

# Comprehensive Environmental Pollution Abatement Action Plan Byrnihat Industrial Cluster - Assam



**Pollution Control Board, Assam – 2020**



## FORWARD

The action plan for Comprehensive Environmental Pollution Abatement is necessary to control pollution in any area where pollution sources are identified, pollutants are measured, assessed and found exceeding permissible limits, To implement such action plans is a responsibility of any SPCB and all concerned agencies/stakeholders.

Based on updated CEPI score (Monitored during 2018) of 100 PIAs, Byrnihat (Assam) industrial cluster ranked at 23, which indicate it falls under Critical polluted area, an action plan for Byrnihat (Assam) industrial cluster is prepared.

In Assam, recently Byrnihat Industrial Cluster is identified as critically polluted area. In quick response, Pollution Control Board, Assam (PCBA) has prepare an action plan, in consultation with main stakeholders and industries, and issued necessary directions to bring down the pollution level at source in the area.

We are hopeful that the implementation of this proposed Action Plans would restore the environmental quality of Byrnihat industrial cluster.

Place- Guwahati  
Date: 14-01-2020

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Chairman, PCBA

X 14/1/20

## 1. BYRNIGHAT AT A GLANCE:

Byrnihat, at 100 m above mean sea level, is a small industrial town situated approximately 90 km. from Shillong and 14 km. from Guwahati on the main Guwahati - Shillong highway (NH 40). Byrnihat Industrial cluster is situated between (26°05'57.89"N latitude & 91°52' 34.53"E longitude) and (26°02'30.88" N Latitude & 91°52'03.09" E longitude). The area covers Northern part of Ri-Bhoi district bordering Assam. Byrnihat (which forms the southern watershed of the Brahmaputra River) area is drained by Umtreu River which is subsequently called Digaru in the Plains, Northeast of Byrnihat. Location map of the study area is presented in Fig.1 and covers an area of 6.0 sq. kms. The Byrnihat Polluted Industrial Area falls 2.87 sq. kms under Meghalaya and 3.13 sq kms belong to Assam

