

# RANIGANJ

## COALFIELD LANDSCAPE: AN OVERVIEW

PRACTICE NOTE 2021



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## SUMMARY

The Raniganj coalfield has a mining history of nearly two centuries. It has been a key source of coal in India, both before and after Independence. However, 200 years of mining activity has caused significant environmental impact in the region, where Raniganj coalfield is located. While reports of land subsidence in coalfield region have sporadically been covered, there is little information on the overall status of current mining activity, even though 65 mines are operational in the region. *Legal Initiative for Forest and Environment* (LIFE) has analysed the mining projects in the region to study their violations and environmental impacts. We found that most projects by the government-owned Eastern Coalfield Limited (ECL) have not submitted their “mine closure plans”, which are mandated while granting environmental clearance under the EIA notification. This means that no serious plans are in place to ensure environmental restoration in an already degraded landscape. Most mines were also found violating coal transportation rules during field visits.

### Key Findings:

- As per LIFE’s analysis, Ramnabagan Wildlife Sanctuary lies within 10 kms of the Cluster 12 mines, a fact that not mentioned in the Environmental Clearance (EC) letters.
- Mine closure plans for five out of 12 clusters in Raniganj coalfield are yet to be approved by the ECL Board, four years after their ECs were granted.
- North-western portion of the coalfield is significantly affected by mine fires, which causes emissions of toxic gases.
- Uncovered coal transportation from mines to railway siding or washery is responsible for air pollution in the region.
- ECL has failed to use mechanical brooming/industrial cleaner to suppress dust.

## BACKGROUND

Raniganj coalfield lies in the Damodar Valley region of West Bengal. The coalfield is surrounded by the Durgapur-Asansol Industrial belt and bound by latitudes 23°35'N to 23°55'N and longitudes 86° 45'E to 87° 20'E (Goswami, 2001).

Coal was first mined in the year 1820 in Raniganj, resulting in a long history of extraction. William Jones discovered the first pit, about 30 to 40 feet deep, near Damulia and the second one at Egara near Raniganj. In 1823, another mine was started by Betts on the banks of Damodar in Chinakuri mines of Raniganj coalfield (Sinha et al., 2008). Coal production rose to 91,000 tonnes in the year 1846. The period between 1845-60 witnessed nearly fifty collieries producing 28,200 tonnes of coal in Bengal. Out of a total Indian production of 6.12 million tonnes at the time, Raniganj alone produced nearly 2.55 million tonnes. After Independence, a new industrial policy was adopted in 1948 that placed all new undertakings in coal under the public sector (Sinha et al., 2008).

Raniganj coalfield comprises of coal blocks under public and private sectors. The public sector mines are predominantly owned by Eastern Coalfield Limited (ECL), a subsidiary of Coal India Ltd. Other than this, several other major players include RPG Industries/CESC Ltd., West Bengal State Electricity Board, West Bengal Power Development Corporation Limited, West Bengal Mineral Development and Trading Corporation, Damodar Valley Corporation, Sova Ispat Limited, Bengal Emta Coal Mines Limited, etc.<sup>1</sup> The environmental problems of the region are not limited to individual mines, and there are similarities in issues/problems across projects. The impact of mining activity and related changes is cumulative, therefore *Legal Initiative for Forest and Environment* (LIFE) looked at the overall coalfield region as a single landscape instead of looking at individual mines for this study.

## OBJECTIVES

Information about the mining activity in Raniganj coalfield is fragmented, leaving a gap in availability of compiled information and analysis about the environmental problems caused by mining over the years. Thus, LIFE has come up with a status paper on various environmental damages caused to this landscape.

## METHODOLOGY

Information was sought under the Right to Information (RTI) Act, 2005 from ECL to get the complete list of their operational and non-operational coal mines in Raniganj landscape. Information was also taken from the Parivesh website of the Ministry of Environment, Forests and Climate Change (MoEFCC) about other private and public sector mines in the region, before and after July 2014. Detailed information about all the public and private mines was then obtained from respective prior Environmental Clearance (EC) letters and the Environmental Impact Assessment (EIA) reports, which are available in the public domain.

We used Google Earth and QGIS for plotting geographical coordinates of each mine cluster to assess the environmental sensitivity and other information within a 10 km and 15 km radius of the mine respectively. In absence of geographical coordinates of all consecutive points of the mine boundary of each cluster, coordinates of the four extreme corners of each mine were used to plot their boundary and to prepare the cluster map.

