

# **CLUSTER WISE**

**REPLIES TO THE CLARIFICATIONS  
RAISED BY THE EXPERT APPRAISAL  
COMMITTEE (T&C), MOEF, NEW DELHI  
DURING THE EAC MEETING**

**dated 24<sup>th</sup> APRIL, 2012 at NEW DELHI**

**WITH RESPECT TO CLUSTERS - II, IV, VII, VIII, XIII, XIV and XVI  
OF BHARAT COKING COAL LTD., DHANBAD**

# **CLUSTER-II**

**REPLIES TO THE CLARIFICATIONS  
RAISED BY THE EXPERT APPRAISAL  
COMMITTEE (T&C), MOEF, NEW DELHI**

**(vide Letter no.J-11015/85/2010-IA.II(M) dated 18th May, 2012 of MOEF)**

**THE COMMITTEE DESIRED THAT details of active fires and extent of fire affected sites be provided and also desired that the company may engage specific professional experts dealing with fire control in mines.**

- The details of active fires in the extent of fire affected sites as per the approved Jharia Master Plan are given next.
- With respect to engaging specific environmental experts for dealing with fire control, BCCL's fire fighting team consisting of multi disciplinary engineers and technicians like mining engineers, excavation engineers, electrical and mechanical engineers, civil engineers etc. are well acquainted with nature of coalmine fires of JCF and competent enough to deal with the fire fighting operations. The directions and necessary approval for fire fighting operations are given by the DGMS from time to time. And for dealing with all fire spots/patches, DGMS approval is taken before starting the fire spots/ patches.
- With respect to preparation of fire fighting schemes/ report, a full team of multi disciplinary planners/ engineers are provided by CMPDI. However for the purpose of fire diagnostic study, BCCL has been engaging NRSC, Hyderabad and also scientists from CIMFR, Dhanbad.

## **LIST OF 2 FIRE AFFECTED SITES WITH FIRE DOUSING PROJECTS/ PLAN IN CLUSTER VII**

<b>Sl. No</b>	<b>Colliery</b>	<b>Site name &amp; no.</b>	<b>Area Affected (Km2)</b>	<b>No. of Houses Total</b>	<b>Rehab Cost (Rs Lacs)</b>
<b>1</b>	<b>Phularitand</b>	<b>Ashakuti Gwala Patti/O8</b>	<b>0.018</b>	<b>24</b>	<b>66.26</b>
<b>2</b>	<b>Phularitand</b>	<b>Mandra,Ganh eshpur&amp; Barwabera/O5</b>	<b>0.011</b>	<b>78</b>	<b>340.77</b>



## **GROUPING OF FIRES INTO PROJECTS IN CLUSTER II**

<b>SL. No.</b>	<b>CODE NAME OF FIRE PROJECTS</b>	<b>ORIGINAL FIRE NAME</b>
<b>1</b>	<b>JCF-F/BARORA/SHATABDIH//33</b>	<b>Shatabdih V/VI/VII seam</b>
<b>2</b>	<b>JCF-F/BARORA/PHULARITAND//6</b>	<b>Phularitand X, XI, XIII seam</b>
<b>3</b>	<b>JCF-F/BL-II/BLOCK-II OCP//5</b>	<b>Block-II XIII, XI/XII, X Spl. Seam</b>
<b>4</b>	<b>Scheme for dealing with fire at Phularitand / Block-II OCP for protection of rail</b>	<b>Phularitand / Block-II OCP XI/XII &amp; X seam</b>

**PROPOSED BARDRA UG COMPLEX**

**BLOCK II UG**  
PEAK CAPACITY: 0.585 MTY  
LIFE : 26 YEARS

**JAMUNIA OC**  
PEAK CAPACITY: 1.56 MTY  
LIFE : 6 YEARS

**MURAIIDH UG**  
PEAK CAPACITY: 2.60 MTY  
LIFE : 14 YEARS

**MURAIIDH OC**  
PEAK CAPACITY: 4.55 MTY  
LIFE : 6 YEARS

**SHATABDI OC**  
PEAK CAPACITY: 1.82 MTY  
LIFE : 28 YEARS

**PROPOSED RAPID LOADING SYSTEM**  
CAPACITY : 5 MTY, REPLACING SIDING NO. 1 IN BARDRA ; 7 NL (G) 39 NL (B) WASHERY, 47 KKC (LINK)

**PHULARITAND OC**  
PEAK CAPACITY: 3.90 MTY  
LIFE : 18 YEARS






**BLOCK II OC**  
PEAK CAPACITY: 5.2 MTY  
LIFE : 30 YEARS

**INDEX**

Sl. No.	PARTICULARS OF LAND	SHOWN THUS
1	CLUSTER BOUNDARY	[Green line]
2	FIRE	[Red hatched area]
3	STABLE SITES	[Green hatched area]
4	UNSTABLE SITES	[Red hatched area]
5	PROPOSED QUARRY LIMIT	[Orange dashed line]
6	QUARRY ABANDONED	[Black circle]
7	COAL DUMP	[Black circle]
8	ROAD & RAIL	[Black line]
9	RAILWAY SIDING	[Yellow rectangle]
10	FIRE AFFECTED SITES	[Red hatched area]
11	INCLINES/PITS	[Red line with dots]
12	COAL TRANSPORTATION BY ROAD	[Red line]
13	PRIVATE BUILTUP OUTSIDE LH	[Pink area]
14	FIRE AFFECTED SITES	[Red hatched area]

**SCALE**  
0 1000m

# TIME LINE ACTION PLAN FOR IMPLEMENTATION OF FIRE DEALING AND REHABILITATION

Activities	Capital (Rs. Cr.)	Duration (Month)	Schedule of Implementation Yearwise Requirement of funds											
			Pre-Impleme ntation		Phase-I (Years)					Phase-II (Years)				
			1	2	3	4	5	6	7	8	9	10	11	12
Pre-implementation surveys (For the whole coalfield)	187.2	24												
JCF-F/BARORA/SHATABDI OCP/II/33 Scheme for dealing with fire at Shatabdi OCP by excavation method	46.26	48												
JCF-F/BARORA/PHULARITAND/II/6 Scheme for dealing with fire at Phularitand Colliery (Block-III Coking).	90.0	84												
JCF-F / BLOCK -II / BLOCK -II/II/5 Scheme for dealing with fire at Block-II OCP.(A) and RAI Basti (B)	43.51	60												
Scheme for dealing with fire and subsidence at Block-II OCP& Phularitand Colliery for protection of Rail colliery for protection of Jore	2.58	24											7	

**THE COMMITTEE NOTED THAT** fires up to a depth of 20m occur in the mines of this cluster and desired that NRSC's Thermal Imaging Techniques should be utilised for assessing the extent of fire-affected areas and for monitoring impacts of fire control measures for at least the initial 5 years and thereafter monitoring could be taken up by CMPDI

BCCL had written to NRSC, Hyderabad for diagnostic study of fire and monitoring through aerial photography on 21.5.2012. The response is awaited.



BHARAT COKING COAL LIMITED  
(A Subsidiary of Coal India Limited)  
Office of the General Manager (Environment)  
Koyla Bhawan, Koyla Nagar  
Dhanbad

Ref.No.BCCL/GM(Env.)/F-NRSA/12/429

Dated 21<sup>st</sup> May,2012

To,  
Shri V.Raghu Venkataraman,  
General Manager,  
Aerial Photography,  
National Remote Sensing Centre,  
Indian Space Research Organisation,  
Department of Space, Government of India,  
Balanagar,  
Hyderabad- 500 037.

Sub.: Assessing the status of fire and monitoring using Aerial Photography in Jharia Coalfield, BCCL, Dhanbad.

Dear Sir,

This has reference to the Expert Appraisal Committee meeting of MoEF held on 24.4.2012. The Committee advised BCCL to conduct Thermal Infra Red survey for assessing of surface fire area in the whole of Jharia Coalfield every year for 5 years.

In view of the above, you are requested to facilitate BCCL in conducting the above survey for which necessary cost estimate may be provided to BCCL so as to obtain formal approval from our competent authority and for placing work order to you in this respect.

An early reply is highly solicited.

Thanking you,

Yours faithfully,  
  
General Manager (Env.)

Copy to:

1. Dr. C.B.S.Dutt, Deputy Director/ Scientist-H, Earth & Climate Sciences Area (ECSA), National Remote Sensing Centre, Indian Space Research Organisation, Department of Space, Government of India, Balanagar, Hyderabad- 500 037.
2. D(T) OP., BCCL
3. RD, RI-II, CMPDI
4. GM(P&P), BCCL



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Dated 21<sup>st</sup> May,2012

To,  
Dr. C.B.S.Dutt,  
Deputy Director/ Scientist-H,  
Earth & Climate Sciences Area (ECSA),  
National Remote Sensing Centre,  
Indian Space Research Organisation,  
Department of Space, Government of India,  
Balanagar,  
Hyderabad- 500 037.

Sub.: Thermal Infra Red Survey for assessing fire area in Jharia Coalfield.

Dear Sir,

This has reference to the Expert Appraisal Committee meeting of MoEF held on 24.4.2012. The Committee advised BCCL to conduct Thermal Infra Red survey for assessing of surface fire area in the whole of Jharia Coalfield every year for 5 years.

BCCL is in contact with Shri Vinod Kumar, HoD, Geo Sciences Division, NRSC for this purpose.

In view of the above, you are requested to facilitate BCCL in conducting the above survey for which necessary cost estimate may be provided to BCCL so as to obtain formal approval from our competent authority and for placing work order to you in this respect.

An early reply is highly solicited.

Thanking you,

Yours faithfully,  
  
General Manager (Env.)

**THE COMMITTEE DESIRED THAT the measures for fire control, rehabilitation and relocation of PAFs and mine reclamation require to be integrated. The Committee desired that this may be under one senior level executive such as Director.**

- ❖ **The measures for fire control, rehabilitation and relocation for PAFs and mine reclamation are integrated. It is planned to take up large scale ecological restoration in the mined out areas and fire dug out areas by involving local people. A CSR Action Plan is being formulated by TISS, Mumbai, in which this issue shall be addressed and accordingly implemented.**
- ❖ **The total operations are being overseen by Director(Tech.) Operations, at the corporate level and by Chief General Managers/ General Managers at the operational Area levels.**



**THE COMMITTEE DESIRED THAT the details of voids, their area, depth and post-mining land use should be provided. The Committee desired that abandoned pits/voids should be reclaimed either with plantation or used as water bodies for local use and for pisciculture and details in this regard may be provided.**

**As desired by the Committee, the details of voids, their depth and the post mining land use are given next.**

**As suggested by the Committee, all the abandoned pit/ voids shall be reclaimed and ecologically restored and the some of the water bodies shall be utilized for the use of local villagers and also for fish culture.**

## PROPOSED POST-MINING LAND USE DETAILS OF RECLAMATION OF PITS/ABANDONED QUARRIES IN CLUSTER-II

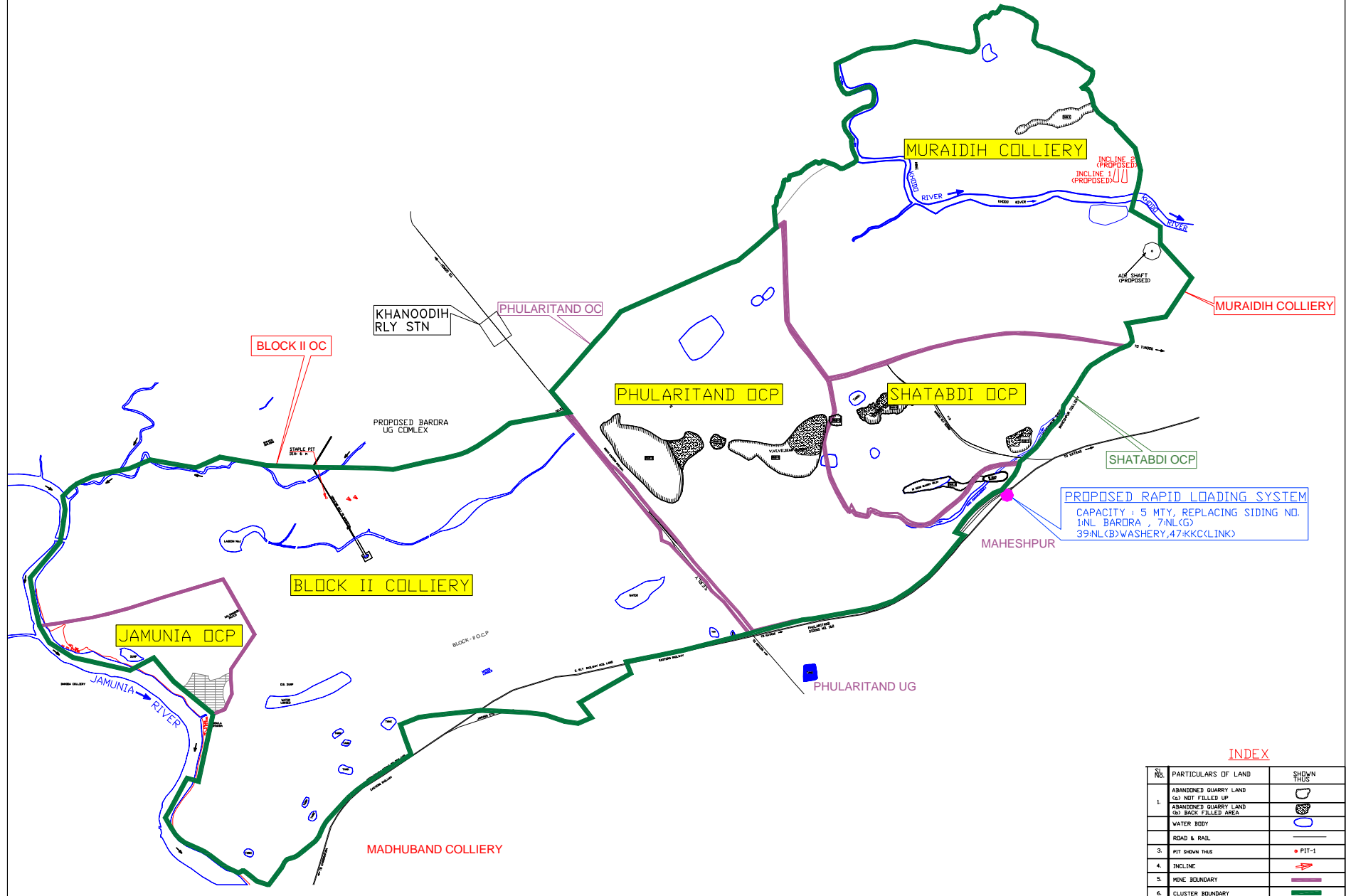
<b>Mine wise Abandoned mines/pits/craters</b>	<b>Area in ha.</b>	<b>Mine-wise sub-total (Area in ha.)</b>	<b>Depth in m.</b>	<b>Status and proposed Post-mining Land-use (Water body/ to be backfilled up to ground level and reclaimed with plantation)</b>
Pit no. AbQ-1 in Shatabdi Mixed	2.07	<b>9.19 in Shatabdi OC</b>	20	Backfilling & reclamation with plantation/eco-restoration
Pit no. AbQ-2 in Shatabdi Mixed	4.01		20	Backfilling & reclamation with plantation/eco-restoration/water body
Pit no. AbQ-3 in Shatabdi Mixed	0.54		20	Backfilling & reclamation with creation of water body
Pit no. AbQ-4 in Shatabdi Mixed	2.56		20	Backfilling & reclamation with plantation/eco-restoration
Pit no. AbQ-1 in Muraidih	7.5	<b>7.5 in Muraidih OCP</b>	20	Backfilling & reclamation with plantation/eco-restoration
Pit no. AbQ-1 in Phularitand OC	21.99	<b>39.67 in Phularitand OC</b>	20	Backfilling & reclamation with creation of water body
Pit no. AbQ-2 in Phularitand OC	15.66		20	Backfilling & reclamation with creation of water body
Pit no. AbQ-3 Phularitand OC	1.02		20	Backfilling & reclamation with plantation/eco-restoration
Pit no. AbQ-4 Phularitand OC	1.00		20	Backfilling & reclamation with creation of water body

# List of existing/proposed Open cast Pits in Cluster II

Sl no.	Name of Mines	Production Capacity (MTY)		Lease Hold Area (Ha)	Life (Years)
		Normative	Peak		
1	Block II OC Section	0.45	0.585	852.00	26
2	Jamunia OCP	1.2	1.56	55.00	6
3	Shatabdi OCP	1.4	1.82	181.30	28
4	Muraidih OC	3.5	4.55		6
5	Phularitand OCP	3.0	3.90	401.00	18
	Total	15.55	20.21 5	2025.71	



# ABANDONED QUARRIES IN CLUSTER II

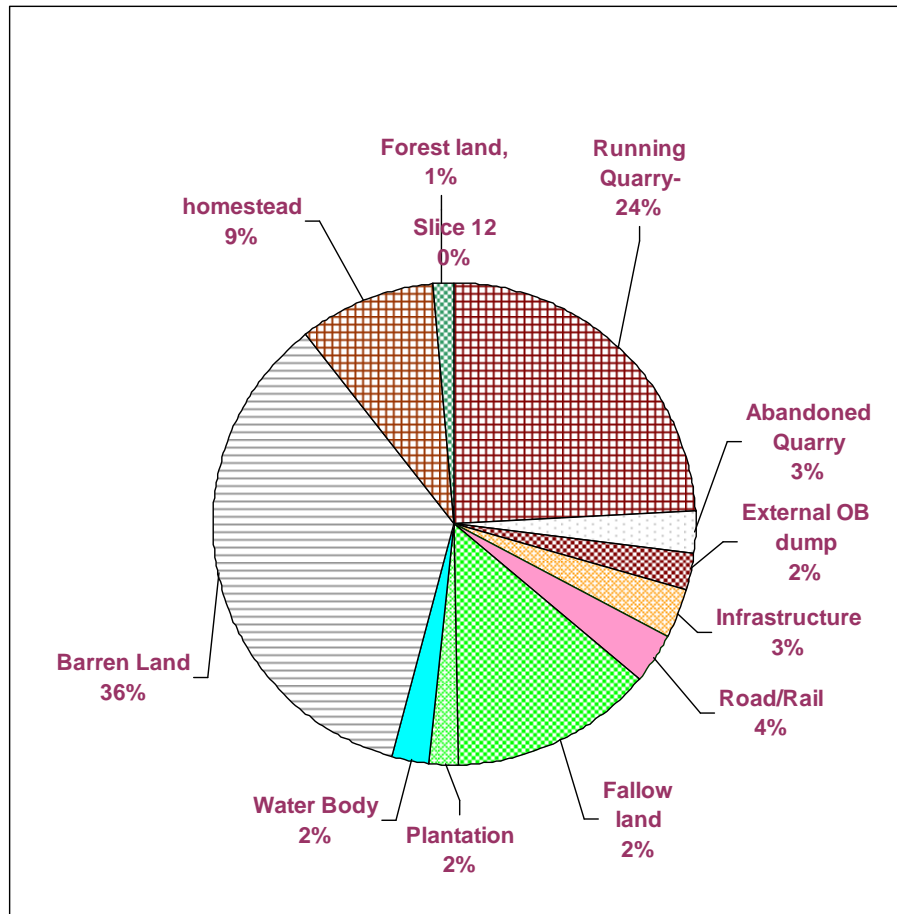


# COMBINED LAND USE OF CLUSTER-II

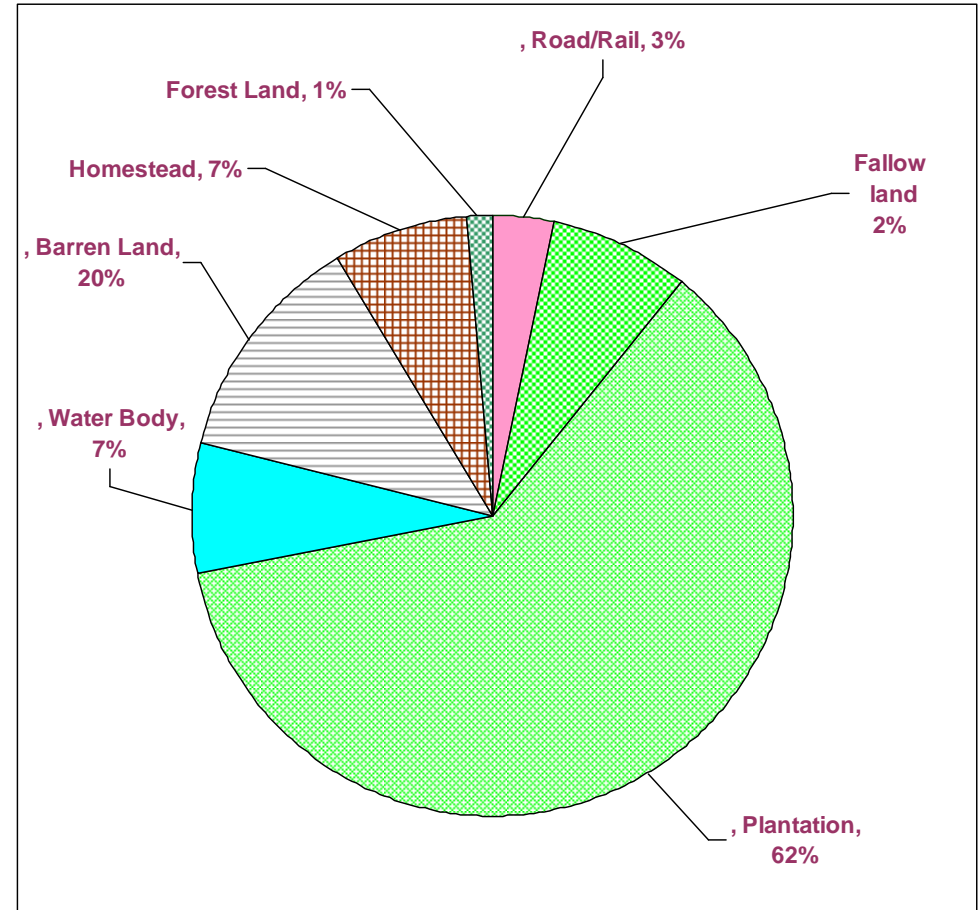
Sl.No.	Type of land use		Present mining land use (in Ha)	Post-mining land use (in Ha)
1	Operating Quarry	Backfilled	206.86	0
		Not Backfilled	234.39	0
2	Abandoned Quarry	Backfilled	14.29	0
		Not Backfilled	42.07	0
3	External OB dump		49.33	0
4	Service building/ Mine Infrastructure		34.25	0
5	Coal dump		31.24	0
6	Road and rail		71.69	66.47
7	Homestead Land		181.58	147.2
8	Fallow Land		275.32	153.14
9	Forest Land		29.75	29.75
10	Plantation		135.6	1237.48
11	Water Body		49.91	139.23
12	Barren Land		669.42	252.44
	Total		2025.71	2025.71

# LAND USE OF CLUSTER-II

## Existing land use



## Post-mining land use



## Stage-wise (cumulative) Land use for Reclamation Area (ha) for Cluster-II:

Land use Category	Present	5 <sup>th</sup> Year	10 <sup>th</sup> Year	15th Year	(end of Mine life)*
	(1 <sup>st</sup> Year)				
Backfilled Area (Reclaimed with plantation)	35	155	315	406.4	704
Excavated Area (not reclaimed)/ void	276.46	209.32	135	45.22	0
External OB dump Reclaimed with plantation)	45	68	86	94.33	94.33
Reclaimed Top soil dump	Included in OB Dump				
Green Belt Area	15	75	129	179	330
Undisturbed area (brought under plantation)	16.6	26.6	50.6	70.6	114.46
Roads (avenue plantation)	Included in Green Belt Area				
Area around buildings and Infrastructure (brought under plantation)	24	24	49	49	94.11
<b>TOTAL</b>					<b>1237.48</b>

## PLANTATION PROGRAMME FOR CLUSTER II

Year	Quarry land (abandoned)		Active Quarry Area		OB dumped out side quarry area		Service Building/ Mine Infrastructure / Coal dump		Green belt (around OCP		Barren Land		Total Plantation	Total Area Under Additional Plantation (Ha)	Total Plantation cost @ Rs.55101/ Ha (in Rs.Lakhs)
	Area (ha)	Trees / saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees / saplings			
1	6	15000	18	45000	5	12500			12	30000			102500	41	22.59
2	6	15000	18	45000	5	12500			12	30000			102500	41	22.59
3	6	15000	18	45000	5	12500			12	30000			102500	41	22.59
4	6	15000	18	45000	4	10000			12	30000	5	12500	112500	45	24.80
5	6	15000	18	45000	4	10000			12	30000	5	12500	112500	45	24.80
6	5	12500	18	45000	4	10000			12	30000	5	12500	110000	44	24.24
7	5	12500	30	75000	4	10000	7	17500	12	30000	5	12500	157500	63	34.71
8	4	10000	30	75000	4	10000	7	17500	10	25000	5	12500	150000	60	33.06
9	4	10000	30	75000	3	7500	7	17500	10	25000	5	12500	147500	59	32.51
10	4	10000	30	75000	3	7500	4	10000	10	25000	4	10000	137500	55	30.31

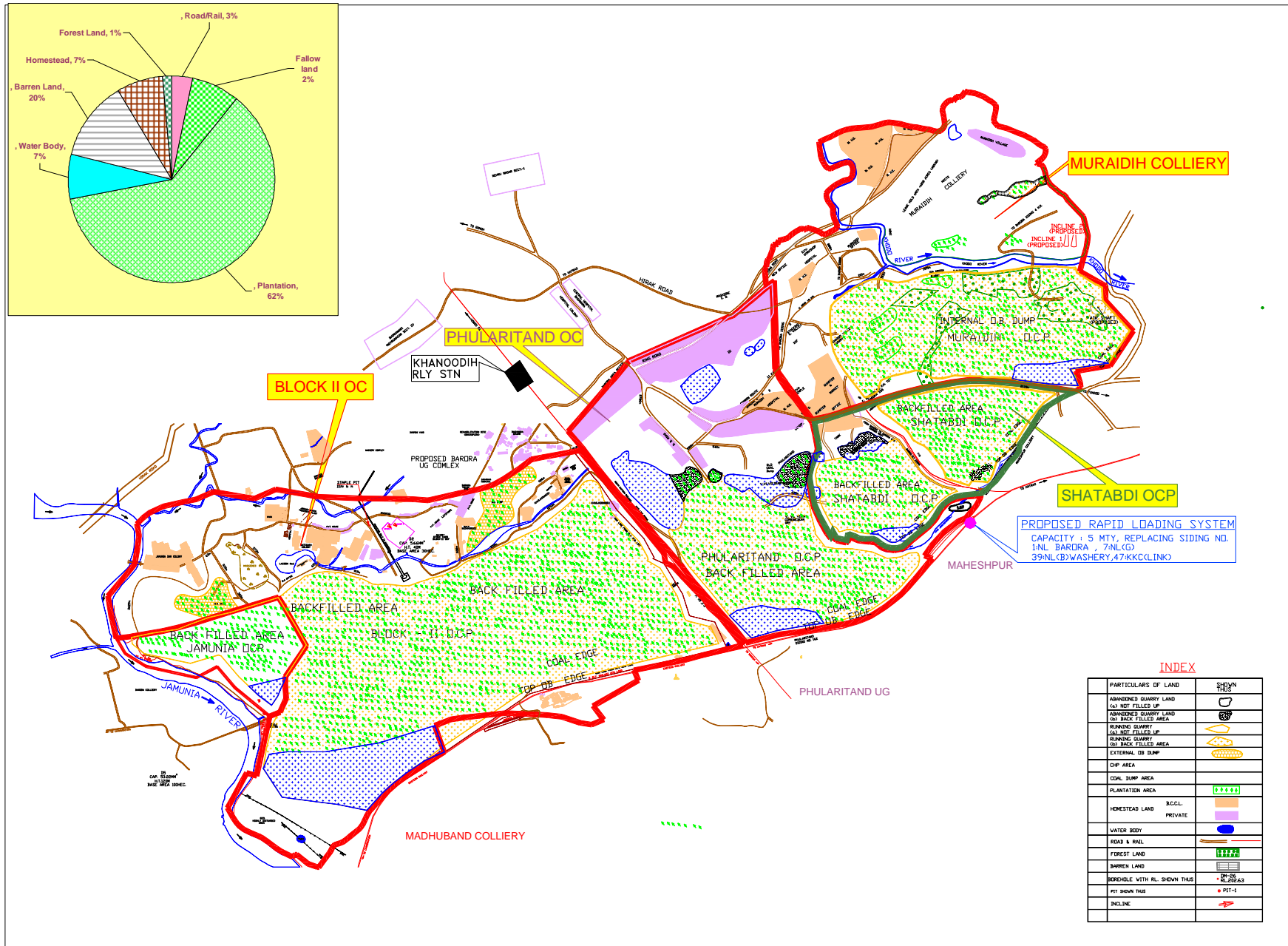
## PLANTATION PROGRAMME FOR CLUSTER II

Year	Quarry land (abandoned)		Active Quarry Area		OB dumped out side quarry area		Service Building/ Mine Infrastructure / Coal dump		Green belt (around OCP		Barren Land		Total Plantation	Total Area Under Additional Plantation (Ha)	Total Plantation cost @ Rs.55101/Ha (in Rs.Lakhs)
	Area (ha)	Trees / saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees / saplings			
11	4.4	11000	30	75000	3	7500			10	25000	4	10000	128500	51.4	28.32
12			15	37500	3	7500			10	25000	4	10000	80000	32	17.63
13			15	37500	2.33	5825			10	25000	4	10000	78325	31.33	17.26
14			15	37500					10	25000	4	10000	72500	29	15.98
15			12	30000					10	25000	4	10000	65000	26	14.33
16			12	30000					10	25000	4	10000	65000	26	14.33
17			12	30000					10	25000	4	10000	65000	26	14.33
18			12	30000					10	25000	2	5000	60000	24	13.22
19			12	30000			4	10000	8	20000	2	5000	65000	26	14.33

## PLANTATION PROGRAMME FOR CLUSTER II (Contd.)

Year	Quarry land (abandoned)		Active Quarry Area		OB dumped out side quarry area		Service Building/ Mine Infrastructure / Coal dump		Green belt (around OCP)		Barren Land		Total Plantation	Total Area Under Additional Plantation (Ha)	Total Plantation cost @ Rs.5510 1/Ha (in Rs.Lakhs )
	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings			
20			12	30000			4	10000	8	20000	2	5000	65000	26	14.33
21			12	30000			3.25	8125	8	20000	2	5000	63125	25.25	13.91
22			12	30000					8	20000	2	5000	55000	22	12.12
23			12	30000					8	20000	2	5000	55000	22	12.12
24			12	30000					8	20000	2	5000	55000	22	12.12
25			12	30000					8	20000	2.288	5720	55720	22.288	12.28
26			12	30000					8	20000			50000	20	11.02
27			12	30000					8	20000			50000	20	11.02
28			12	30000					6	15000			45000	18	9.92
29			18	45000			3.5	8750	6	15000			68750	27.5	15.15
30			13	32500			3.36	8400	5.5	13750			54650	21.86	12.05
Total (A)	56.36	140900	502	125500	49.33	123325	43.11	107775	283.5	708750	78.288	195720	2531520	1012.608	557.96
			40	100000			9	22500	11	27500	7	17500	167500	67	36.92
			38	95000			9	22500	11	27500	7	17500	162500	65	35.82
			32.6	81500			9	22500	9.5	23750	5.57	13925	141675	56.67	31.23
Total (B)	0		110.6	276500	0.00		27	67500	31.50	78750	19.57	48930	471680	188.672	103.96
Grand (A+B)	56.36	140900	612.6	153150	49.33	123325	70.11	175275	315.00	787500	97.86	244650	3003200	1201.28	19661.92

# POST MININGLAND USE OF CLUSTER II





**THE COMMITTEE DESIRED THAT peak capacity in all the cluster of mines should reflect the highest achievable production capacity from the project with sufficient cushion available for enhancing production for offsetting shortfall in others.**

- **As desired by the Committee, once the environmental clearance for the cluster with prescribed mines is obtained, BCCL shall once again put up fresh proposals with peak capacity on single cluster basis by amalgamating all the individual mines thereby reflecting the highest achievable production capacity from this cluster with sufficient cushion for enhancing production for offsetting shortfall from other mine openings/ sections.**
- **This proposal shall be put up to MoEF after it is duly approved by the BCCL's Board of Directors.**

## **THE COMMITTEE ALSO SOUGHT the present levels of production from the cluster**

### **Existing levels of production in Cluster-II**

<b>Name of Mine</b>	<b>Coal Production in MT for 2011-12</b>		
	<b>Normal production (in MT)</b>	<b>One time Fiery coal availed during execution of Master Plan for dealing with fires and subsidence (in MT)</b>	<b>Total (in MT)</b>
<b>Block II UG Section</b>	<b>Proposed mine</b>		
<b>Block II OCP Section</b>	<b>1.481</b>	<b>0.0414</b>	<b>1.522</b>
<b>Jamunia OCP</b>	<b>0.940</b>	<b>1.694</b>	<b>2.634</b>
<b>Shatabdi OCP</b>	<b>-</b>	<b>1.539</b>	<b>1.539</b>
<b>Muraidih UG Section</b>	<b>Proposed mine</b>		
<b>Muraidih OCP Section</b>	<b>1.575</b>	<b>0.547</b>	<b>2.122</b>
<b>Phularitand OCP</b>	<b>0.035</b>	<b>0.416</b>	<b>0.451</b>
<b>TOTAL</b>	<b>4.031</b>	<b>4.2374</b>	<b>8.268</b>

## **OBSERVATION OF THE COMMITTEE ON COAL TRANSPORT :**

**Reply details given in Annexure-I**

**THE COMMITTEE NOTED THAT the TATA Institute of Social Sciences, Mumbai (TISS) have prepared a conceptual Plan for CSR. The Committee desired that local people/institutions such as XLRI, Birsa Institute of Technology, Sindri Dhanbad Ramakrishna Mission should also be involved in the implementation of CSR Plan.**

**THE COMMITTEE DESIRED THAT an Annual Report should be brought out on the implementation of the CSR activities and also uploaded on the company website.**

- Reply details given in Annexure-II**

**THE COMMITTEE DESIRED THAT the local communities should also be involved in eco-restoration plan.**

- **Reply details given in Annexure-III**

**THE COMMITTEE DESIRED THAT the Corporate Environment Policy passed by BCCL Board, should be furnished.**

- **Reply details given in Annexure-IV**

**THE COMMITTEE SOUGHT DETAILS OF specific mitigative measures drawn up in the context of the Environmental Action Plan for Dhanbad Critically Polluted Area where the cluster falls.**

- **Reply details given in Annexure-V**

## THE COMMITTEE SOUGHT THE status of forestry clearance for forestland found within the cluster-II

BCCL is in the process of obtaining Forestry clearance of 29.75 Ha forest land in Muraidih colliery of cluster -II.

The application for the diversion of this forest land is under active consideration of Forest dept. of State Govt. In this regard Dy. Commissioner Dhanbad has already instructed the concerned Circle Officer for conducting GRAM SABHA under FRA-2006 which will be conducted shortly.

प्यनबाद संसाधनपालिका (जिला राजस्व शाखा) प्यनबाद  
पत्रांक 25/7/राठ

प्रेषक,  
अपर सहायत्री,  
प्यनबाद।

सेवा में,  
असिस्टेंट कमिश्नरी,  
वा.ध.म.प.।

विषय - भोजा - वरमसिपा प्रोजेक्ट में (वनन कार्य हेतु वन अधिभार अधिनियम 2006 के तहत अनपत्रि के खंडीय में।  
प्रसंग - महाप्रबंधक, वरमसिपा के पत्रांक - 619 दिनांक - 14/06/11 को  
संदर्भित,  
उपरोक्त विषयक प्रासंगिक पत्र द्वारा भोजा - वरमसिपा में (वनन कार्य हेतु वन अधिभार अधिनियम 2006 के तहत अनपत्रि प्रमाण - पत्र उपलब्ध करने का अनुरोध किया गया है।  
अतः अनुरोध है कि भोजा - वरमसिपा में (वनन कार्य हेतु वन अधिभार अधिनियम 2006 के तहत अनपत्रि प्रमाण - पत्र उपलब्ध करने की कृपा की जाए। (सुलभ प्रसंग हेतु पत्र की धारणापत्रि संलग्न की जा रही है।

विश्राम-भाजन,  
14/07/11  
अपर सहायत्री,  
प्यनबाद।



# **CLUSTER-IV**

**REPLIES TO THE CLARIFICATIONS  
RAISED BY THE EXPERT APPRAISAL  
COMMITTEE (T&C), MOEF, NEW DELHI**

**(vide Letter no.J-11015/212/2010-IA.II(M) dated 18<sup>th</sup> May, 2012 of MOEF)**

**THE COMMITTEE DESIRED THAT the measures for fire control, rehabilitation and relocation of PAFs and mine reclamation require to be integrated. The Committee desired that this may be under one senior level executive such as Director.**

- ❖ **The measures for fire control, rehabilitation and relocation for PAFs and mine reclamation are integrated. It is planned to take up large scale ecological restoration in the mined out areas and fire dug out areas by involving local people. A CSR Action Plan is being formulated by TISS, Mumbai, in which this issue shall be addressed and accordingly implemented.**
- ❖ **The total operations are being overseen by Director(Tech.) Operations, at the corporate level and by Chief General Managers/ General Managers at the operational Area levels.**

**THE COMMITTEE DESIRED THAT all existing surface water bodies should be protected and if they are disturbed, they should be restored and reclaimed.**

**As suggested by the EAC, MoEF, all existing surface water bodies shall be protected from siltation, pollution, etc and shall be restored and reclaimed all around by ecological restoration methods and fish culture. This shall be done through local villagers.**

**THE COMMITTEE DESIRED THAT**  
all the abandoned mine pits should be filled and reclaimed. There should be no open pits/ abandoned quarries of past mining.

