

“मा0 राष्ट्रीय हरित अधिकरण में योजित एम0ए0 संख्या 48 / 2022 अफसर अली बनाम स्टेट ऑफ उत्तर प्रदेश के सन्दर्भ में नगर पंचायत डासना द्वारा प्रस्तुत अनुपालन आख्या-

**बिन्दु (I)** राजस्व विभाग द्वारा तालाब की पैमाइश कराया जा चुकी है। पैमाइश के समय नगर पंचायत तथा प्रशासन द्वारा तालाब की भूमि पर निर्मित पाये गये मकानों पर लाल पेंट से चिन्हित करने की कार्यवाही पूर्ण कर ली गई है। पैमाइश करते हुए फोटोग्राफ (संलग्नक-1) चिन्हित अवैध मकानों की सूची तैयार कर ली गई है कब्जा हटाने से पूर्व विधिक कार्यवाही प्रारम्भ कर दी गई है।

कब्जाधारियों की सूची संलग्न है (संलग्नक-2)

**बिन्दु (II)** पी0डब्लू0डी0 द्वारा देवी मन्दिर मार्ग पर सडक एवं उसके साथ-साथ दोनो तरफ नालों का निर्माण कराया जा रहा है जिससे तालाब के दक्षिण दिशा से आने वाले लोकल ड्रेन उक्त नाले में जोड़े जा रहे है। उक्त नाले का लगभग 80 प्रतिशत कार्य पूर्ण हो चुका है। छायाप्रति संलग्न हैं। (संलग्नक-3) इसके अतिरिक्त नगर पंचायत डासना के द्वारा मोहल्ला में नाले का निर्माण कर तालाब के दक्षिण पश्चिम दिशा से आने वाले लोकल ड्रेन को उक्त नाले से जोडा गया है। तालाब में आने वाले अन्य लोकल ड्रेन को तालाब की सीमांकन कर चारों तरफ से सुरक्षा दीवार का निर्माण कर इन्हें तालाब में जाने से रोका जायेगा। तथा इन लोकल ड्रेन के स्ट्रीम को 200 KLD वेस्ट वाटर ट्रीटमेन्ट प्लाट के द्वारा शोधित कर मेन ड्रेन में मिला दिया जायेगा तथा उक्त कार्य लगभग 3 से 4 माह के अन्तर्गत पूर्ण कर लिया जायेगा। संलग्नक-200 KLD वेस्ट वाटर ट्रीटमेन्ट प्लाट का डी0पी0आर0। (संलग्नक-4)

**बिन्दु (III)** पी0डब्लू0डी0 द्वारा देवी मन्दिर मार्ग पर नाले के निर्माण से देवी मन्दिर के सामने जलभराव की समस्या का समाधान हो जायेगा। नाले का लगभग 80 प्रतिशत निर्माण पूर्ण हो चुका है।

**बिन्दु (IV)** नगर पंचायत डासना द्वारा दो पम्प लगाकर तालाब के पास के निम्न भूमि के जलस्तर को कम किया जा रहा है। तालाब की सफाई हेतु तालाब के पूर्व दिशा से मशीनों के लिये मार्ग बनाने हेतु पम्पों के माध्यम से जलस्तर को कम किया जा रहा है। एक माह में तालाब के आस-पास का समस्त जलभराव समाप्त कर दिया जायेगा।

**बिन्दु (V)** लीगेसी वेस्ट के निस्तारण हेतु आगणन तैयार करके निविदा आमंत्रित की गई थी। किन्तु अपरिहार्य कारणों से निविदा के स्थगित होने के कारण कार्य प्रारम्भ नहीं हो सका। पुनः निविदा आमंत्रित करने की कार्यवाही की जा रही है।

**बिन्दु (VI)**

(i) सालिड वेस्ट मैनेजमेन्ट हेतु (BARC द्वारा अप्रूव्ड) डी0पी0आर0 तैयार कर ली गई है। लगभग 6 माह में कार्यवाही पूर्ण कर ली जायेगी। छायाप्रति संलग्न। (संलग्नक-5)

(ii) इसके अतिरिक्त नगर पंचायत डासना में सालिड वेस्ट हेतु एम0आर0एफ0 सेन्टर भी निर्माणाधीन है। जो लगभग 3 माह में पूर्ण कर लिया जायेगा।

**बिन्दु 4-**तालाब को उसके मूल स्वरूप में वापस लाने हेतु इसका राजस्व विभाग एवं नगर पंचायत की संयुक्त टीम द्वारा राजस्व अभिलेखों के अनुसार इसकी सीमा का चिन्हाकन किया गया है। तथा इसपर

अतिक्रमण करने वाले व्यक्तियों की पहचान कर ली गई है। तालाब को अतिक्रमण मुक्त करने हेतु विधिक कार्यवाही प्रचलित है। अतिक्रमण करने वाले व्यक्तियों की सूची संलग्न है। (संलग्नक-6)

**बिन्दु (5)** श्री आस मौहम्मद द्वारा नगर पंचायत डासना सीमान्तर्गत अनाधिकृत रूप से आजाद मेमोरियल इण्टर कॉलेज प्रबन्ध समिति के स्वामित्व के अन्तर्गत आने वाले खेत में तालाब बनाया गया है। यहाँ यह भी पाया गया कि श्री आस मौहम्मद द्वारा जहाँ पर अवैध रूप से मत्स्य पालन किया जा रहा है। उसका कुछ हिस्सा नगर पंचायत के तालाब की सीमा में है। श्री आस मौहम्मद को इस सन्दर्भ में नोटिस दी गई है।

  
अधिसासी अधिकारी  
नगर पंचायत डासना  
जनपद- गाजियाबाद

प्रशासन द्वारा नगर पंचायत डासना के तालाब के राजस्व ग्राम डासना तहसील व जनपद गाजियाबाद के गाटा संख्या-2076, 2077, 2078 की पैमाईश के पश्चात तालाब पर अवैध कब्जे करने वालों की सूची।