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[https://www.coal.nic.in/sites/upload\\_files/coal/files/coalupload/allocated161211.pdf](https://www.coal.nic.in/sites/upload_files/coal/files/coalupload/allocated161211.pdf)

# OBSERVATION AND DISCUSSION

## Extent of Mines

According to the response received from ECL<sup>2</sup>, it has 65 operational and 13 non-operational coal mines in Raniganj at present. It is however not clear from the reply whether the non-operational mines are abandoned mines or their work is temporarily suspended. Out of the 65 operational coal mines, 44 are underground (UG), 13 are open cast (OC) and eight are mixed (having both UG and OC) (Annexure I). In addition to these, there are six mines operated either by private players and/or by the public sectors other than ECL.

Both open cast and underground mines of ECL have received prior environmental clearance (EC) as part of cluster mines, as decided and agreed in a meeting between Secretary-Coal and Secretary-MoEF on February 28, 2008 (ECL, 2013)<sup>1</sup>. The same can be seen from the Table 1. Each cluster has been granted environmental clearance for a group of mines. A total of 12 clusters are in operation under ECL covering a total mining lease area of 59498.95 hectares (ha) with a total production capacity of 79.70 million tonnes per annum (MTPA). Out of the total mining lease area of ECL, 104.28 ha is forest land. The forest land lies in Cluster 4 and Cluster 12 to the tune of 2.98 ha and 101.3 ha respectively<sup>3</sup>.

**Table 1: Details of cluster mines of Eastern Coalfields Limited**

S No	Cluster No	Total No of Mines in Cluster	Mine Lease Area (Ha)	Production Capacity (MTPA)	Source of Information	Date of EC
1	1*	11	3692	3.3	EC Letter	16-01-15
2	2*	3	1018	0.45	EC Letter	16-01-15
3	3	3	1628	3.97	EC letter	20-10-14
4	4	3	3350	7.71	EC letter	21-07-15
5	5	2	2970	0.63	EC letter	22-09-14
6	6	9	4775	2.25	EC letter & EIA Report	16-01-15
7	7	4	2313	0.74	EC letter	16-01-15
8	8	7	8281	2.75	EC letter	19-03-15
9	9	15	7145.4	8.00	EC letter & EIA Report	23-01-15
10	10	19	6349	7.2	EC letter	20-01-15
11	11	11	4218	10.9	EC letter	21-07-15
12	12	19	13759.55	31.8	EC letter & EIA Report	09-02-15
<b>Total</b>			<b>59498.95</b>	<b>79.7</b>		

\* Located in Dhanbad district of Jharkhand

<sup>2</sup> RTI reply vide ECL/HQ/RTI/ID-144-50090/19-20/348 dated 16th August, 2019

