: During construction: 50 peak, short duration, during operation: Distillery 72 Nos. (30 skilled and 42 unskilled for production and pollution control)

1.5. Manufacturing Process:

There are four major steps in preparation of alcohol. (a) Substrate (feed) preparation for fermentation, (b) Yeast propagation and continuous fermentation, (c) Multi-pressure distillation and (d) Dehydration of RS to anhydrous alcohol or it will be purified to get ENA.



1.6. Pollution control Technology & Equipment:

i. Air Pollution Control: Proposed 16 TPH boiler exhaust will be connected to existing stack with 72 m height and ESP

ii. Water and waste Water: 360 m^3/day spent wash will treated through evaporation – Incineration and Condensate will be treated in CPU and reused in process

iii. Solid Waste: Ash will be sold to brick manufacturing.

iv. Total project cost: Rs. 73 Cr. (distillery unit), Funds allocated for pollution control equipment will be Rs. 13.7 Crores and for O&M will be Rs. 0.47 Crores per year. Funds earmarked for CER activity will be Rs. 73 lakhs.

1.7. Description of Environment

The area around the proposed Distillery Plant is being surveyed for physical features and existing environmental scenario. The field survey and baseline monitoring has been has been done from the period of October 2018 to December 2018.

Environmental Setting of the Study Area: The site is located in the rural area. No other industries are found in the region. Location features of the Study area are given in Table below.

Environmental Setting (10 km radius)

Particulars	Details
Latitude	18°52'26.49"N
Longitude	74°12'43.29"E
Site Address	Gut No. 13, 14, 15/1, 15/2, 83/1, 341/2, 342, 343/2/A, 346, 347, 349, 350, 351, 352, 353, 355/1, 428/1, Ravadewadi, Tal. – Shirur, District – Pune, Maharashtra
No. of villages in the study area	30
Total Population	59,114
Nearest Habitation	Kawathe Yemai (4km North West)
Nearest River /Water Body	Ghod River (4km) & Kukadi River (9km
Nearest IMD Observatory	Pune – 60km
Nearest Town	Shirur 16km
Nearest Railway Line	Pune – 52km
Nearest Air Port	Pune – 44km
Approach to site by Road	Kawathe Yemai – Malthan Road
Religious / Historical Place	None

Archaeological monuments	None
Ecological Sensitive Area/ Reserve Forest	None
Seismic Zone	III
Average altitude above mean MSL	601m above MSL
Temperature in °C	The highest temperature is usually observed during the months of April–May and lowest temperature during December/ January. Annual average is 25.2°C
Rain fall in mm	Total annual average: 1,058 mm
Wind velocity	This region is characterized by low to moderate wind velocities. The mean annual velocities are in the range of 4 to 6 Km/h and especially high during pre-monsoon period of June to August.