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क्र० सं०	कब्जाधारी का नाम	पिता का नाम	निवासी	कब्जा की प्रकृति
1	2	3	4	5
1	श्री जगदीश	श्री बाबू	मौहल्ला यासीन गढी डासना	कमरा पक्का
2	" नन्हें	" सद्दीक	मौहल्ला यासीन गढी डासना	मकान पक्का
3	" मुन्फैद		मौहल्ला यासीन गढी डासना	चर दीवारी
4	" हाजी मुजाहिद	" शिफ्त अली	मौहल्ला दूभा डासना	चार दीवारी
5	" महफूज	" फारूख	मौहल्ला दूभा डासना	टीन सेड / कमरा
6	" इन्तजार	" लताफत	मौहल्ला दूभा डासना	मकान
7	" आरिफ	" लताफत	मौहल्ला दूभा डासना	मकान
8	" सुलेमान	" सुफी अल्ला मेहर	मौहल्ला दूभा डासना	मकान
9	" अब्दुल्ला	" सुफी अल्ला मेहर	मौहल्ला दूभा डासना	मकान
10	" खलीक	" शफीक	मौहल्ला दूभा डासना	मकान
	जाकिर	सईद	मौहल्ला दूभा डासना	मकान
11	" हामिद अली	" हा० आफताब	मौहल्ला दूभा डासना	बाउण्डीवाल / मकान
12	" अय्युब	" हा० आफताब	मौहल्ला दूभा डासना	टीन सेड
13	" उस्मान	" हा० आफताब	मौहल्ला दूभा डासना	टीन सेड / चारदीवारी
14	" आबिद	" जमशैद	मौहल्ला दूभा डासना	मकान
15	" मुनसैद	" जमसैद	मौहल्ला दूभा डासना	टीन सेड / चारदीवारी
16	" शाहिद अली	" अब्बास	मौहल्ला दूभा डासना	मकान
17	" नवाब	" खूबन	मौहल्ला दूभा डासना	मकान
18	" तौकीर	" काजी जमीर	मौहल्ला दूभा डासना	मकान
19	" मुज्जफर	" असफाक	मौहल्ला दूभा डासना	चारदीवारी
20	मदरसा इस्लामिया	-	मौहल्ला दूभा डासना	मकान
21	" चाँद मौहम्मद	" मम्मद	मौहल्ला कुरेशियान डासना	मकान
22	" इबाहीम	" कदीर	मौहल्ला कुरेशियान डासना	गार्डर पटिया / टीन सेड
23	आजाद मेमोरियल इण्टर कालेज प्रबन्ध समिति	-	कस्बा डासना	तालाब के पूर्व दिशा में आंशिक कब्जा

लिपिक

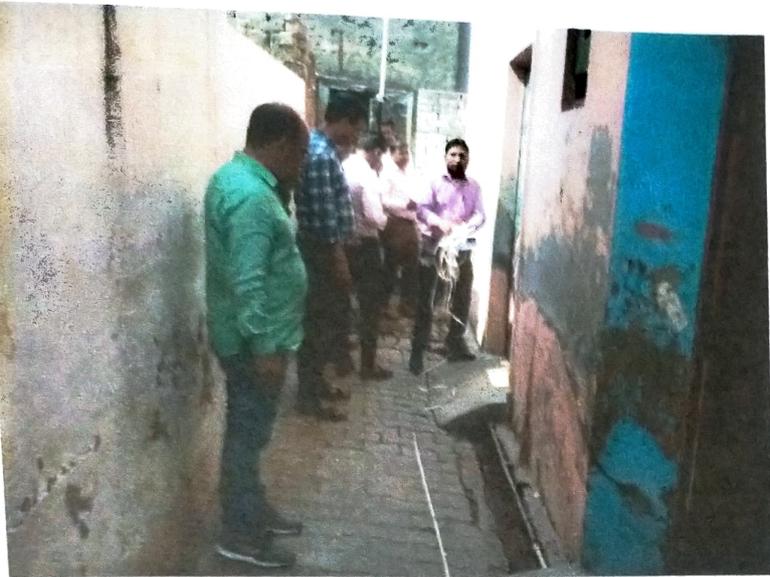
नगर पंचायत डासना  
गाजियाबाद

अवर अभियन्ता

नगर पंचायत डासना  
गाजियाबाद

अधिसाधी अधिकारी  
नगर पंचायत डासना  
गाजियाबाद

राजस्व विभाग एवं नगर पंचायत डासना के द्वारा ग्राम डासना के तालाब (खसरा न० 2026, 2027, 2028) की पैमाइश कर अवैध कब्जे का चिन्हांकन करते हुए।





**Decentralized waste  
resource management:  
Nisargruna Bio-gas Plant  
10 TPD  
For Solid waste**

**Technology provided by**



**BHABHA ATOMIC RESEARCH CENTRE**  
**Dept. Of Atomic Energy, Govt. Of India**

# NISARGRUNA Biogas plant

Based on Biodegradable waste resource

## Garbage



## ENVIRONMENTAL SUSTAINABILITY AND ECONOMICS

- 10 MT biodegradable waste is going to be 10 to 20 MT food for tomorrow.
- Decentralized plants can substantially reduce transportation costs and associated hazards.
- 10 MT biodegradable waste resource processing through Nisargruna generates employment for 20-50 person

### Solutions

We provides end-to-end decentralized waste management solutions for corporate houses, townships, school and college campuses, or any other institution that identifies a need for management of waste. A decentralized system saves considerable transportation costs and eliminates the related emissions.

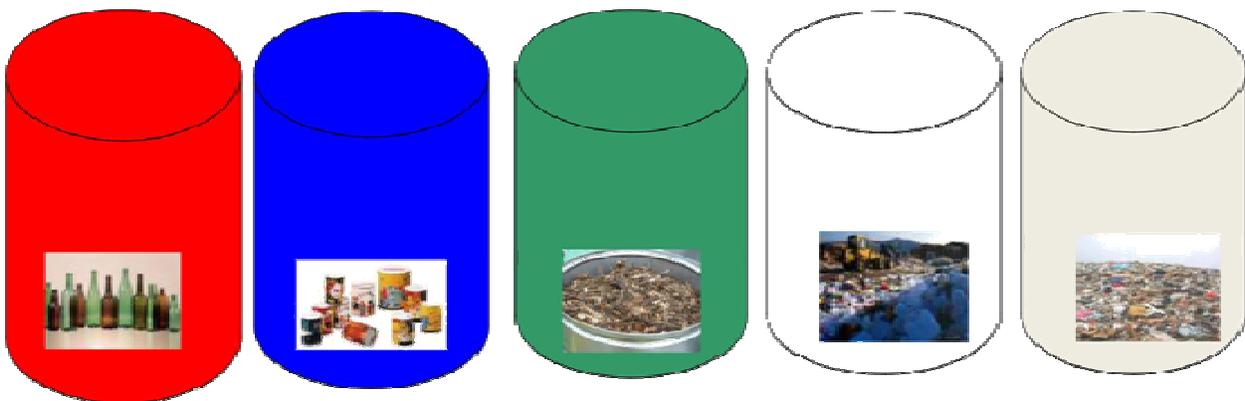
We set up systems to manage both biodegradable (food waste, horticulture waste) and non-biodegradable waste. The biodegradable waste is treated with the installation of Biogas plant (based on the Nisargruna technology developed at BARC), composting or vermiculture