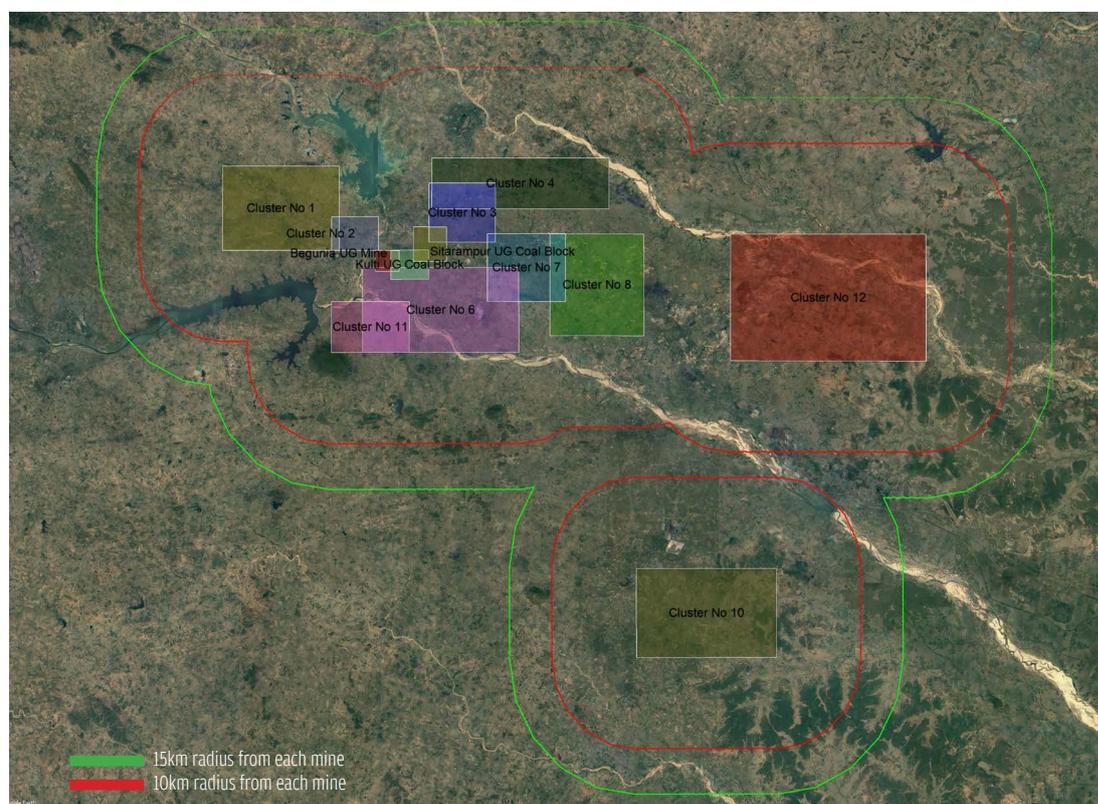
<sup>3</sup> Cluster 12 project has a total forest land of 388.75 Ha, out of which the Forest Clearance was granted for 90.3 Ha & 11 Ha of undisturbed forest land and for rest of the area of 287.45Ha, no FC was available and therefore EC was granted excluding 287.45 Ha of forest land

A total of 3,612.12 ha land lies with various other operators, having a total production capacity of 8.23 MTPA. Forest land of the size of 59 ha is held by the Ardhamgram coal mining project. The details of other mines are given in Table 2.

**Table 2: Details of Mines run by other operators**

Name of Mine	Name of Operator	Mine Lease Area (ha)	Production Capacity (MTPA)	Source of Information	Date of EC
Begunia UG project	Steel Authority of India Limited Colliery division	236	0.33	EC letter & EIA Report	16-01-15
Kulti UG Coal block	West Bengal Mineral Development & Trading Corporation Limited	767.16	1	EC letter	25-09-14
Sitarampur UG	West Bengal Mineral Development & Trading Corporation Limited	834.96	1	EC letter	25-09-14
Ardhamgram Coal Mining project	Sova Ispat Ltd	800	0.4	EC letter	23-03-10
Sarshatali OCP cum Washery	Calcutta Electric Supply Corporation Limited	613	3.5	EC letter	14-10-98
Tara East & Tara West Block OCP	Bengal EMTA Coal Mines Limited	361	2	EC letter	30-01-97
<b>Total</b>		<b>3612.12</b>	<b>8.23</b>		