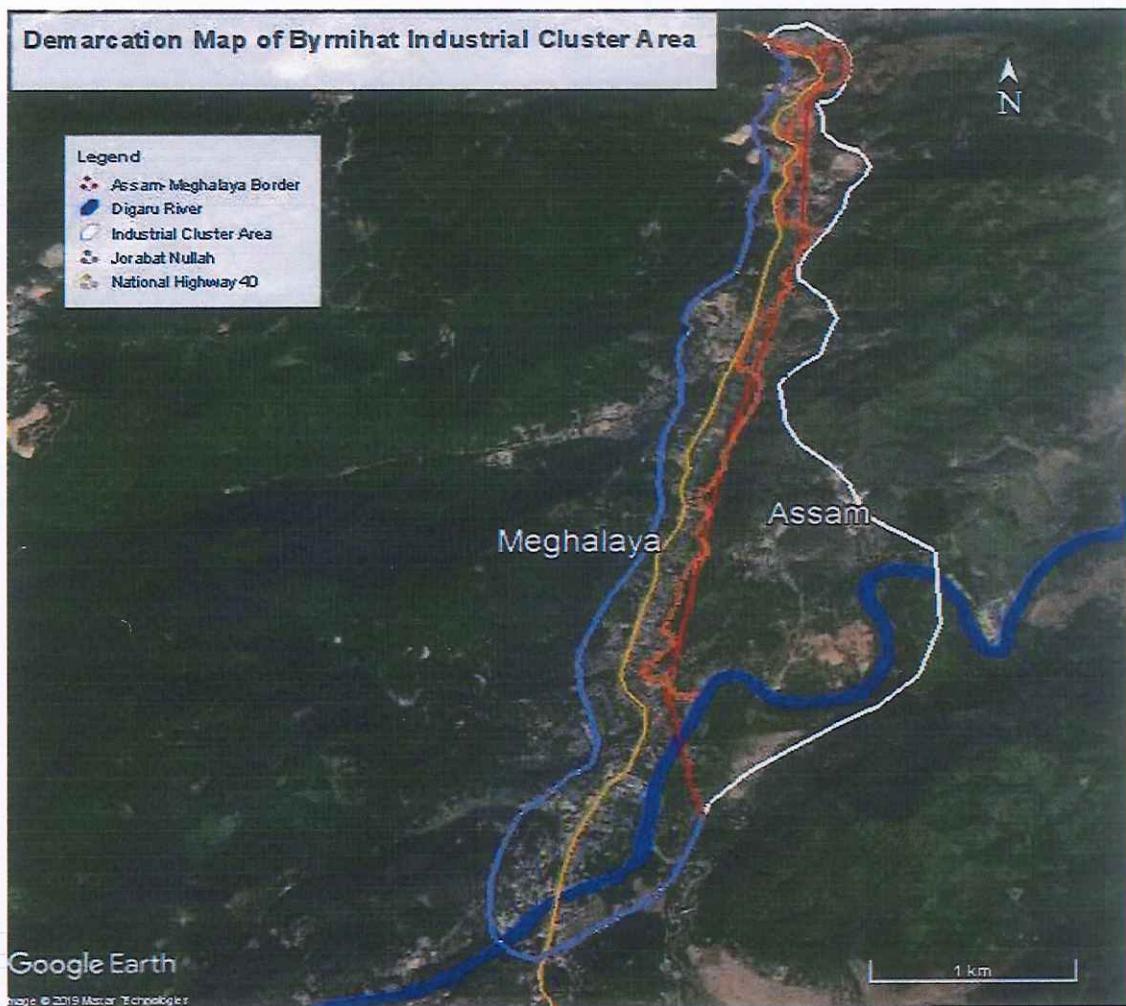


Fig 1: Locational Map of Byrnihat Industrial Cluster

Byrnihat is one of the industrial areas bordering Meghalaya and Assam. However, from industrial point of view, the study area is still at the stage of development. Moreover, the NH40-Guwahati Shillong (GS) road passing through Byrnihat remains mostly busy with vehicular traffic.

## **1.1.Climate and Topography**

The Byrnihat area has sub-tropical climate with semi-dry summer and cold in winter. Average Rainfall ranges between 1500 mm to 2000 mm. The driest and coldest weather is in January and the wettest weather is in July whereas August is the warmest month of the year.

The entire Byrnihat area have undulated topography with mountains and hillocks.

## **1.2.Demography**

The Byrnihat industrial cluster comprises of mainly four village namely

- a) Sarutari village,
- b) Tamulikuchi village,
- c) Ambher and
- d) Barni village.

The estimated population of Byrnihat is approx. 10,000 including large number of floating population who are engaged in labour activities in the industrial clusters. Since, Byrnihat is inhabited by different ethnic groups speaking different languages, it can be said that Byrnihat is a multi-lingual, multi-ethnic and multi-cultural in nature. Being an industrial area, it creates employment opportunity to the people and it is found that different ethnic groups speaking different languages residing in this place are employed in the industries

## **1.3.Health Care Centers and Educational Institutes**

There is a government dispensary in Tamulikuchi Village and a private hospital – M/s North -East Cancer hospital & research institute nearby Byrnihat.

Different schools and government institutes are also situated in the periphery of Byrnihat Industrial cluster and which are listed below in **Table I**

**Table I: List of Schools and Research Centre**

<b>Sl. No</b>	<b>Schools/Institutes</b>	<b>Co-ordinates</b>
1	Tamulikuchi High School	26°04'22.0"N 91°52'31.7"E
2	Hograpara L.P. School	26°03'13.0"N 91°52'32.0"E
3	Ambher L. P School	26°05'21.7"N 91°52'44.4"E
4	Central Academy for State Forest Service	26°04'16.4"N 91°52'29.4"E
5	Goat Research Station	26°04'40.4"N 91°52'36.6"E

#### **1.4. Classification of Industries**

Classified industrial units mainly Coke and Cement Industries are observed in the periphery of the Byrnihat Polluted Industrial Area. As part of air and water pollution control measures for the flue gas/process emission and effluent industries have adopted multi cyclone, cyclone, dust collector/ scrubbing system as Air Pollution Control Measures and Effluent Treatment Plants/Sewage Treatment Plants in their premises along with other industrial establishments

Further directions were issued by the PCBA to all the industrial units which has failed to comply with the standard norms.