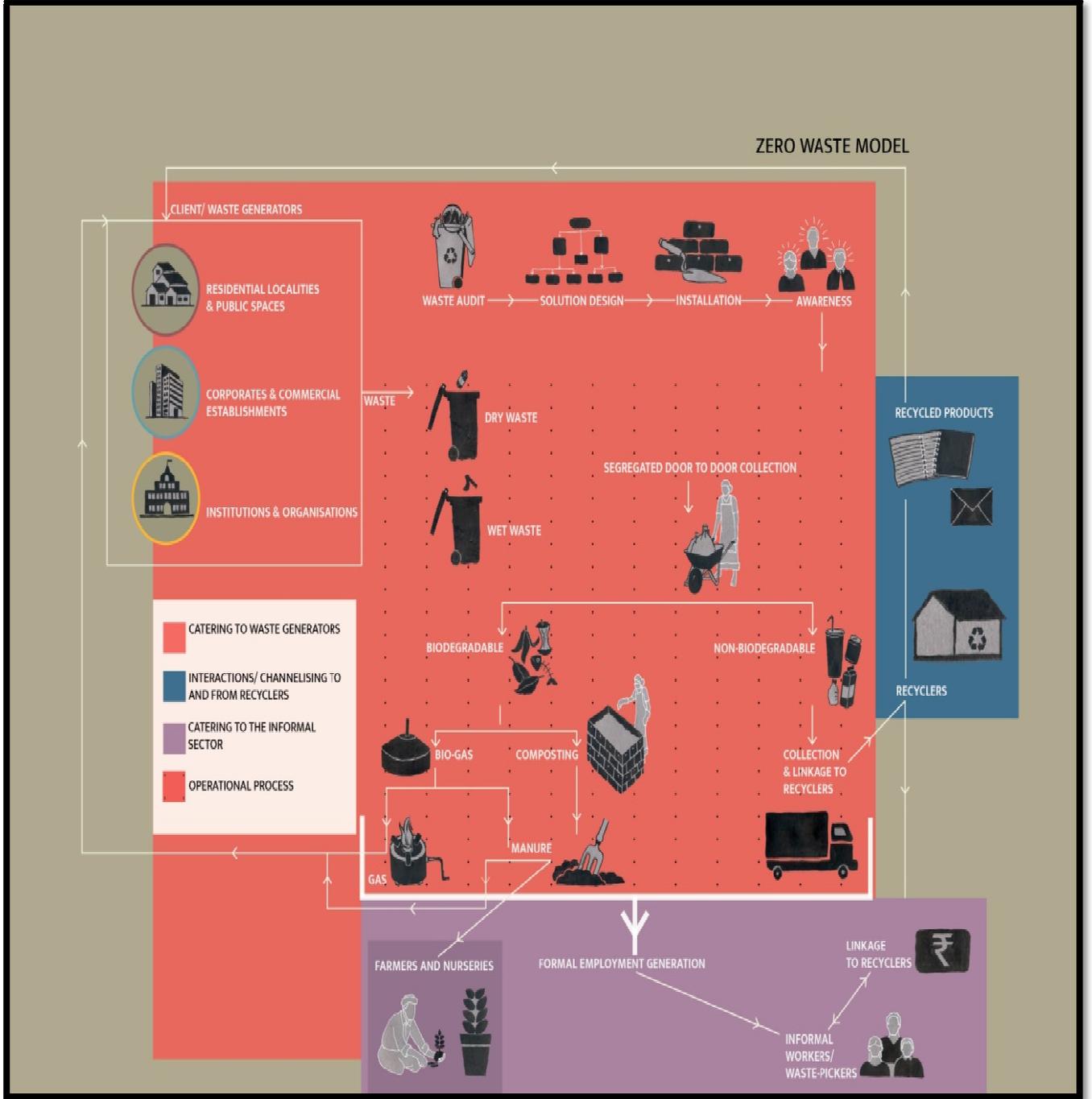
techniques. The non-biodegradable waste (paper, plastic, glass, metals etc.) is channelized to the recycling units through our network of scrap dealers, wholesalers and recyclers.