**Figure I: Google Earth image showing cluster mines within the Raniganj landscape**

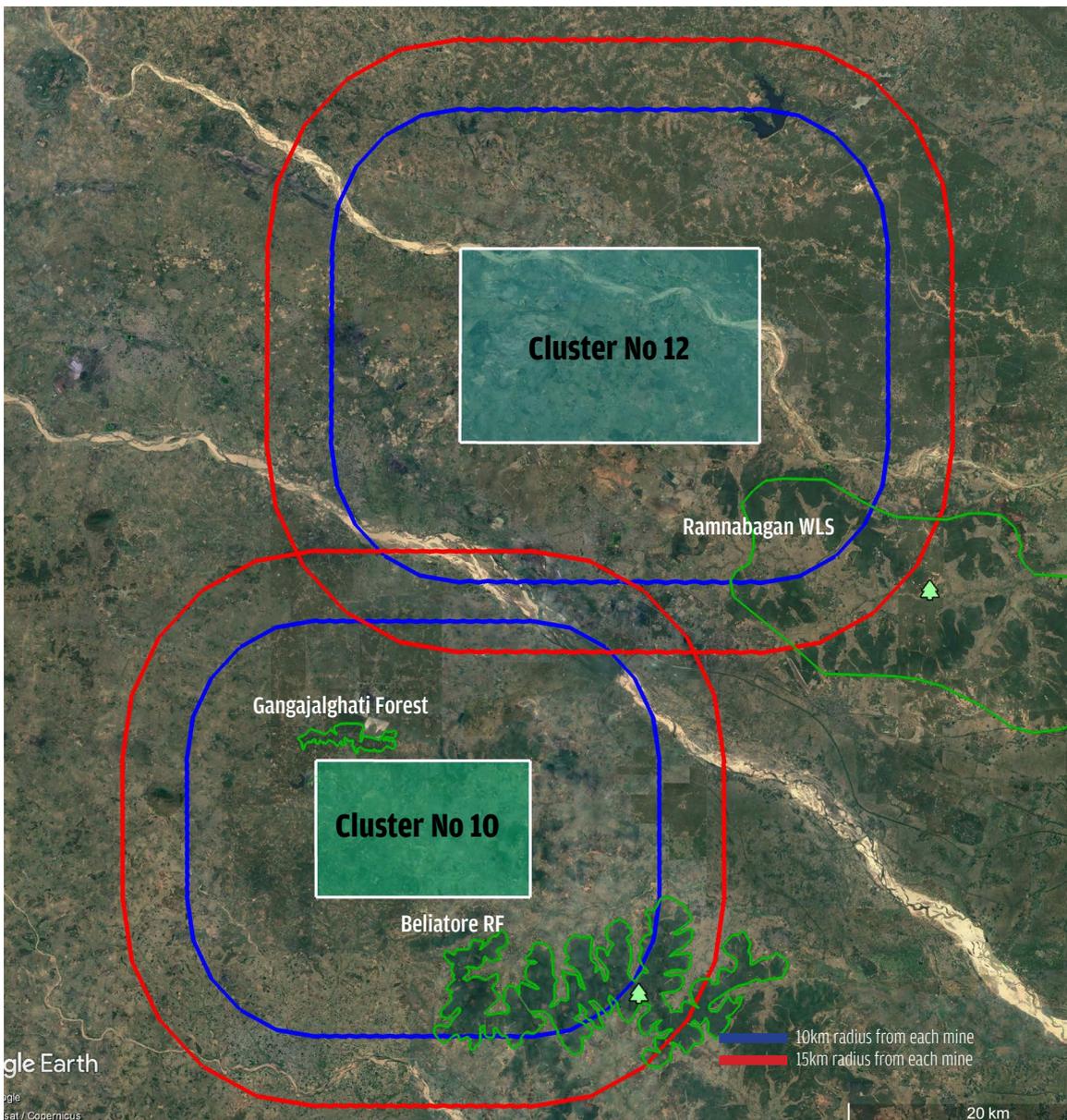


# ISSUES OF CONCERN

## Environmental Sensitivity

The environmental clearance (EC) letter for each cluster (Cluster 1 to Cluster 12) and the EIA report has stated that there are no national parks, wildlife sanctuaries or biosphere reserves in the 10 km buffer zone. However, according to the Google Earth image, the Ramnabagan Wildlife Sanctuary lies within the 10 km radius of Cluster 12. According to the EC letter of Cluster 12 mine, as submitted by the project proponent, Cluster 12 has no such national parks, wildlife sanctuaries or biosphere reserves in the 10 km buffer zone<sup>4</sup>. This amounts to a violation of the EIA Notification 2006, which says, “Deliberate concealment and/or submission of false or misleading information or data which is material to screening or scoping or appraisal or decision on the application shall make the application liable for rejection, and cancellation of prior environmental clearance granted on that basis”<sup>5</sup>.

Figure II: Google Earth image showing environmental sensitivity within Raniganj landscape



4 Information details listed in the EC letter SI No. xxi Wildlife Issues

5 Sub-para (vi) of Para 8 of EIA Notification 2006 Grant or Rejection of Prior Environmental Clearance

## Status of Mine Closure Plan

According to the specific condition imposed as part of the EC letter, a detailed final mine closure plan along with details of Corpus Fund was to be submitted to MoEFCC by the proponent within six months of EC grant. Status of the mine closure plan has been checked by looking at the latest compliance report of each cluster mine (Table 3). Reports from 2017-18 have been used in cases where the 2018 -19 reports were not available in public domain.