The classified industry details situated in the demarcated Byrnihat Industrial Area is presented at **Table II and III**

**Table II: Type of Industries categorized as Large, Medium and Small**

Sl. No	Type	Red	Orange	Green	Total
1	Large	7	Nil	Nil	7
2	Medium	1	Nil	Nil	1
3	Small	12	12	2	26
	Total	20	12	2	34

**Table III: List of Industries in Critical Area, Byrnihat**

Sl.No.	Name & Address of Industry	Category
1	Royal Industries, 15th Mile, Barni.	Red (Small)
2	Kamakhya Power Solution, 15th Mile, Byrnihat.	Red (Small)
3	Hiland Infratech, Sarutari, Bournigaon, Byrnihat.	Red (Small)
4	Superlite AAC Block Industry, Sarutari, 14th Mile, Sonapur.	Red (Large)
5	Purbanchal Cement Ltd. Sarutari, Byrnihat, 14th Mile, G.S. Road, Kamrup.	Red (Large)
6	JK Avtar Pvt. Ltd. Unit-II, Byrnihat, Dist. Kamrup, Assam, Pin-793101	Red (Large)
7	JSB Cement LLP, 12th mile, Ambher, Jorabat, Kamrup.	Red (Large)
8	Vinayak Cement, Sarutari, Byrnihat, Sonapur, Kamrup.	Red (Medium)
9	K.R. Associates (Cement), Ambher, 12th Mile, Jorabat, Sonapur, Kamrup (M)	Red (Large)
10	Vinayak Energy, 12th Mile, Jorabat.	Red (Small)
11	G.M. Coke, 15 <sup>th</sup> mile Byrnihat	Red (Small)

Sl.No.	Name & Address of Industry	Category
12	Shyam Carbon Company, 12th Mile, Ambher, Jorabat.	Red (Small)
13	Radha Coke Product (P) Ltd. 12th Mile, Jorabat.	Red (Small)
14	Balaji Coke Industries, 15th Mile, Byrnihat.	Red (Small)
15	Global Coke Products, 12th Mile, Ambher, Jorabat.	Red (Small)
16	Pride Coke (P) Ltd. 12th Mile, Ambher, Jorabat.	Red (Small)
17	R.P.G. Coke Products, 15th Mile, Byrnihat.	Red (Small)
18	R.P. Associates (P) Ltd. Ambher, Jorabat.	Red (Large)
19	Jal Coke Company, Burni, Byrnihat.	Red (Small)
20	R.S.H. Agro Products, Ambher, 12th Mile, Jorabat	Orange (Small)
21	Yashvi Industries Pvt. Ltd. Maragdola, Sarutari, 14th Mile, Byrnihat, Sonapur.	Orange (Small)
22	Bellefonds, 12th Mile, Ambher, Jorabat.	Orange (Small)
23	Megha Quality Foods, Sarutari, Sonapur, 14th Mile.	Orange (Small)
24	J.S.B Entrade Pvt. Ltd. Unit-II, 12th Mile, Ambher, Jorabat.	Orange (Small)
25	Navya Agro Products Pvt. Ltd. 12th Mile, Ambher, Jorabat.	Orange (Small)
26	J.K. Avatar Pvt. Ltd. 15th Mile, Byrnihat.	Orange (Small)
27	Pride Coke Pvt. Ltd. Unit-II, 12th Mile, Jorabat.	Orange (Small)
28	Baba Udyog, 14th Mile, Sonapur PWD Road, Maragdola.	Orange (Small)
29	Premium Granules Pvt. Ltd. 14th Mile, Sonapur, Maragdola.	Orange (Small)
30	Shiv Baba Industries, 14th Mile, Sonapur, Maragdola.	Orange (Small)
31	Vinayak Poly Alloy, 14th Mile, Sonapur, Maragdola.	Orange (Small)
32	M/S. M.G.T. Motors, Jorabat	Orange (Small)
33	Hero Floor Tiles, 12th Mile, Ambher, Jorabat.	Green (Small)
34	K.P.I. Industries, Ambher, Jorabat.	Green (Small)