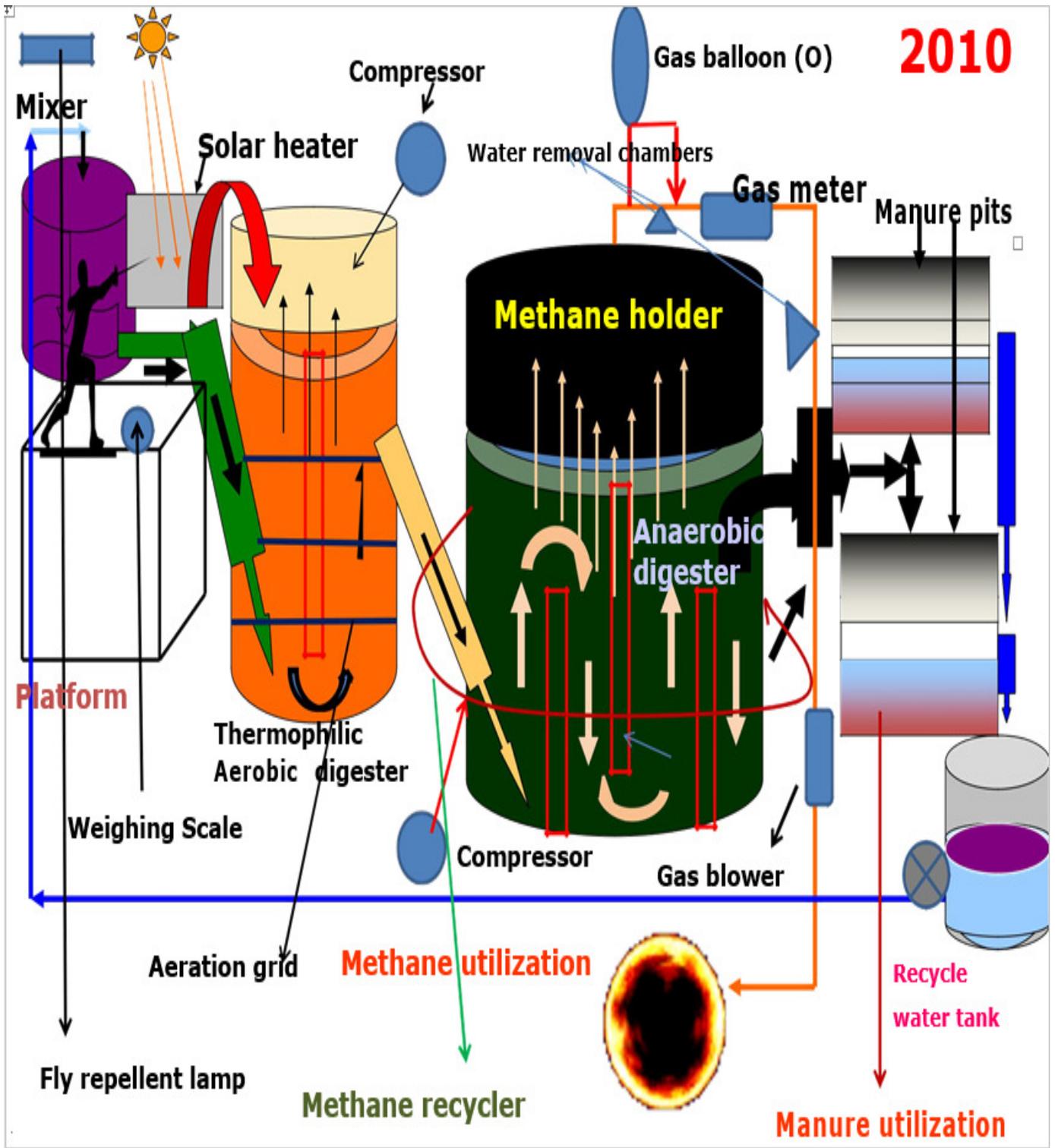
All operations are driven towards achieving net zero waste across institutions whereby all the waste would be routed and processed in a way that none is left to reach the dumping ground. We involve waste pickers into our system in an attempt to provide them a dignified alternate livelihood option.

The waste generated at the institutional premises is expected to have a significant portion of both biodegradable and recyclable waste. Hence we propose to set up the following zero waste model for you

**SEGREGATION IS THE**







## **NISARGRUNA Biogas Plant**

NISARGRUNA Biogas Technology has developed the NA&BTD (Nuclear Agriculture & Biotechnology Division), Bhabha Atomic Research Centre (BARC) for sustainable treatment of organic waste.

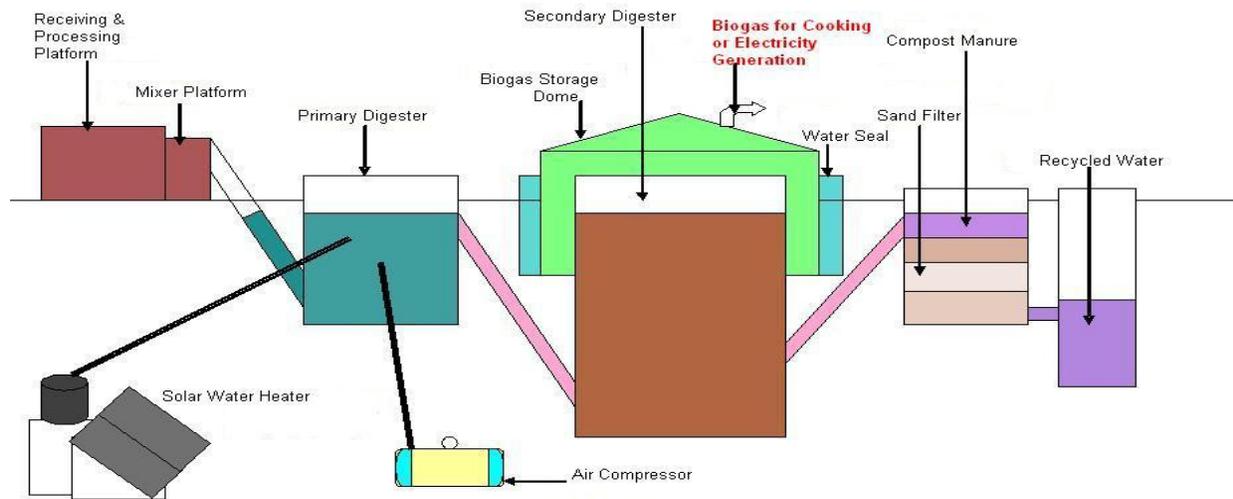
The process involves segregating the waste, and turning it into a slurry form in a mixer. The aerobic digestion of the slurry is carried out in a *pre-digester tank* using thermophilic bacteria and hot water. This is followed by methanation or anaerobic digestion by methanogenic bacterial consortium in the *main digester tank*. The biogas (mainly methane) is tapped from the floating head of the *main digester tank* and the residual slurry is sent to *manure pits* where the nutrient-rich water from manure separates out. This water can be recycled for gardening purposes. The energy generated can be used for cooking, heating water, electricity generation (provided it processes over 1000 kg per day). The residue can be used as organic manure for internal horticulture. The brief description of various types of waste that can be handled and treated by the plant is as follows:

Food and Vegetable waste, Canteen waste, Garden waste, flower waste from temples and festivals, Biodegradable Municipal solid waste, Pulp after extraction of fruits and herbal plants, Fish waste from fisheries, Biomass generated from ETP and Solid waste generated from slaughterhouse. Advantages of Biogas Plant

- It is a very convenient way to treat biodegradable waste & Faecal Sludge.
- Clean, hygienic and pollution free environment.
- No problem from flies, mosquitoes or rodents.
- Consumption of water and electricity are very low.
- Saving on transportation of waste.
- Compact size.
- Reduces dependence on LPG and other petroleum-based fuels.
- Organic manure is produced as a by-product.