**THE COMMITTEE DESIRED THAT**  
the after completion of opencast mining, the surface area of opencast mining should be reclaimed with plantation within 3 years.

**THE COMMITTEE SOUGHT**  
**DETAILS OF** reclamation of existing opencast pits/abandoned quarries and their post-mining land use.

As suggested by the Committee, all the abandoned mine pits shall be filled, reclaimed and ecologically restored. There shall not be any open pits/ abandoned quarries of past mining left.

As suggested by the Committee, after completion of the open cast mining, the surface area of the open cast mine shall be reclaimed by ecological restoration within three years

As sought by the Committee, the details of existing open cast pits/ abandoned quarries and the post mining land use are given next.

## List of existing/proposed Open cast Pits in Cluster IV

Name of Mines	Production Capacity (MTY)		Life(Years)
	Normative	Peak	
Amalgamated Keshalpur & West Mududih OC	2.00	2.6	More than 30 years

## PROPOSED POST-MINING LAND USE DETAILS OF RECLAMATION OF PITS/ABANDONED QUARRIES IN CLUSTER-IV

<b>Mine wise Abandoned mines/pits/craters</b>	<b>Area in ha.</b>	<b>Mine-wise sub-total (Area in ha.)</b>	<b>Area in ha.</b>	<b>Status and proposed Post-mining Land-use (Water body/ to be backfilled up to ground level and reclaimed with plantation)</b>
Pit no. AbQ-1 in Salanpur Colliery UG	0.92	10.50 in Salanpur Colliery UG	BF	Water body & to be reclaimed with plantation/eco-restoration
Pit no. AbQ-2 in Salanpur Colliery UG	0.18		8	to be backfilled and reclaimed with plantation/eco
Pit no. AbQ-3 in Salanpur Colliery UG	0.10		8	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-4 in Salanpur Colliery UG	0.04		8	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-5 in Salanpur Colliery UG	6.81		10	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-6 in Salanpur Colliery UG	0.09		8	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-7 in Salanpur Colliery UG	2.36		BF	to be reclaimed with plantation/eco-restoration

## PROPOSED POST-MINING LAND USE DETAILS OF RECLAMATION OF PITS/ABANDONED QUARRIES IN CLUSTER-IV

<b>Mine wise Abandoned mines/pits/craters</b>	<b>Area in ha.</b>	<b>Mine-wise sub-total (Area in ha.)</b>	<b>Area in ha.</b>	<b>Status and proposed Post-mining Land-use (Water body/ to be backfilled up to ground level and reclaimed with plantation)</b>
Pit no. AbQ-1 in Katras Choitudih UG	0.95	10.70in Katras Choitudih Colliery UG	BF	to be reclaimed with plantation/eco-restoration
Pit no. AbQ-2 in Katras Choitudih UG	0.34		6	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-3 in Katras Choitudih UG	0.22		6	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-4 in Katras Choitudih UG	0.07		8	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-5 in Katras Choitudih UG	0.31		6	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-6 in Katras Choitudih UG	1.01		6	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-7 in Katras Choitudih UG	0.80		7	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-8 in Katras Choitudih UG	0.71		8	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-9 in Katras Choitudih UG	0.61		6	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-10 in Katras Choitudih UG	1.70		6	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-11 in Katras Choitudih UG	0.16		6	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-12 in Katras Choitudih UG	0.45		6	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-13 in Katras Choitudih UG	1.10		7	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-14 in Katras Choitudih UG	1.10		7	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-15 in Katras Choitudih UG	0.71		6	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-16 in Katras Choitudih UG	0.46		6	to be backfilled and reclaimed with eco-restoration

## PROPOSED POST-MINING LAND USE DETAILS OF RECLAMATION OF PITS/ABANDONED QUARRIES IN CLUSTER-IV

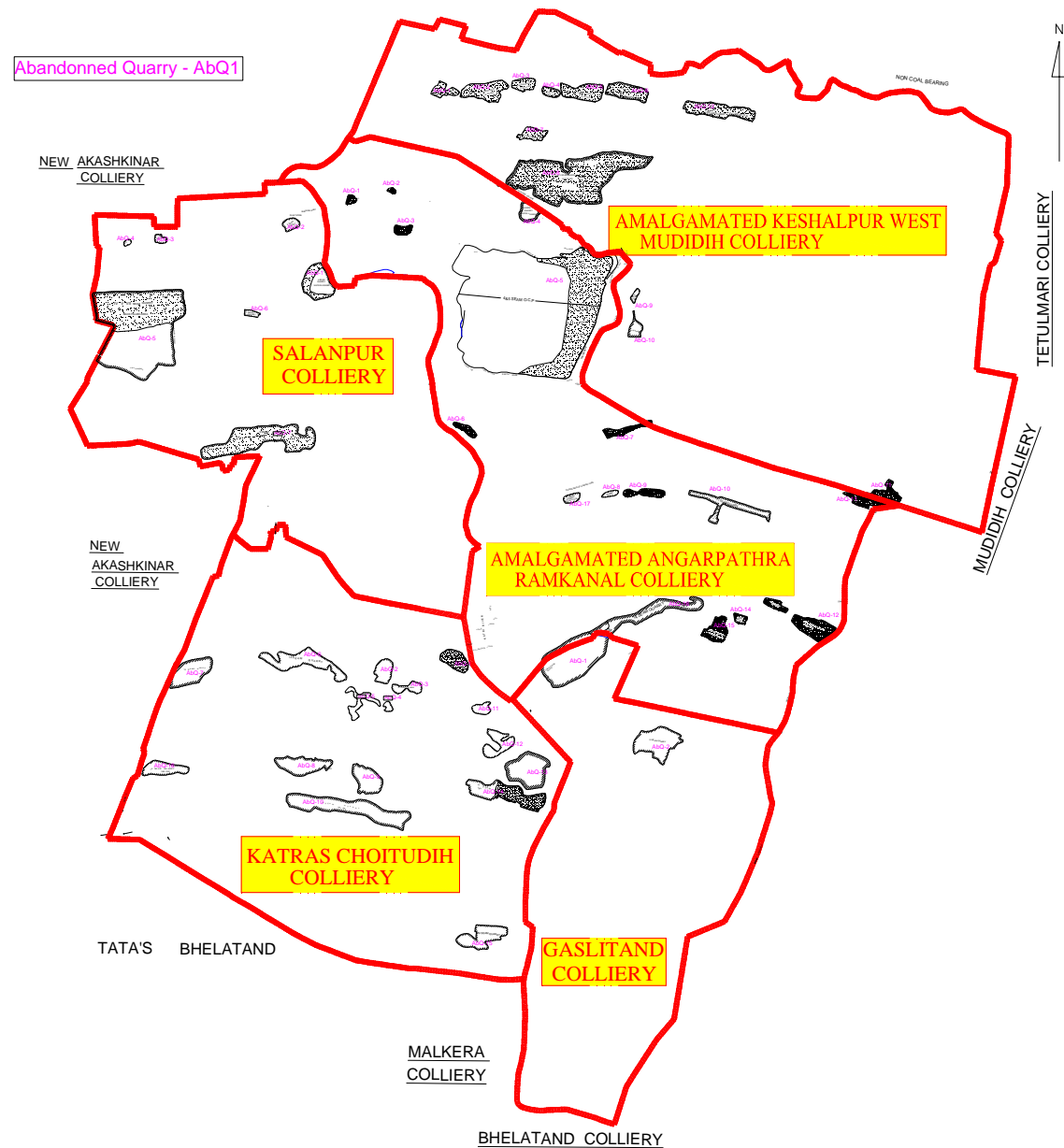
<b>Mine wise Abandoned mines/pits/craters</b>	<b>Area in ha.</b>	<b>Mine-wise sub-total (Area in ha.)</b>	<b>Area in ha.</b>	<b>Status and proposed Post-mining Land-use (Water body/ to be backfilled up to ground level and reclaimed with plantation)</b>
Pit no. AbQ-1 in Amalgamated Keshalpur& West Mududih Mixed	0.40	14.26in Amalgama ted Keshalpur & West Mududih Mixed	BF	to be reclaimed with eco-restoration
Pit no. AbQ-2 in Amalgamated Keshalpur& West Mududih Mixed	1.09		BF	to be reclaimed with eco-restoration
Pit no. AbQ-3 in Amalgamated Keshalpur& West Mududih Mixed	0.40		BF	to be reclaimed with eco-restoration
Pit no. AbQ-4 in Amalgamated Keshalpur& West Mududih Mixed	0.24		BF	to be reclaimed with eco-restoration
Pit no. AbQ-5 in Amalgamated Keshalpur& West Mududih Mixed	0.96		BF	to be reclaimed with eco-restoration
Pit no. AbQ-6 in Amalgamated Keshalpur& West Mududih Mixed	0.91		BF	to be reclaimed with eco-restoration
Pit no. AbQ-7 in Amalgamated Keshalpur& West Mududih Mixed	0.43		BF	to be reclaimed with eco-restoration
Pit no. AbQ-8 in Amalgamated Keshalpur& West Mududih Mixed	7.38		BF	to be reclaimed with eco-restoration
Pit no. AbQ-9 in Amalgamated Keshalpur& West Mududih Mixed	0.10		BF	to be reclaimed with eco-restoration
Pit no. AbQ-10 in Amalgamated Keshalpur& West Mududih Mixed	0.33		BF	to be reclaimed with eco-restoration
Pit no. AbQ-11 in Amalgamated Keshalpur& West Mududih Mixed	0.65		BF	to be reclaimed with eco-restoration
Pit no. AbQ-12 in Amalgamated Keshalpur& West Mududih Mixed	1.37		BF	to be reclaimed with eco-restoration



## PROPOSED POST-MINING LAND USE DETAILS OF RECLAMATION OF PITS/ABANDONED QUARRIES IN CLUSTER-IV

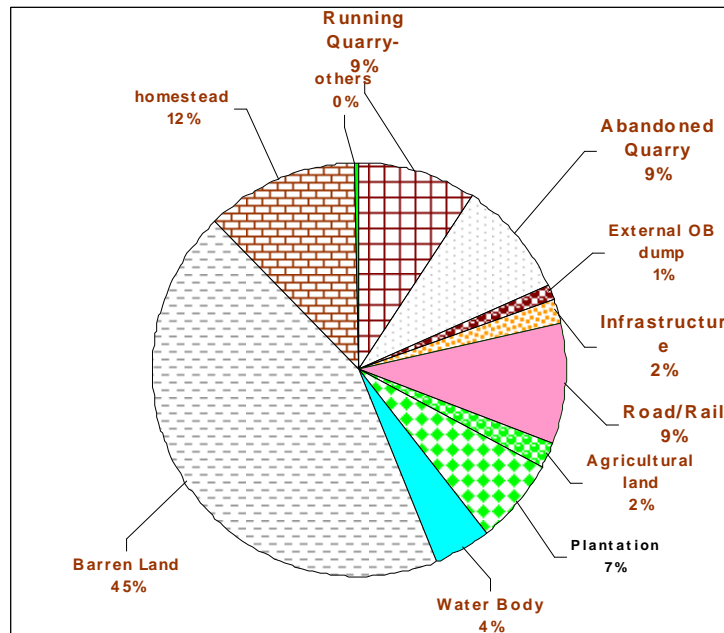
Mine wise Abandoned mines/pits/craters	Area in ha.	Mine-wise sub-total (Area in ha.)	Area in ha.	Status and proposed Post-mining Land- use (Water body/ to be backfilled up to ground level and reclaimed with plantation)
Pit no. AbQ-1 in Amalgamated Angarpathra & Ramkanali collieries	0.22	64.0in Amalgamated Angarpathra & Ramkanali collieries	BF	to be reclaimed with eco-restoration
Pit no. AbQ-2 in Amalgamated Angarpathra & Ramkanali collieries	0.10		BF	to be reclaimed with eco-restoration
Pit no. AbQ-3 in Amalgamated Angarpathra & Ramkanali collieries	0.44		BF	to be reclaimed with eco-restoration
Pit no. AbQ-4 in Amalgamated Angarpathra & Ramkanali collieries	0.91		BF	to be reclaimed with eco-restoration
Pit no. AbQ-5 in Amalgamated Angarpathra & Ramkanali collieries	47.52		20	to be reclaimed with eco-restoration
Pit no. AbQ-6 in Amalgamated Angarpathra & Ramkanali collieries	0.45		BF	to be reclaimed with eco-restoration
Pit no. AbQ-7 in Amalgamated Angarpathra & Ramkanali collieries	0.79		BF	to be reclaimed with eco-restoration
Pit no. AbQ-8 in Amalgamated Angarpathra & Ramkanali collieries	0.22		6	to be reclaimed with eco-restoration
Pit no. AbQ-9 in Amalgamated Angarpathra & Ramkanali collieries	0.77		BF	to be reclaimed with eco-restoration
Pit no. AbQ-10 in Amalgamated Angarpathra & Ramkanali collieries	1.88		7	to be reclaimed with eco-restoration
Pit no. AbQ-11 in Amalgamated Angarpathra & Ramkanali collieries	1.16		BF	to be reclaimed with eco-restoration
Pit no. AbQ-12 in Amalgamated Angarpathra & Ramkanali collieries	1.94		BF	to be reclaimed with eco-restoration
Pit no. AbQ-13 in Amalgamated Angarpathra & Ramkanali collieries	0.52		BF	to be reclaimed with eco-restoration
Pit no. AbQ-1 in Gaslitand Colliery	0.87	2.28in Gaslitand Colliery	10	to be reclaimed with eco-restoration
Pit no. AbQ-2 in Gaslitand Colliery	1.41		10	to be reclaimed with eco-restoration
	TOT AL	101.74 in CLUSTER-4		

# ABANDONED QUARRIES IN CLUSTER IV

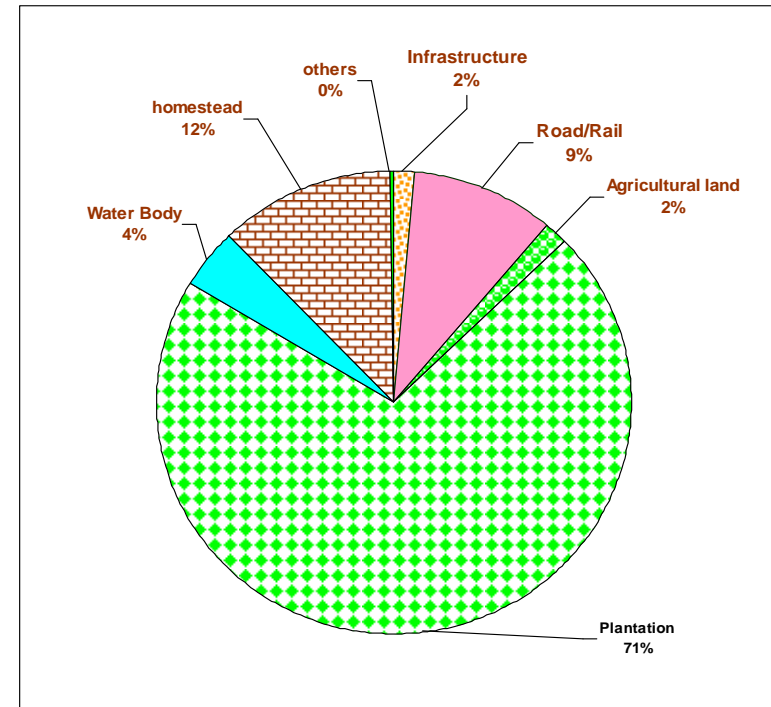


## **LAND USE OF CLUSTER IV**

<b>Sl. No.</b>	<b>Type of land use</b>	<b>Present mining land use (in Ha)</b>	<b>Post-mining land use (in Ha)</b>
<b>1</b>	<b>Running Quarry</b>		
	<b>Backfilled</b>	<b>71.63</b>	<b>0.00</b>
	<b>Not Backfilled</b>	<b>31.68</b>	<b>0.00</b>
<b>2</b>	<b>Abandoned Quarry</b>		
	<b>- Backfilled</b>	<b>14.26</b>	<b>0.00</b>
	<b>- Not Backfilled</b>	<b>87.48</b>	<b>0.00</b>
<b>3</b>	<b>External OB Dump</b>	<b>14.82</b>	<b>0.00</b>
<b>4</b>	<b>Service building/ Mine Infrastructure</b>	<b>17.02</b>	<b>17.02</b>
<b>5</b>	<b>Coal dump</b>	<b>4.36</b>	<b>0.00</b>
<b>6</b>	<b>Homestead Land</b>	<b>132.71</b>	<b>132.71</b>
<b>7</b>	<b>Agricultural Land</b>	<b>21.22</b>	<b>21.22</b>
<b>8</b>	<b>Forest Land</b>	<b>0.00</b>	<b>0.00</b>
<b>9</b>	<b>Plantation</b>	<b>74.67</b>	<b>794.09</b>
<b>10</b>	<b>Water Body</b>	<b>48.31</b>	<b>48.31</b>
<b>11</b>	<b>Barren Land</b>	<b>495.19</b>	<b>0.00</b>
<b>12</b>	<b>Roads &amp; Railways</b>	<b>106.52</b>	<b>106.52</b>
<b>13</b>	<b>Others</b>	<b>3.92</b>	<b>3.92</b>
	<b>Total</b>	<b>1123.79</b>	<b>1123.79</b>



Existing land use



Post-mining land use

## Stage-wise (cumulative) Land use for Reclamation Area (ha) for Cluster-IV

Land use Category	Present	5 <sup>th</sup> Year	10 <sup>th</sup> Year	15th Year	Post Mining
	(1 <sup>st</sup> Year)				
<b>Backfilled Area (Reclaimed with plantation)</b>	<b>85.89</b>	<b>105.75</b>	<b>125.61</b>	<b>145.47</b>	<b>205.05</b>
<b>Excavated Area (not reclaimed)/ void</b>	<b>119.16</b>	<b>99.3</b>	<b>79.44</b>	<b>59.58</b>	<b>0</b>
<b>External OB dump Reclaimed with plantation)</b>	<b>14.82</b>				<b>14.82</b>
<b>Reclaimed Top soil dump</b>	<b>Included in Backfilled Area</b>				
<b>Green Belt Area</b>					<b>74.67</b>
<b>Undisturbed area (brought under plantation)</b>					<b>495.19</b>
<b>Roads (avenue plantation)</b>	<b>Included in Green Belt Area</b>				
<b>Area around buildings and Infrastructure (brought under plantation)</b>					<b>4.36</b>
<b>TOTAL</b>					<b>794.09</b>

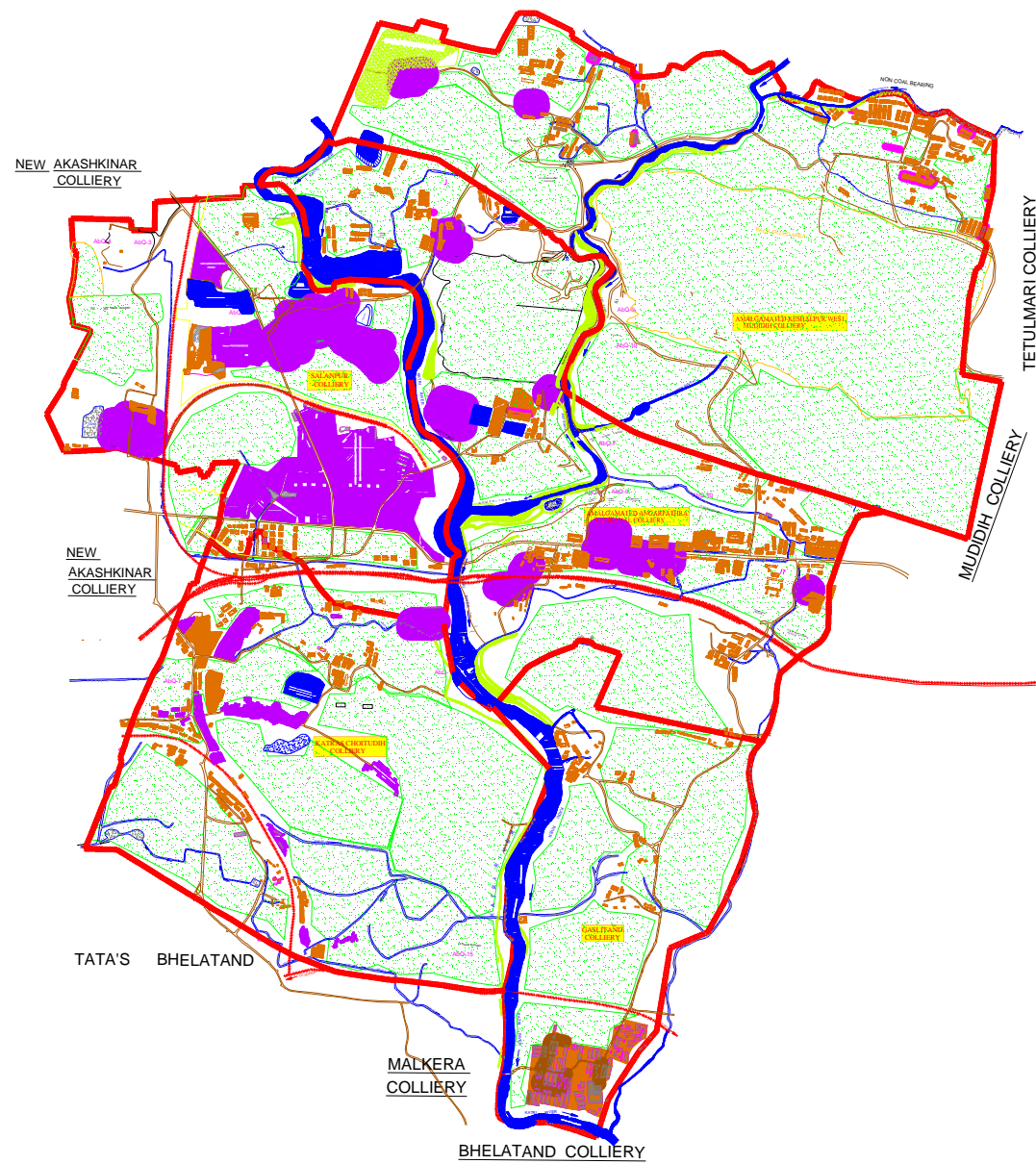
# Plantation programme of the Cluster-IV

	Year	Quarry land (abandoned)		Active Quarry Area		OB dumped out side quarry area		Service Building/ Mine Infrastructure / Coal dump		Green belt around OCP		Barren Land		Total Plantation	Total Area Under Additional Plantation (Ha)	Total Plantation cost @ Rs.55 101/Ha (in Rs.Lakhs)
		Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings			
During active mining (A)	1	4	10000							5	12500	10	25000	47500	19	10.47
	2	5	12500							5	12500	10	25000	50000	20	11.02
	3	5	12500							4	10000	10	25000	47500	19	10.47
	4	6	15000							4	10000	10	25000	50000	20	11.02
	5	9	22500							4	10000	10	25000	57500	23	12.67
	6	10	25000							5	12500	11	27500	65000	26	14.33
	7	10	25000							5	12500	11	27500	65000	26	14.33
	8	12	30000							5	12500	11	27500	70000	28	15.43
	9	12	30000							6	15000	11	27500	72500	29	15.98
	10	12	30000							6	15000	11	27500	72500	29	15.98
	11	12	30000							6	15000	12	30000	75000	30	16.53
	12	4.74	11850							6	15000	12	30000	56850	22.74	12.53
	13									6	15000	12	30000	45000	18	9.92
	14			2	5000	1	2500			8	20000	12	30000	57500	23	12.67
	15			2	5000	1	2500			8	20000	12	30000	57500	23	12.67
	16			2	5000	1	2500			7	17500	12	30000	55000	22	12.12
	17			2	5000	0.5	1250			7	17500	12	30000	53750	21.5	11.85
	18			3	7500	0.5	1250			7	17500	12	30000	56250	22.5	12.40
	19			3	7500	0.5	1250			4	10000	13	32500	51250	20.5	11.30
	20			3	7500	1	2500			4	10000	13	32500	52500	21	11.57

# Plantation programme of the Cluster-IV(contd..)

	Year	Quarry land (abandoned)		Active Quarry Area		OB dumped out side quarry area		Service Building/ Mine Infrastructure / Coal dump		Green belt around OCP		Barren Land		Total Plantation	Total Area Under Additional Plantation (Ha)	Total Plantation cost @ Rs.55 101/Ha (in Rs.Lakhs)
		Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings			
	21			3	7500	2	5000			3	7500	12	30000	50000	20	11.02
	22			3	7500	2	5000			3	7500	11.41	28525	48525	19.41	10.70
	23			4	10000	2	5000			2.65	6625			21625	8.65	4.77
	24			4	10000	1	2500							12500	5	2.76
	25			4	10000	1	2500							12500	5	2.76
	26			3	7500	1.32	3300							10800	4.32	2.38
	27			3	7500									7500	3	1.65
	28			3	7500									7500	3	1.65
	29			2	5000									5000	2	1.10
	30			2.55	6375									6375	2.55	1.41
	<b>Total (A)</b>	<b>101.74</b>	<b>254350</b>	<b>48.55</b>	<b>121375</b>	<b>14.82</b>	<b>37050</b>			<b>120.65</b>	<b>301625</b>	<b>250.41</b>	<b>626025</b>	<b>1340425</b>	<b>536.17</b>	<b>295.44</b>
Post mining (B)				20	50000			1	2500	15	37500	30	75000	165000	66	36.37
				20	50000			1	2500	15	37500	30	75000	165000	66	36.37
				14.76	36900			2.36	5900	9.6	24000	24.53	61325	128125	51.25	28.24
	<b>Total (B)</b>			<b>54.76</b>	<b>136900</b>			<b>4.36</b>	<b>10900</b>	<b>39.60</b>	<b>99000</b>	<b>84.53</b>	<b>211325</b>	<b>458125</b>	<b>183.25</b>	<b>100.97</b>
<b>Grand (A+B)</b>		<b>101.74</b>	<b>254350</b>	<b>103.31</b>	<b>258275</b>	<b>14.82</b>	<b>37050</b>	<b>4.36</b>	<b>10900</b>	<b>160.25</b>	<b>400625</b>	<b>334.94</b>	<b>837350</b>	<b>1798550</b>	<b>719.42</b>	<b>396.41</b>

# POST MINING LAND USE PLAN





**THE COMMITTEE SOUGHT DETAILS OF conceptual post-mining land use of the individual mines of the cluster as per MOEF prescribed tables.**

**As sought by the Committee, the details of conceptual post mining land use for the individual mine as per the MoEF's prescribed table are given next.**

## Conceptual Post-Mining Land use Pattern for Cluster-IV (MOEF Format)

Land use during mining	Proposed Post- mining Land Use (ha)				
	Plantation	Water Body	Public Use	Undisturbed	TOTAL
Top Soil Dump					0
External Waste Dump	14.82				14.82
Excavation (backfilling)	205.05				205.05
Road & RAIL			106.52		106.52
Built up area(Infrastructure, COAL DUMP)	4.36			17.02	21.38
Afforestation				74.67	74.67
Water Body				48.31	48.31
Undisturbed Area	495.19			157.85	653.04
<b>TOTAL</b>	<b>719.42</b>		<b>106.52</b>	<b>297.85</b>	<b>1123.79</b>

## Conceptual Post-Mining Land use Pattern for Salanpur Colliery (UG) (MOEF Format)

Land use during mining	Proposed Post- mining Land Use (ha)				
	Plantation	Water Body	Public Use	Undisturbed	TOTAL
Top Soil Dump					0
External Waste Dump	10.32				10.32
Excavation (backfilling)	10.5				10.5
Road & RAIL			36.59		36.59
Built up area(Infrastructure, COAL DUMP)	0.18			3.35	3.53
Afforestation				2	2
Water Body				11.95	11.95
Undisturbed Area	57.9			44.7	102.6
<b>TOTAL</b>	<b>78.9</b>	<b>0</b>	<b>36.59</b>	<b>62</b>	<b>177.49</b>

## Conceptual Post-Mining Land use Pattern for Katras Choitudih Colliery (UG) (MOEF Format)

Land use during mining	Proposed Post- mining Land Use (ha)				
	Plantation	Water Body	Public Use	Undisturbed	TOTAL
Top Soil Dump					0
External Waste Dump					0
Excavation (backfilling)	10.7				10.7
Road & RAIL			35.4		35.4
Built up area(Infrastructure, COAL DUMP)	0.4			0.85	1.25
Afforestation				27.2	27.2
Water Body				1.1	1.1
Undisturbed Area	96.83			55.52	152.35
<b>TOTAL</b>	<b>107.93</b>	<b>0</b>	<b>35.4</b>	<b>84.67</b>	<b>228</b>

**Conceptual Post-Mining Land use Pattern for Amalgamated  
Keshalpur- West Mudidih Colliery (OC & UG) :  
(MOEF Format)**

Land use during mining	Proposed Post- mining Land Use (ha)				
	Plantation	Water Body	Public Use	Undisturbed	TOTAL
Top Soil Dump					0
External Waste Dump					0
Excavation (backfilling)	117.57				117.57
Road & RAIL			3.63		3.63
Built up area(Infrastructure, COAL DUMP)	1.98			11.62	13.6
Afforestation				2.07	2.07
Water Body				5.98	5.98
Undisturbed Area	146.3			35.85	182.15
TOTAL	265.85	0	3.63	55.52	325 <sup>49</sup>

**Conceptual Post-Mining Land use Pattern for  
Amalgamated Angarpathra - Ramkanali colliery. (UG):  
(MOEF Format)**

Land use during mining	Proposed Post- mining Land Use (ha)				
	Plantation	Water Body	Public Use	Undisturbed	TOTAL
Top Soil Dump					0
External Waste Dump	4.5				4.5
Excavation (backfilling)	64				64
Road & RAIL			14.2		14.2
Built up area(Infrastructure, COAL DUMP)	1.8			0.6	2.4
Afforestation					0
Water Body				16.2	16.2
Undisturbed Area	141.16			12.18	153.34
<b>TOTAL</b>	<b>211.46</b>	<b>0</b>	<b>14.2</b>	<b>28.98</b>	<b>254.64</b>

## Conceptual Post-Mining Land use Pattern for Gaslitand Colliery. (UG): (MOEF Format)

Land use during mining	Proposed Post- mining Land Use (ha)				
	Plantation	Water Body	Public Use	Undisturbed	TOTAL
Top Soil Dump					0
External Waste Dump					0
Excavation (backfilling)	2.28				2.28
Road & RAIL			16.7		16.7
Built up area(Infrastructure, COAL DUMP)				0.6	0.6
Afforestation				43.4	43.4
Water Body				13.08	13.08
Undisturbed Area	53			9.6	62.6
<b>TOTAL</b>	<b>55.28</b>	<b>0</b>	<b>16.7</b>	<b>66.68</b>	<b>138.66</b>

**THE COMMITTEE DESIRED THAT peak capacity in all the cluster of mines should reflect the highest achievable production capacity from the project with sufficient cushion available for enhancing production for offsetting shortfall in others.**

- **As desired by the Committee, once the environmental clearance for the cluster with prescribed mines is obtained, BCCL shall once again put up fresh proposals with peak capacity on single cluster basis by amalgamating all the individual mines thereby reflecting the highest achievable production capacity from this cluster with sufficient cushion for enhancing production for offsetting shortfall from other mine openings/ sections.**
- **This proposal shall be put up to MoEF after it is duly approved by the BCCL's Board of Directors.**



**THE COMMITTEE ALSO SOUGHT the present levels of production from all the clusters.**

**Existing levels of production in Cluster-IV**

CLUSTER NO.	NAME OF MINE	COAL PRODUCTION in MT for 2011-12		
		Normal production (in MT)	one time Fiery coal availed during execution of Master Plan for dealing with fires and subsidence (in MT)	Total (in MT)
CLUSTER-4	Salanpur Colliery UG	0.071	-	0.071
	Katras Choitudih Colliery UG	0.046	-	0.046
	Amalgamated Keshalpur & West Mududih UG and OCP	2.114	1.25	3.364
	Amalgamated Angarpathra & Ramkanali colliery UG	0.156	-	0.156
	Gaslitand Colliery UG	Closed for production 53		
	TOTAL	2.387	1.25	3.637

## **OBSERVATION OF THE COMMITTEE ON COAL TRANSPORT :**

**Reply details given in Annexure-I**

**THE COMMITTEE NOTED THAT the TATA Institute of Social Sciences, Mumbai (TISS) have prepared a conceptual Plan for CSR. The Committee desired that local people/institutions such as XLRI, Birsa Institute of Technology, Sindri Dhanbad Ramakrishna Mission should also be involved in the implementation of CSR Plan.**

**THE COMMITTEE DESIRED THAT an Annual Report should be brought out on the implementation of the CSR activities and also uploaded on the company website.**

- Reply details given in Annexure-II**

**THE COMMITTEE DESIRED THAT the local communities should also be involved in eco-restoration plan.**

- **Reply details given in Annexure-III**

**THE COMMITTEE DESIRED THAT the Corporate Environment Policy passed by BCCL Board, should be furnished.**

- **Reply details given in Annexure-IV**

**THE COMMITTEE SOUGHT DETAILS OF specific mitigative measures drawn up in the context of the Environmental Action Plan for Dhanbad Critically Polluted Area where the cluster falls.**

- **Reply details given in Annexure-V**

**THE COMMITTEE SOUGHT a clarification whether any forestland was found within the cluster.**

**No forest land is involved in this cluster-IV.**

# **CLUSTER-VII**

**REPLIES TO THE CLARIFICATIONS  
RAISED BY THE EXPERT APPRAISAL  
COMMITTEE (T&C), MOEF, NEW DELHI**

**(vide Letter no.J-11015/238/2010-IA.II(M) dated 18<sup>th</sup> May, 2012 of MOEF)**



**THE COMMITTEE NOTED THAT there are 31 fire spots in this cluster. THE COMMITTEE DESIRED THAT a fire dousing plan of each mine within the cluster should be provided indicating fire points within cluster as submitted to DGMS.**

- **As per the approved Jharia Master Plan there are 31 fire and subsidence affected sites in cluster VII. List of these sites with the fire dousing projects/ plans are given next.**
- **The total Jharia Master Plan, which consists of all the fire dousing projects/ plans has been vetted by DGMS and DGMS also is a monitoring and scrutinizing agency constituted by the Hon'ble Supreme Court of India under the WP(PIL) 387/1997 i.e. Haradhan Roy Vs UoI .**
- **As and when new fire dousing schemes are prepared by CMPDI, they are submitted to DGMS for necessary approval. And for dealing with all fire spots/patches, DGMS approval is taken before starting the fire spots/ patches.**

## LIST OF 31 FIRE AND SUBSIDNCE AFFECTED SITES WITH FIRE DOUSING PROJECTS/ PLAN IN CLUSTER VII

Sl. No	Colliery	Site name & no.	No. of Houses Total	RehabCost (Rs Lacs)
1	Alkusa	DAV School & G. Camp / 02	136	378.18
2	Alkusa	Officers Qtr. near Thana / 01	120	352.69
3	Alkusa	Hutment of Durga Mandir / 05	289	687.96
4	E. Bhagatdih	1 Pit Area / 04	171	395.48
5	E. Bhagatdih	Boka Pahari / 01	92	204.64
6	E. Bhagatdih	Chowtai Kuli-Husainabad/ 09	432	1285.25
7	E. Bhagatdih	Khas Jharia / 08	262	627.16
8	E. Bhagatdih	No. 3&5 Colony /0 2	390	1812.83
9	E. Bhagatdih	No. 4 Pit Area/0 5	176	349.14
10	E. Bhagatdih	Jharia Water Board Area /O6	118	545.13
11	E. Bhagatdih	Bihar Talkies & Raja Bari Area/12(B)	1454	8015.70
12	E. Bhagatdih	Gopalichak Basti/O3	37	93.47
13	E. Bhagatdih	Koiri Bandh Area/10	314	1780.352
14	Kustore	Simla bahal Basti / 03	364	1399.43

## LIST OF 31 FIRE AND SUBSIDENCE AFFECTED SITES WITH THE FIRE DOUSING PROJECTS/ PLAN IN CLUSTER VII

Sl.No	Colliery	Site name & no.	No. of Houses Total	Rehab. Cost (Rs Lacs)
15	Kustore	3 No. Colony &D Mandir /O8	168	475.19
16	Ena	Colliery Qtrs / 03	6	18.00
17	Ena	Parsatand Bast/ 02	156	800.02
18	Ena	No.2 Colony/ 04	88	263.99
19	Ena	Officers colony &B.up Area / 05	624	1268.12
20	Industry	West Ena 1 & 2 pit/01	765	8318.48
21	Rajapur	Kukur Thapa / 02	171	298.92
22	Rajapur	Rajapur Colony / 03	18	54.00