### 1.5. Drains contributing to pollution

There is one major drain with a length of approx. 6.8 kms flows through the Byrnihat area and discharges directly into Digaru river in Assam. Besides, wastewater is being

generated mainly from industrial, commercial and domestic activities are discharged into this drain. However, for the treatment of industrial effluents, all the water polluting units have installed their respective ETPs and therefore the drains carrying treated industrial discharge from the ETPs do not seem to impact the water quality. Although sewages originating from the individual households or commercial activities have their respective septic tanks/soak pits but due to inadequate capacity/improper design of septic tank/soak pits, septage/sullage is flowing in the open drains at several places and thereby degrading the water quality of Digaru river. Sewage Treatment Plant has not been set up yet in Assam. However, an STP has been proposed at the meeting point of Jorabat nallah with Digaru river, 15<sup>th</sup> mile Byrnihat.

### **1.6. Municipal Solid Waste**

The municipal solid waste generated are being dumped at Boragaon dumping yard which is situated approximately 28 kms away from the Byrnihat area and hence it is not located within the periphery of the Byrnihat Industrial Cluster

## 2. Action Plan

Sr. No.	Activity	Issue	Action	Implementing Agency	Time limit	Financial Implication & outlay
<b>WATER</b>						
1.	Water from non-permitted sources (eg. Bore-well, tanker etc.) or more than permitted quantity is to be identified	It is observed that many industrial units have no proper control over water consumption which not only increase the overall w/w generation but also tends to w/w disposal mismanagement. Therefore, it is necessary to direct unit to restrict water consumption as per the quantity mentioned in CTO application and to also to direct concerned departments to seal the non-permitted bore wells.	Identification of source of water i.e. tanker, bore well, surface water etc. for its authenticity.	CGWB/ PCBA	Ongoing Process	Expenses, if any, to be borne by the unit having unauthorized outlet.
2	Sealing of unauthorized discharge other than regular discharge of effluents.	All industrial units shall be directed to operate only one outlet through flow meter for effluent disposal so that unauthorized discharge can be checked. The Concerned authority shall disconnect / seal such unauthorized discharge.	Concern authority will be asked to identify unauthorized outlet.	PCBA	Ongoing process 31.08.2020	31.08.2020 (Short Term)

Sr. No.	Activity	Issue	Action	Implementing Agency	Time limit	Financial Implication & outlay
			with a copy to respective association stating that there is no unauthorized outlet.			
3.	Standard flow meter at final outlet of ETP	To control overflowing of drainage pipeline, it is necessary to control the discharge of excessive quantity of w/w from the industrial units (i.e. the w/w discharge should be as per CTO condition). To check the quantity of w/w being discharged it is proposed to provide standard flow meter at the final outlet.	Direction will be issued to all the industrial units to install standard flow meter at the final outlet of ETP	PCBA	Continuous 31.08.2020 (Short Term)	To be borne by the concerned industry. Association may assist individual units.
4	Drainage connection required to be discontinued permanently closed	Drainage connection to be disconnected to permanently closed & non operative industrial units	Inventorisation of the permanently closed & non operative industrial units	PCBA	30.06.2020 (Short Term)	Expense is to be borne by the defaulter unit.

