

EXECUTIVE SUMMARY

Contents of this Chapter shall be :

This chapter is intended to give overview of this report as introduction, justification, location details, resources required, process details, pollution control , and background study. It also underlines the benefits.

Introduction :

This is a proposal for expansion of sugar unit from 4500 TCD to 8000 TCD in existing sugar industry. This project is proposed by M/s. Dudhganga Vedganga Sahakari Sakhar Karkhana Ltd. (DVSSKL). The sugar factory is located at village Bidri, Mouninagar, Tal. Kagal, Dist. Kolhapur, Maharashtra. It is one of the progressive co-operative sugar factories in Maharashtra, set up in the year October 1956. The factory is registered under the Registration no. G279 of 1956, dated 10/10/1956. The proposed products (main & attendant) are –

#	Product	Proposed	Existing
1.	Sugar	8000 TPD	4500 TPD
2.	Co-gen	--	20 MW

The proposal is acknowledged by Government of India, Ministry of Commerce and Industry, Entrepreneurial Assistance Unit, New Delhi. Attendant product is covered in SPCB consent, but does not need EC.

Justification for the project

Justification of this Project can be submitted in many ways, namely –

- How this Project is economically strong by converting waste baggasse of surrounding Sugar Mills to serve as raw material for this unit,
- How this Project is economically strong by converting its own waste in useful product and power generation.
- How the pollution generated from this unit can be successfully managed through EMP implementation, or in fact
- How the pollution generated from this unit can be converted to useful irrigation water with nutrients, and
- How the pollution generated from this unit can be converted to Electricity.
- Saves Petrol (additives)

- Foreign Exchange Saver-Earner
- Condensate water for Boiler/ process
- Irrigation water with nutrients for crop
- Consumes baggasse, which otherwise is an environmental risk
- Consumes spent wash concentrate, which otherwise is an environmental risk

Justification of Project

Various Government Departments will also be examining **Justification** and propriety of this venture and permissions will be obtained to establish this unit. Many are already in hand.

1. IEM, Govt. of India
2. Central Excise, Govt. of India
3. Water permission, Govt. of Maharashtra
4. Power connection, Electricity Board under Govt. of Maharashtra
5. VAT Registration
6. Town Planning Department, Layout approval
7. Building Permission
8. District Commissioner. NA order for Industrial purpose
9. Maharashtra State Udyog Mitra Order (Single window clearance)
10. Incorporation of Company

Location and Boundaries

Bidri is a Village in Kagal Taluka in Kolhapur District of Maharashtra State, India. It belongs to Desh or Paschim Maharashtra region . It belongs to Pune Division . It is located 37 KM towards South from District head quarters Kolhapur. 13 KM from Kagal. 372 KM from State capital Mumbai.

Bidri Pin code is 416208 and postal head office is Bidri. Majare Kasarwada (1KM) , Valave Kh. (3 KM) , Titave (3KM) , Adamapur (3KM) , Sonali (4KM) are the nearby Villages to Bidri. Bidri is surrounded by Kagal Taluka towards East , Bhudargad Taluka towards South , Karveer Taluka towards North , Gagan Bavada Taluka towards west. Nipani, Kolhapur, Sankeshwar are the nearby Cities to Bidri.

Land in the region is suitable for agriculture

The site is well connected by road, railway as well as air network. It is having proper connectivity of Roads and Highway. Kolhapur Railway station is nearest Railway station. The international air port of Kolhapur

is the nearest air ports to the site. It is geographically located in latitudes 16°25'41.72"N 74°08'21.19"E. Longitude.