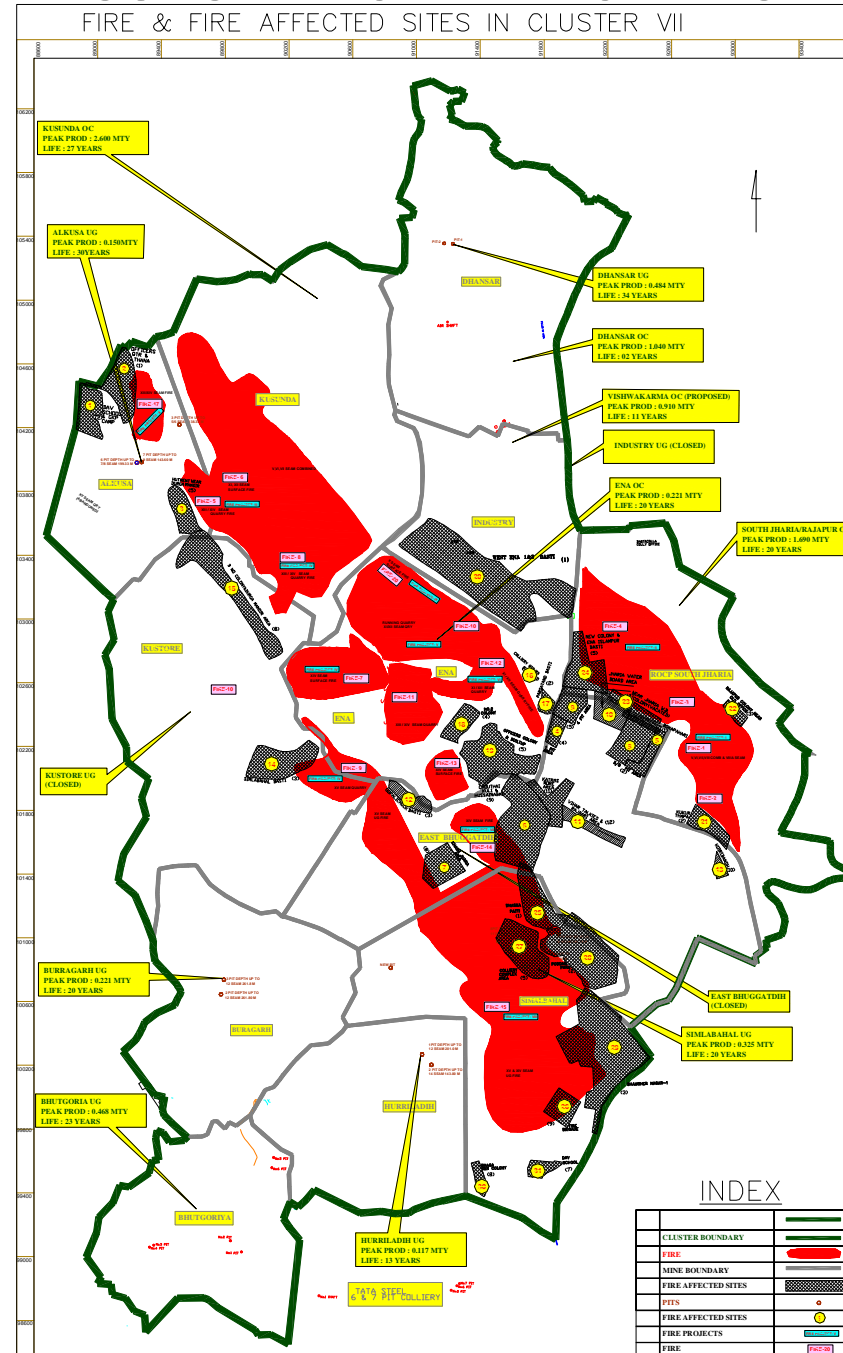
## LIST OF 31 FIRE AND SUBSIDENCE AFFECTED SITES WITH THE FIRE DOUSING PROJECTS/ PLAN IN CLUSTER VII

Sl. No	Colliery	Site name & no.	No. of Houses Total	RehabCost (Rs Lacs)
23	Rajapur	N. WB Colony/ 04	2	24.00
24	Rajapur	New Colony &Ena Islampur/ 05	257	531.18
25	Simla bahal	Bhalgora Dhaska Patti/ 01	457	1127.92
26	Simla bahal	Fire Brigd. Area / 09	172	336.97
27	Simla bahal	Inside Colliery Comd. Area / 05	12	36.00
28	Simla bahal	Jharia Town (P. Area)/ 02	458	2927.11
29	Simla bahal	Shamsher nagar/ 03	547	1766.41
30	Simla bahal	Bhaga S.E. Rly. Colony/O8	275	1294.53
31	Simlabahal	DAV School Area/O7	214	614.92

## GROUPING OF FIRES INTO PROJECTS IN CLUSTER VII

FIRE PROJECTS		FIRE	
SL. No.	CODE NAME OF FIRE PROJECTS	SL. No	ORIGINAL FIRE NAME
I	JCF-F/KUSTORE/RAJAPUR/II/3 (Part-A)	1	Pure Jharia X seam
		2	K.P. Dobari X,XIX,V/VI/VII/VIIA
		3	Rajapur X seam
II	JCF-F/KUSTORE/RAJAPUR/II/37 (Part-B, BASTACOLLA ANNEXED))	4	Rajapur X,IX,V/VI/VII seam fire.
III	JCF-F/KUSTORE/ALKUSA/II/4 (Part-B)	5	Alkusa XIII, XIV seam
		6	Kusunda XI, XII seam
IV	JCF-F/KUSTORE/KUSTORE/II/7	7	Kustore XI, XII, XIII, XIV seam
		8	Kusunda XIII, XIV seam
		9	Ena XV seam
V	JCF-F/KUSTORE/ENA (NW)/II/13	10	Industry XI, XII seam
		11	Ena XIV seam
VI	JCF-F/KUSTORE/ENA (MID & SE)/II/31	12	Ena XI XII seam
		13	Ena XIV seam
VII	JCF-F/KUSTORE/EAST BHUGGATDIH/17	14	East Bhuggatdih XV, XIV seam
VIII	F/MAINTENANCE/34	15	Existing fires under control
IX	Scheme for dealing with fire at Industry colliery	16	Ena/Industry, X seam
X	Scheme for dealing with fire at Alkusa Colliery	17	Alkusa XIII & XIV seam

# FIRES AND FIRE-SUBSIDENCE AFFECTED SITES IN CLUSTER VII



## TIME LINE ACTION PLAN FOR IMPLEMENTATION OF FIRE DEALING AND REHABILITATION

Activities	Capital (Rs. Crs)	Duration (Month)	Schedule of Implementation Yearwise Requirement of funds											
			Pre- Imple mentat ion		Phase-I (Years)					Phase-II (Years)				
			1	2	3	4	5	6	7	8	9	10	11	12
Pre-implementation surveys (For the whole coalfield)	187.2	24												
JCF-F / KUSTORE / RAJAPUR/II/3 Scheme for dealing with fire at Rajapur Colliery by excavation method with IX/X seam base	62.36	84												
JCF-F / KUSTORE / RAJAPUR/II/ 37 Scheme for dealing with fire at Rajapur Colliery by excavation method with V/VI/VII seam base	91	72												
JCF-F / KUSTORE / ALKUSA/II/4 Scheme for dealing with fire at Alkusa Colliery.	9.08	36												
JCF-F/KUSTORE/KUSTORE/II/7 Scheme for dealing with fire at Kustore Colliery (NW & SE fire)	32.22	38												
JCF-F/KUSTORE/ ENA( NW)/I/13 Scheme for dealing with fire at Ena	29.11	47												
JCF-F/KUSTORE/ENA (MID & SE)/II/31 Scheme for dealing with Ena (Mid& SE ) Fire	31.04	40												
JCF-F/KUSTORE/EAST BHUGGATDIH/II/17 Scheme for dealing with East Bhuggatdih Fire	6.96	33												
Scheme for dealing with fire at industry colliery (EMSC-23)	1.23	24												
Scheme for dealing with fire at Alkusa colliery (EMSC-22)	0.004	24												
Dormant Fires - JFC-F/Maintenance/34	53.50	120												

**THE COMMITTEE DESIRED THAT persons with expertise in the field of fire control of this magnitude and nature should be recruited for fire control in Jharia Coalfields as a whole.**

**BCCL and CMPDI are having sufficient expert personnel for dealing with fire fighting operations at the operational as well as at planning level.**

**However, as suggested by the Committee, the services of expert outside agencies like NRSC, CIMFR, ISM, GAI-METCHEM (USA) etc. may be engaged as and when required.**



**THE COMMITTEE DESIRED THAT the proponent to contact Shri V. Raghu Venkatraman, GM for Aerial Photography, National Remote Sensing Centre (NRSC) for status of the fires and for its monitoring using aerial photography.**

**BCCL had written to NRSC, Hyderabad for diagnostic study of fire and monitoring through aerial photography on 21.5.2012. The response is awaited.**



BHARAT COKING COAL LIMITED  
(A Subsidiary of Coal India Limited)  
Office of the General Manager (Environment)  
Koyla Bhawan, Koyla Nagar  
Dhanbad

Ref.No.BCCL/GM(Env.)/F-NRSA/12/429

Dated 21<sup>st</sup> May,2012

To,  
Shri V.Raghu Venkataraman,  
General Manager,  
Aerial Photography,  
National Remote Sensing Centre,  
Indian Space Research Organisation,  
Department of Space, Government of India,  
Balanagar,  
Hyderabad- 500 037.

**Sub.: Assessing the status of fire and monitoring using Aerial Photography in Jharia Coalfield, BCCL, Dhanbad.**

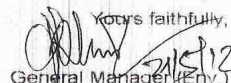
Dear Sir,

This has reference to the Expert Appraisal Committee meeting of MoEF held on 24.4.2012. The Committee advised BCCL to conduct Thermal Infra Red survey for assessing of surface fire area in the whole of Jharia Coalfield every year for 5 years.

In view of the above, you are requested to facilitate BCCL in conducting the above survey for which necessary cost estimate may be provided to BCCL so as to obtain formal approval from our competent authority and for placing work order to you in this respect.

An early reply is highly solicited.

Thanking you,

Yours faithfully,  
  
General Manager (Env.)

Copy to:

1. Dr. C.B.S.Dutt, Deputy Director/ Scientist-H, Earth & Climate Sciences Area (ECSA), National Remote Sensing Centre, Indian Space Research Organisation, Department of Space, Government of India, Balanagar, Hyderabad- 500 037.
2. D(T) OP., BCCL
3. RD, RI-II, CMPDI
4. GM(P&P), BCCL



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Dhanbad

Ref.No.BCCL/GM(Env.)/F-NRSA/12/428

Dated 21<sup>st</sup> May,2012

To,  
Dr. C.B.S.Dutt,  
Deputy Director/ Scientist-H,  
Earth & Climate Sciences Area (ECSA),  
National Remote Sensing Centre,  
Indian Space Research Organisation,  
Department of Space, Government of India,  
Balanagar,  
Hyderabad- 500 037.

**Sub.: Thermal Infra Red Survey for assessing fire area in Jharia Coalfield.**

Dear Sir,

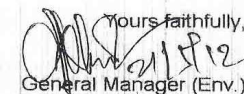
This has reference to the Expert Appraisal Committee meeting of MoEF held on 24.4.2012. The Committee advised BCCL to conduct Thermal Infra Red survey for assessing of surface fire area in the whole of Jharia Coalfield every year for 5 years.

BCCL is in contact with Shri Vinod Kumar, HoD, Geo Sciences Division, NRSC for this purpose.

In view of the above, you are requested to facilitate BCCL in conducting the above survey for which necessary cost estimate may be provided to BCCL so as to obtain formal approval from our competent authority and for placing work order to you in this respect.

An early reply is highly solicited.

Thanking you,

Yours faithfully,  
  
General Manager (Env.)

**THE COMMITTEE DESIRED THAT**  
all the abandoned mine pits should be filled and reclaimed. There should be no open pits/ abandoned quarries of past mining.

**THE COMMITTEE DESIRED THAT**  
the after completion of opencast mining, the surface area of opencast mining should be reclaimed with plantation within 3 years.

**THE COMMITTEE SOUGHT**  
**DETAILS OF** reclamation of existing opencast pits/abandoned quarries and their post-mining land use.

As suggested by the Committee, all the abandoned mine pits shall be filled, reclaimed and ecologically restored. There shall not be any open pits/ abandoned quarries of past mining left.

As suggested by the Committee, after completion of the open cast mining, the surface area of the open cast mine shall be reclaimed by ecological restoration within three years

As sought by the Committee, the details of existing open cast pits/ abandoned quarries and the post mining land use are given next.

## LIST OF EXISTING/PROPOSED OPEN CAST PITS IN CLUSTER VII

Name of Mines	Production Capacity (MTY)		Life (Years)
	Normative	Peak	
<b>Dhansar OC</b>	<b>0.800</b>	<b>1.040</b>	<b>2</b>
<b>Kusunda OC</b>	<b>2.000</b>	<b>2.600</b>	<b>27</b>
<b>Ena OC</b>	<b>0.170</b>	<b>0.221</b>	<b>20</b>
<b>South Jharia/ Rajapur OCP</b>	<b>1.300</b>	<b>1.690</b>	<b>20</b>
<b>Vishwakarma OC ( Proposed- It will be operational after closure of Dhansar OC)</b>	<b>0.700</b>	<b>0.910</b>	<b>11</b>
<b>Total</b>	<b>4.97</b>	<b>6.461</b>	

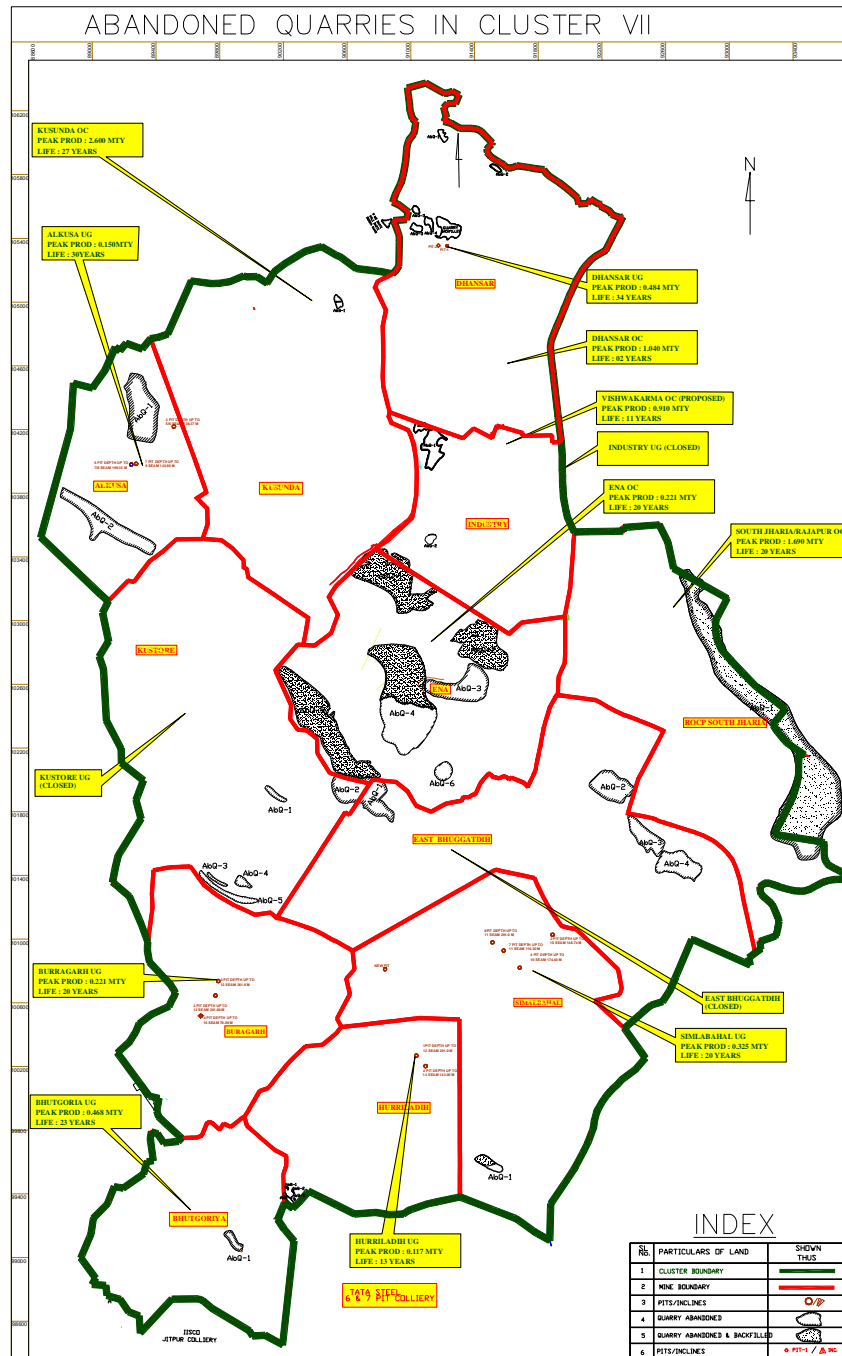
## PROPOSED POST-MINING LAND USE DETAILS OF RECLAMATION OF PITS/ABANDONED QUARRIES IN CLUSTER-VII (contd..)

<b>Min wise Abandoned mines/pits/craters</b>	<b>Area in ha.</b>	<b>Mine-wise sub-total (Area in ha.)</b>	<b>Depth in m.</b>	<b>Status and proposed Post-mining Land-use (Water body/ to be backfilled up to ground level and reclaimed with plantation)</b>
<b>Pit no. AbQ-1 in Dhansar Mixed</b>	<b>0.26</b>	<b>1.28 in Dhansar Mixed</b>	<b>12</b>	<b>to be backfilled and reclaimed with plantation/eco-restoration</b>
<b>Pit no. AbQ-2 in Dhansar Mixed</b>	<b>0.26</b>		<b>12</b>	<b>to be backfilled and reclaimed with plantation/eco-restoration</b>
<b>Pit no. AbQ-3 in Dhansar Mixed</b>	<b>0.25</b>		<b>12</b>	<b>to be backfilled and reclaimed with plantation/eco-restoration</b>
<b>Pit no. AbQ-4 in Dhansar Mixed</b>	<b>0.34</b>		<b>12</b>	<b>to be backfilled and reclaimed with plantation/eco-restoration</b>
<b>Pit no. AbQ-5 in Dhansar Mixed</b>	<b>0.16</b>		<b>12</b>	<b>to be backfilled and reclaimed with plantation/eco-restoration</b>
<b>Pit no. AbQ-1 in Kusunda OCP</b>	<b>0.31</b>	<b>0.31 in Kusunda OCP</b>	<b>10</b>	<b>to be backfilled and reclaimed with plantation/eco-restoration</b>
<b>Pit no. AbQ-1 in Industry UG</b>	<b>2.85</b>	<b>3.26 in Industry UG</b>	<b>20</b>	<b>to be backfilled and reclaimed with plantation/eco-restoration</b>
<b>Pit no. AbQ-2 in Industry UG</b>	<b>0.41</b>		<b>10</b>	<b>to be backfilled and reclaimed with plantation/eco-restoration</b>
<b>Pit no. AbQ-1 in Alkusa UG</b>	<b>4.92</b>	<b>9.60 in Alkusa UG</b>	<b>15</b>	<b>to be backfilled and reclaimed with plantation/eco-restoration</b>
<b>Pit no. AbQ-2 in Alkusa UG</b>	<b>4.68</b>		<b>12</b>	<b>to be backfilled and reclaimed with plantation/eco-restoration</b>
<b>Pit no. AbQ-1 in Ena OCP</b>	<b>8.32</b>	<b>46.84 in Ena OCP</b>	<b>BF</b>	<b>to be reclaimed with plantation/eco-restoration</b>
<b>Pit no. AbQ-2 in Ena OCP</b>	<b>5.78</b>		<b>BF</b>	<b>to be reclaimed with plantation/eco-restoration</b>
<b>Pit no. AbQ-3 in Ena OCP</b>	<b>2.75</b>		<b>12</b>	<b>to be backfilled and reclaimed with plantation/eco-restoration</b>
<b>Pit no. AbQ-4 in Ena OCP</b>	<b>16.07</b>		<b>10</b>	<b>to be backfilled and reclaimed with plantation/eco-restoration</b>
<b>Pit no. AbQ-5 in Ena OCP</b>	<b>11.04</b>		<b>BF</b>	<b>to be reclaimed with plantation/eco-restoration</b>
<b>Pit no. AbQ-6 in Ena OCP</b>	<b>0.87</b>		<b>12</b>	<b>to be backfilled and reclaimed with plantation/eco-restoration</b>
<b>Pit no. AbQ-1 in / ROCP</b>	<b>12.11</b>	<b>12.11 in / ROCP</b>	<b>BF</b>	<b>to be backfilled and reclaimed with plantation/eco-restoration</b>

# PROPOSED POST-MINING LAND USE DETAILS OF RECLAMATION OF PITS/ABANDONED QUARRIES IN CLUSTER-VII

<b>Min wise Abandoned mines/pits/craters</b>	<b>Area in ha.</b>	<b>Mine-wise sub-total (Area in ha.)</b>	<b>Depth in m.</b>	<b>Status and proposed Post-mining Land-use (Water body/ to be backfilled up to ground level and reclaimed with plantation)</b>
Nil in Burragarh UG	nil	Nil in Burragarh UG	-	-
Pit no. AbQ-1 in Simlabahal UG	0.90	0.90 in Simlabahal UG	10	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-1 in Hurriladih UG	0.05	0.20 in Hurriladih UG	8	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-2 in Hurriladih UG	0.05		8	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-3 in Hurriladih UG	0.01		5	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-4 in Hurriladih UG	0.10		12	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-1 in Bhutgoria UG	0.87	0.87 in Bhutgoria UG	10	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-1 in Kustore UG	0.37	4.41 in Kustore UG	8	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-2 in Kustore UG	2.49		14	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-3 in Kustore UG	0.20		10	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-4 in Kustore UG	0.36		10	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-5 in Kustore UG	0.98		11	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-1 in E. Bhaggatdih UG	2.72	10.98 in E. Bhaggatdih UG	14	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-2 in E. Bhaggatdih UG	3.10		10	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-3 in E. Bhaggatdih UG	2.22		8	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-4 in E. Bhaggatdih UG	2.94		8	to be backfilled and reclaimed with plantation/eco-restoration
Vishwakarma OCP		-		Proposed mine
<b>TOTAL in CLUSTER-7</b>	<b>90.76</b>			

# ABANDONED QUARRIES IN CLUSTER VII

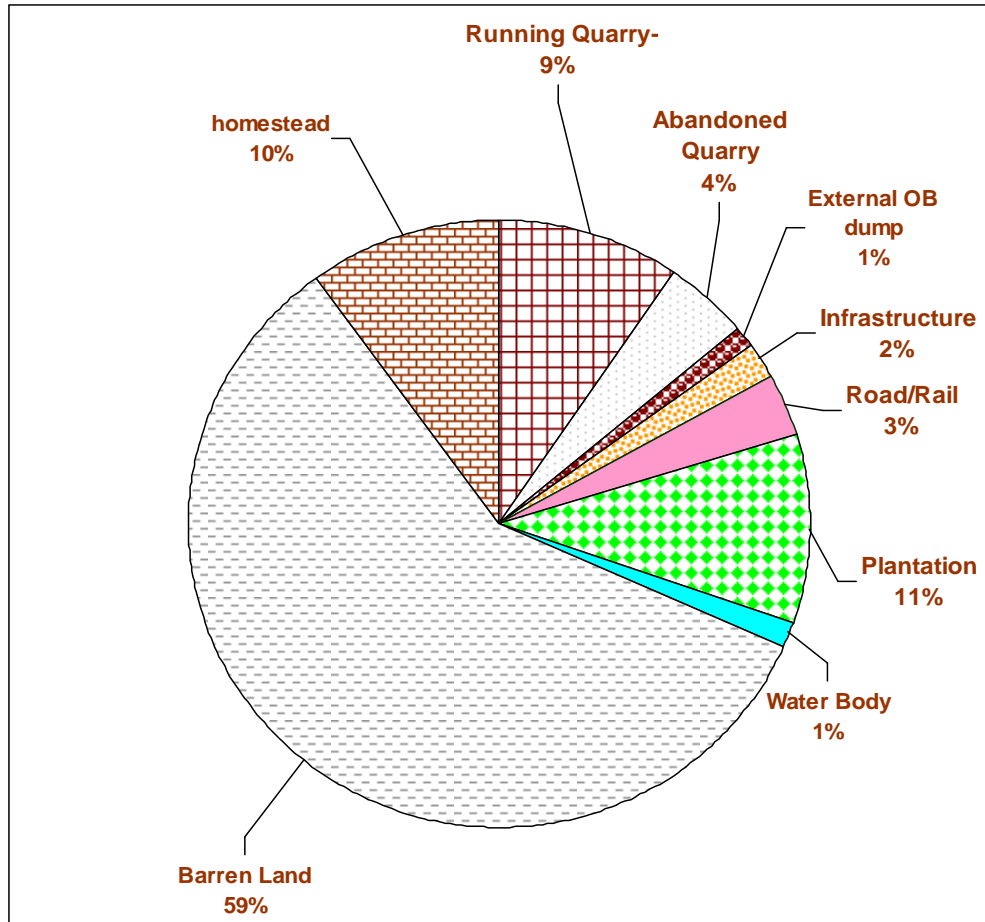




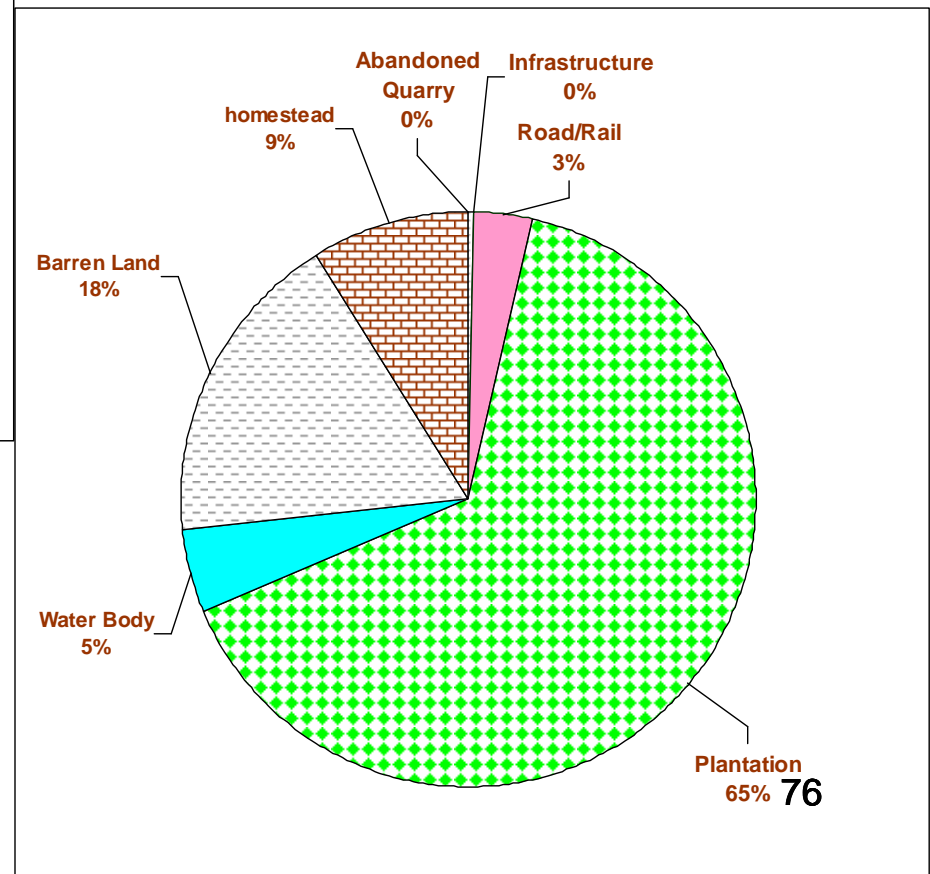
## EXISTING & POST MINING LAND USE IN CLUSTER VII

Sl. No.	Type of land use		Present mining land use (in Ha)	Post-mining land use (in Ha)
1	Running Quarry	Backfilled	108.16	0.00
		Not Backfilled	93.89	
2	Abandoned Quarry	Backfilled	49.15	0.00
		Not Backfilled	41.61	
3	External OB dump		27.31	0.00
4	Service building/ Mine Infrastructure		27.25	2.28
5	Coal dump		11.30	0.00
6	Road and rail		70.73	68.41
7	Homestead Land		214.48	188.49
8	Agricultural/ Fallow Land		0.00	0.00
9	Forest Land		0.00	0.00
10	Plantation		216.91	1382.58
11	Water Body		25.30	104.44
12	Barren Land		1241.65	381.49 <sub>75</sub>
	Total		2127.70	2127.70

## Existing land use



## Post mining land use





## Stage-wise (cumulative) Land use for Reclamation Area (ha) for Cluster-VII

Land use Category	Present	5 <sup>th</sup> Year	10 <sup>th</sup> Year	15th Year	(end of Mine life)*	Post Mining
	(1 <sup>st</sup> Year)					
Backfilled Area (Reclaimed with plantation)	45.5	185.5	308.26	379.26	497.26	652.26
Excavated Area (not reclaimed)/ void	135.5	93.89	72.23	43.46	18.22	0
External OB dump Reclaimed with plantation)	16.23	41.23	43.54	43.54	43.54	43.54
Reclaimed Top soil dump	Included in OB Dump					
Green Belt Area	22.46	117.46	182.46	242.46	357.96	392.46
Undisturbed area (brought under plantation)	58.43	68.43	78.43	90.43	137.23	<b>156.93</b>
Roads (avenue plantation)	Included in Green Belt Area					
Area around buildings and Infrastructure (brought under plantation)	74.29	94.29	99.29	91.29	100.29	137.03
<b>TOTAL</b>	<b>216.91</b>	<b>506.91</b>	<b>711.98</b>	<b>846.98</b>	<b>1136.28</b>	<b>1382.58</b>

## PLANTATION PROGRAMME IN CLUSTER VII

	Year	Quarry land (abandoned)		Active Quarry Area		OB dumped out side quarry area		Service Building/ Mine Infrastructur e / Coal dump		Green belt (around OCP		Barren Land		Total Plantati on	Total Area Under Addition al Plantatio n (Ha)	Total Plantati on cost @ Rs.551 01/Ha (in Rs.Lak hs)
		Are a (ha)	Trees/ saplin gs	Area (ha)	Trees/ sapling s	Are a (ha)	Tree/ saplin gs	Are a (ha)	Trees / saplin gs	Area (ha)	Trees/ sapling s	Are a (ha)	Trees/ saplin gs			
D u r i n g  a c t i v e  m i n i n g  ( A )	1	10	25000	18	45000	6	1500 0			25	62500	2	5000	152500	61	33.61
	2	10	25000	18	45000	6	1500 0			25	62500	2	5000	152500	61	33.61
	3	10	25000	18	45000	5	1250 0			25	62500	2	5000	150000	60	33.06
	4	10	25000	18	45000	4	1000 0			25	62500	2	5000	147500	59	32.51
	5	10	25000	18	45000	4	1000 0			15	37500	2	5000	122500	49	27.00
	6	10	25000	18	45000	2.31	5775			15	37500	2	5000	118275	47.31	26.07
	7	10	25000	16	40000					15	37500	2	5000	107500	43	23.69
	8	10	25000	16	40000					15	37500	2	5000	107500	43	23.69
	9	10.7 6	26900	16	40000					15	37500	2	5000	109400	43.76	24.11
	10			16	40000					10	25000	2	5000	70000	28	15.43
	11			16	40000					10	25000	2	5000	70000	28	15.43
	12			16	40000					10	25000	2	5000	70000	28	15.43
	13			13	32500					10	25000	2	5000	62500	25	13.78
	14			13	32500			1	2500	10	25000	2	5000	65000	26	14.33
	15			13	32500			1	2500	10	25000	4	10000	70000	28 78	15.43
	16			13	32500					10	25000	4	10000	67500	27	14.88

## PLANTATION PROGRAMME IN CLUSTER VII (Contd.)

Year	Quarry land (abandoned)		Active Quarry Area		OB dumped out side quarry area		Service Building/ Mine Infrastructure / Coal dump		Green belt (around OCP		Barren Land		Total Plantation	Total Area Under Addition al Plantation (Ha)	Total Plantation cost @ Rs.5510 1/Ha (in Rs.Lakhs)
	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings			
17			13	32500					10	25000	4	10000	67500	27	14.88
18			13	32500					10	25000	4	10000	67500	27	14.88
19			11	27500					10	25000	4	10000	62500	25	13.78
20			11	27500					10	25000	4	10000	62500	25	13.78
21			11	27500			1	2500	10	25000	4	10000	65000	26	14.33
22			11	27500			1	2500	10	25000	4	10000	65000	26	14.33
23			8	20000			1	2500	10	25000	4	10000	57500	23	12.67
24			8	20000			1	2500	10	25000	4	10000	57500	23	12.67
25			8	20000					10	25000	4	10000	55000	22	12.12
26			6	15000					10	25000	4	10000	50000	20	11.02
27			4.88	12195					10.5	26250	2.8	7000	45445	18.178	10.02
<b>Total (A)</b>	<b>90.76</b>	<b>226900</b>	<b>361</b>	<b>902195</b>	<b>27.31</b>	<b>68275</b>	<b>6.00</b>	<b>15000</b>	<b>355.5</b>	<b>888750</b>	<b>78.8</b>	<b>197000</b>	<b>2298120</b>	<b>919.248</b>	<b>506.51</b>
1			55	137500			13	32500	13	32500	8	20000	222500	89	49.04
2			55	137500			12	30000	13	32500	7	17500	217500	87	47.94
3			44.7	111655			7.55	18875	13.5	33750	4.7	11750	176030	70.412	38.80
<b>Total (B)</b>			<b>155</b>	<b>386655</b>			<b>32.6</b>	<b>81375</b>	<b>39.50</b>	<b>98750</b>	<b>19.7</b>	<b>49250</b>	<b>616030</b>	<b>246.412</b>	<b>135.78</b>
	<b>90.76</b>	<b>226900</b>	<b>516</b>	<b>1288850</b>	<b>27.31</b>	<b>68275</b>	<b>38.55</b>	<b>96375</b>	<b>395.00</b>	<b>987500</b>	<b>98.50</b>	<b>246250</b>	<b>2914150</b>	<b>1165.6779</b>	<b>642.30</b>

**INDEX**

1	B. C. C. L. HOMESTEAD LAND	
2	PVT HOME STEAD LAND	
3	SERVICE BLDG	
4	ROAD	
5	PLANTATION	
6	COAL DUMP	
7	RAILWAY LINE	
8	WATER BODIES (TANK, JOKE)	
9	EXTERNAL OB DUMP	
10	BARREN LAND	

**THE COMMITTEE SOUGHT DETAILS OF conceptual post-mining land use of the individual mines of the cluster as per MOEF prescribed tables.**

**As sought by the Committee, the details of conceptual post mining land use for the individual mine as per the MoEF's prescribed table are given next.**

## Conceptual Post-Mining Land use Pattern for Cluster-VII

SI No.	Land use during mining	Proposed Post- mining Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump	1.37				1.37
2	External Waste Dumps	25.94				25.94
3	Excavation (backfill)	219.06	73.75			292.81
4	Road	2.32			68.41	70.73
5	Built up area (Infrastructure)	62.26			190.77	253.03
6	Afforestation				216.91	216.91
7	Water Body				25.30	25.30
8	Undisturbed Area	860.16			381.49	1241.65
	Total	1171.09	73.75	0.00	882.88	2127.70

## Post-Mining Land use Pattern for Kusunda Colliery

SI No.	Land use during mining	Proposed Post- mining Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump	0.68				0.68
2	External Waste Dumps	12.92				12.92
3	Excavation (backfill)	74.47	15.31			89.78
4	Road	0.00			3.86	3.86
5	Built up area (Infrastructure)	1.27			2.94	4.21
6	Afforestation				0.00	0.00
7	Water Body				0.97	0.97
8	Undisturbed Area	112.11			23.17	135.28
	Total	201.45	15.31	0.00	30.94	247.70

## Post-Mining Land use Pattern for Dhansar Colliery

SI No.	Land use during mining	Proposed Post- mining Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump	0.00				0.00
2	External Waste Dumps	0.00				0.00
3	Excavation (backfill)	40.94	7.28			48.22
4	Road	0.00			2.40	2.40
5	Built up area (Infrastructure)	2.05			18.64	20.69
6	Afforestation				10.71	10.71
7	Water Body				2.06	2.06
8	Undisturbed Area	67.37			22.67	90.04
	<b>Total</b>	<b>110.36</b>	<b>7.28</b>	<b>0.00</b>	<b>56.48</b>	<b>174.12</b>



## Post-Mining Land use Pattern for Industry Colliery

SI No.	Land use during mining	Proposed Post- mining Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump	0.08				0.08
2	External Waste Dumps	1.61				1.61
3	Excavation (backfill)	0.06	3.20			3.26
4	Road	0.00			3.47	3.47
5	Built up area (Infrastructure)	10.39			14.69	25.08
6	Afforestation				0.00	0.00
7	Water Body				2.10	2.10
8	Undisturbed Area	82.36			19.24	101.60
	Total	94.50	3.20	0.00	39.50	137.20

**Post-Mining Land use Pattern for Alkusa Colliery (UG)**

Sl No.	Land use during mining	Proposed Post- mining Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump	0.00				0.00
2	External Waste Dumps	0.00				0.00
3	Excavation (backfill)	0.00	5.11			5.11
4	Road	0.00			1.60	1.60
5	Built up area (Infrastructure)	1.55			14.50	16.05
6	Afforestation				9.51	9.51
7	Water Body				0.00	0.00
8	Undisturbed Area	40.00			29.50	69.50
	<b>Total</b>	<b>41.55</b>	<b>5.11</b>	<b>0.00</b>	<b>55.11</b>	<b>101.77</b>

### Post-Mining Land use Pattern for Ena Colliery (OC)

SI No.	Land use during mining	Proposed Post- mining Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump	0.24				0.24
2	External Waste Dumps	4.65				4.65
3	Excavation (backfill)	53.37	12.40			65.77
4	Road	0.00			2.05	2.05
5	Built up area (Infrastructure)	1.03			9.55	10.58
6	Afforestation				14.25	14.25
7	Water Body				1.30	1.30
8	Undisturbed Area	64.20			18.29	82.49
	Total	123.49	12.40	0.00	45.44	181.33

**Post-Mining Land use Pattern for South Jharia/ Rajapur OCP**

SI No.	Land use during mining	Proposed Post- mining Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump	0.30				0.30
2	External Waste Dumps	5.63				5.63
3	Excavation (backfill)	44.81	14.00			58.81
4	Road	2.33			1.00	3.33
5	Built up area (Infrastructure)	28.97			2.60	31.57
6	Afforestation				7.76	7.76
7	Water Body				0.37	0.37
8	Undisturbed Area	90.62			9.10	99.72
	Total	172.66	14.00	0.00	20.83	207.48