Sr. No.	Activity	Issue	Action	Implementing Agency	Time limit	Financial Implication & outlay
	non operative industrial units.	and certified by ULBs/ Municipal Bodies and checked by PCBA. Careful monitoring of such units required to undertake by PCBA	Drainage connection to be disconnected of permanently closed & non operative industrial units and certified by ULBs/ Municipal Bodies and checked by PCBA.	ULBs/ Municipal Bodies /PCBA	30.06.2020 (Short Term)	
5	Identification of unauthorized connection to drainage line or treated/untreated discharge to Digaru (Umtru) River.	Intensive monitoring shall be carried out of the units, which are located on the bank / adjacent to Digaru River.	All zero discharge units will be asked to submit notarized undertaking to PCBA with a copy to respective association stating that there is no unauthorized outlet and observing zero discharge.	PCBA	30.06.2020 (Short Term)	Ongoing process
			Unauthorized connection in drainage line to be checked and disconnected by concerned authority and verified by PCBA	ULBs/ Municipal Bodies, PCBA	30.06.2020 (Short Term)	Expense is to be borne by the defaulter unit.

Sr. No.	Activity	Issue	Action	Implementing Agency	Time limit	Financial Implication & outlay
6.	Identification of non-biodegradable effluent	For better treatability at ETP units having non-biodegradable effluent shall be identified and shall be directed to segregate the said stream, and to install appropriate and effective treatment unit like incinerator.	Identification of the streams having non-biodegradable effluent where not treatability possible/difficult/ Techno economically not viable.	PCBA	31.08.2020 (Short Term)	Cost may be worked out
7	Installation of STP at the meeting point of Jorabat nallah with Digaru river, 15 <sup>th</sup> mile Bynihat.	Proper design of STP at Bynihat with full utilization capacity.	Laying of sewerage network and setting up of sewerage treatment plant.	Public Health Engineering/ ULBs/ Municipal Bodies	31.03.2023	Yet to be fixed
8.	Identification & rectification of various leaking manholes, overflowing pumping stations and other bypass system.	Master plan to Identify & rectify various leaking man holes, overflowing pumping stations and other bypass system in Jorabat- Digaru nallah to be prepared & implemented.	Foolproof mechanism for regular monitoring, cleaning and maintenance is required by concerned authority.	ULBs/ Municipal Bodies /PWD (roads)	31.04.2021	To identify reasons of overflow of manholes and to take adequate measures to control overflow.

Sr. No.	Activity	Issue	Action	Implementing Agency	Time limit	Financial Implication & outlay
9.	Monitoring of surface and sub surface water quality	Surface and sub surface water quality is required to be checked periodically	To monitor surface and sub surface water quality. To increase monitoring locations.	PCBA	Ongoing process	-
<b>AIR</b>						
1.	Upgradation of air pollution control measures.	Air action plan for Bynihat is under implementation. The industrial units shall be directed to upgrade APCM to meet the amended ambient air quality norms, if required.	Industrial units consuming solid fuel like coal, agro waste, etc. required to upgrade air pollution control system by installing bag filters /multi cyclone separator so that ambient air in the nearby area meet with the revised norms of PM2.5.	PCBA	31.04.2020	To be borne by the concerned industry. Association may assist individual units
2.	Plantation in the industrial estate	The industrial units shall be asked to provide adequate green belt in the periphery as well as	Considering the present plantation as baseline datum, five years plan for plantation	Forest Dept/Land and Revenue Dept./PCBA	31.03.2022	

Sr. No.	Activity	Issue	Action	Implementing Agency	Time limit	Financial Implication & outlay
		wherever possible within the estate.	industrial estate to be submitted by the Industry- (Association) in consultation with Forest department. To allot unused plots, road side areas and other areas reserved for green belt within cluster area and to sign MoU between PCBA and Industry- (Association) for plantation.			
3.	Control of fugitive emissions	Fuel handling, chemical storage and processes including pickling are the major source of fugitive emission. Hence the industrial units should adopt good housekeeping practices.	Good practices like cleaner production and cleaner technology to be adopted in fuel handling, process control in closed system and to have better housekeeping.	PCBA	Ongoing process	To keep vigil checking on the concerned industries.