### Components of a Biogas Plant

- **Mixer / Crusher:** Solid waste is difficult for microorganisms to process. Segregated organic waste (free from plastic, paper, metal, cloth and glass) is fed into mixer along with water to be crushed to obtain uniform slurry.
- **Primary Digester:** The organic waste slurry mixed with hot water is charged into primary digester. The primary digester serves mainly as hydrolysis cum acidification tank for treatment of suspended solids. Compressed air is used to aerate the digester. The primary digester is designed in such a way that after the system reaches equilibrium in initial 4-5 days the fresh slurry entering the tank will displace the equal amount of digested matter from top into main digester tank.
- **Faecal Digester:** This digester would be need in faecal Sludge as there are large quantities of Faecal Sludge waste. readily degradable the total organic matter can be transformed to methane in the classical digestion process. This problem can be solved using aerobic fungi capable of degradation of cellulosic materials.
- **Main Digester:** Main digester serves as methane fermentation tank and BOD reduction takes place here. The biogas is collected in a dome (gas holder). It fits like a cap on the digester and is submerged in water. The biogas produced from slurry is collected in dome and being lighter than air it rises upward. 1” GI piping is provided to transfer the biogas. The biogas is transferred to a balloon made of HDPE for additional storage.
- **Sludge drying bed:** The treated overflow of main digester is connected to sludge drying beds or manure pits. Natural drying of slurry produces high quality organic manure.



### List of Civil Components Calculation for biodegradable MSW

Sr. No.	Description
1	Feeding Room Above Primary Digester
2	Primary Digester
3	Main Digester
4	Manure Pit
5	Sludge Drying Bed
6	Balloon Room

### List of Mechanical Equipment

Sr. No.	Description
1	Mixer
2	Compressor
3	Gas Holder (Dome)
4	Gas Burner
5	Gas Meter
6	Blower
7	Sludge Pump
8	Water Pump

9	Balloon
10	Plumbing accessories
11	Electric accessories



### Gas Utilization System

- The gas can be used directly for cooking by installing special type of burners.
- The gas may also be connected to a generator to produce electricity (although, this is not as efficient as using the gas for thermal purposes).
- The gas can be used for industrial usages and also for vehicle usages after purification.

### Differences between Nisargruna and Conventional Biogas Plant

S.	Property	Nisargruna Biogas plant	Conventional Biogas plant
1	Type of waste processed	Market Waste, Kitchen waste, Faecal Sludge, dry leaves, green grass, abattoir waste, paper etc.	Only cattle dung
2	Predigester	Included	Not included
3	Waste feed	After making a slurry in a mixer	Direct
4	Handling of waste	Needs segregation	Direct
5	Power consumption	Mixer, compressor and water pump.	No power
6	Use of hot water	Solar heater is used for getting hot water, which is mixed in predigester.	No usage of hot water.
7	Type of bacteria	Thermophilic in predigester and Methanogenic bacteria in main tank	Methanogenic
8	Digestion	Aerobic and anaerobic	Anaerobic
9	Type of manure	High quality, weedless and odourless manure is obtained which can be used as soil conditioner.	Manure is more fibrous and less consistent and may have bad odour.
10	Processing time	About 19-20 days	About 30 days

11	Gas composition	Methane 70-75%	Methane 50-55%
12	Scope	Urban and rural	Rural
13	Design	Suitable for larger community	Small scale
14	Advantage	1. Save on transporting of waste 2. Complete digestion of waste is possible 3. More environment friendly	1. Does but lesser extent 2. Incomplete digestion 3. Does

Installing a generator is a viable prospect for plants of capacity above 1000 Kg per day.

The quantities of gas and manure produced are dependent on and in proportion to the quantity of waste fed to the plant

Work Name	Installation of Biodegradation plant (NISARGRUNA Biogas ) for disposal of biodegradable waste at DASNA NP, GHAZIABAD		
Sl.No.	Description Item	Quantity	Amount
Civil Items			
1	Screen Chamber and Mixer Platform	1	2,40,000/-
2	<b>Pre-digester (1 No.)</b> should have a volume of 100m <sup>3</sup> each (dimensions may vary depending on the site but volume should remain constant) with a centre wall opening at the bottom for free slurry	1	30,00,000/-
3	<b>Chamber joining predigester with main digester:</b> A chamber will be constructed in bricks between predigesters and main digester.	1	4,25,000/-

4	<b>Main digester (1 No.)</b> should have a volume of 250m <sup>3</sup> each (dimensions may vary depending on the site but volume should remain constant) with a centre wall opening at the bottom for free slurry	1	75,00,000/-
5	<b>Chamber joining main digester with Manure pits: A</b>	1	4,80,000/-
6	<b>Manure pits (4No.):</b> The chamber will deliver the manure slurry in manure pits through a channel.	1	3,45,000/-
7	<b>Balloon room (2No.):</b>	1	4,10,000/-
9	<b>Bacteria Digester</b>	01	4,50,000/-
10	<b>Site Clearance, Soil digging and refilling, beautification and horticulture work.</b>	01	2,35,000/-
Total			1,30,85,000/-
G.S.T. 18 %			23,55,300/-
Total			1,54,40,300/-

### Mechanical Items

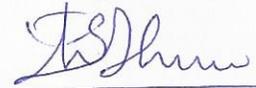
SINo.	Description Item	Quantity	
1	Mixer with a capacity of 5 MT/hour fitted with 5 HP motor with one Ss Table (6' X 1.5' X variable height from 3' to 2' towards mixer end (2 No.)	2 no.	10,00,000/-
2	Compressor (10HP) (2 No.) with Plumbing and fitting	2	4,00,000/-
3	Water pump 5 HP (2 No.) with plumbing and fitting	2	1,50,000/-
4	water heater 25000L/day capacity with suitable water storage tank and hot water tank to be mounted for giving maximum efficiency in an aesthetic manner.	1	3,50,000/-
5	Slurry pump 10HP (2 No.)	2	3,00,000/-