**Post-Mining Land use Pattern for Burragarh Colliery (UG)**

SI No.	Land use during mining	Proposed Post- mining Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump	0.00				0.00
2	External Waste Dumps	0.00				0.00
3	Excavation (backfill)	0.00	0.00			0.00
4	Road	0.00			3.99	3.99
5	Built up area (Infrastructure)	0.01			14.65	14.66
6	Afforestation				71.06	71.06
7	Water Body				1.71	1.71
8	Undisturbed Area	15.00			41.41	56.41
	<b>Total</b>	<b>15.00</b>	<b>0.00</b>	<b>0.00</b>	<b>132.82</b>	<b>147.83</b>

### Post-Mining Land use Pattern for Simlabahal Colliery (UG)

SI No.	Land use during mining	Proposed Post- mining Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump	0.00				0.00
2	External Waste Dumps	0.00				0.00
3	Excavation (backfill)	0.00	0.00			0.00
4	Road	0.00			9.10	9.10
5	Built up area (Infrastructure)	7.90			14.44	22.34
6	Afforestation				36.04	36.04
7	Water Body				0.19	0.19
8	Undisturbed Area	65.00			45.46	110.46
	Total	72.90	0.00	0.00	105.23	178.13

### Post-Mining Land use Pattern for Hurriladih Colliery (UG)

SI No.	Land use during mining	Proposed Post- mining Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump	0.00				0.00
2	External Waste Dumps	0.00				0.00
3	Excavation (backfill)	0.00	0.20			0.20
4	Road	0.00			10.15	10.15
5	Built up area (Infrastructure)	0.59			32.40	32.99
6	Afforestation				57.65	57.65
7	Water Body				1.45	1.45
8	Undisturbed Area	10.00			14.73	24.73
	Total	10.59	0.20	0.00	116.38	127.17

**Post-Mining Land use Pattern for Kustore Colliery (UG) Closed**

SI No.	Land use during mining	Proposed Post- mining Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump	0.00				0.00
2	External Waste Dumps	0.00				0.00
3	Excavation (backfill)	0.01	4.41			4.41
4	Road	0.00			14.09	14.09
5	Built up area (Infrastructure)	7.51			26.10	33.61
6	Afforestation				0.00	0.00
7	Water Body				4.56	4.56
8	Undisturbed Area	118.00			76.04	194.04
	<b>Total</b>	<b>125.51</b>	<b>4.41</b>	<b>0.00</b>	<b>120.79</b>	<b>250.71</b>



### Post-Mining Land use Pattern for East Bhuggatdih Colliery (UG) (Closed)

SI No.	Land use during mining	Proposed Post- mining Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump	0.06				0.06
2	External Waste Dumps	1.13				1.13
3	Excavation (backfill)	0.01	10.98			10.98
4	Road	0.00			11.43	11.43
5	Built up area (Infrastructure)	0.11			38.02	38.13
6	Afforestation				1.53	1.53
7	Water Body				6.34	6.34
8	Undisturbed Area	120.00			53.01	173.01
	<b>Total</b>	<b>121.31</b>	<b>10.98</b>	<b>0.00</b>	<b>110.33</b>	<b>242.62</b>

## Post-Mining Land use Pattern for Bhutgoria Colliery (UG)- Re-Opening

SI No.	Land use during mining	Proposed Post- mining Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump	0.00				0.00
2	External Waste Dumps	0.00				0.00
3	Excavation (backfill)	0.01	0.87			0.87
4	Road	0.00			5.27	5.27
5	Built up area (Infrastructure)	0.53			2.60	3.13
6	Afforestation				8.40	8.40
7	Water Body				4.24	4.24
8	Undisturbed Area	75.50			34.26	109.76
	Total	76.03	0.87	0.00	54.78	131.67

## **THE COMMITTEE ALSO SOUGHT the present levels of production from the cluster**

CLUSTER NO.	NAME OF MINE	COAL PRODUCTION in MT for 2011-12		
		Normal production (in MT)	one time Fiery coal availed during execution of Master Plan for dealing with fires and subsidence (in MT)	Total (in MT)
<b>CLUSTER-7</b>	Dhansar UG and OCP	1.328	-	1.328
	Kusunda OCP	-	2.724	2.724
	Industry UG	Closed for production		
	Alkusa UG	0.054	-	0.054
	Ena OCP	-	0.317	0.317
	South Jharia/ Rajapur OCP	0.829	0.178	1.007
	Burragarh UG	0.03	-	0.03
	Simlabahal UG	0.07	-	0.07
	Hurriladih UG	0.024	-	0.024
	Bhutgoria UG	To be reopened		
	Kustore UG	Closed for production		
	East Bhuggatdih UG	Closed for production		
	Vishwakarma OCP	Proposed mine (will be operational after closure of Dhansar OCP)		
	<b>TOTAL</b>	<b>2.335</b>	<b>3.219</b>	<b>5.554<sup>95</sup></b>

## **OBSERVATION OF THE COMMITTEE ON COAL TRANSPORT :**

**Reply details given in Annexure-I**

**THE COMMITTEE NOTED THAT the TATA Institute of Social Sciences, Mumbai (TISS) have prepared a conceptual Plan for CSR. The Committee desired that local people/institutions such as XLRI, Birsa Institute of Technology, Sindri Dhanbad Ramakrishna Mission should also be involved in the implementation of CSR Plan.**

**THE COMMITTEE DESIRED THAT an Annual Report should be brought out on the implementation of the CSR activities and also uploaded on the company website.**

- **Reply details given in Annexure-II**

**THE COMMITTEE DESIRED THAT the local communities should also be involved in eco-restoration plan.**

- **Reply details given in Annexure-III**

**THE COMMITTEE DESIRED THAT the Corporate Environment Policy passed by BCCL Board, should be furnished.**

- **Reply details given in Annexure-IV**

**THE COMMITTEE SOUGHT DETAILS OF specific mitigative measures drawn up in the context of the Environmental Action Plan for Dhanbad Critically Polluted Area where the cluster falls.**

- **Reply details given in Annexure-V**



**THE COMMITTEE SOUGHT a clarification whether any forestland was found within the cluster.**

**No forest land is involved in this cluster-VII.**

# **CLUSTER-VIII**

**REPLIES TO THE CLARIFICATIONS  
RAISED BY THE EXPERT APPRAISAL  
COMMITTEE (T&C), MOEF, NEW DELHI**

**(vide Letter no.J-11015/298/2010-IA.II(M) dated 18th May, 2012 of MOEF)**

**THE COMMITTEE DESIRED THAT the mining carried out in the cluster should not increase the extent and degree of fire in the area and the same should be certified by DGMS.**

- The coal mines are operated under Mines Act 1952 and legislation made there under, of which DGMS is the enforcing agency. Coal Mines Regulations 1957 has elaborate provisions so that mining doesn't create conducive conditions for fire, increase in extent and degree of fire. All Mines of BCCL are adhering to these legislations which are constantly monitored by DGMS. BCCL is doing all sincere efforts to control the fire under the supervision of DGMS and shall also be substantiated by sound Thermal Infra Red Imaging study through NRSC, Hyderabad.
- The total Jharia Master Plan, which consists of all the fire dousing projects/ plans has been vetted by DGMS and DGMS also is a monitoring and scrutinizing agency constituted by the Hon'ble Supreme Court of India under the WP(PIL) 387/1997 i.e. Haradhan Roy Vs UoI .
- As and when new fire dousing schemes are prepared by CMPDI, they are submitted to DGMS for necessary approval. And for dealing with all fire spots/patches, DGMS approval is taken before starting the fire spots/ patches.







## **LIST OF 6 FIRE AFFECTED SITES WITH THE FIRE DOUSING PROJECTS/ PLAN IN CLUSTER VIII**

<b>Sl. No</b>	<b>Colliery</b>	<b>Site name &amp; no.</b>	<b>No. of Houses Total</b>	<b>RehabCost (Rs Lacs)</b>
<b>1</b>	<b>Bastacolla</b>	<b>BastaCollaS2 / 05</b>	<b>1</b>	<b>12.00</b>
<b>2</b>	<b>Bastacolla</b>	<b>Bastacolla Section 1/04</b>	<b>279</b>	<b>1345.21</b>
<b>3</b>	<b>GOCP</b>	<b>Bhuiya Dhowra / 05</b>	<b>143</b>	<b>1345.21</b>
<b>4</b>	<b>Kujama</b>	<b>Road Side Durgapur/O2</b>	<b>558</b>	<b>1353.91</b>
<b>5</b>	<b>Kujama</b>	<b>Jharia Town / 05</b>	<b>500</b>	<b>1149.03</b>
<b>6</b>	<b>Kujama</b>	<b>South Kujama /01</b>	<b>1031</b>	<b>2606.06</b>

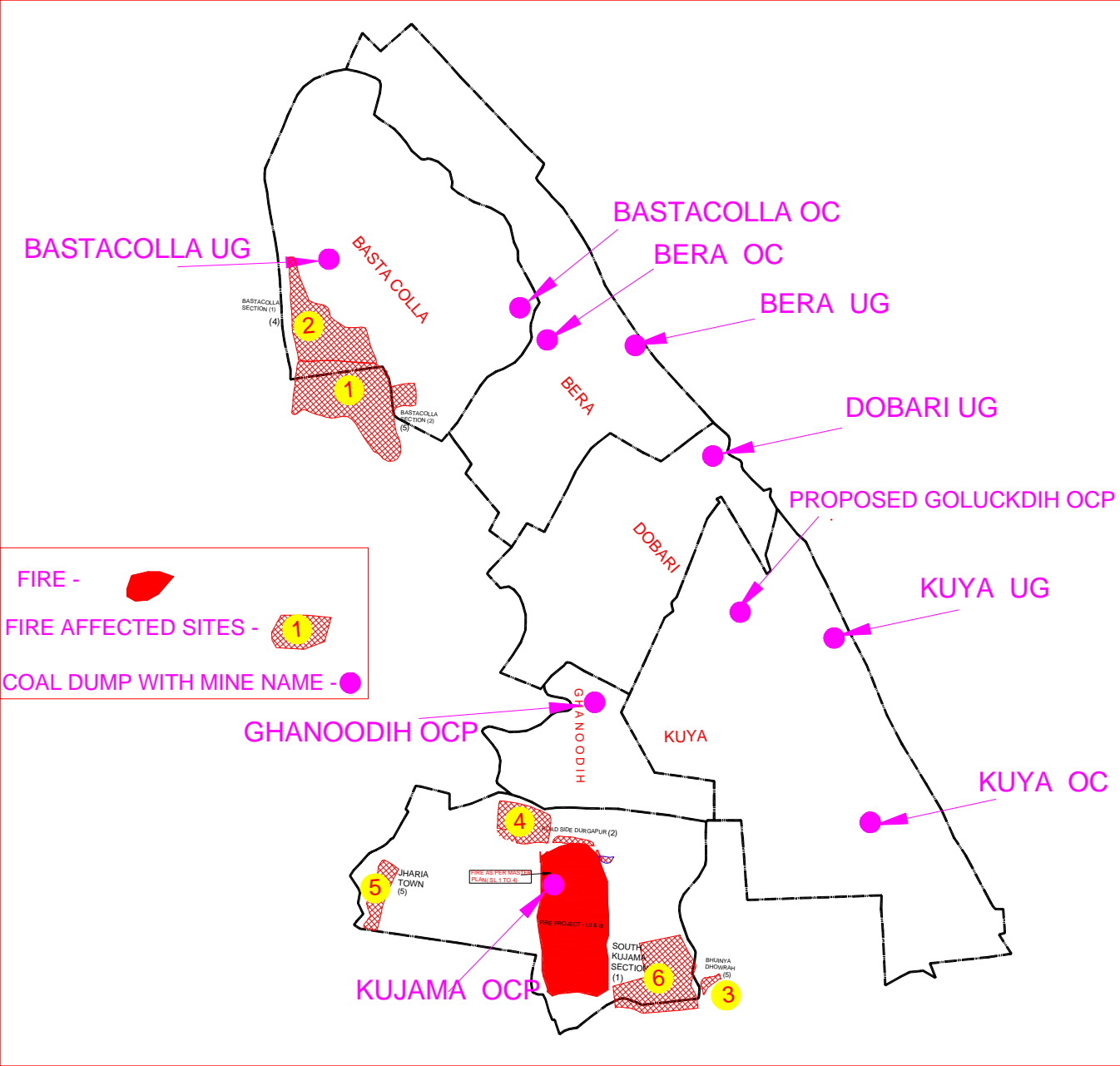
# GROUPING OF FIRES INTO PROJECTS IN CLUSTER VIII

FIRE PROJECTS		FIRE	
SL. No.	CODE NAME OF FIRE PROJECTS	SL. No	ORIGINAL FIRE NAME
I	JCF-F/BASTACOLLA/KUJAMA/JORE//2	1	Kujama XI/XII seam
II	JCF-F/BASTACOLA/KUJAMA & GOCP//10 (SURFACE SEALING)	2	Kujama IX,X seam
		3	Kujama XI,XII seam
III	JCF-F/BASTACOLLA/KUJAMA/RAIL//36	4	Kujama XI & XII seam.

## TIME LINE ACTION PLAN FOR IMPLEMENTATION OF REHABILITATION & FIRE SCHEMES OF CLUSTER VIII AS PER MASTER PLAN

Activities	Capital (Rs.Crores)	Duration (Month)	Schedule of Implementation with cost											
			Pre-Implementation		Phase-I (Years)					Phase-II (Years)				
			1	2	1	2	3	4	5	6	7	8	9	10
Pre-implementation surveys (For the whole coalfield)	187.2	24												
Rehab. Schemes for 4630 families of cluster VIII as per approved Master Plan(Phase-1)	142.82	60												
Rehab. Schemes for 329 families of cluster VIII of as per approved Master Plan(Phase-2)	7.83	120												
JCF-F/BASTACOLA/ KUJAMA/JORE/I/2 Scheme for dealing with fire for protection of chatkari Jore at Kujama colliery	6.88	48												
JCF-F / BASTACOLLA / KUJAMA / GOCP/I/10 (SURFACE SEALING ) Surface sealing for dealing with fire at Kujama & GOCP.	40.63	48												
JCF-F/BASTACOLA/KUJAMA /RAIL I/36 Excavation of rail road bed and backfill with structural fill (length 1.4km) at Kujama colliery with XI/XII seam base along with diversion of chatkari jore.	213.00	60												

# FIRE & FIRE AFFECTED SITES OF CLUSTER VIII



**THE COMMITTEE DESIRED THAT**  
**all the abandoned mine pits should be filled and reclaimed. There should be no open pits/ abandoned quarries of past mining.**

**THE COMMITTEE SOUGHT**  
**DETAILS OF reclamation of existing opencast pits/abandoned quarries and their post-mining land use.**

**As suggested by the Committee, all the abandoned mine pits shall be filled, reclaimed and ecologically restored. There shall not be any open pits/ abandoned quarries of past mining left.**

**As sought by the Committee, the details of existing open cast pits/ abandoned quarries and the post mining land use are given next.**



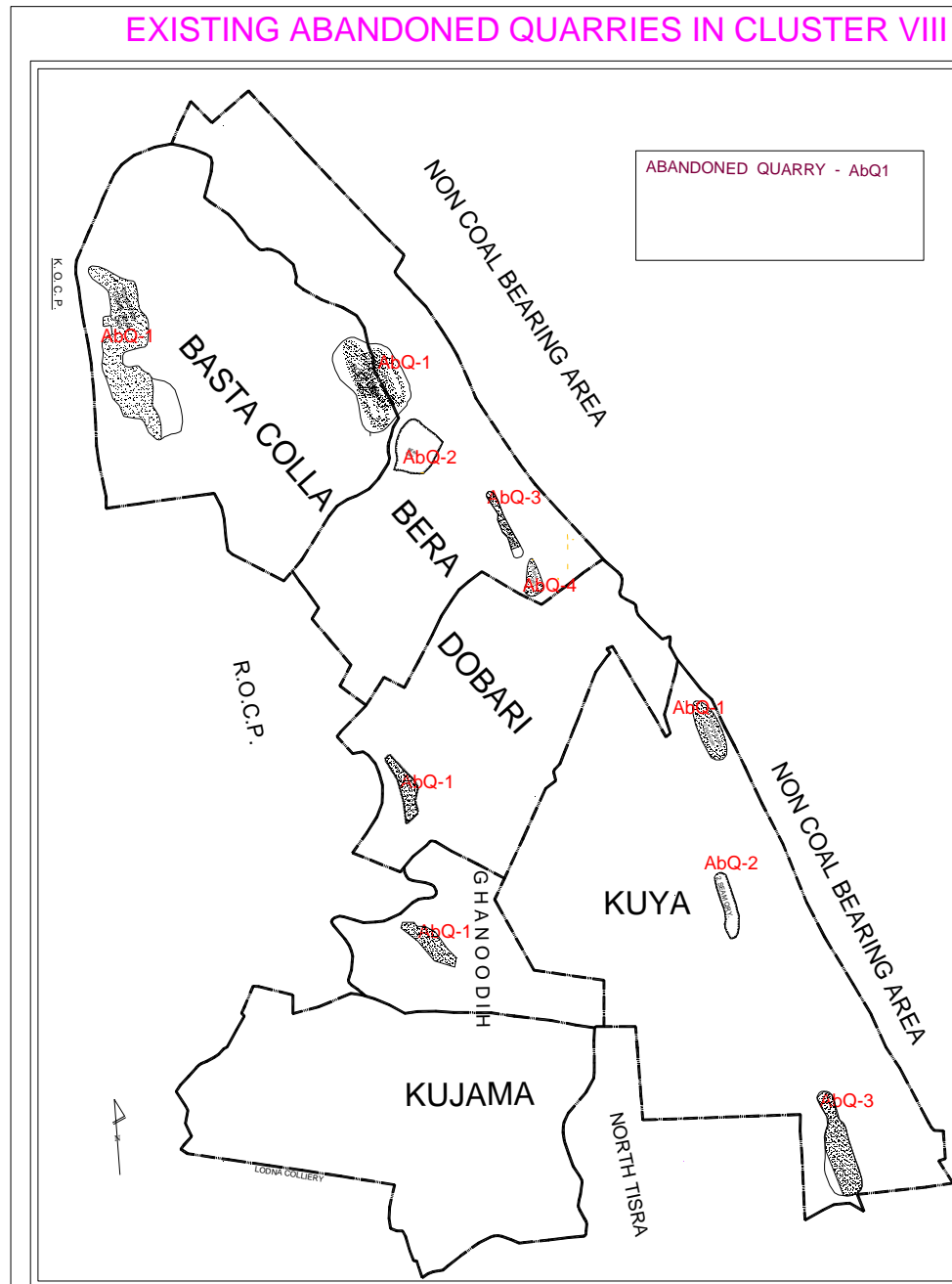
## LIST OF EXISTING/PROPOSED OPEN CAST PITS IN CLUSTER VIII

Name of Mines		Present Status	Production Capacity (MTY)		Life (Years)
			Normative	Peak	
Bastacolla Colliery	OC Section	operating	0.10	0.130	3
Bera colliery	OC Section	operating	0.15	0.195	3
Kuya Colliery	Kuya OC Section	operating	0.60	0.780	5
	Goluckdih (NC) OC Section (Proposed) (Proposed OC Section will commence after the closure of existing Kuya OC Section)	proposed	1.2	1.560	25
Ghanoodih Colliery (OCP)		operating	1.40	1.820	5
Kujama Colliery (OCP)		operating	0.60	0.780	5
TOTAL			4.31	5.603	109

## PROPOSED POST-MINING LAND USE DETAILS OF RECLAMATION OF PITS/ABANDONED QUARRIES IN CLUSTER-VIII

<b>Mine wise Abandoned mines/pits/craters</b>	<b>Area in ha.</b>	<b>Mine-wise sub-total (Area in ha.)</b>	<b>Depth in m.</b>	<b>Status and proposed Post-mining Land-use (Water body/ to be backfilled up to ground level and reclaimed with plantation)</b>
Pit no. AbQ-1 in Bastacolla Mixed	16	16 in Bastacolla Mixed	BF	to be reclaimed with plantation/eco-restoration
Pit no. AbQ-1 in Bera Mixed	5.30	18.30 in Bera Mixed	BF	reclaimed with plantation/eco-restoration
Pit no. AbQ-2 in Bera Mixed	9.38		8	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-3 in Bera Mixed	1.97		10	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-4 in Bera Mixed	1.64		10	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-1 in Dobari UG	2	2 in Dobari UG	BF	to be reclaimed with plantation/eco-restoration
Pit no. AbQ-1 in Kuya Mixed	3.17	12 in Kuya Mixed	BF	to be reclaimed with plantation/eco-restoration
Pit no. AbQ-2 in Kuya Mixed	2.31		10	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-3 in Kuya Mixed	6.51		BF	to be reclaimed with plantation/eco-restoration
Pit no. AbQ-1 in Ghanoodih OCP	2.65	2.65 in Ghanoodih OCP	BF	to be backfilled and reclaimed with plantation/eco-restoration
<b>TOTAL in CLUSTER-8</b>	<b>90.76</b>			

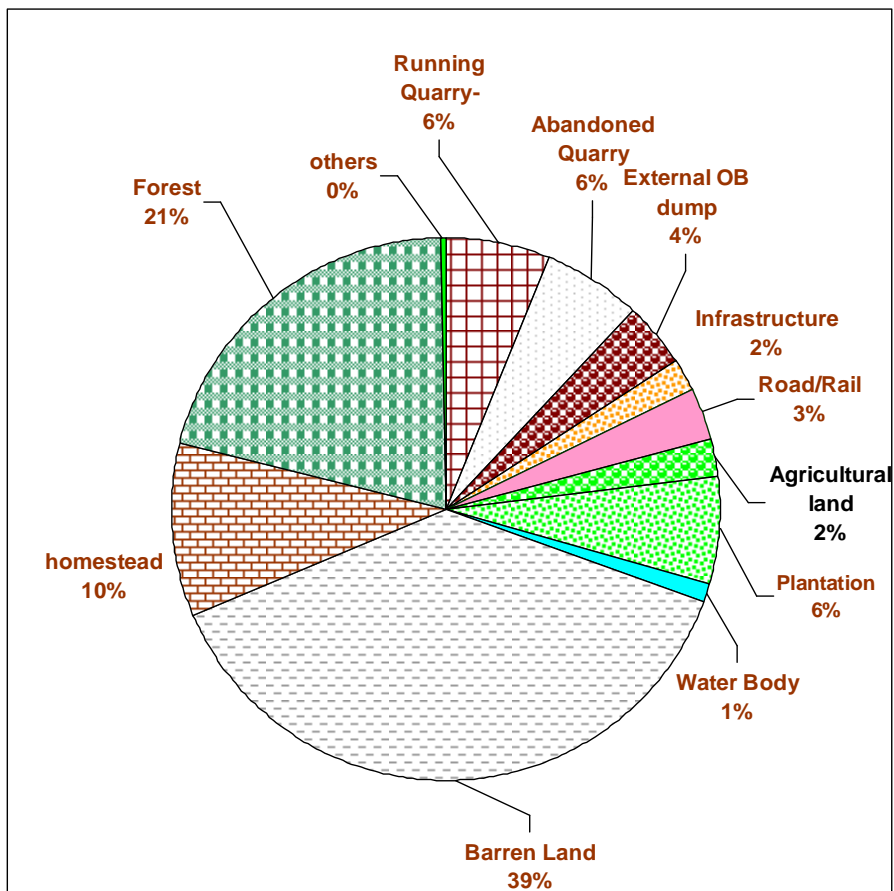
## EXISTING ABANDONED QUARRIES IN CLUSTER VIII



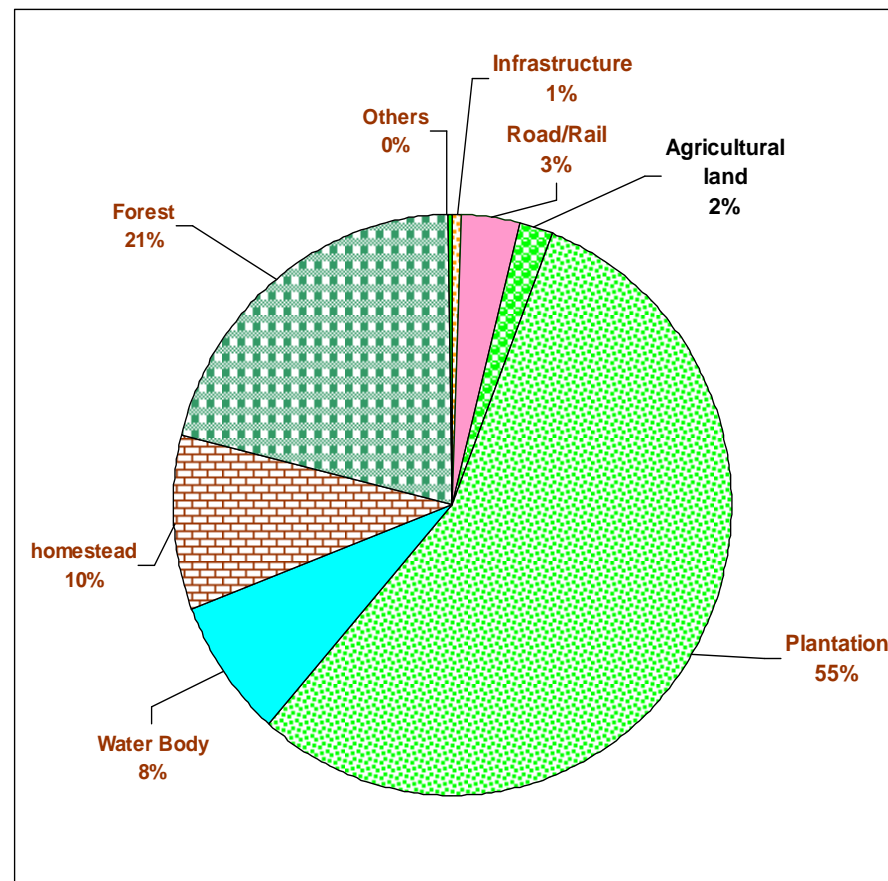
# LAND USE OF CLUSTER-VIII

S.No.	Type of land use	Present mining land use (in Ha)	Post mining land use (in Ha)
1	Running Quarry		
	Backfilled	5.1	0
	Not Backfilled	69.35	0
2	Abandoned Quarry		
	Backfilled	25.14	0
	Not Backfilled	42.65	0
3	External O.B Dump	48.55	0
4	Service building/ Mine Infrastructure	7.9	7.90
5	Coal dump	7.75	0
6	Homestead Land	124.9	132.71
7	Agricultural Land	24.71	24.71
8	Forest Land	250.57	120.73
9	Plantation	76.6	781.08
10	Water Body	15.04	92.39
11	Barren Land	454.96	0
12	Roads & Railways	38.92	38.92
13	Mine Pit/Fan House/ Haulage Room	6.3	0
14	Others	1.97	1.97
	<b>Total</b>	<b>1200.41</b>	<b>1200.41</b>

## Existing land use



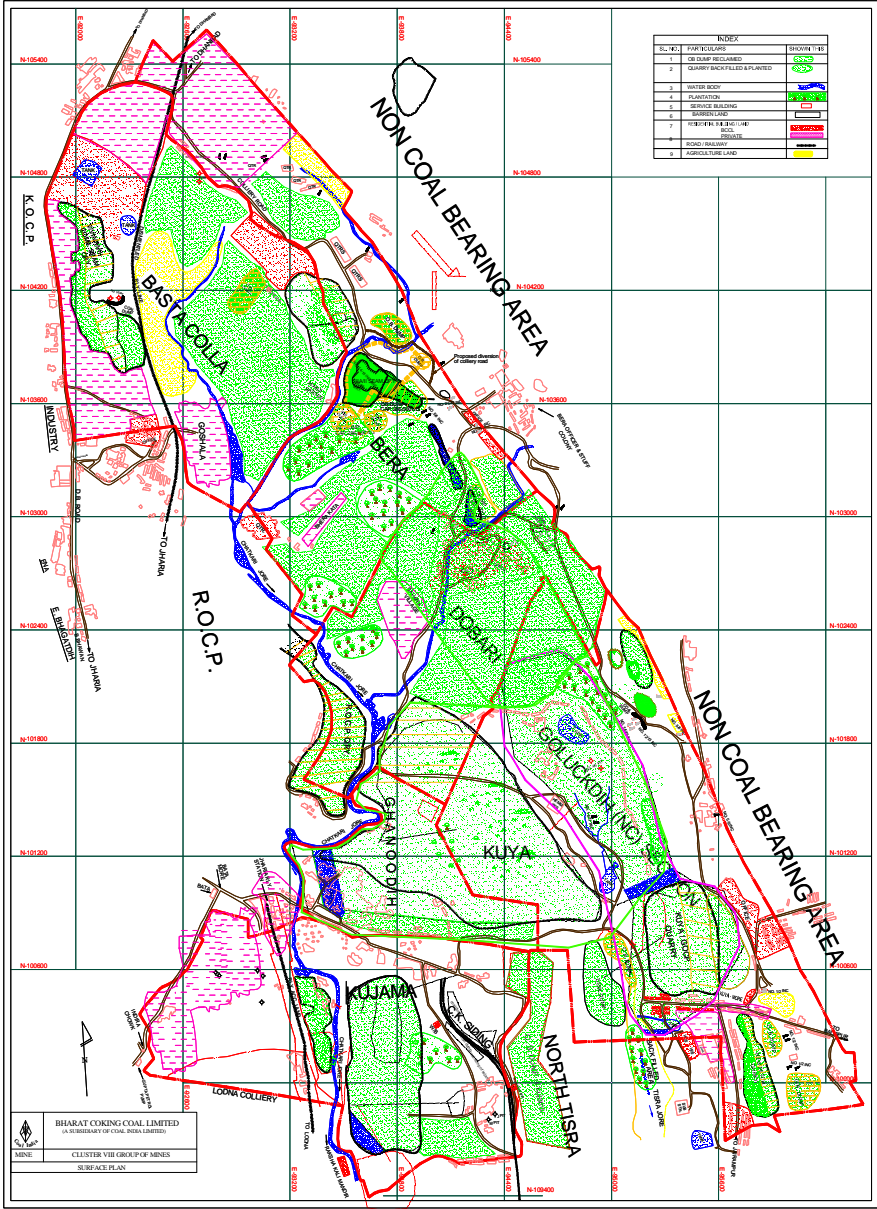
## Post-mining land use



## Stage-wise (cumulative) Land use for Reclamation Area (ha) for Cluster-VIII

Land use Category	Present (1 <sup>st</sup> Year)	5 <sup>th</sup> Year	10 <sup>th</sup> Year	30 <sup>th</sup> Year (end of Mine life)*
Backfilled Area (Reclaimed with plantation)	30.24	84.01	137.78	352.87
Excavated Area (not reclaimed)/ void	112	200	300(42.65 ha converted to water body)	0
External OB dump Reclaimed with plantation)	4	14	24	48.55
Reclaimed Top soil dump	Included in OB dump			
Green Built Area	76.6			76.6
Undisturbed area (brought under plantation)	-	50	100	303.06
Roads (avenue plantation)	Included in undisturbed area			
Area around buildings and Infrastructure	Included in undisturbed area			
<b>TOTAL</b>				<b>781.08</b>

## POST MINING LAND USE OF CLUSTER VIII



## PROPOSED PLANTATION PROGRAMME YEARWISE

	Year	Active Quarry Area		Quarry land (abandoned)		OB dumped out side quarry area		Service building		Green belt (around OCP)		Barren Land		Total Area Under Additio nal Plantati on (Ha)	Total plantatio n (Tree/ saplings)	Total Plantation cost @ Rs.55101/ Ha (in Rs.Lakhs)
		Area (ha)	Tree/ saplings	Area (ha)	Tree/ sapling s	Area (ha)	Tree/ sapling s	Area (ha)	Tree/ sapling s	Area (ha)	Tree/ sapling s	Area (ha)	Tree/ sapling s			
During active mining (A)	1	10	25000	8	20000	2	5000			2	5000	3	7500	25.00	62500	13.78
	2	15	37500	8	20000	2	5000			2	5000	3	7500	30.00	75000	16.53
	3	15	37500	6	15000	2.5	6250			2	5000	5	12500	30.50	76250	16.81
	4	16	40000	6	15000	2.5	6250			2	5000	3	7500	29.50	73750	16.25
	5	14	35000	6	15000	3	7500			4	10000	3	7500	30.00	75000	16.53
	6	16	40000	6	15000	3	7500			3	7500	3	7500	31.00	77500	17.08
	7	15	37500	6	15000	3	7500			3	7500	3	7500	30.00	75000	16.53
	8	14	35000	5	12500	3	7500			3	7500	3	7500	28.00	70000	15.43
	9	6	15000	5	12500					3	7500	3	7500	17.00	42500	9.37
	10	6	15000	4	10000					4	10000	3	7500	17.00	42500	9.37
	11	6	15000	4	10000					4	10000	5	12500	19.00	47500	10.47
	12	6	15000	3.79	9475					4	10000	5	12500	18.79	46975	10.35
	13	6	15000							5	12500	5	12500	16.00	40000	8.82
	14	7	17500							5	12500	5	12500	17.00	42500	9.37
	15	8	20000							5	12500	6	15000	19.00	47500	10.47
	16	8	20000			1	2500			5	12500	6	15000	20.00	50000	11.02
	17	7	17500			1	2500			5	12500	6	15000	19.00	47500	10.47
	18	8	20000			1	2500			5	12500	7	17500	21.00	52500	11.57
	19	8	20000			1	2500			5	12500	7	17500	21.00	52500	11.57
	20	8	20000			1	2500			5	12500	7	17500	21.00	52500	11.57
	21	8	20000			1	2500			5	12500	8	20000	22.00	55000	12.12
	22	8	20000			1	2500			5	12500	8	20000	22.00	55000	12.12
	23	6	15000			1	2500			6	15000	8	20000	21.00	52500	11.57
	24	6	15000			1	2500			6	15000	8	20000	21.00	52500	11.57
	25	6	15000			1	2500			6	15000	8	20000	21.00	52500	11.57
	26	5.11	12775			1.22	3050			4.26	10650	10.04	25100	20.63	51575	11.37
	Total (A)	238.11	595275	67.79	169475	32.22	80550	0.00	0	108.26	270650	141.04	352600	587.42	1468550	323.67
Postmining (B)		15	37500			8	20000	2	5000		0	20	50000	45.00	112500	24.80
		15	37500			4	10000	2	5000		0	20	50000	41.00	102500	22.59
		9.16	22900			4.33	10825	2.3	5750		0	15.27	38175	31.06	77650	17.11
	Total (B)	39.16	97900	0	0	16.33	40825	6.30	15750	0.00	0	55.27	138175	117.06	292650	64.50
Grand (A+B)		277.27	693175	67.79	169475	48.55	121375	6.30	15750	108.26	270650	196.31	490775	704.48	1761200	388.18



**THE COMMITTEE SOUGHT DETAILS OF conceptual post-mining land use of the individual mines of the cluster as per MOEF prescribed tables.**

**As sought by the Committee, the details of conceptual post mining land use for the individual mine as per the MoEF's prescribed table are given next.**

## Land Use of Cluster VIII (MOEF Format)

Land use during mining	Proposed Post- mining Land Use (ha)				
	Plantation	Water Body	Public Use	Undisturbed	TOTAL
Top Soil Dump	15.2				15.2
External Waste Dump	48.55				48.55
Excavation (backfilling)	403.37	77.35			480.72
Road & RAIL			38.92		38.92
Built up area(Infrastructure, COAL DUMP)	10.55			7.9	18.45
Afforestation				76.6	76.6
Water Body				15.04	15.04
Undisturbed Area	226.81			280.12	506.93
<b>TOTAL</b>	<b>704.48</b>	<b>77.35</b>	<b>38.92</b>	<b>379.66</b>	<b>1200.41</b>

**Land use pattern for BASTACOLLA COLLIERY (MIXED)(MOEF TABLE)**

Land use during mining	Proposed Post- mining Land Use (ha)				
	Plantation	Water Body	Public Use	Undisturbed	TOTAL
<b>Top Soil Dump</b>	<b>1.75</b>				<b>1.75</b>
<b>External Waste Dump</b>	<b>15</b>				<b>15</b>
<b>Excavation (backfilling)</b>	<b>48.25</b>	<b>18</b>			<b>66.25</b>
<b>Road</b>			<b>12.61</b>		<b>12.61</b>
<b>Built up area(Infrastructure, COAL DUMP)</b>	<b>2</b>			<b>1.5</b>	<b>3.5</b>
<b>Afforestation</b>					<b>0</b>
<b>Water Body</b>				<b>5.39</b>	<b>5.39</b>
<b>Undisturbed Area</b>	<b>70.33</b>			<b>64.62</b>	<b>134.95</b>
<b>TOTAL</b>	<b>137.33</b>	<b>18</b>	<b>12.61</b>	<b>71.51</b>	<b>239.45</b>

Land use pattern for BERA COLLIERY (MIXED) (MOEF TABLE)					
Land use during mining	Proposed Post- mining Land Use (ha)				
	Plantation	Water Body	Public Use	Undisturbed	TOTAL
Top Soil Dump	0.75				0.75
External Waste Dump	6.55				6.55
Excavation (backfilling)	20.75	10			30.75
Road			2.95		2.95
Built up area(Infrastructure, COAL DUMP)	1.95			1.2	3.15
Afforestation				54.6	54.6
Water Body				3.75	3.75
Undisturbed Area	73.46			33.6	107.06
TOTAL	103.46	10	2.95	93.15	209.56

Land use pattern for DOBARI COLLIERY (MOEF TABLE)					
Land use during mining	Proposed Post- mining Land Use (ha)				
	Plantation	Water Body	Public Use	Undisturbed	TOTAL
Top Soil Dump	0.9				0.9
External Waste Dump					0
Excavation (backfilling)	25.39	2			27.39
Road			1.46		1.46
Built up area(Infrastructure, COAL DUMP)	3.6			1.2	4.8
Afforestation				3	3
Water Body				4.4	4.4
Undisturbed Area	40.39			64.56	104.95
TOTAL	70.28	2	1.46	73.16	146.9

<b>Land use pattern for KUYA COLLIERY (MIXED)(MOEF TABLE)</b>					
<b>Land use during mining</b>	<b>Proposed Post- mining Land Use (ha)</b>				
	<b>Plantation</b>	<b>Water Body</b>	<b>Public Use</b>	<b>Undisturbed</b>	<b>TOTAL</b>
<b>Top Soil Dump</b>	<b>5.04</b>				<b>5.04</b>
<b>External Waste Dump</b>	<b>27</b>				<b>27</b>
<b>Excavation (backfilling)</b>	<b>148.96</b>	<b>12</b>			<b>160.96</b>
<b>Road</b>			<b>3</b>		<b>3</b>
<b>Built up area(Infrastructure, COAL DUMP)</b>				<b>4</b>	<b>4</b>
<b>Afforestation</b>				<b>15</b>	<b>15</b>
<b>Water Body</b>				<b>1.5</b>	<b>1.5</b>
<b>Undisturbed Area</b>	<b>42.63</b>			<b>81.37</b>	<b>124</b>
<b>TOTAL</b>	<b>223.63</b>	<b>12</b>	<b>3</b>	<b>101.87</b>	<b>340.5</b>

<b>Land use pattern for GHANOODIH (MOEF TABLE)</b>					
<b>Land use during mining</b>	<b>Proposed Post- mining Land Use (ha)</b>				
	<b>Plantation</b>	<b>Water Body</b>	<b>Public Use</b>	<b>Undisturbed</b>	<b>TOTAL</b>
<b>Top Soil Dump</b>	<b>1.97</b>				<b>1.97</b>
<b>External Waste Dump</b>					
<b>Excavation (backfilling)</b>	<b>54.41</b>	<b>2.65</b>			<b>57.06</b>
<b>Road</b>					
<b>Built up area(Infrastructure, COAL DUMP)</b>	<b>3</b>				<b>3</b>
<b>Afforestation</b>					
<b>Water Body</b>					<b>0</b>
<b>Undisturbed Area</b>				<b>10.97</b>	<b>10.97</b>
<b>TOTAL</b>	<b>59.38</b>	<b>2.65</b>	<b>0</b>	<b>10.97</b>	<b>73</b>

### Land use pattern for KUJAMA (MOEF TABLE)

Land use during mining	Proposed Post- mining Land Use (ha)				
	Plantation	Water Body	Public Use	Undisturbed	TOTAL
Top Soil Dump	4.79				4.79
External Waste Dump					
Excavation (backfilling)	105.61	32.7			138.31
Road & RAIL			18.9		18.9
Built up area(Infrastructure, COAL DUMP)					0
Afforestation				4	4
Water Body					0
Undisturbed Area				25	25
<b>TOTAL</b>	<b>110.4</b>	<b>32.7</b>	<b>18.9</b>	<b>29</b>	<b>191</b>



**THE COMMITTEE DESIRED THAT peak capacity in all the cluster of mines should reflect the highest achievable production capacity from the project with sufficient cushion available for enhancing production for offsetting shortfall in others.**

- **As desired by the Committee, once the environmental clearance for the cluster with prescribed mines is obtained, BCCL shall once again put up fresh proposals with peak capacity on single cluster basis by amalgamating all the individual mines thereby reflecting the highest achievable production capacity from this cluster with sufficient cushion for enhancing production for offsetting shortfall from other mine openings/ sections.**
- **This proposal shall be put up to MoEF after it is duly approved by the BCCL's Board of Directors.**

**THE COMMITTEE ALSO SOUGHT the present levels of production from the cluster**

CLUSTER NO.	NAME OF MINE	COAL PRODUCTION in MT for 2011-12		
		Normal production (in MT)	one time Fiery coal availed during execution of Master Plan for dealing with fires and subsidence (in MT)	Total (in MT)
CLUSTER-8	Bastacolla UG and OCP	0.191	-	0.191
	Bera UG and OCP	0.201	-	0.201
	Dobari Colliery UG	0.21	-	0.21
	Kuya UG and OCP	0.636	-	0.636
	Ghanoodih Colliery OCP	-	0.599	0.599
	Kujama Colliery OCP	-	0.478	0.478
	Goluckdih (NC) OCP	Proposed mine (will commence after closure of Kuya OCP)		
	<b>TOTAL</b>	<b>1.238</b>	<b>1.077</b>	<b>2.315</b> 126

## **OBSERVATION OF THE COMMITTEE ON COAL TRANSPORT :**

**Reply details given in Annexure-I**

**THE COMMITTEE SOUGHT a copy of the Forestry Clearance for the forestland found in the cluster-VIII.**

**The stage-II clearance for forest land diversion of 234.08 ha for Ghanoodih Bera and Dobarī colliery has been granted by MoEF vide letter no- F. No 8-44/2009 FC Dated 12.04.2012. Copy of Stage-II Forestry clearance order is given next.**

# STAGE-II FOREST CLEARANCE OF BERA-GHANODIH PROJECT IN CLUSTER-VIII

F. No. 8-44/2009-FC  
Government of India  
Ministry of Environment & Forests  
(FC Division)

Paryavaran Bhawan,  
CGO Complex, Lodhi Road,  
New Delhi-110510

Dated: 12 April, 2012

To  
The Principal Secretary (Forests),  
Government of Jharkhand,  
Ranchi.