#	Feature	Particulars
1.	Location	M/s. Dudhganga Ved Sakhar Karkhana Ltd., (DVSSKL), At village Bidri, Mouninagar, Tal. Kagal, Dist. Kolhapur, Maharashtra
2.	Latitude / Longitude Altitude	16°25'41.72"N 74°08'21.19"E
3	Present use of land	Plant will be in premises of existing Sugar Unit
4	Daily average temp. in °C	Max.:27-36, min.:14-21
5	Average relative humidity	46 to 82 %
6	Annual rain fall in mm	664
7	Predominant wind directions	3 to 12 km/h, predominantly SW-NE and E-W
8	Soil type	Sandy loam, reddish-brown
9	Topography	Moderately undulated. No streams at the site.
10	Nearest highway	Kolhapur- Radhanagari Highway (SH 179)- 0.14 Km
11	Nearest railway station	Kolhapur Railway Station, 40 km
12	Nearest airport	Kolhapur :32 km
13	Nearest village	Bidri Village, 0.81Km
14	Nearest City	Kolhapur, 40Km
15	Nearest industry	NOne
16	Nearest water body	Dudhaganga River (0.4 km)
17	Environmentally sensitive?	None with in 15 km. River as above.
18	Seismic characteristics	Safe as per Indian Seismological Institute.

Table No.11.1 Details

There is no sensitive establishment in the vicinity such as health resort, hospital, archaeological monuments, sanctuaries, etc. The normal wind direction is found to be favorable at this site. All villages are away. All are provided with drinking water from wells or Government Water Supply Schemes RWS. Hence **TI** does not encroach upon their supply.

Resources:

Plant Capacity: We have proposed a unit expansion from 4500 TCD to 8000 TCD and establish of 36 MW Co-gen. As composting is not involved, we will convert the waste mechanically/ thermally in closed shed, it may run for net crushing season days. During off-season the plant will operate for 33 days.

Raw Materials:**Sugarcane availability-**

M/s Dudhganga Vedganga Sahakari Sakhar Karkhana Ltd. (DVSSKL), factory is located at- Bidri, Mouninagar, Post: Hingangaon, Tal: Kagal, Dist: Kolhapur Bidri, Mouninagar is one of the pioneering Co- Operative sugar factory of Maharashtra.

Total Sugar cane requirement for 8000 MT/day capacity will be estimated to 7.2 Lack MT/Season with 100% capacity utilization. It is seen from the above table that more than 12 lakh MT of cane availability from 2016-17 season on a sustainable basis evident and DVSSKL will not face any major difficulty for achieving targeted cane crushing.

Sr. NO.	Season	Area under Sugarcane (Ha)	Yield MT/Ha	Total Cane Production (Lakhs MT)	Cane Availabilit to the Factory
1	2016-17	20650	70	14.45	12.00
2	2017-18	20100	72	14.50	12.10
3	2018-19	20050	71	14.25	12.10
4	2019-20	20300	72	14.60	12.15
5	2020-21	21000	72	14.40	12.15

The expected net cane availability since 2011-12 crushing season will be over 7.00 lakh MT. The excess sugarcane is being left uncrushed & hence DVSSKL management has decided to increase the crushing rate to take care of the additional sugarcane cultivated in the area of operation. The proposed installed capacity of the plant will be increased to 8000 TCD.

Utilities

In addition to the raw material, utilities are also required. These are:

- Power: Available through Govt. Electricity Board and own generation. As emergency back-up we have DG sets.
- Fuel: Available baggasse as agro- residue.
- The proposed project has envisaged 110-125 kg/cm² pressure and 580°C temperature parameters.
- The capacity of the boiler and turbine will be 120 TPH.
- Total Cost for project will be Rs. 9720Lakh

- Man Power : Staff, skilled and unskilled totally approx 125 persons will be required, and will be available.(And indirectly also)
- Water: the sugar mill has permission for lifting the required water quantity from the existing source. DVSSKL will ensure that the Karkhana will provide this water for operation of the cogen plant, as per agreement. DVSSKL may also review the capacity and health of the water transfer system from the river to the site and carry out required strengthening, if any.
- Building materials: This is not a heavy construction, and majority is in fabrication from Mild steel structural. The orientation is so kept as to balance nearly the cutting and filling. The small requirement is available systematically. The construction –erection time will be small and will be done in daytime. Labor camp is not necessary.
- As the treatment scheme is of composting route, Filler material and composting with press mud is involved and quantitatively it is available.
- **Storage:** Baggasse storage facilities shall be provided as per the rules of (1) Excise Department, (2) Factory Inspectorate and (3) MoEF/ SPCB.