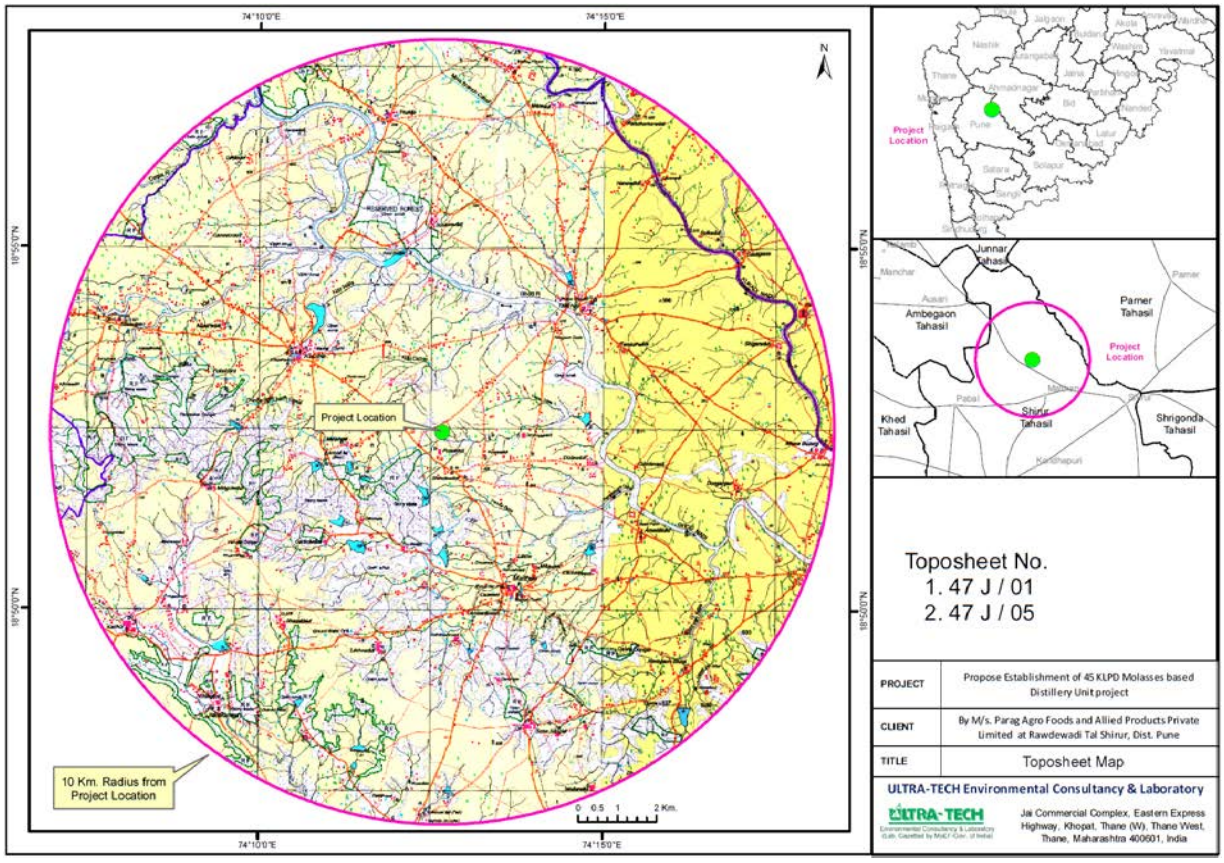


Figure: Study Area 10 km Radial

Conducted baseline monitoring for Air, water, soil & noise for various locations within 10 km

- Ambient Air Quality

- Surface Water
- Ground Water
- Soil
- Noise
- Ecology and Biodiversity
- Socio economic

Ambient air quality of the study area has been assessed during October 2018 to December 2018 through a network of eight ambient air quality stations within an area of 10km region around the project site. After completion of baseline survey it was found that all ambient air quality parameters are within the NAAQ standards of Central Pollution Control Board.

The high values of noise recorded in factory premises. The noise level at other is well within the limit excep project site.

Surface and ground water in the study area is not polluted by any source during the study period. Overall it is observed that the soils of the region are good for agriculture. The site is located in Zone-III as per the seismic map.

The study shows overall 74 plant species comprising of 37 trees, 3Palms,15 shrubs, 10 herbs, 6grasses and 3 climbers from 65 genera and 40 families.

Eight species of Mammals, 4 species of reptiles and 21 species of birds were recorded in and around the periphery of the project during the study period.

The project site is located at Gut No. 13, 14, 15/1, 15/2, 83/1, 341/2, 342, 343/2/A, 346, 347, 349, 350, 351, 352, 353, 355/1, 428/1, Ravadewadi Tal. Shirur, District – Pune, Maharashtra. The site is located at rural surroundings and at distance of about 52km from Pune Railway Station, 44km from Pune International Airport, 16km from Shirur, 4km from river Ghod (flowing from North-West to South-East site).

According to recent censes (2011) while dealing study area (10km radius from project site) the total population is 59,114 in 11,766 households. Male population is 30,156 and female population is 28,958. People in study area are mainly dependant on agriculture. For improving their status and avenue for livelihood, industries like this are required.