**Table 3: Status of Mine Closure Plan (MCP) as per the Compliance Report**

Name of Cluster	Compliance Report	Source
Cluster 1	MCPs for all mines of the cluster have been prepared	<a href="http://secureloginecl.co.in/envdept/content_preview.php?cid=144&amp;gr=BIOLOGICAL%20RECLAMATION">http://secureloginecl.co.in/envdept/content_preview.php?cid=144&amp;gr=BIOLOGICAL%20RECLAMATION</a>
Cluster 2	Mine closure plan is prepared for all mines of the Cluster	<a href="http://secureloginecl.co.in/envdept/content_preview.php?cid=145&amp;gr=BIOLOGICAL%20RECLAMATION">http://secureloginecl.co.in/envdept/content_preview.php?cid=145&amp;gr=BIOLOGICAL%20RECLAMATION</a>
Cluster 3	Mine closure plan as per the guidelines of Ministry of Coal has been prepared and approved by the ECL board in the 264th Board meeting on 24th Sept.2013.	<a href="http://environmentclearance.nic.in/writereaddata/Compliance/29_Nov_2019_1201049102D4LVYM102-511.pdf">http://environmentclearance.nic.in/writereaddata/Compliance/29_Nov_2019_1201049102D4LVYM102-511.pdf</a>
Cluster 4	All mines have approved MCP	<a href="http://secureloginecl.co.in/envdept/content_preview.php?cid=143&amp;gr=BIOLOGICAL%20RECLAMATION">http://secureloginecl.co.in/envdept/content_preview.php?cid=143&amp;gr=BIOLOGICAL%20RECLAMATION</a>
Cluster 5	Complied	<a href="http://secureloginecl.co.in/envdept/content_preview.php?cid=104&amp;gr=BIOLOGICAL%20RECLAMATION">http://secureloginecl.co.in/envdept/content_preview.php?cid=104&amp;gr=BIOLOGICAL%20RECLAMATION</a>
Cluster 6	Complied	<a href="http://environmentclearance.nic.in/writereaddata/Compliance/18_Dec_2018_104813127KFRKI-V80102-490.pdf">http://environmentclearance.nic.in/writereaddata/Compliance/18_Dec_2018_104813127KFRKI-V80102-490.pdf</a>
Cluster 7	Mine closure plan as per guidelines of Ministry of Coal has been prepared and approved by the ECL board in the 264th Board meeting on 24th Sept 2013 and money has been deposited in Escrow account in 9-11-2013.	<a href="http://environmentclearance.nic.in/writereaddata/Compliance/25_Jun_2019_113829580H-L7YLXZ6102-491.pdf">http://environmentclearance.nic.in/writereaddata/Compliance/25_Jun_2019_113829580H-L7YLXZ6102-491.pdf</a>
Cluster 8	The Mine Closure Plan as per guidelines of Ministry of Coal has been approved by ECL Board in the 264th Board meeting held on 24th Sept., 2013. The data on Corpus Fund has been submitted to the Ministry of Environment, Forest & Climate Change within 6 months of grant of Environmental Clearance	<a href="http://environmentclearance.nic.in/writereaddata/Compliance/25_Jun_2019_113248433Y-I7HA1SM102-515.pdf">http://environmentclearance.nic.in/writereaddata/Compliance/25_Jun_2019_113248433Y-I7HA1SM102-515.pdf</a>
Cluster 9	Complied	<a href="http://environmentclearance.nic.in/writereaddata/Compliance/04_Dec_2019_1157477937OX-FZFMK102-481Cluster9HYCReport.pdf">http://environmentclearance.nic.in/writereaddata/Compliance/04_Dec_2019_1157477937OX-FZFMK102-481Cluster9HYCReport.pdf</a>