Sr. No.	Activity	Issue	Action	Implementing Agency	Time limit	Financial Implication & outlay
4.	Strengthening of ambient Air Quality Monitoring	The industrial units shall be asked to operate the existing AAQMS regularly and also to increase the no of stations	<ul style="list-style-type: none"> <li>➤ Existing AAQMS to be strengthened to monitor AAQ as per new notification.</li> <li>➤ New AAQMS shall be installed.</li> </ul>	PCBA	31.08.2020 (Short Term)	-
5.	To prepare guidelines for coal handling	Poor ambient air quality due to unloading and loading activity at railway yard.	<ul style="list-style-type: none"> <li>➤ To prepare guideline to control air pollution due to coal handling.</li> <li>➤ To implement guidelines and take measures to control ambient air pollution.</li> </ul>	PCBA	29.04.2020	1.5 Crore
6.	Impact on health of within and surrounding population	Probable health risk within vicinity of 2 km from the cluster.	To carry out survey by reputed agency like local govt. health unit to know the detailed health impact assessment.	Local Health Unit	31.12.2020	-

Sr. No.	Activity	Issue	Action	Implementing Agency	Time limit	Financial Implication & outlay
7.	Monitoring of VOC in Bynihat.	Health risk on population at large due to VOC.	To estimate the VOC concentration in cluster and to take remedial measures. To monitor VOCs quarterly.	PCBA, Third party	First quarterly report by 31.04.2020 then on going activity	
8.	Prepare plan for infrastructure improvement arresting Road Dust/ Vehicles emission/ hill cutting.	To keep a regular check on vehicular emission and other dust generating sources.	▷ Prohibiting earth cutting from hills in Meghalaya Site to prevent dust generation. ▷ Creation of green buffers along the traffic corridors and their maintenance.	PCBA, Forest Department	31.01.2021	
<b>HAZARDOUS WASTE</b>						
1.	Lack of TSDF facility for commonly utilized hazardous waste generating industries	Hazardous waste shall be managed by hazardous waste industries itself generating the same through authorised recycler, secured landfill area, Bio-remediation etc.	▷ PCBA has initiated correspondence with the Govt. of Assam for allotment of land for TSDF. ▷ Vigil required to be kept on illegal transportation and	PCBA	Ongoing process 31.12.2022	Yet to be assessed

Sr. No.	Activity	Issue	Action	Implementing Agency	Time limit	Financial Implication & outlay
			dumping of hazardous waste ➤ Awareness campaign regarding health and other issues related to Hazardous waste			
2.	Adoption of 4- R's (Reduce, Recover, Reuse, Recycle)		It is required to adopt 4-R's for better management of Hazardous waste and co-incineration of incinerable hazardous waste in cement kiln.	Inventorisation of the various Hazardous waste generated from the industries PCBA	31.12.2020	Yet to be assessed
<b>PLASTIC WASTE</b>						
1	Lack of disposal facilities/infrastructure like decentralized composting or bio-methanation plant, waste to energy plant, solid waste management plant		Issue directions to Municipal Board to segregate and collect plastic waste and initiate necessary steps to channelize the waste to authorized agencies for recycling and reprocessing	Development of co-incineration system ULBs/Municipal Bodies/PCBA	31.12.2020	Yet to be assessed

Sr. No.	Activity	Issue	Action	Implementing Agency	Time limit	Financial Implication & outlay
<b>BIOMEDICAL WASTE</b>						
1	Identify non-point sources and arrest contamination	Direction issued to all HCF unit to implement the BMW Rules, 2016 as amended in all HCF Units. (As per guidelines of CPCB)	<ul style="list-style-type: none"> <li>➤ Segregation at the source under Biomedical waste Management Rules, 1998</li> <li>➤ The segregated waste is transported and then incinerated at Common Biomedical Waste Treatment Facility</li> </ul>	Ongoing Process		