6	A gas holder fabricated in MS (3mm sheet) with suitable reinforced structure and coated with fiber paint on outside and epoxy painting on inside will be placed in water seal before commissioning of the project.	1	12,15,000/-
7	Electric panel with Starters for 10 HP, 5 HP, 2 HP, 1 HP, 2HP, 30 ampere (10 No.), 20 ampere (6 No.) sockets and 5 switches for tube lights, fans etc. Mixers should be provided with L&T switches to avoid tripping of power. These switches will be suitably mounted for easy and safe operations.	1	2,80,000/-
9	Gas pipe line (3" id X 50m), Methane recycling grid to be provided on main digester as per drawing using 0.75" GI pipes entering the main digester at two places in each compartment	1	2,00,000/-
11	Neoprene gas balloon of capacity cubic meter (2 No.)	2	6,00,000/-
12	Gas Blower, 5HP	2	2,60,000/-
13	Gas stoves with single burner mounted on MS frame with support for keeping big vessels	2	40,000/-
14	Water Proofing of Digester		2,90,000/-
15	Fibre resin coating of plant		3,90,000/-
16	Paint and Other coating of Plant		3,65,000/-
<b>Total</b>			<b>58,40,000/-</b>
<b>G.S.T. 18%</b>			<b>10,52,200/-</b>
<b>Total</b>			<b>68,91,200/-</b>
<b>Grand Total of Civil and Mechanical Items</b>			<b>2,23,31,500/-</b>

**Commercial Offer :**

Scope of Work	Price
Setting up BARC 10 TPD Bio-Methanation Plant, with arrangements of segregation, storage and processing stated in document above)	2,23,31,500/-

Approved



Dr. S. T. Mishra  
 Scientific Officer  
 Nuclear Agriculture and Biotechnology Division  
 Bhabha Atomic Research Center,  
 Trombay, Mumbai - 400 085.

## hgSBR TECHNOLOGY by BARC

- ▶ *The hgSBR is a compact biological wastewater treatment system for effective removal of contaminants from domestic & industrial wastewater.*
- ▶ *hgSBR tech utilizes the unique features of SBR technology & Bio-Beads for effective wastewater treatment in a single tank without requiring secondary settle.*
- ▶ *It makes use of the native microbes of wastewater in the form of bio-beads for removing contaminations.*
- ▶ *Specific advantages conferred by bio-beads include superior settling characteristics, high biomass levels in treatment tanks, simultaneous C, N, & P removal.*
- ▶ *Bio-beads microbes can tolerate changing loadings, process & environmental conditions.*

### **Biological purification via hgSBR**

Growth of microorganisms in the form of bio-beads:

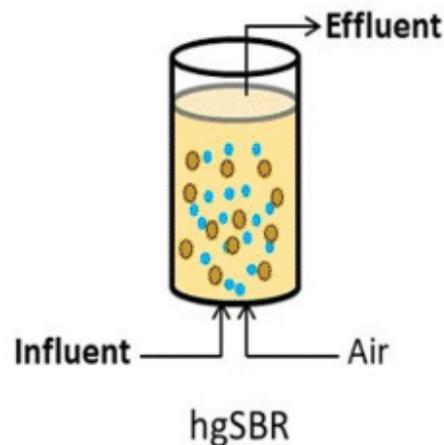
- Achieves high biomass concentrations
- Achieves effective nutrient removal
- Simplifies biomass-treated wastewater separations
- Decreases the pollutant load to below acceptable levels.

Bio-beads remove organic matter (COD/BOD), reactive nitrogen (ammonium, nitrate, and nitrite), phosphorus & other contaminants from wastewater.

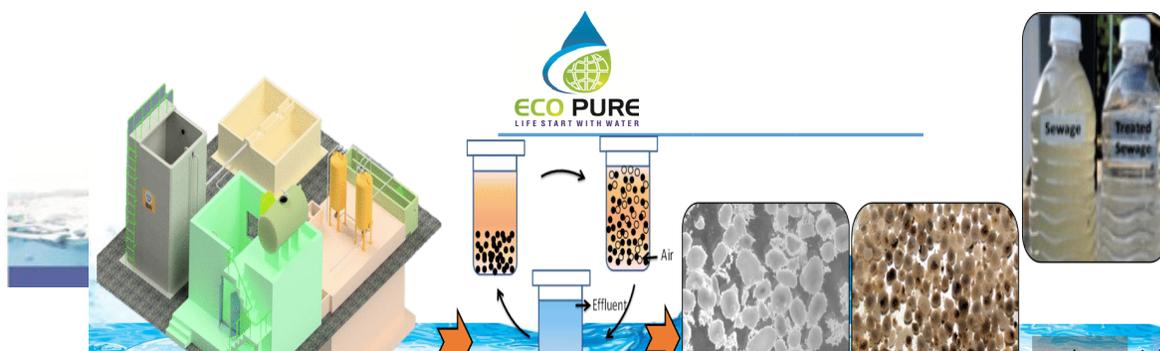
Additionally biological treatment removes colour, turbidity, total suspended solids & decreases microbial load (faecal coliforms) in the sewage.

### Process configuration

- hgSBR is operated intermittently in fill & draw mode with each batch of treatment comprising of filling, mixing, settle and/or decant phases.
- Reactions are partitioned into anaerobic & aerobic phases.
- Length of cycle and individual phases will depend on influent characteristics & treated effluent quality requirements.
- hgSBR process is suitable for small, medium & large scale WWTPs.



### Process Diagram



### Treatment performance

Parameter	Sewage	hgSBR outlet*	Limit
COD (mg/l)	200-600	<10	50
BOD (mg/l)	~250	<10	20 <sup>\$</sup> /30
NH <sub>4</sub> <sup>+</sup> -N (mg/l)	10-30	<1	5
NO <sub>3</sub> <sup>-</sup> -N (mg/l)	-	<5	12
PO <sub>4</sub> <sup>3-</sup> -P (mg/l)	3-6	<1	-
TSS (mg/l)	Up to 170	<30	50 <sup>\$</sup> /100
Faecal coliform (colonies/100ml)	Up to 10 <sup>6</sup>	<150	1000

\*data from pilot-scale hgSBR plant before filtration/disinfection. \$ metrocities