Cluster 10	Mine closure plan has been prepared for the mine as per the guidelines of MOC and the same has been placed before the board for approval.	<a href="http://environmentclearance.nic.in/writereaddata/Compliance/25_Jun_2019_1131039175U3QV8EJ102-516.pdf">http://environmentclearance.nic.in/writereaddata/Compliance/25_Jun_2019_1131039175U3QV8EJ102-516.pdf</a>
Cluster 11	Mine closure plan has been prepared for the mine as per the guidelines of MOC and the same has been placed before the board for approval.	<a href="http://environmentclearance.nic.in/writereaddata/Compliance/25_Jun_2019_111617877QP-G8ERAR102-527.pdf">http://environmentclearance.nic.in/writereaddata/Compliance/25_Jun_2019_111617877QP-G8ERAR102-527.pdf</a>
Cluster 12	MCP for all mines have been prepared	<a href="http://environmentclearance.nic.in/writereaddata/Compliance/25_Jun_2019_1135183877RI-W28Z9102-505.pdf">http://environmentclearance.nic.in/writereaddata/Compliance/25_Jun_2019_1135183877RI-W28Z9102-505.pdf</a>

According to Table 3, five out of 12 clusters are waiting for final approval of their mine closure plans from the Board after a gap of four years since the grant of EC. This does not comply with the specific condition proposed as part of prior EC, which mandated that details be submitted before MoEFCC within six months of EC grant. So, the plans were to be shared by January 2016 even if the latest date of prior EC is considered.

According to the Report No.12 of the Comptroller and Auditor General of India (CAG) released in 2019, ECL did not set year-wise internal targets for biological reclamation of mined out area through plantation activities. The report also states that 35 mines of ECL that were closed between April 1946 and July 2009 (including six mines which were closed prior to nationalisation), did not have Mine Closure Status Report (CAG, 2019).

From an ecological restoration point of view, it is critical to have well-defined mine closure plans. This is because each ECL cluster mine has different years of mine life, ranging from as less as one year to as long as over fifty years (Table 4).

**Table 4: Status of mine life (of individual mines) within a cluster**

Name of Cluster	Mine Life (Years)	Date of EC obtained	Conditions imposed for Mine Closure in EC
Cluster 1	1 to > 25	16-01-15	SC No. lxiv
Cluster 2	5 to 20	16-01-15	SC No. lviii
Cluster 3	4 to 10	20-10-14	SC No. liii
Cluster 4	4 to > 50	21-07-15	SC No. lxxii
Cluster 5	1.5 to > 50	22-09-14	SC No. xlviii
Cluster 6	1.5 to > 50	16-01-15	SC No. lviii
Cluster 7	3.5 to > 20	16-01-15	SC No. lviii
Cluster 8	2 to > 50	19-03-15	SC No. lxiv
Cluster 9	1 to > 50	23-01-15	SC No. lxxiii
Cluster 10	1 to > 25	20-01-15	SC No. lxii
Cluster 11	4 to > 25	21-07-15	SC No. lxi
Cluster 12	1 to > 50	09-02-15	SC No. lix

\* SC: Specific Conditions imposed as part of prior EC

The current practices are also non-compliant to the guideline<sup>6</sup> issued by the Ministry of Coal for preparation of mine closure plan. According to this guideline, the Mine Closure Plan is to have two components viz. (i) Progressive or Concurrent Mine Closure Plan and (ii) Final Mine Closure Plan. The progressive plan includes various land use activities to be done continuously and sequentially during the entire period of the mining operations, whereas

6 No. 55011-01-2009-CPAM dated 7th January, 2013 by the Ministry of Coal, Government of India

the final closure plan is to begin at the end of mine life and may continue till the mining area is restored to an acceptable level for the purpose of creating a self-sustained ecosystem (MoC, 2013).

## Sourcing of Water

The ECL mining operation requires 83,272 m<sup>3</sup> water everyday, which includes potable and industrial requirement. The source of water has not been stated in the EC letter issued to any mine cluster. The MoEFCC has specifically barred some of the mine clusters (Cluster 4, Cluster 11, Cluster 8 and Cluster 10) from using groundwater to meet their water requirement but nothing has been specified for other clusters.

## Coal transportation

Field visit to a coal mine in Raniganj revealed the grim reality of coal transportation. CAG Report No. 12 of 2019 has substantiated the fact that ECL mines failed to adhere with the mandated CIL guidelines. They have not used covered conveyer belt/systems for transporting coal from mines to railway siding, or washery for reducing air pollution (CAG, 2019). We have found that all the sampled mines of ECL in Raniganj landscape have failed to use mechanical brooming/industrial cleaner to suppress dust.