Subj: Diversion of 234.08 ha of forest land for coal mining of open mining project in village Ghanodih and Bera in favour of M/s Bharat Coking Coal Limited (BCCL) in Dhanbad district of Jharkhand.

Sir,

I am directed to refer to the State Government's letter no. 3 / VanBhumi - 28 /2009-1704 VP dated 13.06.2009 on the subject mentioned above seeking prior approval of the Central Government under Section-2 of the Forests (Conservation) Act, 1980. After careful consideration of the proposal by the Forest Advisory Committee constituted under section-3 of the said Act, in-principle approval was granted vide this Ministry's letter of even number dated 9.08.2010 subject to fulfillment of certain conditions. The State Government has furnished compliance report in respect of the conditions stipulated in the in-principle approval and has requested the Central Government to grant final approval.

In this connection, I am directed to say that on the basis of the compliance report furnished by the State Government vide letter no. 3/Vanbhumi-28/2009-1410 dated 13.04.2011 and letter dated 3.02.2012, approval of the Central Government is hereby granted under section-2 of the Forest (Conservation) Act, 1980 for diversion of 234.08 ha of forest land for coal mining of open mining project in village Ghanodih and Bera in favour of M/s Bharat Coking Coal Limited (BCCL) in Dhanbad district of Jharkhand subject to fulfillment of the following conditions:

1. Legal status of forest land shall remain unchanged.
  - a. Compensatory afforestation shall be raised and maintained by the State Forest Department at the project cost.
  - b. Fencing, protection and regeneration of the safety zone area shall be done at the project cost.
  - c. The boundary of safety zone shall be demarcated on ground at the project cost, by erecting four feet high reinforced cement concrete pillars, each inscribed with its serial number, forward and back bearing and distance from pillar to pillar
2. The following activities shall be undertaken by the User Agency under supervision of

Shm

the State Forest Department at the project cost:

- (i) Proper mitigative measures to minimize soil erosion and choking of streams shall be prepared and implemented.
  - (ii) Planting of adequate drought hardy plant species and sowing of seeds to arrest soil erosion.
  - (iii) Construction of check dams, retention/toe walls to arrest sliding down of the excavated material along the contour.
  - (iv) The top soil management plan should be strictly adhered to.
4. Wherever possible and technically feasible, the User Agency shall undertake by involving local community, the afforestation measures in the blanks within the lease area, as well as along the roads outside the lease area diverted under this approval, in consultation with the State Forest Department at the project cost.
  5. The User Agency shall furnish an undertaking to pay the additional NPV, if so determined, as per the final decision of Hon'ble Supreme Court of India.
  6. The approval under the Forest (Conservation) Act, 1980 is subject to the clearance under the Environment (Protection) Act, 1986 and any other Acts/Regulation/Rules.
  7. The period of diversion of the said forest land under this approval shall be for a period co-terminus with the period of the mining lease proposed to be granted under the Mines and Minerals (Development & Regulating) Act, 1957, or Rules framed there under, subject to a maximum period of 30 years;
  8. Any tree felling shall be done only when it is unavoidable under strict supervision of the State Forest Department.
  9. No damage to the flora and fauna of the area shall be caused.
  10. No labour camps shall be set up inside the forest area.
  11. The user agency shall provide fuel wood preferably alternate fuel to the labourers working at the site to avoid damage / felling of trees.
  12. Demarcation of mining lease area will be done on the ground at project cost using four feet high reinforced cement concrete pillars with serial numbers, forward & back bearings and distance from pillar to pillar.
  13. The user agency will assist the State Government in conservation and preservation of flora and fauna of the area in accordance with the plan prepared by the Chief Wildlife Warden of the State.

Shm



14. The forest land shall not be used for any purpose other than that specified in the proposal.
15. The User Agency will ensure the dumping of OB as per the approved phased Reclamation plan.
16. The user agency shall undertake mining in a phased manner after taking due care for reclamation of the mined over area. The concurrent reclamation plan as per the approved mining plan shall be executed by the User Agency from the very first year, and an annual report on implementation thereof shall be submitted to the Nodal Officer, Forest (Conservation) Act, 1980, in the concerned State Government and the concerned Regional Office of the Ministry. If it is found from the annual report that the activities indicated in the concurrent reclamation plan are not being executed by the User Agency, the Nodal Officer or the Chief Conservator of Forests (Central) may direct that the mining activities shall remain suspended till such time, such reclamation activities are satisfactorily executed.
17. The user agency will implement the R & R Plan as per the R&R Policy of State Govt. in consonance with National R&R Policy of the State Government.
18. The user agency shall undertake de-silting of the village tanks and other water bodies located within five km from the mine lease boundary so as to mitigate the impact of siltation of such tanks/water bodies, whenever required;
19. Any other condition that the CCF (Central), Regional Office, Bhubaneswar, may impose from time to time for protection and improvement of flora and fauna in the forest area, shall also be applicable.
20. The user agency shall submit the annual compliance report in respect of the above conditions to the State Government and to the Regional Office, Bhubaneswar regularly.

Yours faithfully,

*Shu*  
(S.P. Singh)

Assistant Inspector General of Forests

Copy to:-

1. The Principal Chief Conservator of Forests Government of Jharkhand, Ranchi.
2. The Nodal Officer, Office of the PCCF, Government of Jharkhand, Ranchi.
3. The Chief Conservator of Forest (Central), Regional Office, Bhubaneswar.
4. User Agency.
5. Monitoring cell of the FC section
6. Guard file.

*Shu 12/4/12*  
(S.P. Singh)  
Assistant Inspector General of Forests

*aj*  
*16/4/12*

# **CLUSTER-XIII**

**REPLIES TO THE CLARIFICATIONS  
RAISED BY THE EXPERT APPRAISAL  
COMMITTEE (T&C), MOEF, NEW DELHI**

**(vide Letter no.J-11015/11/2010-IA.II(M) dated 18th May, 2012 of MOEF)**

**THE COMMITTEE SOUGHT the future scenario of the closed mines found in the cluster.**

**As on date, the closed mines are not in operation. However proposals are being worked out at the drawing table stage for re-opening of these closed mines through international operators on global bidding process. As and when, the proposals are finalized, the details shall be submitted to MoEF.**



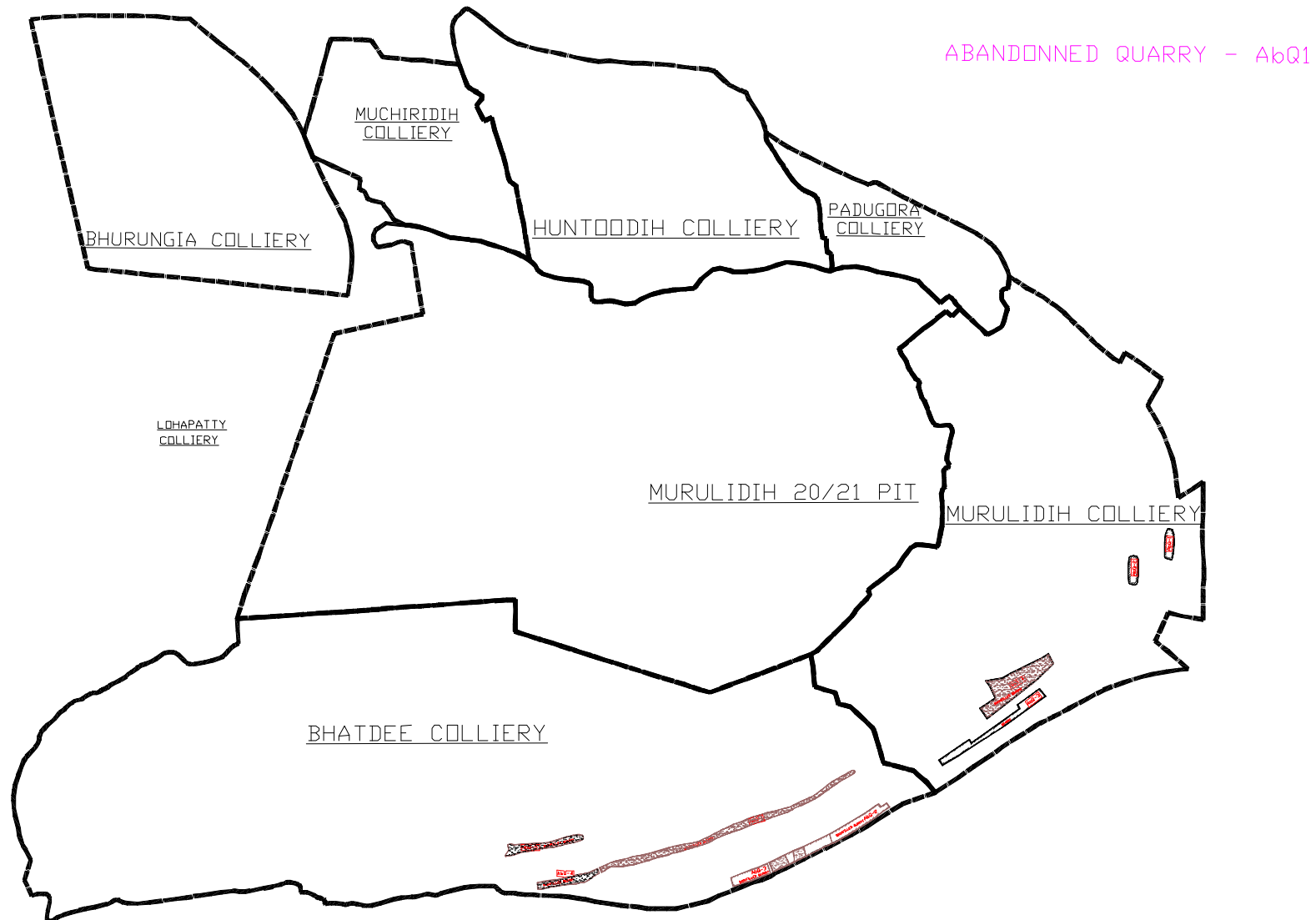
**THE COMMITTEE SOUGHT a confirmation on whether open pits/abandoned quarries are found in the cluster and desired that all the abandoned mine pits should be filled and reclaimed.**

**As suggested by the Committee, all the abandoned mine pits shall be filled, reclaimed and ecologically restored.**

## PROPOSED POST-MINING LAND USE DETAILS OF RECLAMATION OF PITS/ABANDONED QUARRIES IN CLUSTER-XIII

<b>Min wise Abandoned mines/pits/craters</b>	<b>Area in ha.</b>	<b>Mine-wise sub-total (Area in ha.)</b>	<b>Depth in m.</b>	<b>Status and proposed Post-mining Land-use (Water body/ to be backfilled up to ground level and reclaimed with plantation)</b>
Pit no. AbQ-1 in Bhatdih UG Closed	0.67	3.23 in Bhatdih UG Closed	BF	to be reclaimed with plantation/eco-restoration
Pit no. AbQ-2 in Bhatdih UG Closed	1.22		BF	to be reclaimed with plantation/eco-restoration
Pit no. AbQ-3 in Bhatdih UG Closed	0.38		BF	to be reclaimed with plantation/eco-restoration
Pit no. AbQ-4 in Bhatdih UG Closed	0.43		BF	to be reclaimed with plantation/eco-restoration
Pit no. AbQ-5 in Bhatdih UG Closed	0.53		BF	to be reclaimed with plantation/eco-restoration
Pit no. AbQ-1 in Murulidih UG Closed	1.26	14.57 in Murulidih UG Closed	6	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-2 in Murulidih UG Closed	1.33		8	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-3 in Murulidih UG Closed	4.16		6	to be backfilled and reclaimed with plantation/eco-restoration
Pit no. AbQ-1 in Murulidih UG Closed	7.82		BF	to be reclaimed with plantation/eco-restoration
<b>TOTAL in CLUSTER-XIII</b>	<b>17.80</b>			

# EXISTING ABANDONNED QUARRIES IN CLUSTER XIII



**THE COMMITTEE DESIRED THAT peak capacity in all the cluster of mines should reflect the highest achievable production capacity from the project with sufficient cushion available for enhancing production for offsetting shortfall in others.**

- **As desired by the Committee, once the environmental clearance for the cluster with prescribed mines is obtained, BCCL shall once again put up fresh proposals with peak capacity on single cluster basis by amalgamating all the individual mines thereby reflecting the highest achievable production capacity from this cluster with sufficient cushion for enhancing production for offsetting shortfall from other mine openings/ sections.**
- **This proposal shall be put up to MoEF after it is duly approved by the BCCL's Board of Directors.**

**THE COMMITTEE SOUGHT the present levels of production from all the clusters.**

CLUSTER NO.	NAME OF MINE	COAL PRODUCTION in MT for 2011-12		
		Normal production (in MT)	one time Fiery coal availed during execution of Master Plan for dealing with fires and subsidence (in MT)	Total (in MT)
<b>CLUSTER-13</b>	<b>Murulidih 20/21 pits UG</b>	<b>0.061</b>	<b>-</b>	<b>0.061</b>
	<b>Bhurungiya colliery UG</b>	<b>Closed for production</b>		
	<b>Muchraidih colliery UG</b>	<b>Closed for production</b>		
	<b>Hantoodih colliery UG</b>	<b>Closed for production</b>		
	<b>Padugora colliery UG</b>	<b>Closed for production</b>		
	<b>Murulidih colliery UG</b>	<b>Closed for production</b>		
	<b>Bhatdee colliery UG</b>	<b>Closed for production</b>		

# **THE COMMITTEE SUGGESTED THAT the cluster-XIII could be divided into two phases, Phase-I without forest land and Phase-II with 32.29 ha of forestland.**

- As per the production phasing the land acquisition has been divided in to two phases. In Phase-I, only 6.41 Ha of land is required to excavate outcropping/ exposed coal seam in Murulidih to curb illegal mining and possibility of fire in the coal seam.
- The application for this land is under consideration at Regional Office, MoEF Bhubneshwar. The clarifications sought by MoEF office has been complied.

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT & FORESTS  
EASTERN REGIONAL OFFICE  
A/C, CHANDRASEKHARPUR, BHUBANESWAR - 751 023  
TEL. : (Off.) 2301213, 2302432, 2302443, 2302452, 2302453  
FAX : 0674-2302432. GRAM : PARYAVARAN, BHUBANESWAR  
Email : mef@ori.nic.in

भारत सरकार  
पर्यावरण एवं वन मंत्रालय,  
पूर्वी क्षेत्रीय कार्यालय  
ए/3, चन्द्रशेखरपुर, भुवनेश्वर - 751 023  
तार - पर्यावरण, भुवनेश्वर

No. 5-JHC188/2010-BHU

02 MAR 2012

The Principal Secretary,  
Forests & Environment Department,  
Govt. of Jharkhand,  
Nepal House, Ranchi.

01 MAR 2012

February 13, 2012.

Sub: Diversion of 6.41 ha of forest land for Muralidihi & Mahuda Open Cast Mine of M/s BCCL-reg.

Ref: State Govt. letter No. 3/Vanbhumi-42/2010-2765/bapa dated 05.08.2010 & letter No. 4657 dated 28.12.2010.

Sir,

With reference to the above I am directed to inform that the proposal was submitted to the Ministry for consideration after discussion in the SAG meeting. The Ministry has returned the proposal with the following observations of ADG (FC), which may kindly be clarified for further processing of the proposal.

1. The matter regarding previous under ground coal mining and now the proposal for opencast mine over a small area and the observation of SAG that the land in question is risky for the people is not very clear, may be clarified.
2. The map of the underground mining area and the new proposed opencast mine area is also not given (toposheet etc).
3. In the mean, while, the State Govt. is requested to put sign boards in the proposed forest area indicating the risks involved for the people.

Yours faithfully,

(S. Mohapatra)  
Dy. Conservator of Forests (Central)

Copy to:

1. The Director, ROHQ, Ministry of Environment & Forests, New Delhi for kind information w.r.t letter No. 7-1/2012-ROHQ dated 05.01.2012.
2. The PCCF-cum-ED & Nodal Officer, Forest Department, Govt. of Jharkhand, Ranchi for kind information & necessary action.
3. The Project Officer, Muralidihi & Mahuda Group of Mines, W.J. Area, Dhanbad-828305 for information & necessary action.

# **CLUSTER-XIV**

**REPLIES TO THE CLARIFICATIONS  
RAISED BY THE EXPERT APPRAISAL  
COMMITTEE (T&C), MOEF, NEW DELHI**

**(vide Letter no.J-11015/10/2010-IA.II(M) dated 18th May, 2012 of MOEF)**

**THE COMMITTEE OBSERVED THAT fire is a major problem in the area but method of working should not hinder fire control or exacerbate the fire problem. All the mitigative measures should be dovetailed with Jharia Action Plan.**

**There is no problem of fire in this cluster except for the problem of subsidence and instability.**

**The dealing of unstable sites and rehabilitation of affected people from these unstable sites in this cluster have been integrated with the EIA/ EMP.**



**THE COMMITTEE SOUGHT the present levels of production in the mines of the cluster for record of the Ministry.**

CLUSTER NO.	NAME OF MINE	COAL PRODUCTION in MT for 2011-12		
		Normal production (in MT)	one time Fiery coal availed during execution of Master Plan for dealing with fires and subsidence (in MT)	Total (in MT)
CLUSTER-14	Lohapatti UG Section	0.035	0.017 coal availed during curbing illegal mining activities	0.052
	Lohapatti OCP Section		Proposed mine	

**THE COMMITTEE OBSERVED THAT a part of cluster XIV is under River Damodar. It was clarified that although the mine is underground, there is no coal underneath River Damodar, which would be mined. The Committee desired that the data of bore wells near River Damodar require to be monitored for permeability and seepage of waster of River Damodar.**

**As observed by the Committee, any part of the cluster does not exist below the river Damodar. The mining procedure in these Clusters shall be done by underground method. However as suggested by the Committee the data of bore wells near river Damodar in these Clusters shall be monitored for permeability and seepage of water from river Damodar.**

**THE COMMITTEE AFTER DISCUSSIONS  
RECOMMENDED THE PROJECT FOR EC.**

# **CLUSTER-XVI**

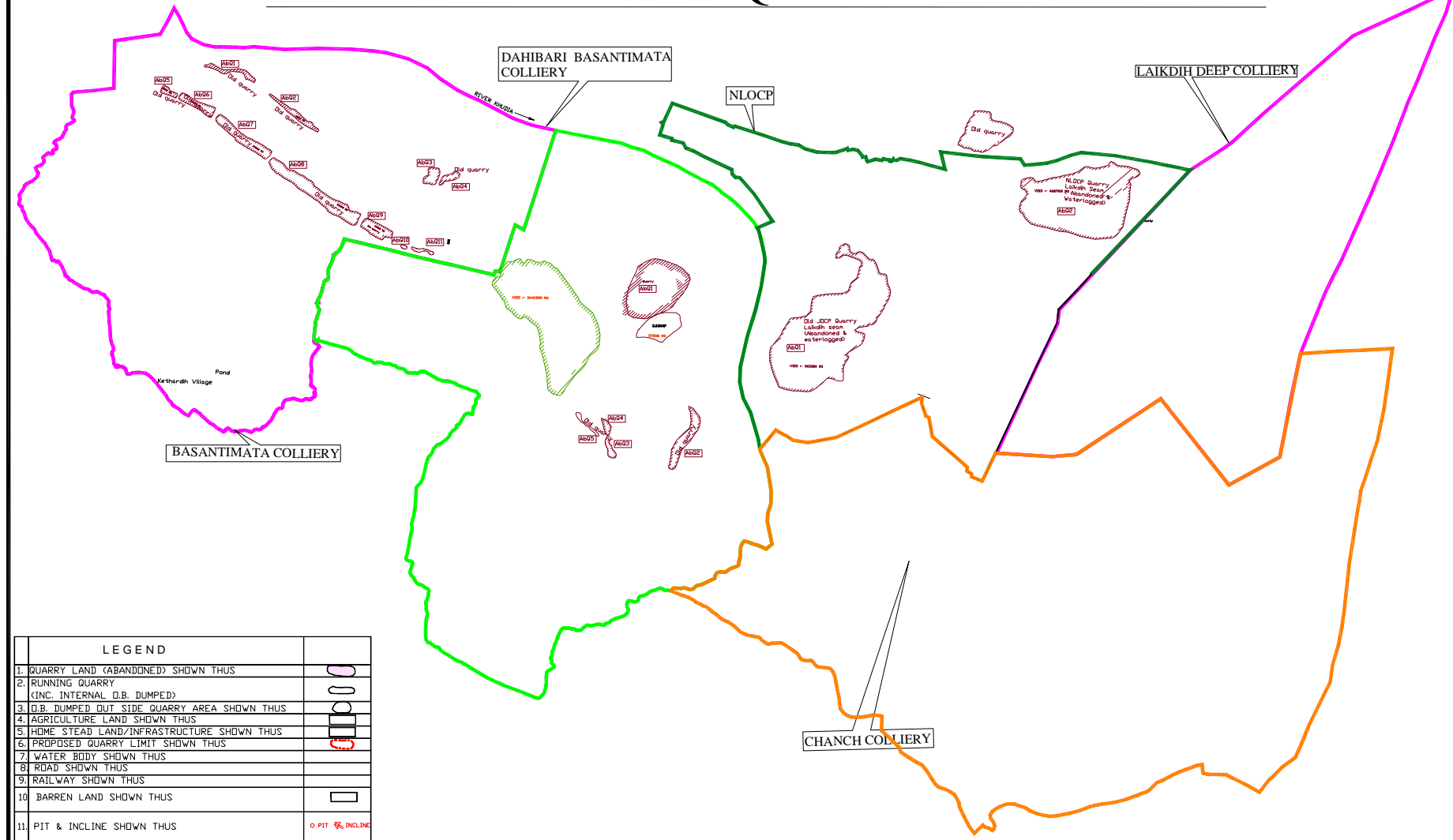
**REPLIES TO THE CLARIFICATIONS  
RAISED BY THE EXPERT APPRAISAL  
COMMITTEE (T&C), MOEF, NEW DELHI**

**(vide Letter no.J-11015/185/2010-IA.II(M) dated 18th May, 2012 of MOEF)**

**THE COMMITTEE DESIRED THAT the OB should be dumped in the voids and their depth reduced to 35-40m. The void if used as water reservoirs could be used for pisci-culture.**

**As suggested by the Committee, all the abandoned and existing mine pits shall be filled, reclaimed and ecologically restored. The details are given next.**

# ABANDONED/RUNNING QUARRIES IN CLUSTER XVI



# **THE COMMITTEE SOUGHT a plan for reclamation of abandoned mines.**

## **PROPOSED POST-MINING LAND USE DETAILS OF RECLAMATION OF PITS/ABANDONED QUARRIES IN CLUSTER-XVI**

<b>Mine wise Abandoned mines/pits/craters</b>	<b>Area in ha.</b>	<b>Mine-wise sub-total (Area in ha.)</b>	<b>Area in ha.</b>	<b>Status and proposed Post-mining Land-use (Water body/ to be backfilled up to ground level and reclaimed with plantation)</b>
Pit no. AbQ-1 in Dahibari Basantimata OCP	6.68	8.80in Dahibari Basantimata OCP	BF	to be reclaimed with eco-restoration
Pit no. AbQ-2 in Dahibari Basantimata OCP	1.45		8	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-3 in Dahibari Basantimata OCP	0.27		8	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-4 in Dahibari Basantimata OCP	0.23		9	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-5 in Dahibari Basantimata OCP	0.17		8	to be backfilled and reclaimed with eco-restoration

## PROPOSED POST-MINING LAND USE DETAILS OF RECLAMATION OF PITS/ABANDONED QUARRIES IN CLUSTER-XVI

<b>Mine wise Abandoned mines/pits/craters</b>	<b>Area in ha.</b>	<b>Mine-wise sub-total (Area in ha.)</b>	<b>Area in ha.</b>	<b>Status and proposed Post-mining Land-use (Water body/ to be backfilled up to ground level and reclaimed with plantation)</b>
Pit no. AbQ-1 in Basantimata UG	0.67	11.62 in Basantimata UG	6	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-2 in Basantimata UG	0.86		8	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-3 in Basantimata UG	0.67		6	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-4 in Basantimata UG	0.43		6	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-5 in Basantimata UG	0.34		8	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-6 in Basantimata UG	0.99		8	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-7 in Basantimata UG	2.0		8	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-8 in Basantimata UG	4.18		10	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-9 in Basantimata UG	1.20		8	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-10 in Basantimata UG	0.07		6	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-11 in Basantimata UG	0.21		6	to be backfilled and reclaimed with eco-restoration
Pit no. AbQ-1 in New Laikdih OCP	3.54		WL	Water body, to be developed into fish culture
Nil in Laikdih deep UG	nil			
Nil in Chanch UG	nil			
<b>TOTAL</b>	<b>23.96</b>			

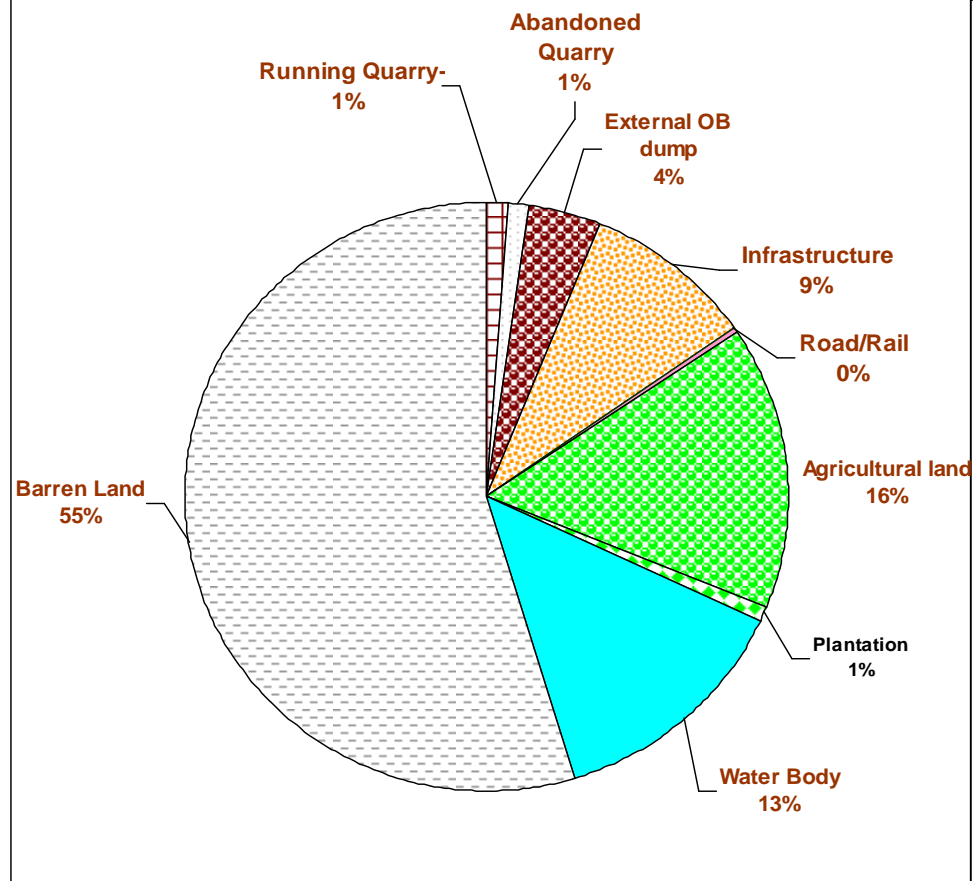
**THE COMMITTEE DESIRED THAT the details of the conceptual post-mining land use of the cluster should be provided.**

## **LAND USE OF CLUSTER XVI**

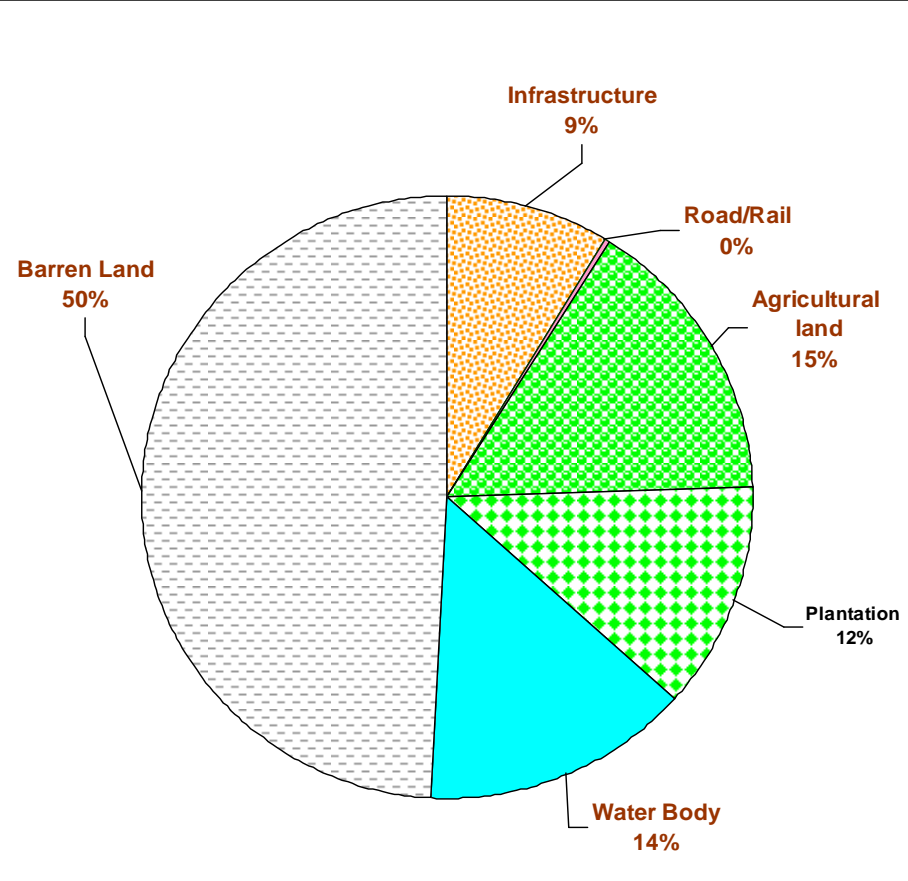
Sl.No.	Type of land use		Present mining land use (inHa)	Post-mining land use (in Ha)
1	Running Quarry			
		Backfilled	3.5	0
		Not Backfilled	18.79	0
2	Abandoned Quarry	Backfilled	9.08	0
		Not Backfilled	14.88	0
3	External OB dump		72.17	0
4	Service building/ Mine Infrastructure		178.64	167.356
5	Coal dump		1.59	0
6	Road and rail		7.94	8.4
7	Agricultural Land		306.39	303.62
8	Plantation		14	242.09
9	Water Body		261.59	278.59
10	Barren Land		1075.61	965.12
	Total		1964.21	1964.21



## Existing land use



## Post mining land use



# CONCEPTUAL POST MINING LAND USE

Conceptual Land use of Cluster XVI						
SI No.	Land Use Classification	Post Mining Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump	3.61				3.61
2	External Waste Dumps	68.56				68.56
3	Excavation (backfill)	29.25	17.00			46.25
4	Road			0.46	7.94	8.40
5	Built up area (Infrastructure)	12.87			167.36	180.23
6	Afforestation				14.00	14.00
7	Water Body				261.59	261.59
8	Undisturbed Area	112.80			1268.74	1381.54
	<b>Total</b>	<b>227.09</b>	<b>17.00</b>	<b>0.46</b>	<b>1719.63</b>	<b>1964.18</b>

## Conceptual Land use of Basantimata UG

SI No.	Land Use Classification	Post Mining Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump	0.31				<b>0.31</b>
2	External Waste Dumps	5.80				<b>5.80</b>
3	Excavation (backfill)	6.62	5.00			<b>11.62</b>
4	Road			0.46	1.04	<b>1.50</b>
5	Built up area (Infrastructure)	9.19			22.60	<b>31.79</b>
6	Afforestation					
7	Water Body				13.38	<b>13.38</b>
8	Undisturbed Area	34.80			317.81	<b>352.61</b>
	<b>Total</b>	<b>56.71</b>	<b>5.00</b>	<b>0.46</b>	<b>354.83</b>	<b>417.00</b>

## Conceptual Land use of Chanch UG

SI No.	Land Use Classification	Post Mining Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump					
2	External Waste Dumps					
3	Excavation (backfill)					
4	Road				0.38	<b>0.38</b>
5	Built up area (Infrastructure)				46.31	<b>46.31</b>
6	Afforestation					
7	Water Body				119.05	<b>119.05</b>
8	Undisturbed Area				409.66	<b>409.66</b>
	<b>Total</b>				<b>575.40</b>	<b>575.40</b>

## Conceptual Land use of Laikdih Deep

SI No.	Land Use Classification	Post Mining Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump					<b>0.00</b>
2	External Waste Dumps					<b>0.00</b>
3	Excavation (backfill)					<b>0.00</b>
4	Road				3.50	<b>3.50</b>
5	Built up area (Infrastructure)				55.30	<b>55.30</b>
6	Afforestation					
7	Water Body				16.15	<b>16.15</b>
8	Undisturbed Area				206.05	<b>206.05</b>
	<b>Total</b>				<b>281.00</b>	<b>281.00</b>

## Conceptual Land use of NL OCP

Sl No.	Land Use Classification	Post Mining Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump	1.47				<b>1.47</b>
2	External Waste Dumps	27.98				<b>27.98</b>
3	Excavation (backfill)	3.54				<b>3.54</b>
4	Road				1.82	<b>1.82</b>
5	Built up area (Infrastructure)				32.99	<b>32.99</b>
6	Afforestation				14.00	<b>14.00</b>
7	Water Body				78.32	<b>78.32</b>
8	Undisturbed Area				144.98	<b>144.98</b>
	<b>Total</b>	<b>32.99</b>			<b>272.11</b>	<b>305.10</b>

## Conceptual Land use of Dahibari Basantimata OCP

Sl No.	Land Use Classification	Post Mining Land Use (ha)				
		Plantati on	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump	<b>1.83</b>				<b>1.83</b>
2	External Waste Dumps	<b>34.79</b>				<b>34.79</b>
3	Excavation (backfill)	<b>19.09</b>	<b>12.00</b>			<b>31.09</b>
4	Road				<b>1.20</b>	<b>1.20</b>
5	Built up area (Infrastructure)	<b>4.68</b>			<b>9.16</b>	<b>13.84</b>
6	Afforestation					
7	Water Body				<b>34.69</b>	<b>34.69</b>
8	Undisturbed Area	<b>78.00</b>			<b>190.24</b>	<b>268.24</b>
	<b>Total</b>	<b>138.39</b>	<b>12.00</b>		<b>235.29</b>	<b>385.68</b>

## **OBSERVATION OF THE COMMITTEE ON COAL TRANSPORT :**

**Reply details given in Annexure-I**



**Booklets should be prepared for Plan for Coal Transportation, R&R and CSR for all the clusters and submitted to MOEF and to EAC**

- Reply details given in Annexure-II**

**THE COMMITTEE DESIRED THAT eco-restoration for all the clusters should be prepared.**

- **Reply details given in Annexure-III**

**ANNEXURES**

# **ANNEXURE-I**

**INTEGRATED  
TRANSPORTATION NET WORK  
FOR COAL DESPATCH  
FROM DIFFERENT  
COAL MINE CLUSTERS OF BCCL**

## **OBSERVATION OF THE COMMITTEE (for all Clusters):**

- The Committee desired that details of coal transportation should be reworked to reduce/minimise road transportation within the cluster.
- The Committee suggested that the proponent prepare a Coal Transportation Plan for the entire Jharia Coalfield in a phased manner so that in Phase-I, the existing system of transportation by dumpers could continue, however, in Phase II, transportation by rail-cum-conveyor/ropeway system should be introduced and sought a **conceptual plan for all the clusters** to be presented before the Committee.
- The proponent should also examine options of ropeway/conveyor-cum-rail transport to avoid movement of trucks within the cluster for coal transportation. Loading of coal by pay loaders should not be provided.
- The Committee desired that adequate number of suitably designed off-take points should be provided. The transportation details should be provided in a schematic map/topo sheet along with network of railway along with loading points should also be prepared and presented before committee.