POLLUTION CONTROL

Water Environment

Raw Water:

Water required for the sugar complex is made available from river like Dudhganga, Vedganga, Chikotra and canal from 1 km from site location, which ensure the excellent water availability throughout the year.

Sr.no	Description	Existing Unit		Proposed Unit	
		Water consumption	Effluent Generation	Water consumption	Effluent Generation
--→ CMD					
1	Process, Boiler, Cooling Tower	2450	642.7	3150	1045
3	Gardening	Recycle from ETP only			
6	Domestic Process	89	72.6	95	76
Sub Total		2539	715.3	3245	1121

Effluent 1121+ Spray Pond over flow 740 =1861CMD say 1865 CMD
The recovered waste water is treated and recycled

Segregation:

As MoEF desires, **TI** has decided to bring the segregation principle in practice. Now, the industrial waste water streams are segregated first in three branches as (A) Sober, (B) Moderately Polluted and (C) High BOD polluted. The first two are then combined. It shall help in many ways for ease of treatment.

AIR POLLUTION:**Emission Control Equipment's (ECE):**

The air pollution caused by this industry is mainly from dust as SPM from fuel. The dust is not predominantly due to the composition and handling of raw materials because those are largely controlled.

The efforts taken by the Industry in this respect, are also indicated. Further, regarding the product looking to the description of manufacturing operations and the corresponding flow sheet, **TI** knows from which unit operation or process, air pollutants are expected. For the purpose of arresting and capturing the pollutants, measures are proposed and designed.

#	Source	Pollutant	In-plant Measures	Control Equipment
1	Proposed Boiler	SPM	Feed Bagasse more dry, also will be used methane. Improved quality of water	Dampers, ID Fan, CO ₂ meter, Fly-ash arrestor ESP (*), Light ash through very tall stack.

Table No.11.4: Emission Control Equipments

(*) = The Dust Collector of suitable capacity, with hopper bottom. The dust-free air is sucked and thrown into stack through duct by I.D. Fan. The length of duct is kept very small. Instead of cyclone, ESP will be provided.

Solid Waste

Based on above working, the summary is per day

#	Waste	Quantity	Treatment	Disposal	Remark
1	Canteen	2.0 CuM	Compost	Own garden	Organic
	ETP	8800 kg/A	Treated already	Own garden	Organic, Non-Haz
	Ash	360 TPD	Silos	Sales	Takers available
	Lube oil	25 Kg/day	Floatation	Carts/boiler	In season

Table : Solid Waste per Day

Guest House is very small (only nominal) and the labor strength attends in shifts. The municipal waste from the colony and canteen is thus controllable. This will be composted and used in due course on own land as manure. Plastic use is discouraged. Thus after dewatering can be used on land for conditioning. This will be so done. Office and packing trash is kept minimum and disposed by sales or reuse.

In addition to above plantation is done for mitigation.

Background Study:

This is important part of study.

(A) **Natural Environment** : We have undertaken to do the sampling as –

No.	Media	Stations	Parameters	Frequency
1	Surface Water	4	24	1
2	Ground Water	1	24	1
3	Ambient Air	8	12	Twice a week
4	Ambient Noise	6	2	1
5	Soil Study	6	12	1

Table No.11.6: Summary of Sampling

The stations are selected in all the directions from the factory and in 10 km radius. The Environmental quality is generally found satisfactory.

(B) Manmade environment

This includes existing land-use, demography, employment, socio-economic aspects and community development needed and proposed. This is for entire area both rural and urban in this study zone.

- Socio-Economic Status in Influence Zone will include the study of Non-Workers percentage whether high, from the percentage employed population on Agricultural, how far is the scope for other avenues of livelihood like Live Stock, Forestry, Fishing, Hunting, Orchards, Mining, Trade Commerce.
- Further out of Total Land what percentage is already under Cultivation and Out of Total Land what percentage is already under Irrigation.
- If the land is not likely to support more people, then whether Industrialization is necessary to improve the situation. All this is studied as cost benefit ratio.

It was found that industrialization is the only solution.