**Image 1: Railway Siding without any fixed water sprinkling system**



**Image 2: Personnel working at loading site without Personal Protective Equipment**



## Coal Mine Fire

Mine fires are a severe problem in Raniganj coalfield, which may be caused by auto oxidation<sup>7</sup> of coal leading to its spontaneous combustion. A study was conducted under the affiliations of the Geosciences Division, National Remote Sensing Centre using night-time thermal data of ASTER<sup>8</sup> to map the distribution of coal fires in the Raniganj coalfield in December 2006. Coal fire map shows that north-western portion of the coalfield was the most affected by fire, within which the north-east trending open cast mines experience fire frequently. The study has superimposed the satellite derived coal fire map with the geological map, which showed that the coal fires are spatially associated with intraformational faults<sup>9</sup>. These faults may have played a significant role in supplying oxygen to coal fires, allowing them to propagate down the depth along the trends of the faults (Guha et al., 2012).

It is important to note that fires in coal mines emit greenhouse gases like Carbon dioxide (CO<sub>2</sub>) and Methane (CH<sub>4</sub>) as well as Carbon Monoxide (CO) and other toxic substances (Kolkar et al., 2009).

<sup>7</sup> Self-heating of coal or other carbonaceous materials leading to ignition is known as auto oxidation

<sup>8</sup> Advance Spaceborne Thermal Emission and Reflection Radiometer (ASTER)

<sup>9</sup> A fault is a fracture or zone of fracture between two blocks of rock, which allows the block to move relative to each other. Faults may length from a few millimetres to a thousand of kilometers

# Status of Implementation of Raniganj Master Plan

The problems of land subsidence<sup>10</sup> and mine fires in the coalfields are the result of unscientific mining carried out by the erstwhile mine owners for over 200 years. These problems were acknowledged by the government from time to time, but results have been unsatisfactory. A High-Level Committee was also set up in December 1996 under the chairmanship of the then Secretary, Ministry of Coal with representatives from other departments, coal companies and the concerned state governments to deal with the problem in a comprehensive manner. Based on the recommendations of this committee, a master plan was prepared to deal with fire and subsidence issues and the related rehabilitation in the ECL area. Asansol-Durgapur Development Authority (ADDA) was also notified as the implementing agencies for rehabilitation purposes by the West Bengal state government (Ministry of Coal, 2011). However, the present status of implementation of action plan needs further ground truthing.

## RECOMMENDATIONS

- From a restoration point of view, the overall surface transportation of coal should immediately be looked into. In order to reduce air pollution from transportation, provisions should be urgently made for closed conveyor belt transportation and other preventive actions.
- Formulation of mine closure plans wherever necessary and strict implementation of existing and approved mine closure plan should be the immediate priority.
- Priority should be given to Raniganj Master Plan to address the issue of rehabilitation in the area.

## CONCLUSION

The Raniganj coalfield area is facing the brunt of pollution problem since ages, which is a result of uncovered transportation of coal, inadequacy of mine closure plan and lack of its implementation, absence of target-oriented approach for biological reclamation of mined out areas, etc. From ecological restoration perspective, a well-defined mine closure plan and its timely execution is an important pre-requisite, which the Raniganj coalfield area lacks. The persistent problem of coal mine fire and subsequent land subsidence has also created havoc for the area and its environment. Therefore, a comprehensive and planned approach for the restoration of the area is needed.

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10 Sudden sinking of ground surface