## SBR&hgSBRcomparison

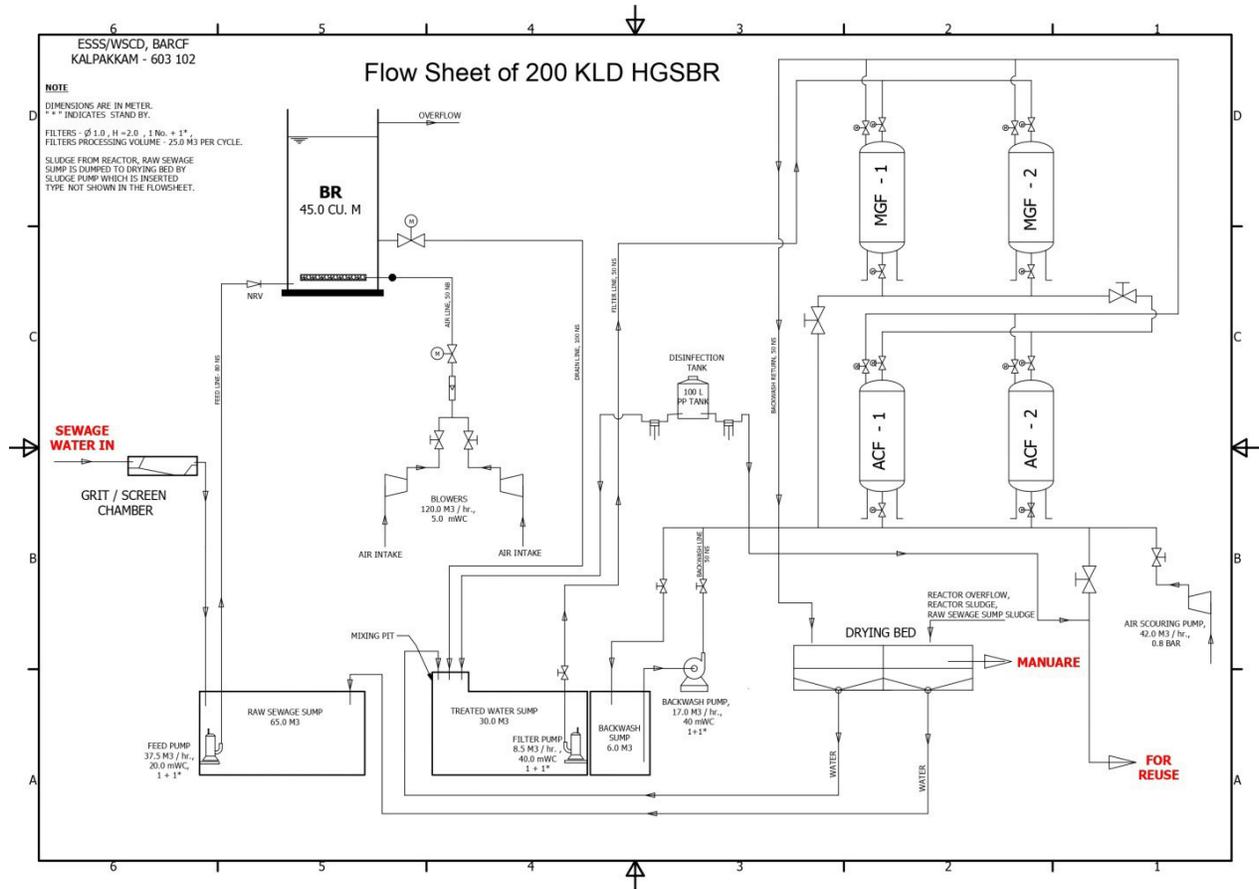
	SBR	hgSBR
Decanter equipment	-	not required
Sludge settling properties	Moderate	Superior
MLSS (g/l)	2 - 6	10 and above
Particle size	About 0.1 mm	0.2 to 2 mm and
Nutrient removal efficiency	Good	Better
Sludge generation	High	Low
Land footprint	-	Up to 30% less
Costs	-	Lower

## Features&advantages

- ▶ *Entire biological treatment is in a single reactor tank*
- ▶ *No secondary clarifier tanks*
- ▶ *Excellent sludge settling properties*
- ▶ *Higher biomass concentrations of 10g/l and above*
- ▶ *Simultaneous NPK removal*
- ▶ *No need of compartmentalization of reactor tank*
- ▶ *Tolerates fluctuating loads, process & environmental perturbations*
- ▶ *Eliminates equipment's for sludge/liquid recycle and decanting*
- ▶ *Odour free sewage treatment plants.*

## Applications

- ▶ *Municipal wastewater*
- ▶ *Industrial effluents*
- ▶ *New wastewater treatment plants*
- ▶ *Retrofitting for capacity extensions and improved treatment*



**Chapter-4 TECHNICAL SPECIFICATIONS; SCOPE OF SUPPLY**

S.N.	ITEM DESCRIPTION	SPECIFICATION	
	<b>BAR SCREEN CHAMBER</b>		
	Quantity	01 No.	

	<i>Size(Mayvary)</i>	<i>1x3.0mtr</i>	
	<i>MOC</i>	<i>RCC</i>	
<b>EQUALISATIONTANK</b>			
	<i>Quantity</i>	<i>01No.</i>	
	<i>Size</i>		
	<i>Capacity</i>	<i>4x4x4mtr</i>	
	<i>MOC</i>	<i>RCC</i>	
<b>SBRREACTORDIGESTER</b>			
	<i>QTY</i>	<i>01NO,</i>	
	<i>SIZE</i>	<i>3X3X5MTR</i>	
	<i>CAPACITY</i>	<i>100KLD</i>	
	<i>MOC</i>	<i>RCC</i>	
<b>SLUDGERECEIVINGTANK</b>			
	<i>QTY</i>	<i>01NO,</i>	
	<i>SIZE</i>	<i>1.5X1.5X4MTR</i>	
	<i>CAPACITY</i>		
	<i>MOC</i>	<i>RCC</i>	
<b>SLUDGEDRYINGBED</b>			
	<i>QTY</i>	<i>01NO,</i>	
	<i>SIZE</i>	<i>1X1X5MTR</i>	
	<i>CAPACITY</i>		
	<i>MOC</i>	<i>RCC</i>	
<b>SEWAGELIFTINGPUMP</b>			