1.8. Anticipated Environmental Impact and mitigation measures:

i. Water pollution: This is Zero Liquid Discharge unit. No water is discharged from the site to surrounding area. The effluent is given physico-chemical treatment. Then this water is combined with Moderate effluent which is treated with equalization, neutralization, aeration, secondary clarifier and tertiary treatment.

ii. Spent wash generated in proposed project will be concentrated at MEE, then passed through CPU.

iii. Air pollution: Air pollution control equipment i.e. existing ESP, ID Fan, dampers. Stack 72m height will be used.

iv. Solid waste: Handling of solid waste is considered. Some of it is already proposed to be used for good cause to serve as raw material or fuel or as manure. Waste oil is the only hazardous waste and can be used after separation and either for lubricating the carts or burnt in boiler along with bagasse. Ash is useful for brick-making.

v. Noise: Sturdy foundation provided for machines, personal protective equipment like ear plugs given to workers, tree belt as sound barrier around factory and sides cladding.

vi. Green Belt: for proposed project 03 acre land will be provided.

vii. Socio-Economic Environment: The construction of the proposed project is expected to provide temporary indirect employment to a good number of skilled and unskilled workers. The project will contribute to the socio-economic development of the area at the local level in turn reducing migration for employment. Hence the proposed project will have positive impact on the socio-economic environment.

Likely impact of the project on air, water, land, flora-fauna and nearby population is kept very minimal. The emissions in air are controlled by air pollution control equipment like efficient ESP, dampers, ID Fans and tall Stack. Air modeling is done to study Ground Level Concentration. The incremental concentration is very small and resultant concentration is well within limit. As this is ZLD, surface or ground water is not polluted. All waste water generated is treated and recycled. There are no endangered species of flora-fauna in study area. Monitoring will be done regularly to keep a watch.

In case of hazardous operation, safety systems are incorporated. There is risk of fire while preparation and storage of alcohol. The study is done for pool fire and appropriate firefighting equipment is provided throughout the factory premises. Workers are trained for safety and emergency cases.

Identification of hazards in handling, processing and storage of hazardous material and safety system are provided to mitigate the risk.There is risk of fire while preparation and storage of alcohol. The study is carried out for pool fire and appropriate fire-fighting equipment are provided throughout the factory premises. Workers are trained for safety and emergency cases. Precautions suggested by Factory Inspectors, MPCB and Experts are taken into account while preparing the Disaster Management Plan for the factory. Bagasse storage is kept limited due to everyday consumption for own sugar plant.

Disaster management cell and plan is prepared to tackle man-made and natural disaster. People in this cell are trained to face emergency cases. Safety equipment are also provided to workers and installed in the premises. Workers are also trained to avoid accidents during operation.

1.9. Corporate Environment Responsibility (CER) Plan

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

- Education and Boarding for children of Workers
- Seminars and training for farmers
- Health camp, medical facilities
- Tree plantation and providing saplings
- Women empowerment
- Vocational training for youth
- Funds for facilities in village and surrounding area
- Funds to Chief Minister/Prime Minister Relief Fund

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

The total project cost is Rs. 7,300 lakhs. 1% of the total cost it becomes Rs. 73.00 lakhs approx. Company has proposed Rs. 73.00 lakhs as CER fund. These will be spent within first 5 years.

1.10. Environmental Budget for proposed Distillery unit

Environment monitoring is prescribed during pre-construction, construction and operation phase. During operation phase of project it is important to understand the baseline environment status which is caused due to proposed project activity. Environmental monitoring will comply Air, Water, Soil, Ecology, and Noise parameters as per monitoring compliance norms and schedule. All parameters will be tested as per standard tools and methods and obtained results should be compared with CPCB norms.

S. No.	Environmental Aspect	Capital Expenditure Rs in Lakhs	Recurring Expenditure Rs in Lakhs.(per annum)
1	Air Emission control Engineering (Incineration Boiler, Stack and ESP)	1,200.00	15.00
2	Water & Wastewater management (MEE and CPU)	120.00	10.00
3	Solid Waste Management	10.00	10.00
4	Greening Belt Development	20.00	5.00
5	Environment Monitoring	10.00	5.00
6	Other aspects like Rain Water Harvesting, Safety, Security etc.	10.00	2.50
	Total	**1,370.00**	**47.50**

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