**INTEGRATED  
TRANSPORTATION NET WORK  
FOR COAL DESPATCH  
FROM DIFFERENT  
COAL MINE CLUSTERS OF BCCL**

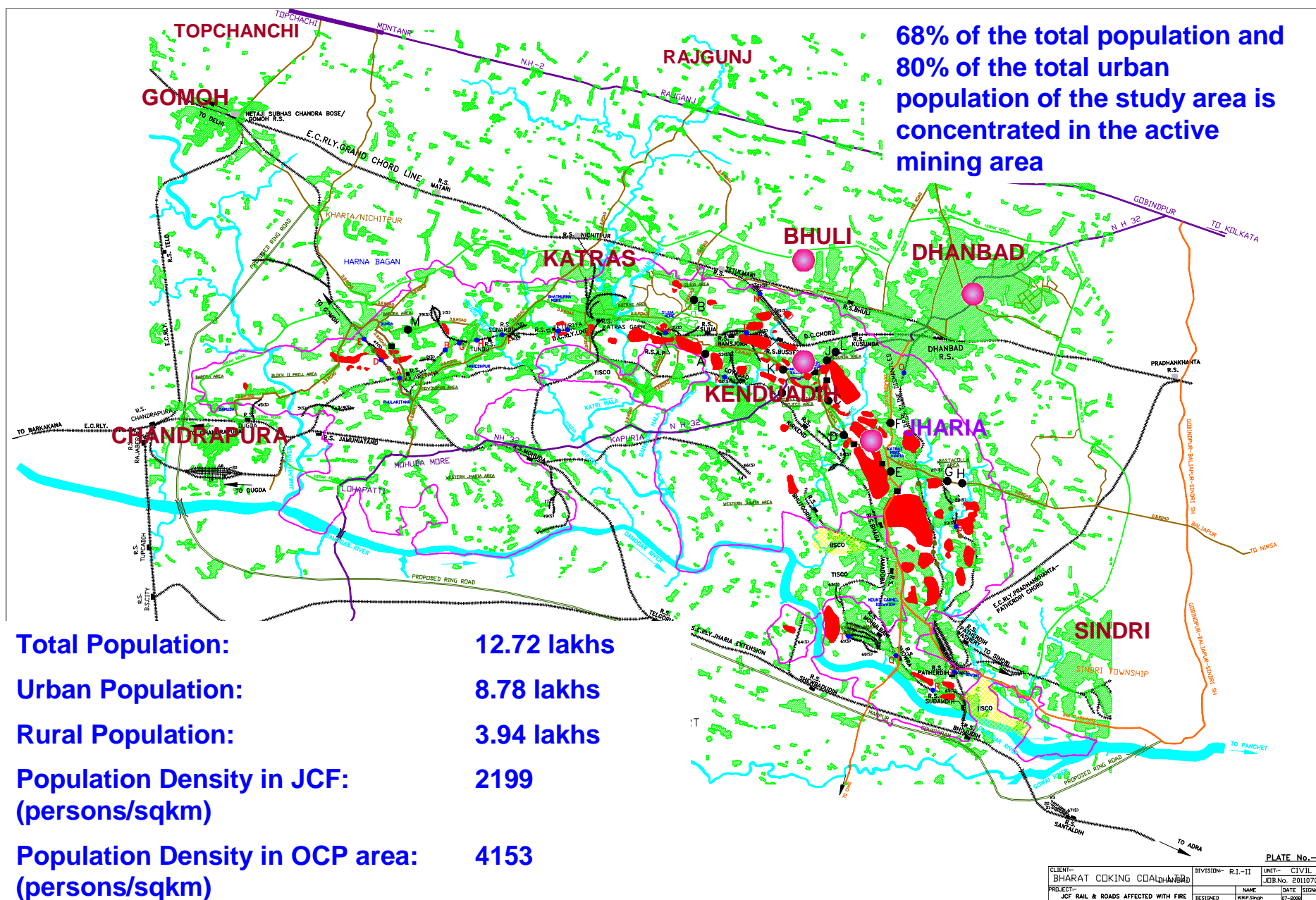
**vis-à-vis**

**IMPLEMENTATION OF JHARIA  
ACTION PLAN**

# **JHARIA COALFIELD: BACKGROUND**

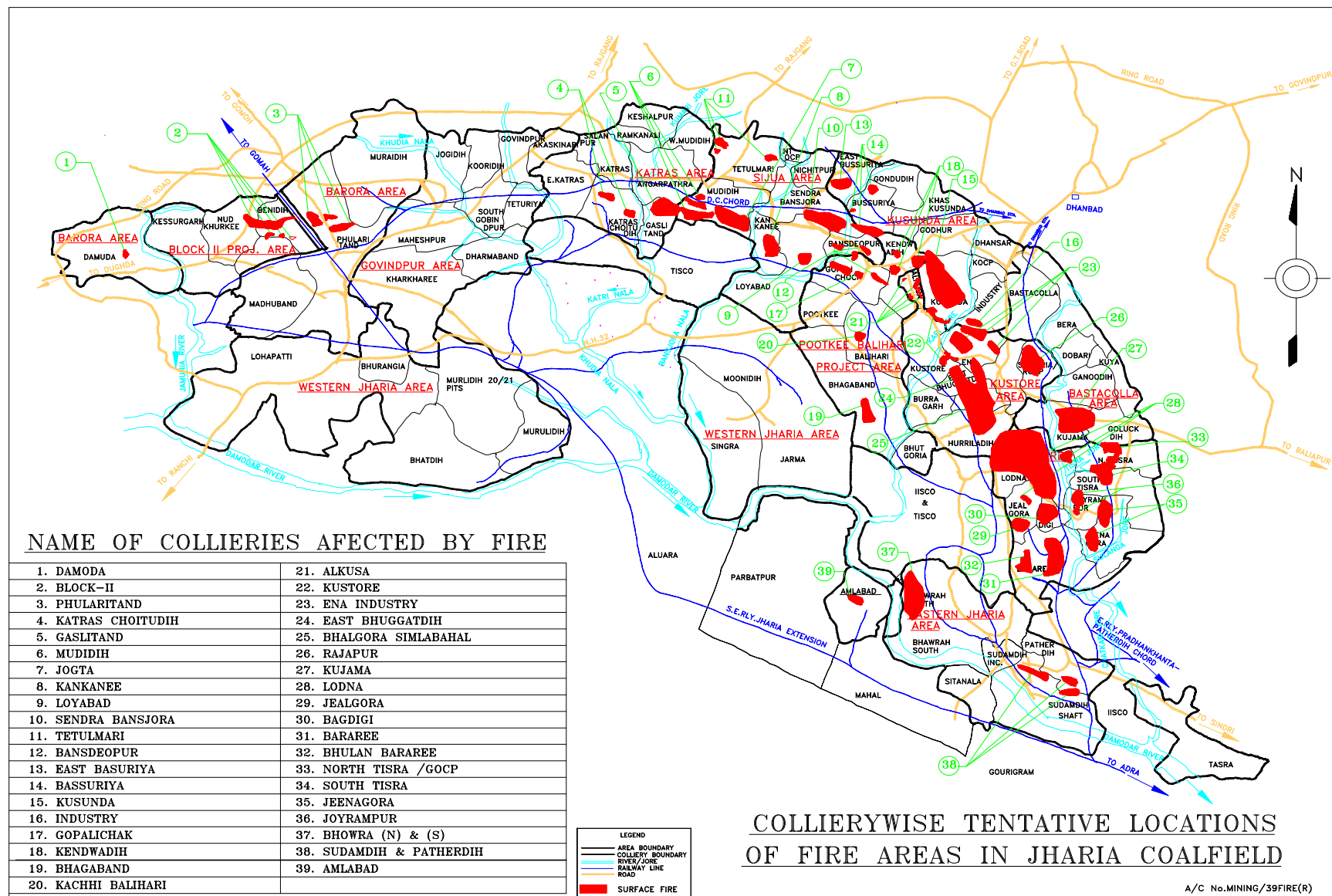
- ❖ Mining operations in JCF are more than 100 years old.**
- ❖ Prior to nationalisation, coal mining was done in a very unscientific manner by the private owners.**
- ❖ This type of slaughter mining resulted in mine fires, subsidence, water inundation, land degradation and etc.**

# JHARIA COALFIELD AND SURROUNDINGS – PRESENT SCENARIO OF SURFAC FEATURES

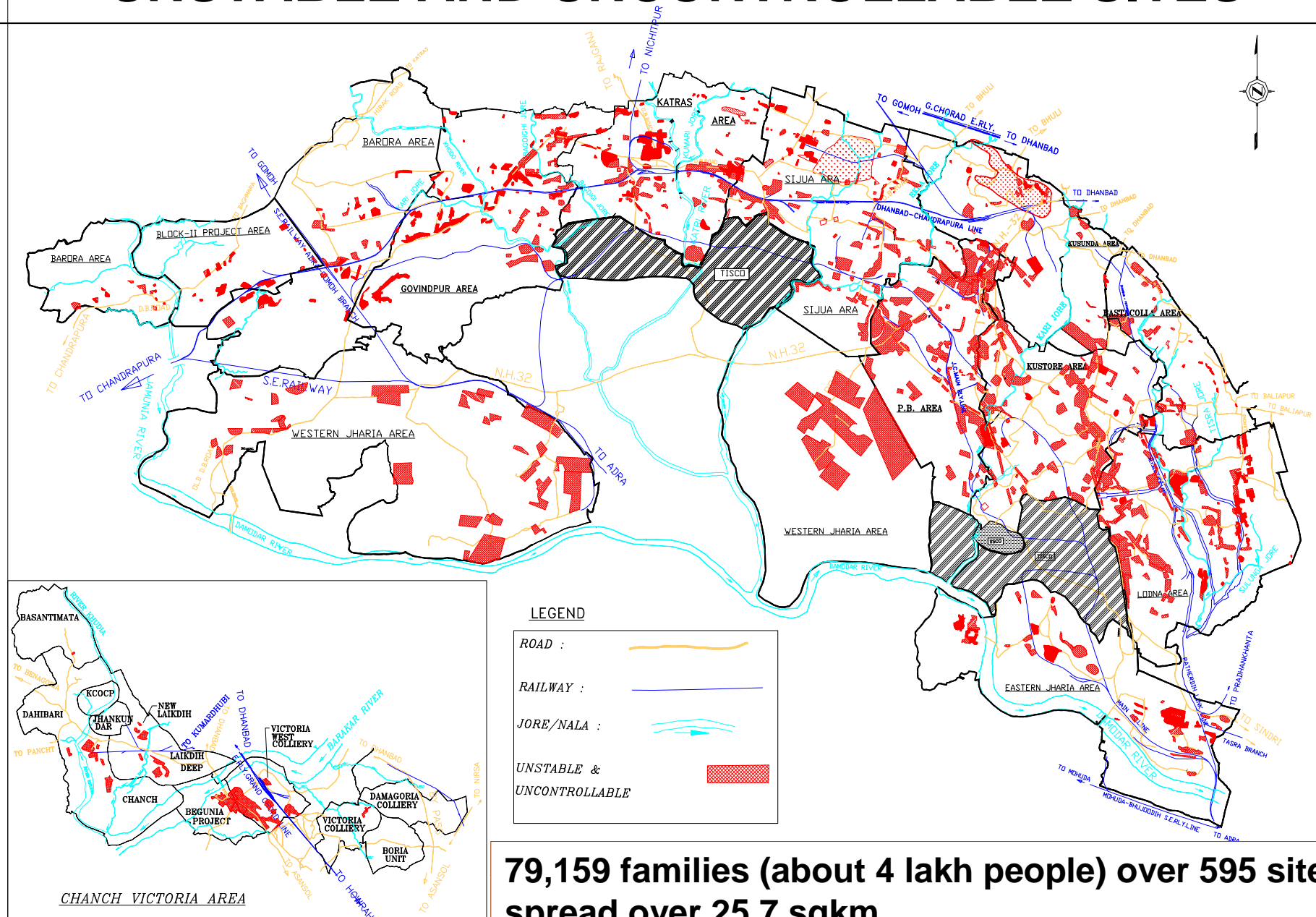




# MINE FIRE LOCATIONS IN JCF



# UNSTABLE AND UNCONTROLLABLE SITES



**79,159 families (about 4 lakh people) over 595 sites spread over 25.7 sqkm**

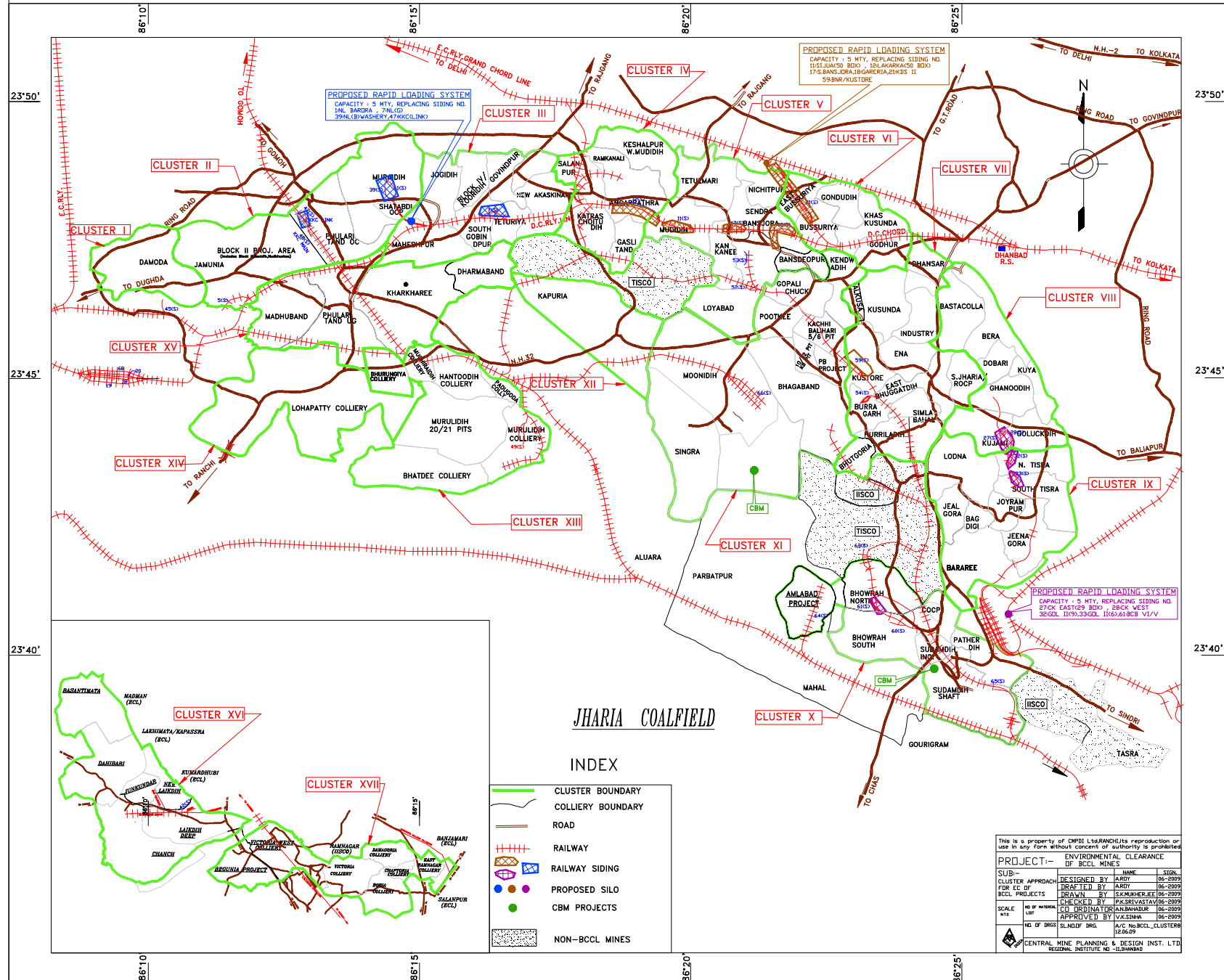
# **JHARIA COALFIELD: SURFACE CONSTRAINTS**

- ❖ **Population density** in JCF is very high (2400/sqkm average) with very scarce availability of free land for mining and fire fighting.
- ❖ **Land acquisition** and physical possession is very cumbersome and very long time taking. Cases of land acquisition in BCCL take up to 20 years.
- ❖ **Rampant land encroachment** problems and people are aggressive and do not accept change for better QoL easily.
- ❖ **Very old roads** with poor condition.

# **BCCL's PRESENT COAL DESPATCH TRANSPORTATION NET WORK**

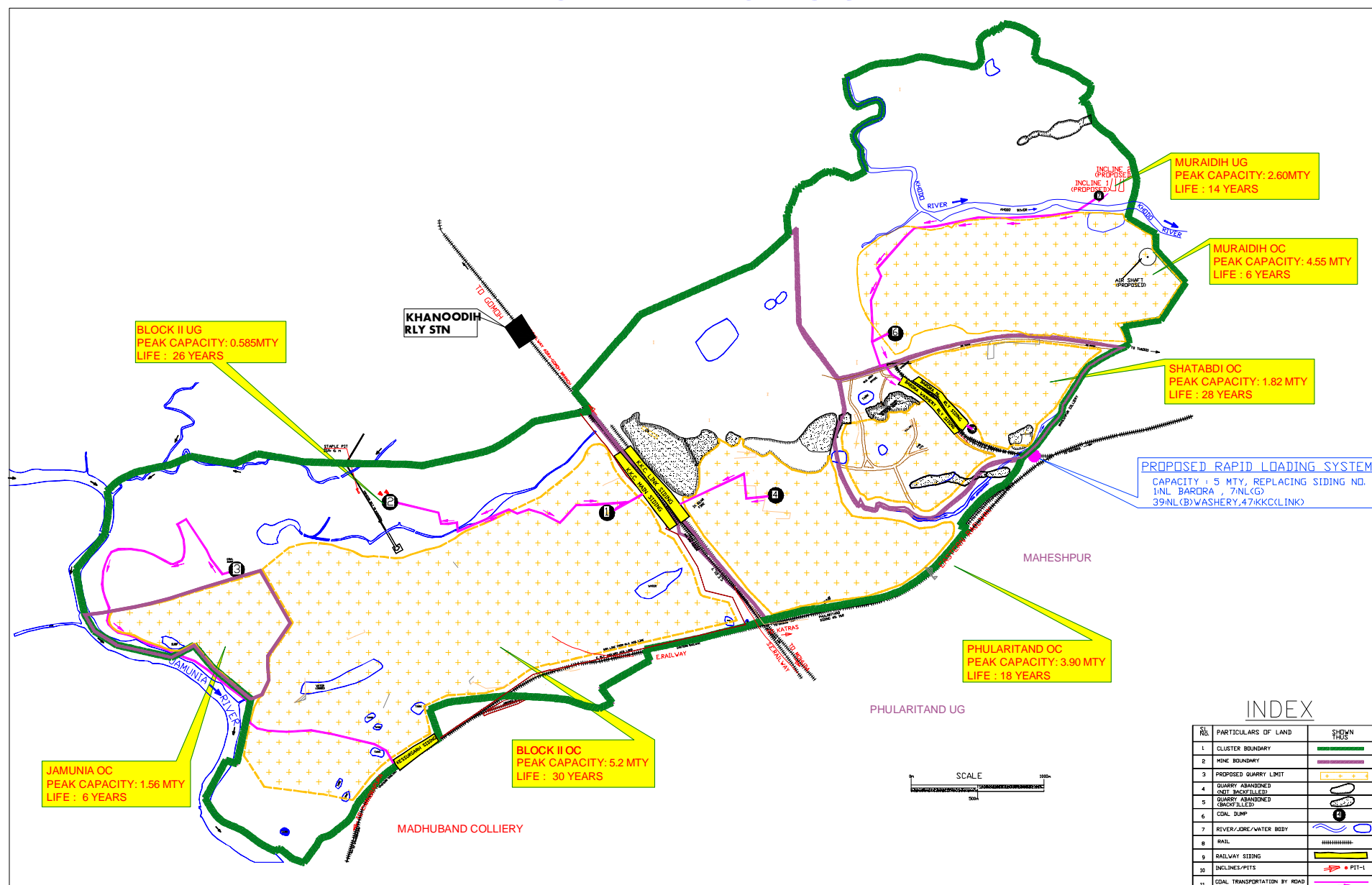
- ❖ **At present there are 33 Railway sidings that cater to the transport of coal from the BCCL mines, some of which are fire affected and need to be removed/ shifted.**
- ❖ **Some amount of coal is being transported by roads, some of which are fire affected and need to be removed/ shifted.**
- ❖ **A separate Master Plan has been proposed in the approved Jharia Action Plan for diversion of present railway lines and roads within the coalfield and this would require Rs. 20 crs. for formulating this plan. Accordingly JRDA appointed RITES for preparing this Plan for diversion of railway lines, roads and other utility lines vis-à-vis implementation of the Jharia Action Plan.**
- ❖ **RITES has proposed a separate Road/ Rail Network after the dealing of fires, subsidence and rehabilitation is completed as per the Jharia Action Plan.**

# BCCL MINES WITH ROAD, RAILWAYS, SIDINGS & PROPOSED SILOS





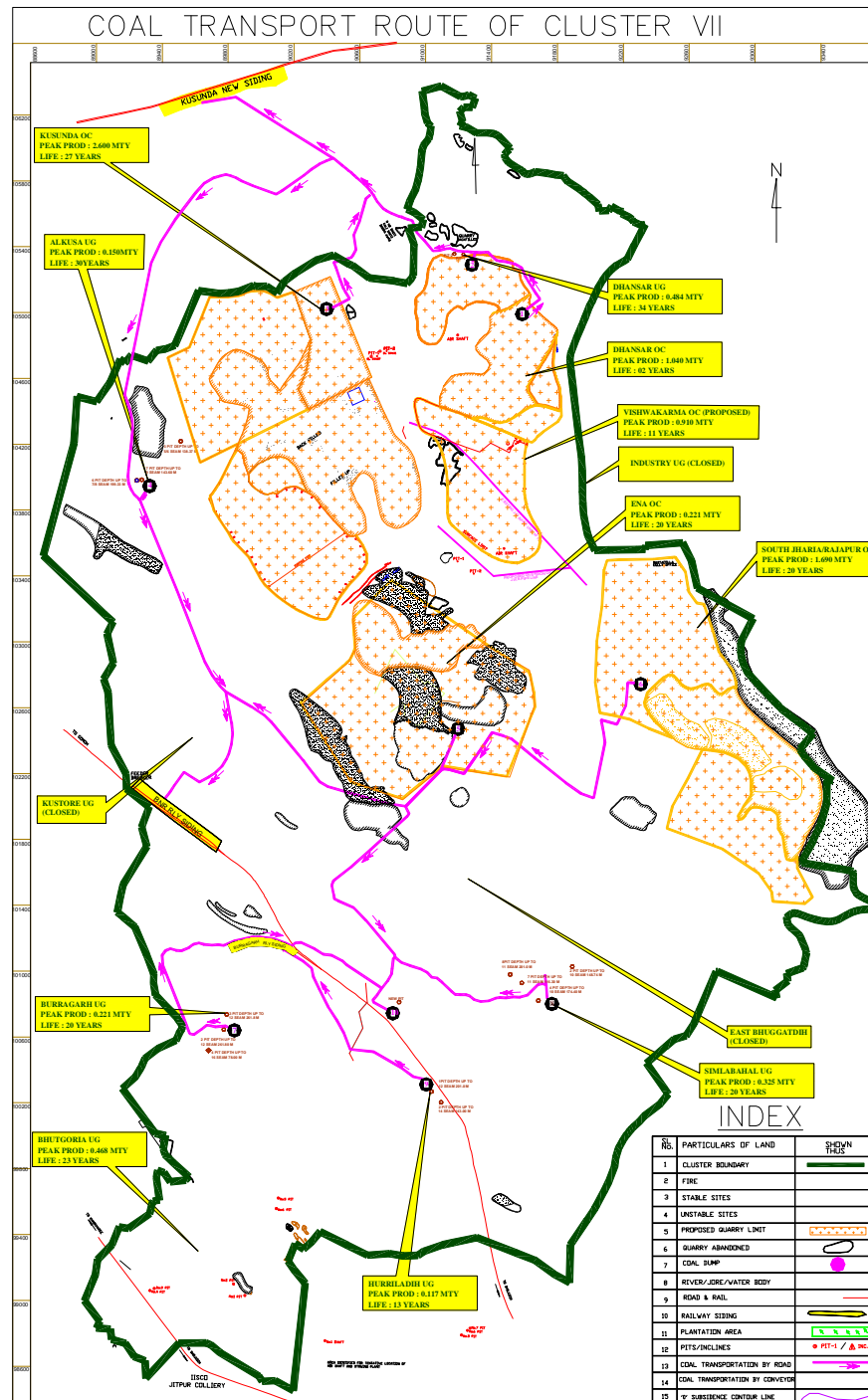
# BCCL's PRESENT COAL DESPATCH TRANSPORTATION NET WORK IN CLUSTER-II



# EXISTING TRANSPORT ROUTE OF CLUSTER IV

The map illustrates the existing transport network for Cluster IV, which includes five collieries: Salanpur Colliery, Amalgamated Keshalpur West Mudidihi Colliery, Amalgamated Angarpathra Ramkanal Colliery, Katras Choitudih Colliery, and Gaslitand Colliery. A primary transport route is shown as a thick black line, with dashed lines representing branch routes. Arrows indicate the direction of travel. A legend in the bottom right corner identifies the symbols used: a thick black line for the main route, a dashed line for branch routes, and a dashed line with an arrow for the route to Chaurabao.

# BCCL's PRESENT COAL DESPATCH TRANSPORT ATION NET WORK IN CLUSTER-VII






# BCCL's PRESENT COAL DESPATCH TRANSPORT ATION NET WORK IN CLUSTER-VIII

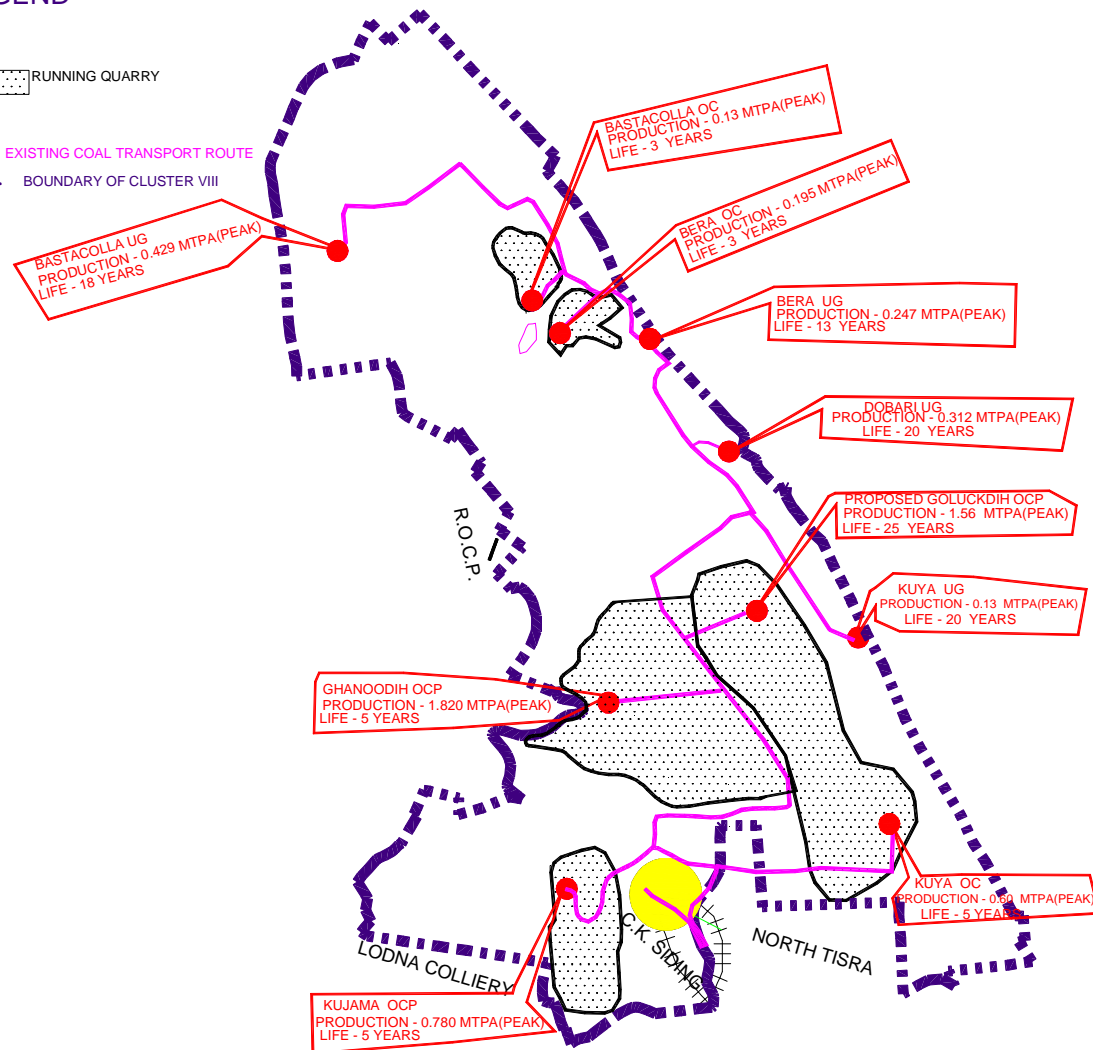
## EXISTING TRANSPORT ROUTE OF CLUSTER VIII

### LEGEND

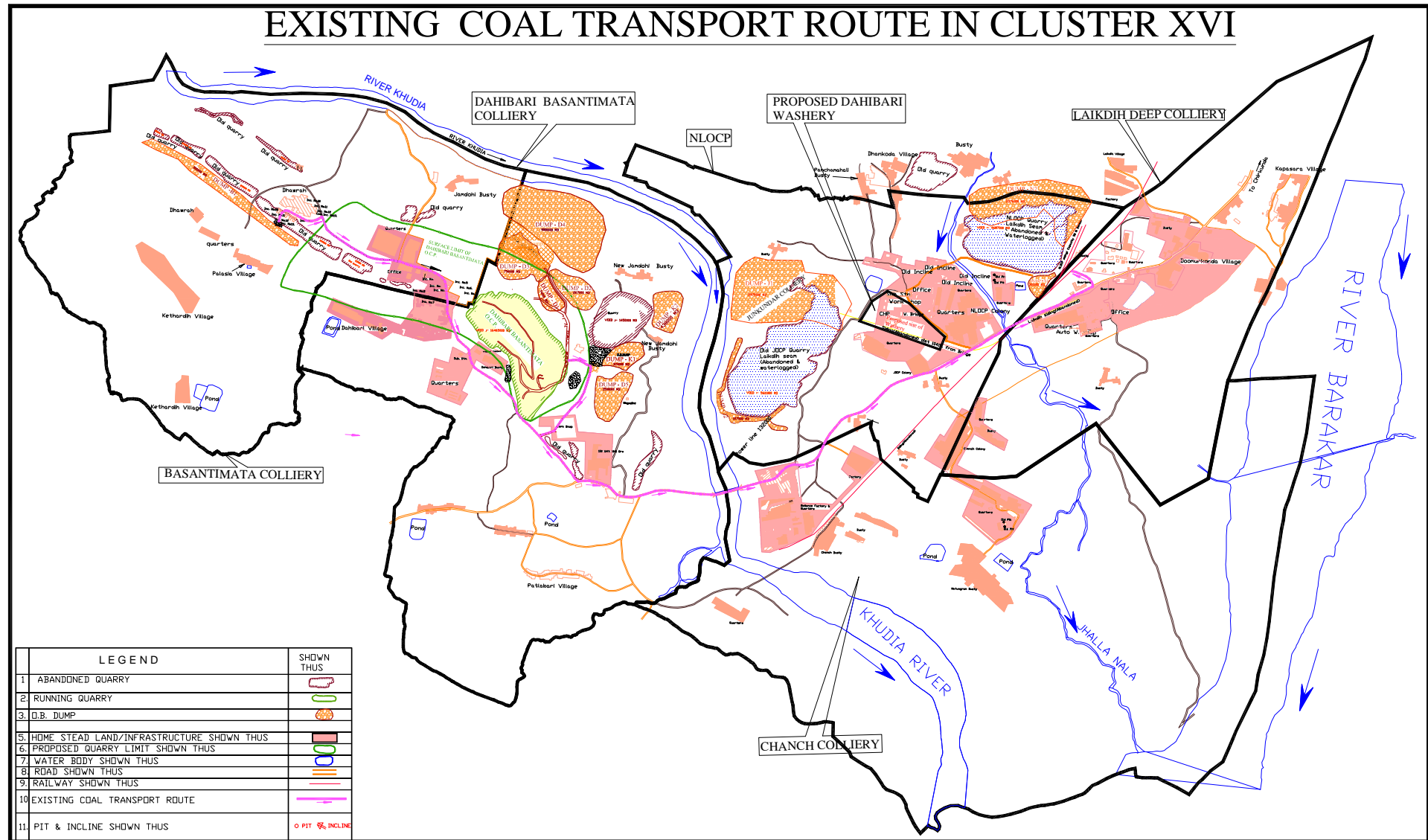
 RUNNING QUARRY

 EXISTING COAL TRANSPORT ROUTE

 BOUNDARY OF CLUSTER VIII



# EXISTING COAL TRANSPORT ROUTE IN CLUSTER XVI



## **CONSTRAINTS FOR AN IMPROVISED TRANSPORTATION NET WORK TILL THE IMPLEMENTATION OF JHARIA ACTION PLAN IS COMPLETED**

- ❖ **Age-old mine fires and unstable areas (about 25 sqkm).**
- ❖ **Large habitation area (32 sqkm) with high population density (2400/sqkm).**
- ❖ **Large no. of encroacher population (37000 families) with aggressive nature and vandalism.**
- ❖ **Severe Land acquisition and physical possession problems.**
- ❖ **Not so good co-operation from Stake holders in land acquisition.**
- ❖ **Very old Govt. and District roads with poor condition and heavy congested traffic being the major source of pollution. This has been established by a World Bank study.**
- ❖ **Lack of proper and scientific study on source apportionment, thereby blaming for the total pollution load of JCF on BCCL.**