Safety

Safety and Occupational Health will be dealt carefully. A disciplined approach is natural to this industry. Safety policy will be in place. The unit will be registered under Factory Act and are bound by State Factory Rules. Thus, First aid trained and Fire-fighting trained person will be available in every shift. Safety Officer will be appointed, as also the competent person retained. Where necessary, provisions of other Acts, where required like Petroleum act, Explosive Act, etc. will be obeyed. Fire fighting system is kept as per norms of Insurance Company and CIF.

DMP (Disaster Management Plan) and off-site emergency plan will be in place. Accordingly, Personal protection equipment will be given and use will be insisted. Consulting Physician is retained to attend the factory.

Benefits

This will not disturb the present land use because our area occupied is already sanctioned by Government for industrial purpose, with only small % of Influence zone 10 km and already is in possession. Compatible Architecture will be adopted and No Prime Agriculture Land will be put to this industrial use. Trees will be maintained and not razed down. No Rehabilitation is involved because the land is already in possession of the Industry. The problematic waste materials like solid waste will be reused or taken care of, Wastewater will be reused to grow greenery, and air pollutants will be arrested. Water harvesting will be done and greenery will be increased. People will get some jobs here. Some incidental small employment like eatery, canteen, tyre repairs, garage too will become available to genuine people.

In the final analysis, it is the endeavor of the Proponents to give benefits

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- To keep transparent relations with the neighbors in the area
- To strengthen the Grampanchayat democratic set up by assistance to community
- Not to disturb any prime agricultural land
- Not to encroach on others' existing water source
- Not to overload the existing power supply, causing load-shedding to the villagers
- To remove the barren-ness of the land and prevent wasting of rainwater.
- To Recharge the groundwater
- To strengthen the physical infrastructure

- To create greenery within our premises and even outside to some extent
- To reduce the wastewater pollution created by this new activity by utilizing it in our own fields as water to grow plantation and landscaping.
- To reduce the solid waste pollution created by this new activity by utilizing it in the fields of our own community land development..
- This could be a win-win situation with benefit to Proponents, benefit to the Public and no (or low) harm to the environment.
- All this is possible for which Environment Management Plan as worked out in next Chapter is scrupulously obeyed.

EIA Study Report

This is finally prepared and submitted as per guidelines given by MoEF as --

Chapters	Contents	
I	Proponents, ToR, Purpose	
II	Project explained. Why this, Why needed, Why here, What priorities, What options	
III	Environment Setting	Natural & Man-made
	Material, Method, Approach	Delphi technique
IV	High Significant Impact → Low Insignificant Impact & Shield	
	Proper Site → Prevention → Abatement → Treatment → Mitigation → Smooth Disposal	
V	Alternate Analysis	
	Selection of Raw Materials, Site, Process, Machinery-Hardware, Collaborators, Staff & Team	
VI	Monitoring = Stations, Parameters, Frequency, Statistics, Rectify	
VII	Risk	To Environment, To Health, To Bankers
	Public	Community, Rehabilitation, Others- Assistance
VIII	Benefits = Physical, Social, Employment, Other Tangible. Sustainable??	
IX	Cost-Benefit. If Project Done? If No-Project??	
X	EMP = Plan, Cell, Schedule, Watch-dog, Monitoring, Documentation, Reporting	
XI	Summary, Conclusion, Justification, Mitigation.	
XII	EIA Team = Proponent, Consultant, Associates, Future	

Table No.: EIA Study Report

Conclusion:

This industry will manufacture Power which are in good demand for growing infra-structural facilities in India and abroad. This will not disturb the present land use because our area occupied will be only small % of Influence zone 10 km and is already permitted for industrial use. No Prime Agriculture Land will be put to this industrial use. Trees will be maintained and not razed down. No Rehabilitation is involved. There will be no problematic waste materials as all will be utilized.

- This project is very necessary in view of making useful material available to Indian developmental activity for community, defense and as a foreign exchange saver/ earner product.
- The local people desire that industries should come here on existing plot.
- The candidate site is suitable from general MoEF expectations.
- Water, power, Raw material, and Market is assured and found available with ease.
- Full precautions will be taken for Pollution Control, Resource Conservation and Environmental Protection.
- This is cost effective and Sustainable Development.

The Report gives the details and finds that the impact overall is favorable to the country, to the people and to the environment as a sustainable development.