	<i>Quantity</i>	<i>01+1Nos.</i>	
	<i>Capacity</i>	<i>25m<sup>3</sup>/hr.</i>	
	<i>Head</i>	<i>12m</i>	
	<i>Motor</i>	<i>5HP</i>	
	<i>MotorRPM</i>	<i>2900RPM</i>	
	<i>RatedVoltage</i>	<i>415V</i>	
	<i>Type</i>	<i>Submersible/Horizontal</i>	
	<i>Make</i>	<i>Crompton/Kirloskar</i>	
	<b>AIRBLOWER</b>		
	<i>Quantity</i>	<i>02Nos.</i>	
	<i>Capacity</i>	<i>200m<sup>3</sup>/hr.</i>	
	<i>Head</i>	<i>3,000MMWG</i>	
	<i>MotorRPM</i>	<i>1440RPM</i>	
	<i>Type</i>	<i>TwinLobe</i>	
	<i>Make</i>	<i>AKASH/EQ.</i>	
	<b>COARSEBUBBLEDIFFUSERS</b>		
	<i>Quantity</i>	<i>04LOT</i>	
	<i>Type</i>	<i>CoarseBubbleDiffuser</i>	
	<i>Size</i>	<i>80mmDia</i>	
	<i>MOC</i>	<i>PVC</i>	
	<i>Make</i>	<i>WE/SDA/WRequiv</i>	
	<b>FINEBUBBLEDIFFUSERS</b>		
	<i>Quantity</i>	<i>04LOT</i>	

	Type	FineBubbleDiffuser	
	Size	63mmDia,600mmlong	
	MOC	PVC	
	Make	WR/WE/SDAQUA	
	<b>MEDIA</b>		
	Quantity	01LOT	
	MOC	PP,Black	
	Make	WR/PEPL/SI/EQ	
	<b>TUBESETTLERMEDIA</b>		
	Quantity	01LOT	
	MOC	PVC	
	Make	WR/PEPL/SDAQUA	
	<b>SLUDGERE-CIRCULTION</b>		
	Quantity	01Nos.	
	Capacity	50m3/hr.	
	Head	12M	
	Type	SP	
	MotorRPM	NA	
	RatedVoltage	415V	
	Make	Kirloskar	
	<b>MULTIGRADESANDFILTER</b>		
	Quantity	01No.	
	Diameter	600mm	

	<i>Ht.</i>	<i>1400mm</i>	
	<i>MaterialofConstruction</i>	<i>MS</i>	
	<i>Media</i>	<i>MultigradeSand</i>	
	<i>MediaQuantity</i>	<i>Asperrequirement</i>	
	<i>Make</i>	<i>WR</i>	
	<b>ACTIVATEDCARBONFILTER</b>		
	<i>Quantity</i>	<i>01No.</i>	
	<i>Diameter</i>	<i>600mm</i>	
	<i>Ht.</i>	<i>1400mm</i>	
	<i>MaterialofConstruction</i>	<i>MS</i>	
	<i>Media</i>	<i>ActivatedCarbon</i>	
	<i>MediaQuantity</i>	<i>Asperrequirement</i>	
	<i>Make</i>	<i>WR</i>	
	<b>CHLORINEDOSINGSYSTEM</b>		
	<i>Quantity</i>	<i>01 Set (Tank - 01 No., Pump - 01No.)</i>	
	<i>PumpCapacity</i>	<i>0-4lph</i>	
	<i>TankCapacity</i>	<i>500Liters</i>	
	<i>MOC</i>	<i>PVC/HDPE</i>	
	<i>TypeofDosing</i>	<i>Manual</i>	
	<i>Make</i>	<i>E-Dose</i>	
	<b>INSTRUMENTS</b>		

	<b>PRESSUREGAUGE</b>		
	Quantity	1lot	
	PressureRating	0-7Kg/cm2	
	Make	H-Guru	
	<b>LEVELSWITCH</b>		
	Quantity	1lot	
	Make	Aster	
	<b>ROTAMETER</b>		
	Quantity	01No.	
	Type	PPFlangeendconnection	
	Make	Aster	
	<b>ELECTRICALCONTROLPANEL</b>		
	Quantity	01No.Automatic	
	No.ofDOL	ASPERABOVEPUMP.	
	Type	IndoorandFloormountedtype	
	MOC	MSPowderCoated	
	<b>ELECTRICALWIRING&amp;CABLETRAY</b>		
	Quantity	01Lot(asperrequirement)	
	<b>PIPING&amp;VALVES</b>		
	Quantity	01Lot(asperrequirement)	
	MOCofWaterLinePiping	UPVC	
	MakeofUPVCPiping	Astral/Supreme/SURYA	

	<i>MOCofAirLinePiping(NONSU BMERGED)</i>	<i>MS/GI</i>	
	<i>MakeofMS/GIPiping</i>	<i>Jindal/SURYA /Prakash</i>	
	<b><i>FlowMeter</i></b>		
	<i>Quantity</i>	<i>01Lot</i>	
	<i>Size</i>	<i>1.5"dia</i>	
	<i>Make</i>	<i>Aster/Zest /eq.</i>	
	<b><i>EQUIPMENTROOM</i></b>		
	<i>Qty</i>	<i>01nos</i>	
	<i>SIZE</i>	<i>10FTX10FTX9FT</i>	

## PART - II (SCOPE OF SUPPLY)

### Inclusion:

bearing, gearbox, motor others as per technical sheet.

All civil & electrical work, and foundation bolts, all types of cable, Cabling, Cable tray, And for Erection the loading & unloading equipment and welding M/C & other equip.

### PART - III (PRICE SCHEDULE)

SR. NO.	PLANT DESCRIPTION	QTY. (Nos.)	Total Price (Rs.)
1	<b>Design, Procurement and Construction of 200 KLD HgSBR WWTP with all peripheral infrastructure like pathway,, external lighting etc.,</b>	<b>01</b>	<b>1,38,50,000</b>
2	Cost of Interception and diversion works, Site Improvement works, Strengthening of Lead channel to WWTP, Express Feeder Main works.	01	
<b>GST (18%)</b>			<b>24,93,000.00</b>
<b>TOTAL</b>			<b>1,63,43,000.00</b>

Approved  
  
 01.03.2023  
 डॉ. वाई.वी. नांचरैया / Dr. Y.V. NANCHARAI  
 अध्यक्ष, बायोफाउलिंग एवं बायोफिल्म प्रक्रम अनुभाग  
 Head, Biofouling & Biofilm Processes Section  
 उद्व्युएससीडी, भापअ केंद्र सुविधाएं  
 WSCD, BARC Facilities  
 परमाणुऊर्जाविभाग / Department of Atomic Energy  
 कल्पाकम / Kalpakkam - 603102