# **CONSTRAINTS FOR AN IMPROVISED TRANSPORTATION NET WORK**

**Under this background**

**It is most humbly submitted before the Committee that the conditions prevailing in JCF/BCCL are not at par with other coalfields which is due its more than 100 years old unscientific mining history, severe land degradation, fires and subsidence problems, high population density, encroachers etc.**

## **ADVANCE ACTIONS INITIATED BY BCCL FOR AN ENVIRONMENT FRIENDLY TRANSPORTATION NET WORK**

- **Before nationalization of mines, the total coal transport was done by road. BCCL has constructed about 33 rail way sidings after nationalisation for coal transport.**
- **Construction of about 50 CHPs by BCCL after nationalisation.**
- **Construction of a dedicated ring road (30 kms.), with green belt on either side, beyond the coalfield by BCCL for coal transportation.**
- **1 environment friendly Rapid Loading System (RLS) at Maheshpur is under construction and 2 more are under process.**
- **Study/ survey by RITES as per the Jharia Action Plan for construction of new roads and rail lines for the whole coalfield.**

**These actions were/ are initiated by BCCL well in advance of grant of EC.**

# OPTIMUM COAL TRANSPORTATION SCHEME IN THE PRESENT SCENARIO

## PHASE-I (for 10+5 years):

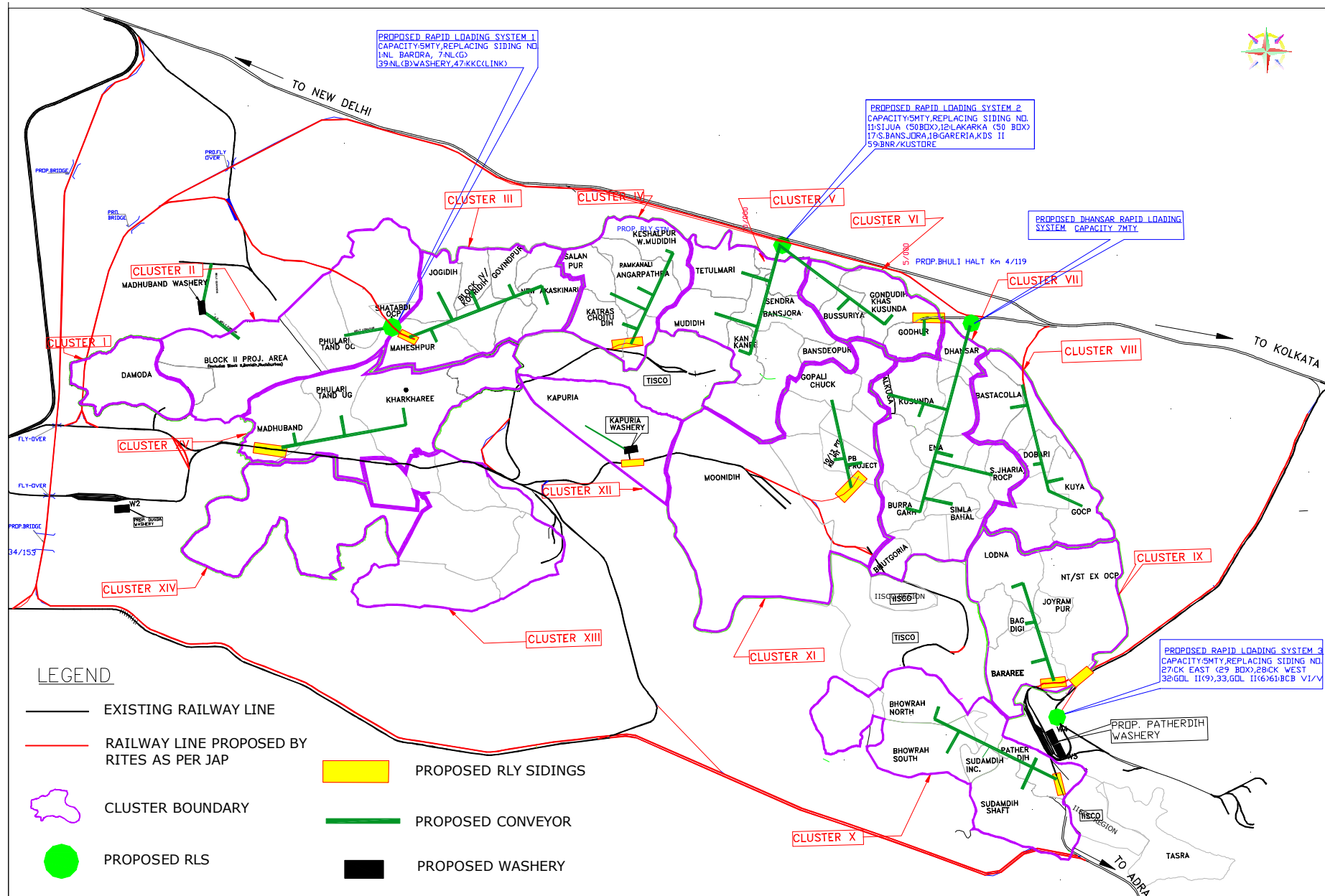
- ❖ As suggested by the Committee it is proposed to continue the existing Road-Rail transport net work system in view of the implementation of the Jharia Action Plan (for 10 years) and
- ❖ Another 5 years gestation period after the completion of Jharia Action Plan **for consolidation of the backfilled dug out fire areas and unstable areas** is required. Thus the period of 15 years make the Phase-I
- ❖ All mitigation measures (like covered trucks, green belting on either sides of the roads, enhanced water sprinkling, strengthening and maintaining the roads etc.) shall be adopted up to 15 years with the existing road-rail transport system.

# **CONCEPTUAL PLAN OF PROPOSED INTEGRATED COAL TRANSPORTATION NET WORK FOR ALL CLUSTERS IN PHASE-II**

## **PHASE-II (after 15 years):**

- **As suggested by the Committee BCCL shall implement conveyor-cum-rail transport to avoid movement of trucks within the cluster for coal transportation in Phase-II which shall start after 15 years from now.**
- **It is proposed to carry all coal transport by Rail and Conveyor belt, minimising the existing road transport system in about 54 mines with about 51 MTY that would continue after 15 years.**
- **Installation of more RLS (about 4) and CHPs to cater to the coal transportation from all clusters.**
- **Installation of more Coal Washeries (about 10) linked to mines.**
- **Loading of coal by pay loaders shall be discontinued.**
- **As suggested by the Committee adequate number of suitably designed off-take points shall be provided.**
- **As suggested by the Committee a Conceptual Plan for Coal transportation for the Phase-II is given next.**

# CONCEPTUAL PLAN OF PROPOSED INTEGRATED COAL TRANSPORTATION NET WORK FOR ALL CLUSTERS IN PHASE-II





## CONCEPTUAL PLAN OF PROPOSED INTEGRATED COAL TRANSPORTATION NET WORK FOR ALL CLUSTERS IN PHASE-II

CLUSTER	Mines in Operation in Ph-II (after 15 years)	Peak Production in Ph-II (after 15 years)	Proposed Transport infrastructure in Ph-II (RLS/CHP/Rly Sidings/conveyor system)
II	Block II Colliery OC	5.2	Mine to Madhuband Washery by conveyor system . Washed coal despatch by rail
	Block II Colliery UG	0.585	
	Shatabdi OCP	1.82	Coal transport by Conveyor to Maheshpur RLS at Rly siding
	Phularitand OCP	3.9	
	<b>TOTAL</b>	<b>11.505</b>	
III	Jogidih Colliery	0.317	Coal transport by Conveyor to Rly siding
	Maheshpur Colliery	0.091	
	Govindpur Colliery	0.182	
	New Akashkinaree UG mine	0.176	
	Block-IV/Kooridih UG Mine	0.104	
	<b>TOTAL</b>	<b>0.87</b>	
IV	Salanpur Colliery	0.195	Coal transport by Conveyor to Rly siding
	Katras Choitudih Colliery	0.286	
	Amalgamated Keshalpur-West Mududih Colliery UG	0.247	
	Amalgamated Angarpathra - Ramkanali colliery UG	0.378	
	<b>TOTAL</b>	<b>1.106</b>	181

CLUSTER	Mines in Operation in Ph-II (after 15 years)	Peak Production in Ph-II (after 15 years)	Proposed Transport infrastructure in Ph-II (RLS/CHP/Rly Sidings/conveyor system)
V	Tetumari Colliery UG	0.189	<b>Coal transport by Conveyor to Tetumari RLS at Rly siding</b>
	Mudidih Colliery UG	0.238	
	Sendra Bansjore Colliery OC	0.78	
	Kankanee Colliery UG	0.156	
	Bansdeopur Colliery UG	0.156	
	<b>TOTAL</b>	<b>1.519</b>	
VI	Bassuriya Colliery	0.156	<b>Coal transport by Conveyor to Rly siding</b>
	Gondudih Khas kusunda Colliery OC	2.6	
	Godhur Colliery OC	2.6	
	Godhur Colliery UG	0.325	
	<b>TOTAL</b>	<b>5.681</b>	
VII	Dhansar UG	1.04	<b>Coal transport by Conveyor to Dhansar RLS at Rly siding</b>
	Kusunda OC	2.6	
	Alkusa UG	0.15	
	Ena OC	0.221	
	South Jharia/ Rajapur OCP	1.69	
	Burragarh UG	0.221	
	Simlabahal UG	0.325	
	Bhutgoria UG (Re-opening)	0.468	
	<b>TOTAL</b>	<b>6.715</b>	

<b>CLUSTER</b>	<b>Mines in Operation in Ph-II (after 15 years)</b>	<b>Peak Production in Ph-II (after 15 years)</b>	<b>Proposed Transport infrastructure in Ph-II (RLS/CHP/Rly Sidings/conveyor system)</b>
<b>VIII</b>	Bastacolla Colliery UG	0.429	<b>Coal transport by Conveyor to Rly siding</b>
	Dobari Colliery (UG)	0.312	
	Kuya Colliery UG	0.13	
	Goluckdih (NC) OCP (Proposed) (Proposed OCP will commence after the closure of existing Kuya OCP)	1.56	
	<b>TOTAL</b>	<b>2.431</b>	
<b>IX</b>	Lodna (UG)	0.15	<b>Coal transport by Conveyor to Patherdih RLS at Rly siding</b>
	Bagdigi (UG)	0.143	
	Joyrampur (UG)	0.199	
	Bararee (UG)	0.221	
	PROPOSED North Tisra/South Tisra Expansion OCP	7.8	<b>Mine to Patherdih Washeries by conveyor system . Washed coal despatch by rail</b>
	<b>TOTAL</b>	<b>8.513</b>	
<b>X</b>	Bhowrah North UG	0.143	<b>Coal transport by Conveyor to Rly siding</b>
	Bhowrah South (UG)	0.377	
	Patherdih (UG)	0.07	
	Sudamdih Incline (UG)	0.117	
	Sudamdih Shaft (UG)	0.24	
	<b>TOTAL</b>	<b>0.947</b>	

<b>CLUSTER</b>	<b>Mines in Operation in Ph-II (after 15 years)</b>	<b>Peak Production in Ph-II (after 15 years)</b>	<b>Proposed Transport infrastructure in Ph-II (RLS/CHP/Rly Sidings/conveyor system)</b>
<b>XI</b>	Gopalichak UG Project	0.143	<b>Coal transport by Conveyor to Rly siding</b>
	Kachi Balihari 10/12 UG	0.117	
	PB Project UG	1.04	
	Moonidih UG Mine (with proposed integrated washery)	5.2	<b>Mine to Moonidih Washery by conveyor system . Washed coal despatch by rail</b>
	<b>TOTAL</b>	<b>6.5</b>	
<b>XII</b>	Kapuria UG	<b>3.12</b>	<b>Mine to Kapuria Washery by conveyor system . Washed coal despatch by rail</b>
<b>XV</b>	Kharkharee Colliery UG	0.12	<b>Coal transport by Conveyor to Rly siding</b>
	Madhuband Colliery UG	0.147	
	Phularitand Colliery UG	0.156	
	<b>TOTAL</b>	<b>0.423</b>	
<b>XVI</b>	Dahibari Basantimata OCP	1.69	<b>Mine to Dahibari Washery by conveyor system. Washed coal despatch by rail</b>
	Basantimata UG	0.273	
	<b>TOTAL</b>	<b>1.963</b>	

## **HELP REQUIRED FROM HON'BLE CHAIRMAN & MEMBERS OF EAC**

- ❖ To permit BCCL to continue with the existing Road-Rail transport net work system for 15 years in view of the implementation of the Jharia Action Plan and gestation period after the completion of Jharia Action Plan for consolidation of the backfilled dug out fire areas and unstable areas.**
- ❖ Granting EC for all the Clusters with conditions of mitigation measures.**
- ❖ And for this BCCL shall adhere to the conditions of the EAC.**

# **ANNEXURE-II**

**CORPORAT SOCIAL  
REESPONSIBILITY(CSR)/  
WELFARE AND  
COMMUNITY DEVELOPMENT  
ACTIVITIES IN BCCL**

**THE COMMITTEE NOTED THAT the TATA Institute of Social Sciences, Mumbai (TISS) have prepared a conceptual Plan for CSR. The Committee desired that local people/institutions such as XLRI, Birsa Institute of Technology, Sindri Dhanbad Ramakrishna Mission should also be involved in the implementation of CSR Plan.**

- **BCCL is formulating a detailed Corporate Social Responsibility (CSR) Action Plan through Tata Institute of Social Sciences (TISS), Mumbai which will consist of need-based base-line survey, CSR Action Plan, CSR Auditing and monitoring mechanism etc. This job is expected to be completed by 2012.**
- **Director (Per.), BCCL along with a team visited TISS/ National CSR Hub, Mumbai on 18<sup>th</sup> Jun, 2012 for finalising the MoU with TISS and National CSR Hub for conducting base-line survey, empanelment of NGOs and formulating the project specific CSR action plan for BCCL. The work by TISS is going to start shortly.**
- **Once the base-line survey and the CSR Action Plan are completed by TISS, BCCL shall identify suitable NGO's and other agencies as suggested by the Committee like XLRI, BIT-Sindri, Ramakrishna Mission etc. shall be involved in the implementation of the BCCL's CSR activities.**

**BCCL has been engaging local people and, SHGs and NGOs for its community development works.**

**Some of the prospective NGOs and SHGs are:**

<b>Name of NGO/ SHG</b>	<b>Field of CD work</b>
<b>Whiz Mantra Educational Solutions Pvt. Ltd., Dhanbad</b>	<b>Education related</b>
<b>Jharkhand Renewable energy Development Authority, Ranchi</b>	<b>Solar lighting</b>
<b>Indian Society of Agri-business professionals, N.Delhi</b>	<b>Agriculture development, rural health, skill development</b>
<b>Sanskriti, N.Delhi</b>	<b>CSR planning and implementation</b>
<b>Aim for Seva, N.Delhi</b>	<b>Societal transformation, tribal &amp; rural upliftment, vocational training etc.,</b>
<b>Centre for Development and Management, Dhanbad</b>	<b>Rural health, women empowerment etc.</b>
<b>Samast Samarpan Foundation, Dhanbad</b>	<b>tribal &amp; rural upliftment</b>
<b>The NEES, Dhanbad</b>	<b>Rural health, women empowerment etc.</b>
<b>Naari Shakti, Dhanbad</b>	<b>Education, Rural health, women empowerment etc.</b>
<b>Jharkhand Berojghaar Samity, Dhanbad</b>	<b>Eco-restoration</b>
<b>Mission Mitwa, Baghmara</b>	<b>Empowering unorganised workers</b>



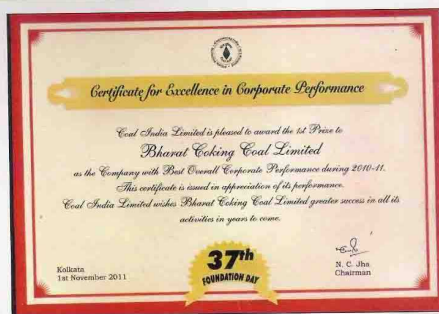
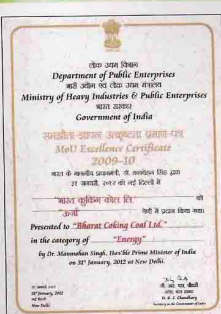
**THE COMMITTEE DESIRED THAT an Annual Report should be brought out on the implementation of the CSR activities and also uploaded on the company website.**

- **BCCL has already uploaded the present CSR activities / community development scheme in its official website [www.bccl.gov.in](http://www.bccl.gov.in) and it is being updated every year. Reports in this respect are also published for internal circulation.**
- **However once the detailed scientific study proposed by TISS, Mumbai is completed, those findings and reports shall be uploaded in the BCCL website, and subsequently booklets, brochures shall be prepared and submitted to MoEF in this respect.**

# REPORTS ON WELFARE ACTIVITIES AND COMMUNITY DEVELOPMENT BY BCCL



## SALIENT FEATURE OF WELFARE ACTIVITIES 2011-2012



BCCL BESTOWED WITH BEST OVERALL CORPORATE  
PERFORMANCE AWARD FOR THE FISCAL 2010-11

PRESENTATION OF B.C.C.L.  
*For*

40<sup>th</sup> C.I.L. WELFARE BOARD MEETING

**BHARAT COKING COAL LIMITED**  
Welfare Department  
Koyla Bhawan, Dhanbad



## **BHARAT COKING COAL LIMITED** *Welfare Board Meeting*

7<sup>TH</sup> JANUARY, 2012



**WELFARE ACTIVITIES**  
2010-11

VENUE

**LEVEL - III**  
CONFERENCE HALL  
KOYLA BHAWAN, DHANBAD

# **CIL'S POLICY FOR CORPORATE SOCIAL RESPONSIBILITY**

- ❖ **As per the latest CIL's Policy, the company will spend 5% of the retained earning of the previous year subject to a minimum of Rs. 5/- per tonne of coal production .**
- ❖ **To execute CSR within the radius of 15 Kms for every Project and Areas including Headquarters.**
- ❖ **The activities will be specific to the village depending on the Need assessed for the people.**
- ❖ **A Corporate Social Responsibility Committee (CSRC) to be constituted at the CIL, Subsidiary Hq. and Area levels.**
- ❖ **At CIL level and subsidiary level full time CSR Cell to be constituted headed by an E7 level Officer for monitoring.**

# **CIL'S POLICY FOR CORPORATE SOCIAL RESPONSIBILITY**

## **The Scope of CSR activities are:**

- **Education.**
- **Water Supply including drinking water.**
- **Health care by providing indoor medical facilities and medicines.**
- **Environment.**
- **Social Empowerment.**
- **Infrastructure for Village Electricity/Solar Light/Chaki.etc.**
- **Sports and culture.**
- **Generation of employment & setting up Co-operative Society.**
- **Infrastructure Support.**
- **Grant/donation/financial assistance to reputed NGOs of the Society/locality doing/involve in upliftment of the standard of the society.**
- **Heritage sites in the CSR purview.**
- **Empowerment of women for education/health & self employment.**
- **Relief of victims and Natural Calamities in any part of the country.**
- **Disaster Management activities related to amelioration/ mitigation.**
- **Collection of old cloths from the employees and distribution in the nearby villages by utilizing the platform of Mahila Sabha of the Company.**
- **Development of smokeless fuel out of coal and also arrangement for distribution of efficient Chula to the villagers.**
- **Adoption of village for carrying out infrastructural development e.g. road, water supply, electricity and community center etc.**



## **BCCL'S KEY INITIATIVES IN CORPORATE SOCIAL RESPONSIBILITY**

- ❖ **Bharat Coking Coal Limited (BCCL) is committed to good corporate citizenship and makes constant efforts to build and nurture long lasting relationships with members of the society in general and its peripheral communities in particular. The following activities have been carried out under the Corporation's CSR Programme.**
- ❖ **To meet the acute shortage of drinking water in peripheral villages drinking Water is provided through deep borewells, tubewells, pumps/motors, in the peripheral villages of BCCL. Water supply through pipeline, through water tanker are provided also to the villages.**
- ❖ **Education: BCCL adopts a multi-pronged approach to promote quality education in backward areas. The measures taken by BCCL comprise Construction, Extension, Renovation of school buildings etc are done to promote quality education in the nearby villages. BCCL is Extending financial aid for educational facilities to 83 nos. Private Committee Managed schools. Measures are taken to promote women literacy and carrier development.**
- ❖ **Health Care: BCCL Conducts medical/health camps for dwellers of peripheral villages for rendering free medical consultancy. CSR Clinics, wellness clinics, artificial limbs centers are organised for the benefit of the needy section of the society.. Mobile medical vans are deployed as special arrangement for medical services. AIDS awareness camps are organised as special drive to develop awareness and to render free consultancy.**

## **BCCL'S KEY INITIATIVES IN CORPORATE SOCIAL RESPONSIBILITY**

- ❖ Occupational health: awareness programme are organised.
- ❖ Other Welfare Activities: this includes Construction / renovation of Community Halls, construction / repair of roads, construction of Health-sub centres, construction of drain, construction of Chhat Ghat in the ponds, Construction of Boundary wall, providing Choupal for community gatherings, Installation of road side Water Kiosks during summer etc.
- ❖ Mashla Chakki centres are established with machines to promote self employment.
- ❖ During winter, Blankets are distributed among poor section of the society.
- ❖ Sports & Cultural : Various activities are organised to propagate sports and cultures. Sports/games items and instruments are also provided . To promote sports, children parks are constructed.
- ❖ Village adoption : Lahbera – a SC/ST village in Dhanbad has been adopted for its all round development and a number of development activities have been carried out.
- CSR cell in BCCL is in function headed by Chief Manger(Civil)
- CSR Committee in BCCL headed by Director(Per.)
- The CSR activities will be specific to the village depending on the Need assessed for the people by local Hon'ble M.Ps and M.L.As

## **SALIENT FEATURES OF CSR AND WELFARE ACTIVITIES IN BCCL IN 2011-12**

- Under the CSR scheme BCCL has spent a total amount of Rs 14.50 crores during the year 2011-12 under different heads viz. installation of hand pumps, establishing deep bore holes with installation of submersible pumps , providing and installation of solar lights , construction of class rooms and community halls , toilet , hostel rooms , establishing masala chaki/atta chaki etc.
- As a CSR measure under education facility, BCCL is providing financial assistance to the teachers of 81 (eighty one ) managed schools operating within the command area of BCCL, and amount of Rs 90.00 lakhs has been released for the year 2011-12 in respect of 271 nos. teachers of such schools.
- Under CIL Scholarships Scheme , An Amount of Rs 150.840/- was disbursed among total 124 students.
- Financial assistance for an amount of Rs 249300 has been provided for arranging training in different trades at ITI at Dhanbad to 62 unemployed youths who have been rehabilitated at Jharia Vihar Belgaria .
- During last winter season, total 10,400 blankets and 4000 sweaters have been distributed by BCCL to the under privileged persons of the society in and around Dhanbad.
- For creation of social wealth under the CSR scheme, BCCL has provided 130 nos. of Solar lights, covering 53 villages of Dhanbad. During the year 2012-13 it has been proposed to install 200 solar lights in the peripherals' villages.
- Installation of Pressure filter: BCCL has installed 25 pressure filter plants of total capacity of 16 MGD at the cost of Rs. 2.75 crores to meet the drinking water requirements in the area. Further installation of 28 more pressure filters with the capacity of 5 MGD are in the process. This has contributed to major portion of water requirement

## **SALIENT FEATURES OF CSR AND WELFARE ACTIVITIES IN BCCL IN 2011-12**

- **During CIL foundation day programme, sports for blind and handicapped children etc. were organized.**
- **Provisions have been made in the tendering process of Civil Engineering related works under the command area of BCCL covering 14 operational areas for engagement of minimum 20% of the required unskilled worker from local Project Affected People (PAP) of nearby villages.**
- **20% of the total jobs of coal transport are being offered on SOR rate, directly to the local people through Co-operative Societies created by them.**
- **BCCL in collaboration with Forest Research Institute (FRI), Dehradun have arranged for imparting training to PAPs and local villagers also in the field of eco-restoration, by way of which not only the environment of the area will improve but the local unemployed people will get trained enough for earning of their livelihood. Till date 130 PAPs have already been imparted the training.**
- **BCCL have made provisions so as to make the children of the PAPs educated to make them able to take challenges of their life. For this, it has been decided that the children of PAPs residing within 8 kms distance from the Projects will be allowed to be admitted in the Project Schools of BCCL against the fees at par with that being paid by the children of BCCL employees.**
- **For gainful use of abandoned water being discharged from the mines, a scheme is already under execution by which approximately 47 million gallon(MG) surplus mine water from Barora, Block-II and Govindpur Area will be stored in two reservoirs of storage capacities 16 (MG) & 31(MG) respectively situated at Behrakudar & Khonathi villages of Baghmara Block of Dhanbad District. With this scheme of BCCL, the villagers residing nearby and having their cultivation fields will be benefited in carrying out their agricultural work.**



# COLLECTING RESERVOIR OF MINE WATER DISCHARGE

## SERVICE CAPACITY OF RESERVOIR:

- Availability of surplus mine water from the mines (Rate of pumping) : 6500 GPM (out of which 3250 GPM will be utilised for CSR purpose through this Scheme)
- Normal storage capacity of water : 7 days@ 20 hrs pumping, 0.123 Mm<sup>3</sup>, 27.30 MG
- Total area of land for reservoir : 4.65 Ha.
- Capacity to serve drinking water for population = 22,000 persons @ 45 gallon/person/day with 50% utilization and remaining 50% capacity may be used for agriculture, plantation, fishery etc.



## Activities under Corporate Social Responsibilities : 2007-10

SL. NO.	I T E M	2007-08 (nos)	2008-09 (nos)	2009-10. (nos)
1.	Installation/repair of hand pumps.	67	26	60
2.	Digging/Renovation of well.	05	03	01
3.	Digging/Renovation/Construction of Ghat /Pond.	07	07	02
4.	Water Supply in villages.	07	06	14
5.	Construction/Renovation/Repair of Community Centre.	13	12	05
6.	Construction/Repair of Road.	04	03	02
7.	a) Construction/Repair/Extension of Educational Institution.	25	25	04
8.	Medical Health Camp Organised. a) Village health Camp...	16	05	127
9.	Special Health Programme for villagers.. Medical Facilities through Mobile Medical Van			138
10.	Free Medical advice Centre...			15
11.	Sports/Cultural Programme			15
12.	Miscellaneous/Other work..	40	24	43

# Corporate Social Responsibilities : Activities &Expenditures (2007-10)

Sl.No.	I t e m	2007-08	2008-09	2009-10
		Amount(Rs in lakhs)	Amount( Rs in	Amount( Rs in
1.	Installation/repair of hand pumps.	20.16	7.25	20.87
2.	Digging/Renovation of well / Deep bore hole.	6.93	6.50	-
3.	Digging/Renovation/Construction of Ghat /Pond.	9.37	17.50	4.70
4.	Water Supply in villages.	7.67	5.25	0
5.	Construction/Renovation/Repair of a)Community Centre. b)Health-sub-centre,trainin centre, mashla chakki room, community toilet	30.62	47.00	21.14 15.46
6.	Construction/Repair of Road.	10.59	17.00	3.97
7.	a) Construction/Repair/ Extension of Educational Institution. b) Providing furniture for School..	72.60	91.33	16.06 20.64
8.	Special Health Programme for villagers.. a) Medical Facilities through Mobile Medical Van.,Free Medical advice Centre...	7.00	4.00	88.00
9.	Street (Halogen) lighting	-	-	0.16
10.	Miscellaneous/Other work..	20.84	19.95	66.88
	<b>Total :</b>	<b>185.78</b>	<b>215.78</b>	<b>257.88</b>

# Corporate Social Responsibilities : Activities &Expenditures (2010-11)

Sl. No.	Details of Works	Fund utilised during the Yr.10-11 (Rs. in lakhs)	Locations
1	Water supply including drinking water through hand pumps/kiosks/ deep boreholes etc.	14.00	109 Peripheral Villages of BCCL , Dhanbad.
2	Education –Infrastructural facility development	24.00	08 nos. Project Schools and 83 nos. Private Committee
3	Village electrification through Solar Street Lights	27.00	21 Peripheral Villages of BCCL, Dhanbad
4	Village Road/ drains etc.	21.00	3 Peripheral Villages of BCCL, Dhanbad
5	Infrastructural support and Misc. works for the society - Community halls/ Health centers/Multipurpose hall/ Sewing Centre/ Masala Chakki/ Construction of ghats on ponds/ Sports & Culture/ Sponsorship/ Financial assistance/ Blankets distribution etc.	121.00	Different Villages in Dhanbad District
6	Health Care- Mobile Medical vans/ Wellness Clinics / Telemedicine / Medical Camps/Artificial Limbs/ Kishori Swasthya/ Yoga Camp/ Medical aid to epidemics	108.00	Different Villages in Dhanbad District
	<b>Total</b>	<b>315.00</b>	

## Corporate Social Responsibilities : Activities &Expenditures (2011-12)

Name of activities/projects	Expenditure in 2011-12 (Rs. in lakhs)
Installation of Solar lights in peripheral villages/PAP townships	46.86
Multi-purpose surplus mine water supply scheme for peripheral villages for domestic and agricultural usages and other water supply arrangements.	436.62
Construction of rooms and providing furnitures etc to village schools for education.	25.12
Medical	64.89
Infrastructural support and misc. works for the society – Community hall/health centre/multipurpose hall/sewing centre/mashla chakki room/sports and culture/financial assistance etc	49.15
<b>Total</b>	<b>622.64</b>

## OTHER COMMUNITY RELATED WORK FOR PEOPLE LIVING NEAR BY AREA/ VILLAGES

- **Jeevan Jyoti School:** BCCL is running for physically & mentally challenged persons from downtrodden and poor families of the society. An amount of Rs. 2,60,625 has been given to the school as financial assistance.
- **SPECIAL ACHIEVEMENT OF BCCL : AN ADOPTED VILLAGE UNDER CSR:** As special achievement, Company has adopted one village, Lahbera, which is mainly inhabited by tribal population, for it's development. Following activities have been undertaken :-
  - Construction of Community Centre, Construction of Health Centre, Construction of Training Centre, Construction of Mashala Chakki room, Construction of Common toilet, Construction of drain and road, Construction of Birsa Park, Construction of 4 class rooms at Lahbera village.
- Apart from above Sewing Machines have been provided and Mashala/Atta Chakki Machine has been installed for Self employment generation training programme.

## **CSR ACTIVITIES AT JHARIA VIHAR, BELGORIA, (R&R VILLAGE OF PAPS)**

- **Construction of Masala Chakki Room/centre at a cost of Rs. 4.13 lacs.**
- **Construction of Multipurpose Hall (community centre) at a cost of Rs. 8.25 lacs. Utilisation : Adult education and self employment centre.**
- **Construction of Health Sub- Centre at a cost of Rs. 4.52 lacs. Utilisation: Bank of India has opened a branch. apart from Health centre.**
- **Provided Musical instruments of different kinds like Drums, Flutes etc.(6/7 nos)**
- **Provided Sports items – Volleyballs (20 nos), Nets, Rings (1Doz) etc. at a cost of Rs.9000/-**
- **Medical facility: Light Commercial Vehicle has been provided for 24 hrs to be used as Ambulance. Doctors and medicines are being made available everyday.**
- **Transport facility: Two nos buses : One is 52 seater which has been provided from Belgaria to Jharia-Katras More and the other is 32 seater which has been provided from Belgaria to Steel Gate and Hirapur , Dhanbad.**



# **CSR ACTION PLAN FOR THE YEAR 2012-13**

## **WATER SUPPLY:**

- ❖ **Installation of Pressure Filters : 28 nos. Pressure Filter Plants will be established in different areas of BCCL, with a installed capacity of 5.76 mgd (approx.) . Tender for the job is under finalization.**
- ❖ **Desiltation of Jamunia Dam : Desiltation work of Jaminua Dam, which is the raw water source for Jamunia Water Treatment Plant (3.50 mgd), has been completed.**
- ❖ **Proposal for gainful utilization of mine water discharge : It has been proposed to arrest the mine water discharge flowing into natural water courses in respect of all areas by diverting the same to flow into ponds of peripheral villages.**
- ❖ **Under the scheme, approximately 2.16 mgd water from WJ Area is at present being discharged into 9 nos. ponds in its peripheral villages and presently discharge of mine water into natural drainage courses is nil in respect of WJ Area.**

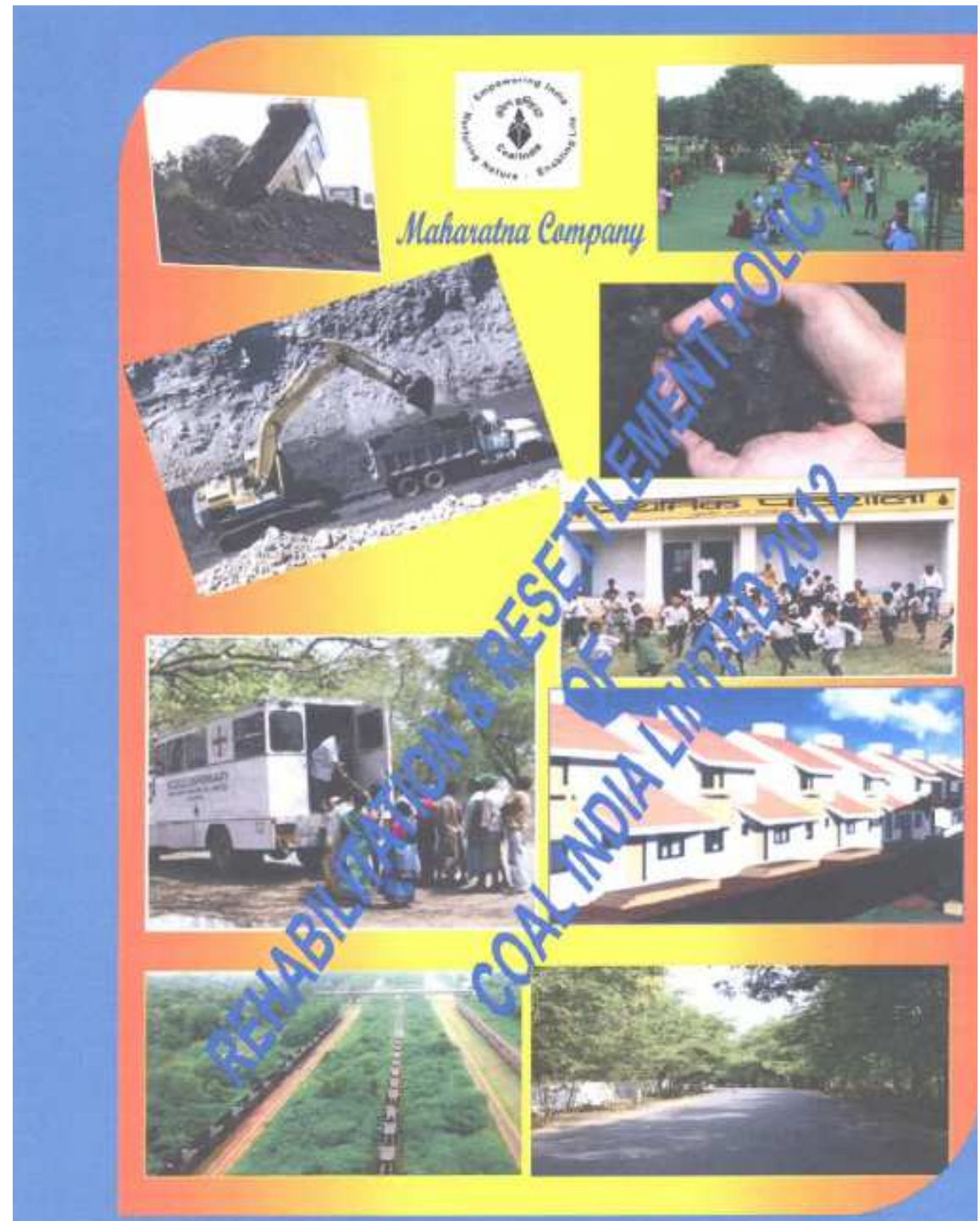


# **CSR ACTION PLAN FOR THE YEAR 2012-13**

## **CSR ACTIVITIES:**

- ❖ Till date, total 300 nos. of stand alone Solar Street Lights have been provided in various peripheral villages from 2010 to 2012 and during the year 2012-13 total 200 nos. of stand alone Solar Street Lights has been proposed to be installed in the peripheral villages.**
- ❖ Construction of Class Rooms/ Halls/ Toilets etc. and providing infrastructural as well as teaching aids for Schools in peripheral villages.**
- ❖ Construction/ extension of infrastructural supports and other miscellaneous works viz. Community Hall/ Health Centre/ Multipurpose Hall/ Toilets/ Sewing Centre/ Masala Chakki/ Sports material distribution / grant of financial assistance for various sports & cultural activities etc.**

# NEW R&R POLICY OF COAL INDIA LTD., 2012



श्रीप्रकाश जायसवाल  
SRIPRAKASH JAISWAL



कोयला मंत्री  
भारत सरकार  
शास्त्री भवन, नई दिल्ली-110001  
MINISTER OF COAL  
GOVERNMENT OF INDIA  
SHASTRI BHAVAN, NEW DELHI-110001

26<sup>th</sup> March, 2012

### MESSAGE

Land acquisition has been identified as a major bottleneck coming in the way of Coal India's plans for augmenting coal production. I am of the firm view that Coal India has to have a generous relief and rehabilitation policy which can earn the confidence and goodwill of the project affected people to enable it to meet its ambitious production targets.