Annexure I: List of Operational and Non-Operational Coal Mines of ECL

Area	Name of the Mine						Coalfield	
	UG		OC		Mixed (having both UG & OC)			
	SN	Mine	SN	Mine	SN	Mine		
Sonepur Bazari			1	Sonepur Bazari			Raniganj	
Kunustoria	1	Amritnagar					Raniganj	
	2	Belbaid					Raniganj	
	3	Kunustoria					Raniganj	
	4	Parasea					Raniganj	
					1	Bansra	Raniganj	
			2	North Searsol			Raniganj	
Sodepur			3	Egara & Narainkuri under Mahabir Colliery			Raniganj	
	5	Dhemomain Inc					Raniganj	
	6	Dhemomain Pit					Raniganj	
	7	Narsamuda					Raniganj	
	8	Bejdih					Raniganj	
	9	Methani					Raniganj	
	10	Patmohona					Raniganj	
	11	Chinakuri III					Raniganj	
	12	Sodepur ( R)					Raniganj	
	13	Parbelia					Raniganj	
	14	Dubeshwari					Raniganj	
	Bankola	15	Khandra					Raniganj
		16	Bankola					Raniganj
		17	Shyamsundarpur					Raniganj
18		Kumardihi- "A"					Raniganj	
					2	Nakrakonda-Kumardihi "B"	Raniganj	
19		Tilaboni					Raniganj	
Pandesarwar					3	Madhaipur UG & Madhaipur OC	Raniganj	
	21	Manderboni & South Samla Amalgamated Mine					Raniganj	
	22	Khottadih UG					Raniganj	
	23	Pandaveswar					Raniganj	
			4	Dalurband			Raniganj	
			5	Khottadih OCP			Raniganj	
Satgram	24	Satgram Project					Raniganj	
	25	Satgram Incline					Raniganj	
	26	Chapuikhas colliery					Raniganj	
	27	J K Nagar					Raniganj	
	28	Pure Searsol					Raniganj	
	29	Kalidaspur Project					Raniganj	

				4	Nimcha colliery & Nimcha OC (Amkola) (H)	Raniganj	
Kenda Area	30	Bahula UG				Raniganj	
	31	Lower kenda Colliery				Raniganj	
				5	New kenda Colliery & New Kenda (H) OCP	Raniganj	
	32	Chora 10 pit Colliery				Raniganj	
	33	Chora 7&9 pit Colliery				Raniganj	
	34	Siduli Colliery				Raniganj	
	35	CL Jambad Colliery				Raniganj	
					6	Chora Block Incline UG & Shankarpur OC (D) & Banbahal OC(H)	Raniganj
Salanpur			6	Mohanpur (Expn) OCP		Raniganj	
			7	Dabor ph-II & Ph-III OC		Raniganj	
			8	Bonjemehari OC		Raniganj	
			9	Gaurandih Extn OC		Raniganj	
			10	Gaurandih Begunia OC		Raniganj	
			11	Itapara OC		Raniganj	
Sripur	36	Ningha Colliery				Raniganj	
				7	Bhanora West Block & Bhanora OC patch(H)	Raniganj	
			12	Kalipaharhi OC patch A		Raniganj	
Jhanjra Area	37	Jhanjra Project colliery			Raniganj		
Kajora	38	Madhusudanpur 7 pit & Incline colliery				Raniganj	
	39	Nabakajora Colliery				Raniganj	
	40	Parascole(East) Colliery				Raniganj	
	41	Parascole (West)				Raniganj	
					8	Madhabpur & Madhabpur OC(H)	Raniganj
	42	Khas Kajora				Raniganj	
	43	Central Kajora				Raniganj	
	44	Jambad UG				Raniganj	
			13	Jambad OCP		Raniganj	
<b>TOTAL</b>	<b>44</b>		<b>13</b>		<b>8</b>	<b>65</b>	

**List of Non-operational mines in last 03 years. Annx-2**

Sl. No.	Area	Name of the Mine			Coalfield
		UG	OC	Mixed	
1	Salanpur	Barmondia A colliery			Raniganj
2	Kunustoria		Belbaid OCP(D)		Raniganj
3			Mahabir OCP(D)		Raniganj
6	Sripur	Kalipahari colliery			Raniganj
7		SSI Colliery			Raniganj
8	Satgram	Kuardi-Tirat			Raniganj
9		Ratibati			Raniganj
10		Jemehari			Raniganj
11	Bankola	Moira			Raniganj
12		Nakrakonda			Raniganj
13	Sodepur	Chinakuri I			Raniganj
	<b>TOTAL</b>	<b>10</b>	<b>3</b>	<b>Nil</b>	

## References

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## Endnotes

- i It was proposed that the cluster/groups of such mines may be identified for preparing cluster-wise integrated EIA & Environmental Management Plan (EMPs), addressing environmental concerns comprehensively and ensuring effective co-ordination of environmental control measures within each cluster. The matter was originally discussed between Secretary, Coal and Secretary, MoEF on 28th February, 2008 and was agreed to prepare EIA & EMPs for clusters of mines instead of individual mines to speed up the process. Accordingly, the mines were distributed into 13 clusters on the suggestions and directions given by MoEF during several rounds of discussions and was approved by MoEF in the EC meeting held in August, 2009.



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