I have been deeply concerned about the issue and therefore constituted a Committee at Government level to take the process forward quickly. I am glad that the Committee could meet under the Chairmanship of Shri Alok Perti, Secretary (Coal) and Smt. Zohra Chatterji, Additional Secretary & CMD, Coal India Ltd. and decided the broad principles of the policy.

I congratulate the Board of Coal India for approving a progressive Rehabilitation & Resettlement Policy 2012 and look forward to its successful implementation.

( SRIPRAKASH JAISWAL )

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# **REHABILITATION AND RESETTLEMENT POLICY OF COAL INDIA LTD 2012.**

## **Preamble**

The location and quality of coal reserves, and their distance from major consumers determines to a great extent the selection of mine sites. For reserves that are close to the surface, opencast mining has proven to be the most efficient mining method. Opencast mines require relatively large areas of land. Population growth, particularly in India's eastern region, has made it increasingly difficult for the subsidiary coal companies to acquire the land they need for expanding their operations under the present Resettlement and Rehabilitation policy, 2008 of Coal India.

The resettlement and rehabilitation policies followed by the subsidiary companies have evolved over time and undergone numerous changes in response to changing circumstances. As and when the Central or State Governments enact amendments to the Land Acquisition Act, issue new guidelines for resettlement and rehabilitation, as per its requirement Coal India reviews and modifies its resettlement and rehabilitation policy taking into account the changing conditions in coal producing areas.

In addition to compensation for land coal companies provide Rehabilitation and Resettlement (R&R) package for project affected persons to compensate for loss of livelihood. Apart from compensation for house site, house, trees, cow shed, cost of shifting etc., employment is also provided to land oustees. In addition to this, efforts are made to rehabilitate them by construction of houses, building roads, streets, schools, providing water etc. wherever feasible. However, demand for both more land compensation and better R&R package has been raised by project affected persons and has been highlighted in various Parliamentary Committees. Coal Companies often have to face representations and agitations by these land oustees who obstruct the smooth working of existing mines and come in the way of expansion of new projects.

In the past, subsidiaries found it relatively easy to acquire land, if they were able to offer employment. Partly because of this practice, subsidiaries have built up a largely unskilled labour force beyond their needs. This has contributed to the heavy losses and many mines are incurring and has also affected their efficiency and viability. The subsidiaries may still need to hire people in selected locations and continue to give preference to those whose livelihood will be affected by coal mining operations. However, increasingly subsidiaries will need to develop other ways and means to compensate land owners and others adversely affected by their projects and give them the option to choose which method of compensation best suits their needs. Greater emphasis will also need to be given to community requirements like schools, hospitals etc. Only proper resettlement and rehabilitation will elicit the required cooperation of project affected people, and make it possible for Coal India to acquire the land it needs to fulfill the ever increasing demand of coal for the economic development of the Country.

The purpose of the Resettlement and Rehabilitation Policy 2012 is to revise and provide greater flexibility to the basic principles for the resettlement and rehabilitation of people affected by coal mining projects i.e. Project Affect People (PAPs). It attempts to consolidate the different resettlement and rehabilitation practices that are being followed by subsidiaries as per the different State land Acquisition Acts and various decisions of the Coal India Board and to modify the Policy of 2008 so as to give the Board of the subsidiary Companies greater flexibility to deal more effectively with resettlement and rehabilitation issues and determine the rehabilitation packages best suited to local needs in line with this policy. The provisions of the National Rehabilitation and Resettlement Policy, 2007 and the Land Acquisition, Rehabilitation & Resettlement Bill, 2011 have also been kept in mind while framing the policy.

While Coal India's basic philosophy for compensating land-losers and other project-affected people remains substantially unchanged, the revised policy emphasizes the need to cultivate and maintain good relationships with the people affected by Coal India's projects starting as early as possible; it also underscores that the subsidiaries have a responsibility towards the land oustees whose livelihood is often taken away. On the other hand, subsidiaries need to protect themselves more effectively against unjustified claims, redundant manpower and swelling Wage Bills. To this end, the statement proposes that subsidiaries prepare detailed resettlement and rehabilitation action plans (RAPs) that clearly identify, at an early stage, the entitlements of the people affected by coal projects and enables them to exercise a choice between various options. The concept of Annuity in lieu of compensation/employment is also being introduced to mitigate, if not eliminate the ever dependence of Project Affected Families (PAFs) on CIL for provision of employment.

(1) The revised Resettlement & Rehabilitation Policy, 2012 is based on the deliberations of the inter Ministerial Committee set up vide O.M. 490191/2011-PRIW-I dated 01-07-2011 of Ministry of Coal, deliberations of the CMDs meet held on 05/03/2012 at New Delhi and has been approved by the CIL Board in its 279<sup>th</sup> meeting held on 12<sup>th</sup> and 13<sup>th</sup> March, 2012.

**(2) Objectives and general principles of Coal India's Resettlement and Rehabilitation Policy- 2012**

- A. To re-visit CIL's existing R&R policy 2008 and evolve a PAP friendly policy by incorporating such provisions of the National Policy and The Draft Land Acquisition, Rehabilitation and Resettlement Bill-2011 as considered suitable in light of the growing difficulties many subsidiaries face in land acquisition.
- B. To accord the highest priority for avoiding or minimizing disturbance of the local population while taking decisions to open new mines or expand existing ones too (exploring alternative sites and project designs) and to ensure that wherever people are likely to be adversely affected by a project, the subsidiaries will prepare resettlement and rehabilitation action plans for the project.
- C. To ensure a humane, participatory, informed consultative and transparent process for land acquisition for coal mining and allied activities with the least disturbance to the owners of the land and other affected families.
- D. To provide just and fair compensation to the affected families whose land has been acquired or proposed to be acquired or are affected by such acquisition and make



adequate provisions for loss of livelihood of such affected persons including their rehabilitation and resettlement.

- E. To ensure that the cumulative outcome of compulsory acquisition should be that the affected persons become partners in development leading to an improvement in their post acquisition social and economic status and matters connected therewith or incidental thereto.
- F. Through the preparation of resettlement and rehabilitation action plans, subsidiaries will safeguard that project-affected people improve or at least regain their former standard of living and earning capacity after a reasonable transition period. The transition period is to be kept to a minimum. However, the involvement of subsidiaries in resettlement and rehabilitation activities may continue until all the actions specified in the rehabilitation plan have been completed.
- G. Involuntary resettlement is conceived and executed as a development programme with project-affected people being provided sufficient resources and opportunities to share in a project's benefits. The efforts of subsidiaries are complementary to the Government's schemes in rural development and the concurrence, approvals and support from concerned Government authorities will be sought.
- H. In parallel, subsidiaries will work closely with non-governmental organizations of proven repute which are legally constituted and recognized and also have the confidence of the project-affected people, in the preparation and implementation of rehabilitation plans.
- I. Corporate Social Responsibility (CSR) : Activities shall be intensified in and around the villages where land is being acquired in accordance with the CSR Policy of Coal India.
- J. Actual implementation of R&R package must follow a detailed survey of the project-affected villages to formulate the list of persons/families affected by the project, nature of the affect, the likely loss of income, etc. For this purpose, if necessary, the services of a reputed NGO with an impressive record of integrity and performance may be engaged.

### 3. SCOPE:

This Policy may be called "Rehabilitation and Resettlement Policy of Coal India Limited-2012". It extends to the Coal India Limited and its subsidiary companies in India. It shall come into force from the date of its approval by the CIL Board and is applicable to all cases in which land is taken after the date of approval by the CIL Board. While implementing the policy it is to be ensured that the provisions of the concerned Acts applicable and Rules mentioned there under shall not be violated .

### 4. Definitions

(a) "**affected family**" means:

- (i) a family whose primary place of residence or other property or source of livelihood is adversely affected by the acquisition of land (including direct negotiation) for a project or involuntary displacement for any other reason; or

- (ii) any tenure holder, tenant, lessee or owner of other property, who on account of acquisition of land (including plot in the *abadi* or other property) in the affected area or other wise, has been involuntarily displaced from such land or other property; or
  - (iii) any agricultural or non-agricultural labourer, landless person (not having homestead land, agricultural land, or either homestead or agricultural land), rural artisan, small trader or self-employed person, who has been residing or engaged in any trade, business, occupation or vocation continuously for a period of not less than three years preceding the date of declaration of the affected area, and who has been deprived of earning his livelihood or alienated wholly or substantially from the main source of his trade, business, occupation or vocation because of the acquisition of land in the affected area or being involuntarily displaced for any other reason.
- (b) **"family"** includes a person, his/her spouse, son including minor sons, dependant daughters, minor brothers, unmarried sisters, father, mother residing with him or her and dependent on him/her for their livelihood; and includes **"nuclear family"** consisting of a person, his/her spouse and minor children. Provided that where there are no male dependants, the benefit due to a land loser may devolve on dependent daughter nominated by the land loser.
- (c) **"land owner"** includes any person—
- (i) whose name is recorded as the owner of the land or part thereof, in the records of the concerned authority; or
  - (ii) who is entitled to be granted Patta rights on the land under any law of the State including assigned lands; or
  - (iii) who has been declared as such by an order of the court or District Collector;
- (d) **Displaced person** - means and includes any person who is deprived of his homestead on account of acquisition. Provided that the person/family who does not ordinarily reside in the homestead land acquired for the project can be termed "Displaced" but he will be eligible for compensation only for homestead and not for livelihood.
- (e) **Ordinarily resides"** shall mean residing in the homestead / acquired land for a period more than 6 months every year for at least the preceding 5 years.

## 5. Socio-economic Survey and preparation of RAP.

A baseline socioeconomic survey will be carried out to identify the PAPs who are enlisted to receive benefits in line with Coal India's Resettlement and Rehabilitation Policy. This survey will be conducted within two months of notification under the relevant land acquisition Acts by the subsidiaries with the help of reputed independent institutional agencies, who are well versed with the social matrix of the area.



The basic objective of the socio-economic study will be to generate baseline data on the social and economic status of the population who are likely to lose their means of livelihood or homestead due to the acquisition of the land for the project. The data base will be used to formulate a viable and practical Rehabilitation Action Plan (RAP) for the affected persons in line with their entitlements. Digital Satellite Maps would also be prepared of the project Area freezing the dwelling units and habitations existing at the time of negotiation for Land Acquisition wherever feasible. The RAP will also address the following-

**(A) Implementation, Monitoring and Evaluation, Dispute Mechanism**

The rehabilitation action plan will address the following:

- i) The project design, including an analysis of alternative designs aimed at avoiding or minimizing resettlement;
- ii) Socio-economic survey and activities to ensure restoration of incomes of PAPs in line with Coal India's Resettlement and Rehabilitation Policy;
- iii) Description of the institutional and other mechanisms for provision of entitlements;
- iv) Time table for the acquisition and preparation of the resettlement site(s);
- v) The cost and budgets for the resettlement and rehabilitation of PAFs;
- vi) Project-specific arrangements to deal with grievances of PAFs; and
- vii) Time tables, benchmarks and arrangements for monitoring the resettlement and rehabilitation effort.

The RAP will be formulated in consultation with PAPs and State government.

**(B). Environment Impact Assessment (EIA)** will be conducted as per any law, rule and regulation of the locality in which the land has been acquired.

**6. Eligibility Criteria -**

**(A) Eligibility Criteria for Economic Rehabilitation Benefits**

This benefit shall accrue only to Entitled Project Affected Person. Entitled Project Affected Person shall be one from the following categories.

- (i) Persons from whom land is acquired including tribals cultivating land under traditional rights.
- (ii) Persons whose homestead is acquired.
- (iii) Sharecroppers, land lessees, tenants & day labourers.
- (iv) Tribal dependent on forest produce as certified by the District Forest Officer/Revenue Authorities.

**(B) Eligibility Criteria for Resettlement Benefits**

1. Only a 'Displaced' family / person shall be eligible for resettlement benefits.
2. A family/person shall be termed 'displaced' and hence eligible for resettlement benefits if such family/person has been a permanent resident and ordinarily residing in the project area on the date of publication of notification U/S 9 of CBA(A&D) 1957 / U/S 11 of LA Act, 1894/ Or both/ on the date of the land vested with the State/ Central government as the case may be.  
**and**  
(a) on account of acquisition of his/her homestead land / structure is displaced from such areas  
**or**  
(b) He/she is a homesteadless or landless family/person who has been/is required to be displaced.

#### **7. Census & Identification of displaced families:**

1. Within two months of publication of notice U/S 4(1) of the Land Acquisition Act or U/S 7(1) of CBA (A.D) Act 1957 for acquisition of land for the project a census would be undertaken in the manner to be decided by the Collector / project authority for identification of displaced families and for preparing their socio-economic profile and list of eligible persons for the purpose of receiving Rehabilitation & Resettlement Benefits.

2. A photo identity card to each Entitled Project Affected Person shall be issued under the signature of the Collector / project authority concerned indicating the following particulars:

- (a) Name of the village/GP/PS :
- (b) Name, Father's name and address  
of the head of the family :
- (c) Category of entitlement :
- (d) Whether S.C./S.T./O.B.C./General :
- (e) Age, Sex, educational qualification  
of the members of the family :

#### **8. Types of Compensation and Rehabilitation Entitlement**

**Option to the land losers regarding Rehabilitation & Resettlement Benefit -** The land losers shall have the option for Rehabilitation and Resettlement benefits in accordance with the awards for each affected family in terms of the entitlements passed by the Concerned Collector of the State or as per this Policy with the consent of the concerned Collector.

##### **8.1 Eligibility and Compensation**

The table below shows the compensation and rehabilitation benefits will be offered by the subsidiaries for each Project Affected Person or family, affected by one of their projects. Evidence to the effect that a person is a legitimate PAP will need to be provided in the form of a written legal document, or reference to a record, such as a revenue officer certificate, electoral roll, ration card or school record.

<b><i>Category of Persons affected by the Project</i></b>	<b><i>Compensation and Rehabilitation entitlement option</i></b>
	<b>Provisions</b>
<b>(i) Persons (including tribals cultivating land under traditional rights) from whom land is acquired.</b>	All land owners with titles will receive monetary compensation for the land acquired from them. The value of the land is determined on the basis of prevailing legal norms. <i>In respect of tribals cultivating land under traditional rights, authentication of land held under traditional rights by state authorities will be necessary.</i> In addition to above the following shall apply.

Category of Persons affected by the Project	Compensation and Rehabilitation entitlement option
	Provisions
	<p><b>A). Land Compensation</b> - Land compensation shall be paid as per the provisions of the concerned Act or State Govt. notification. Where no notification of the State Govt. is available the concerned subsidiary Board may decide on the rate of compensation keeping in view the compensation provided by the neighboring states. Authentication of land held under traditional rights by state authorities will be necessary.</p> <p>In addition to above Solatium will be paid as per provisions of the concerned Act / as imposed by the Concerned State Govt.</p> <p>Escalation of land compensation – Escalation will be paid as per provisions of the concerned Act / as imposed by the Concerned State Govt. or Escalation at the rate of 12% per annum for a maximum period of three years.</p> <p><b>(B): Employment provision:</b> Apart from payment of the land compensation, employment may be given in the following manner –</p> <ol style="list-style-type: none"> <li>1) The maximum total number of employments that may be provided to the land losers would be limited to the total no. of acres of land acquired divided by two. However employments will be released in proportion to the land possessed.</li> <li>2) For every two acres of land one employment can be considered;</li> <li>3) Subsidiaries of CIL may give an option to the Land losers having less than two acres of land to club together their land to the extent of two acres and nominate one of the land losers among the groups or their dependent for employment under package deal or employment under Descending order system by preparing the list of eligible land oustees in the descending order of land lost subject to the cut off equivalent to the total number of permissible employments or any other method with the approval of the respective Board of the subsidiary.</li> <li>4) The land loser must be a domiciled resident/Mool Niwasi and the certificate to this effect shall be issued by the concerned State Authority</li> <li>5) The modalities for offering employment shall be such as may be approved by the Board of the Subsidiary companies as per the unique conditions of the subsidiary provided that - <ol style="list-style-type: none"> <li>a) The initial employment shall be given with pay of Category-I pay scale of NCWA, with training period of 6 months.</li> <li>b) In the seniority list, the seniority of the appointee should be reflected in appropriate manner in order to keep the senior most as senior.</li> <li>c) The land loser trainees shall be posted as per requirement, including underground duties.</li> </ol> </li> </ol>



Category of Persons affected by the Project	Compensation and Rehabilitation entitlement option
	Provisions
	<p><b>(C ): Lumpsum Monetary Compensation –</b></p> <p>1. All the land losers who are not eligible for employment as above shall be entitled to receive monetary compensation in lieu of employment at the rate of Rs.5,00,000/- (Five Lakhs) for each acre of land on pro-rata basis .</p> <p>2. Land losers who are offered employment as per principle specified in point No ( 8.(i)B ) above will have the option either to opt for employment or to forego employment and opt for monetary compensation at the rate of Rs.5,00,000/- (Five lakhs) for each acre of land on pro-rata basis with minimum of Rs. 50,000 ( Fifty thousands) provided that the employment thus surrendered shall not be available for offer to any other person and will stand lapsed from the total sanctioned number of employments as specified in point No.( 8.(i)B1).</p> <p>3. The Land losers who have clubbed their land in Package Deal can claim employment for only one land loser of the clubbed two acres of land and remaining land losers of the package cannot claim either employment or lump-sum monetary compensation in lieu of the land contributed by them.</p> <p>4. Annuity – All land losers who are entitled to get lump sum monetary compensation may opt for payment of compensation amount in the form of annuity made payable to the land losers monthly, annually or at such intervals (not less than one year) as may be opted for by him. The annuity be paid for a maximum period extending to 60 years of age or the life of the project for which the land has been acquired, whichever is earlier.</p> <p><b>Note:</b> A person receiving a job forgoes all claims to above compensation and a person receiving above compensation forgoes all claims to employment.</p>
(ii) Person whose homestead is acquired	<p>I. Compensation for homestead shall be paid as per the standard valuation method of the L.A Act. of the concerned State Govt.</p> <p>II. One time lump sum payment of Rs.3,00,000/- (three lakhs),shall be paid in lieu of alternate House site, Assistance in designing Shifting Allowance,compensation for construction of cattle shed , Monetary compensation for construction of work shed etc.The compensation shall be paid to displaced persons only after vacation and demolition of the homestead/ work shed etc.</p> <p>III. Subsistence allowance :Each affected displaced family will get subsistence allowance at the rate of 25 days (Minimum Agricultural Wage) per month for one year.</p>

<b>Category of Persons affected by the Project</b>	<b>Compensation and Rehabilitation entitlement option</b>
	<b>Provisions</b>
(iii) Sharecroppers, land lessees, tenants and day labourers	<p>The subsidiary will assist PAP to take-up non farm self employment through petty contracts or formation of cooperatives. If such co-operatives will not be entitled for awarding work as per Manual for lack of experience, the said co-operative will be facilitated by awarding small jobs to acquire experience after relaxation of the provisions of the Manual pertaining to experience with approval of the Subsidiary Boards. Subsequent jobs may be awarded after getting report of the timely completion / quality / of the awarded jobs from the concerned Department or contractors.</p> <p>Contractors will also be persuaded to give job to eligible PAPs on a preferential basis, where feasible as per terms of contract.</p>
(iv) Landless tribals, Tribal dependent on forest produce	<p>The subsidiary will assist PAP to establish non farm self employment through the provision of infrastructure, petty contracts or formation of cooperatives and encourage provisions of Jobs with contractors. Contractors will be persuaded to give jobs to eligible PAPs on preferential basis, where feasible.</p> <ul style="list-style-type: none"> <li>- In addition, the subsidiaries will shift the tribal community as a unit and provide facilities to meet the specific needs of the tribal community that will allow them to maintain their unique cultural identity.</li> <li>- Tribal affected family will be given one time financial assistance of 500 days of MAW for loss of customary right or usages of forest produce. Loss of customary rights needs to be authenticated by the district authority.</li> <li>- Tribal affected families resettled out of the district shall be given 25% higher rehabilitation and resettlement benefit.</li> </ul>

**9. Resettlement & Rehabilitation Committee** - A Committee will be constituted at project Level under the chairmanship of the Collector to be called the Rehabilitation and Resettlement Committee with the following objectives to monitor and review the progress of implementation of the Rehabilitation and Resettlement scheme and to carry out post-implementation social audits in consultation with the village panchayat in rural areas and municipality in urban areas in the manner will be decided by the concerned State Govt.

- I. To approve the list of land losers and other PAPs;
- II. To approve the list of persons eligible to be offered employment as per R&R Policy;
- III. To approve the detailed Rehabilitation Plan for the project in consultation with the displaced persons and Gram Sabhas;
- IV. To expedite issue of domicile certificates and other necessary documentation required for State Authorities;
- V. To monitor and review the progress of the Rehabilitation Scheme, grant of benefits and handing over of possession of land in a smooth manner;
- VI. To facilitate the land acquisition process in any other manner as may be required including resolution of disputes;
- VII. To carry out post implementation social audit in consultation with the authorities.

**10. Community facilities** - The subsidiary will provide at the resettlement site a school, road with street light, pucca drain, pond, dugwell and/or tubewell for drinking water supply, community center, place of worship, dispensary, grazing land for cattle and play ground. Similar infrastructural facility, if necessary, will be extended to the host locality. The community facilities and services would be available to all residents of the area, including PAPs and the host population.

The approach for operation of community facilities would be flexible and all efforts will be made to involve the State and local self Government / Panchayat for operating the facilities. To achieve this, subsidiaries will pursue with these agencies to ensure the same. The planning of the community facilities and their construction should be undertaken in consultation with the affected community.

**11. Corporate Social Responsibilities** - This should be as per Company's Corporate Social Responsibility (CSR) Policy.

**12. Monitoring and Evaluation Mechanism.**

The RAP will be monitored and evaluated periodically after the completion of the land acquisition process

- I. The resettlement and rehabilitation activities are the responsibility of a separate group, both at the projects and corporate level, which will be constituted for planning, implementation, monitoring and evaluation of the Rehabilitation Action Plan. At the corporate level the group will be headed by a senior manager, whereas at the project, an executive of the rank of manager will head the group. The project group should have at least one member with social science qualification / experience and skills.

- II. The project group will closely interact with the state authorities during the implementation of the RAP. Although the subsidiaries will develop the plots and infrastructural facilities in the resettlement colony and actively implement the RAP, assistance of State authorities will be taken for administrative services such as allotment of land. Implementation will be planned, monitored and corrective measures will be incorporated in the RAP, if needed. In addition to the State Government, the PAPs, the village leaders including the Pradhans and NGOs will be consulted and associated with the implementation of the RAP.
- III. The Resettlement and Rehabilitation Cell at the corporate level will evaluate the implementation of the RAP after its completion.

**13. Flexibility to the Subsidiary Companies** – The Subsidiary Companies Boards have been authorised to approve necessary modifications in the R&R Policy with reference to unique conditions prevailing at the concerned Subsidiaries as the policy is not exhaustive.

(The above list is only indicative and not exhaustive)

# **ANNEXURE-III**

## **ECOLOGICAL RESTORATION ACTIVITIES IN BCCL**



**THE COMMITTEE DESIRED THAT the local communities should also be involved in eco-restoration plan.**

- **BCCL is the pioneer company in Coal India Limited for conducting ecological restoration work in its degraded and mined out land.**
- **Two dumps of about 8 ha. are being done through Delhi University under Prof. C.R.Babu's technical guidance. Grass seeds provided by Delhi University are being broad cast over the OB dumps in the form of seed balls. One scientist of Delhi University visited the dumps for guiding the whole process in June, 2012. This project is being done through local villagers and Self Help Groups.**
- **Bamboo plantation in combination with local species over these dumps has started. Seeds collections, saplings from nearby forest, bamboo clumps have been done by local villagers.**
- **In this respect BCCL had imparted training programme to about 130 local un-employed youths in eco-restoration methods in Feb. , 2012.**
- **One Model Eco-restoration Project has been started through Forest Research Institute, Dehradun on a OB dump over 7 ha. in 2011 and this will continue up to five years.**
- **In addition to this, BCCL also identified about 45 ha. of mined out lands for ecological restoration to be done for next monsoon and the whole work shall be done through local villagers .**

## ECOLOGICAL RESTORATION WORK UNDER IMPLEMENTATION

<b>Sl. No.</b>	<b>Cluster</b>	<b>Colliery</b>	<b>Degraded Land/OB dump</b>	<b>Area (Ha.)</b>
<b>1</b>	<b>V</b>	<b>Tetulmari</b>	<b>Near Tetulmari OB dump</b>	<b>08</b>
<b>2</b>	<b>I</b>	<b>Damoda</b>	<b>Ghutway Section (Old)</b>	<b>02</b>
<b>3</b>	<b>I</b>	<b>Damoda</b>	<b>Near incline No.-04</b>	<b>05</b>
<b>TOTAL AREA</b>				<b>15</b>

## PROPOSED ECOLOGICAL RESTORATION WORK

Sl.No.	Cluster	Colliery	Degraded Land/OB dump	Area (Ha.)
1.	II	Muraidih	Near NHS qtr.	2.50
			Near Dozer section	0.50
			-do-	1.40
			Near Workshop	0.70
		Phularitand	Between Mandra Basti & Khokhi Bigda Basti	1.50
			-do-	1.70
			-do-	1.30
			Total	9.60
2.	V	Tetulmari	2 seam quarry near Hospital	2.0
			4 seam quarry opposite colliery office	2.0
		Nichitpur	Near NHS Qrt.	3.0
		Basdeopur	Dumper XIII & XIV seam query	1.0
			Total	8.0
3.	VII	ROCP	Near Sub station	2.5
			Near Dobari basti along Chatkari jore	2.0
			Total	4.5

## **PROPOSED ECOLOGICAL RESTORATION WORK (CONTD.)**

<b>Sl.No.</b>	<b>Cluster</b>	<b>Colliery</b>	<b>Degraded Land/OB dump</b>	<b>Area (Ha.)</b>
<b>4.</b>	<b>III</b>	<b>Near Akashkinaree</b>	<b>Near Magazine</b>	<b>1.5</b>
		<b>Block-IV</b>	<b>Near Workshop</b>	<b>2.5</b>
			<b>Total</b>	<b>4.0</b>
<b>5.</b>	<b>X</b>	<b>ChandanOCP</b>	<b>Mahulbani Basti</b>	<b>4.28</b>
			<b>Total</b>	<b>4.28</b>
<b>6.</b>	<b>XVII</b>	<b>Begunia Project</b>	<b>(i) 5 acres to the east of Barakar river near in Begunia Project near workshop and Magazine</b> <b>(ii) 10.7 acres to the east of Barakar river in Begunia project near Chungar village</b>	<b>2.02</b> <b>4.33</b>
			<b>Total</b>	<b>6.35</b>
<b>7.</b>	<b>XIII</b>	<b>Murulidih Colliery</b>	<b>Murulidih Colliery</b>	<b>4.2</b>
			<b>Total</b>	<b>4.2</b>
<b>8.</b>	<b>IV</b>	<b>AKWMC</b>	<b>Near Magazine</b>	<b>2.5</b>
			<b>Total</b>	<b>2.5</b>
<b>GRAND TOTAL AREA</b>				<b>43.43</b>



# **AFFORESTATION BY STATE FOREST DEPARTMENT**

**BCCL has reclaimed 3374 hectares of degraded land through biological reclamation till date by planting about 1.4 crores plants over fire, subsided, over burden dumps and degraded mined out areas.**

**Plantation in 2010-11 through Jharkhand State forest department - of about 3.4 lakhs saplings on over burden dumps and mined out areas on 138 ha.**



**PRESENT PLANTATION WORK (2010-12) CONTINUING WITH  
FOREST DEPARMENT ON 137.40 HA OF  
OB DUMP/DEGRADED LAND**

<b>Sl. No.</b>	<b>Location/Area</b>	<b>Area in ha.</b>	<b>No of Plants</b>	<b>Type of Land</b>
<b>1.</b>	<b>BARORA</b>	<b>41.50</b>	<b>144600</b>	<b>Overburden</b>
<b>2.</b>	<b>BLOCK-II</b>	<b>5.40</b>	<b>13500</b>	<b>Overburden</b>
<b>3.</b>	<b>KATRAS</b>	<b>45.00</b>	<b>125000</b>	<b>Overburden</b>
<b>4.</b>	<b>KUSUNDA</b>	<b>10.50</b>	<b>27025</b>	<b>Overburden</b>
<b>5.</b>	<b>BASTACOLLA</b>	<b>20.50</b>	<b>52050</b>	<b>Overburden</b>
<b>6.</b>	<b>CV</b>	<b>14.50</b>	<b>10700</b>	<b>Overburden</b>
	<b>TOTAL</b>	<b>137.40</b>	<b>343500</b>	



## Earlier Plantation done by BCCL

Plantation on Over burden dump



Plantation along road side



Plantation over Subsided area



Plantation over Fire area

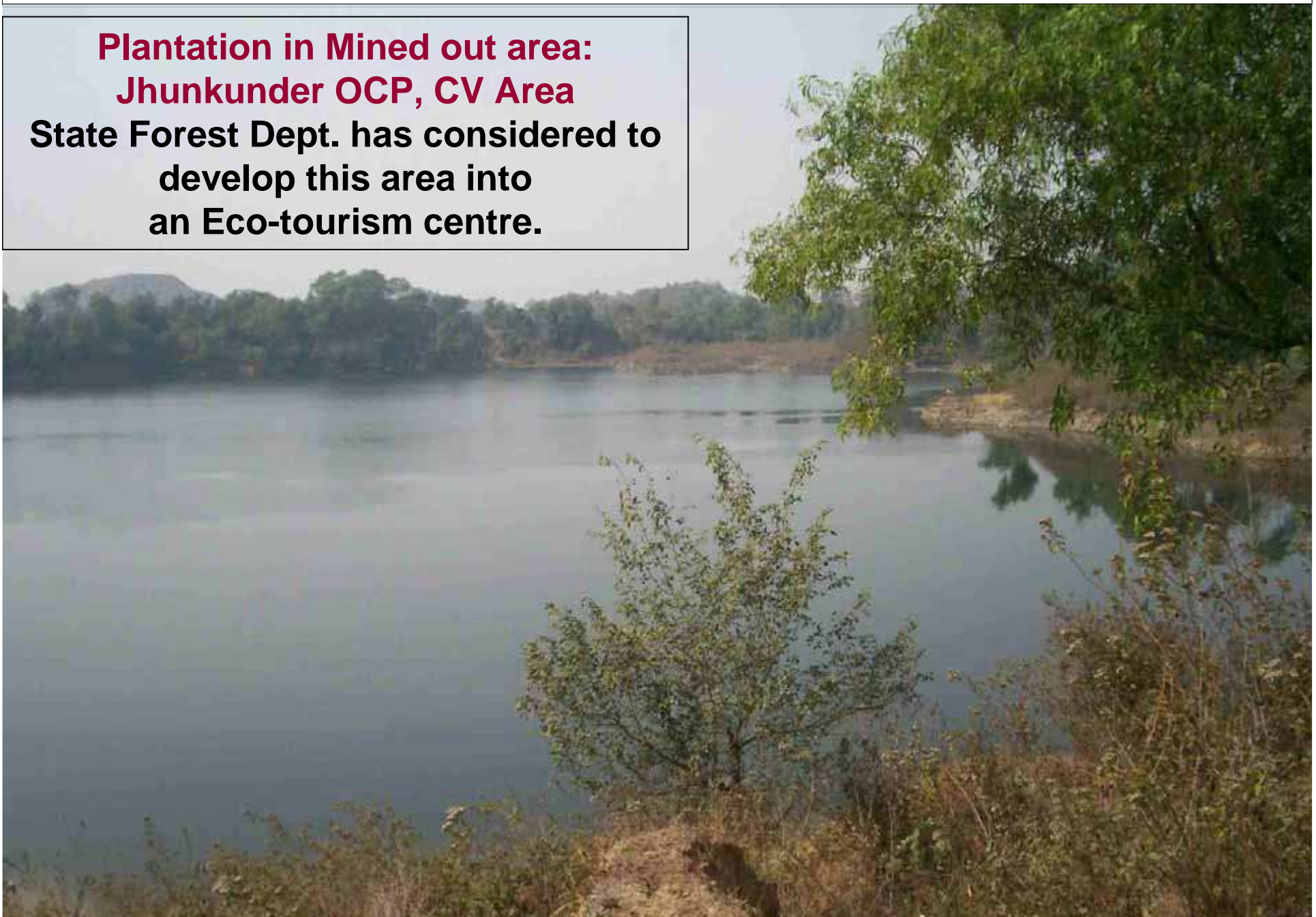




# **Mined out area reclaimed into a Water reservoir**

**Plantation in Mined out area:  
Jhunkunder OCP, CV Area**

**State Forest Dept. has considered to  
develop this area into  
an Eco-tourism centre.**





# **ACTION PLAN FOR ECOLOGICAL RESTORATION OF OB DUMPS AND VOIDS UNDER THE TECHNICAL GUIDANCE THROUGH PROF.C.R.BABU, DELHI UNIVERSITY**

**The following steps would be followed in the restoration of OB dumps under the technical guidance through Prof.C.R.Babu, Delhi University :**

- Field survey and collection of native grasses, legumes, saplings and seeds from adjacent native forest.**
- Seeds will be mixed with cattle dung and soil (2 parts of dung: 1 part of soil) and made into small pellets and these pellets will be broadcasted over the OB dumps.**
- Stocks of the grasses and legumes will be maintained in a nursery. The nursery multiplied saplings will also be planted on the OBDs.**
- Isolation of beneficial microbes from rhizospheric soils and roots of grasses and legumes and their enrichment in cultures. These cultures will be used as inoculants of consortia of microbes which will be added directly to the grasses already established.**

# **ACTION PLAN FOR ECOLOGICAL RESTORATION OF OB DUMPS AND VOIDS UNDER THE TECHNICAL GUIDANCE THROUGH PROF.C.R.BABU, DELHI UNIVERSITY**

- **To stabilize the slopes, local bamboo species will be planted after the establishment of grass cover.**
- **Soil invertebrates will be introduced after leaf litter is accumulated on the ground and litter decomposing Fungi will also be added.**
- **At the end of 5 year, the OBDs will have:**
  - (i) a native forest ecosystem that provide ecological services,**
  - (ii) a grassland ecosystem that provides fodder and**
  - (iii) a mixed woodland ecosystem having mostly species that provide ecological goods besides ecosystem services.**
  - (iv) The OB dumps requires protection from cattle grazing during their restoration. This is done by stone piling.**

# **ACTION PLAN FOR ECOLOGICAL RESTORATION OF OB DUMPS AND VOIDS UNDER THE TECHNICAL GUIDANCE THROUGH PROF.C.R.BABU, DELHI UNIVERSITY**

**Restoration of Voids:** phyto-and zooplankton and submerged aquatic plants will be introduced. Fingerlings will also be introduced.

Professor C.R. Babu and scientists from the Centre of Excellence Programme are associated with the work to be carried out at BCCL.

BCCL will provide personnel who will be trained by CEMDE, Delhi University in the restoration ecology.

These trained assistants will help in setting up lab and nursery and also mobilize local self help groups in maintaining the nursery and collection of seeds/saplings/ clumps of native grasses, bamboos and broadcasting of seeds, adding inoculants to soil and planting saplings.

These people will train all other persons who will be needed to carry out ecological restoration of all the OB dumps of BCCL.

# 3-TIER PLANTATION WITH NATIVE SPECIES



BOTANICAL NAME	COMMON NAME
<b>TREES:</b>	
<i>Azadirachta indica</i>	Neem
<i>Bombax ceiba</i>	Semal
<i>Butea monosperma</i>	Palas
<i>Cassia fistula</i>	Amaltas
<i>Ficus glomerata</i>	Shisham
<i>Dalbergia sissoo</i>	Gular
<i>Madhuca indica</i>	Mahua
<i>Melia composita</i>	Bakain
<b>SHRUBS:</b>	
<i>Adhatoda zeylanica</i>	Vasaka
<i>Calotropis procera</i>	Aak
<i>Clerodendrum viscosum</i>	Bhant
<i>Datura stramonium</i>	Datura
<i>Vitex nugundo</i>	Nirgundi
<i>Zizyphus nummularia</i>	Beri
<b>GRASSES:</b>	
<i>Alysicarpus monilifer</i>	Leel
<i>Boerhavia diffusa</i>	Punarva
<i>Cenchrus ciliaris</i>	Anjan grass
<i>Cynodon dactylon</i>	Dub grass
<i>Dicanthium annulatum</i>	Marvel grass
<i>Eragrostis atrovirens</i>	Bhant grass
<i>Eragrostis plumosa</i>	Koli grass
<i>Heteropogon contortus</i>	Pili grass
<i>Indigofera trita</i>	Indigo
<i>Mucuna pruriens</i>	Konch phali
<i>Ocimum canum</i>	Ram Tulsi
<i>Saccharum spontaneum</i>	Kans
<i>Sida acuta</i>	Jharu grass



# DEVELOPING A MODEL ECO-RESTORATION AT DAMODA





# DEVELOPING A MODEL ECO-RESTORATION AT DAMODA





# NATIVE SPECIES SEEDS COLLECTION FOR ECOLOGICAL RESTORATION THROUGH LOCAL VILLAGERS





# NATIVE SPECIES SEEDS COLLECTION FOR ECOLOGICAL RESTORATION THROUGH LOCAL VILLAGERS





## **PREPARATION OF ROAD MAP FOR ECOLOGICAL RESTORATION BY FRI, DEHRADUN**

- ❖ **The Hon'ble High Court of Jharkhand, Ranchi directed BCCL to appoint the Forest Research Institute , Dehradun for developing a Road Map for plantation in mining areas of BCCL .**
- ❖ **BCCL had signed a MoU with Forest Research Institute (FRI), Dehradun in Feb., 2011 to develop a road map for ecological restoration of BCCL mine areas.**
- ❖ **FRI had submitted the Road map report in June, 2011.**

## **During deliberations with the FRI team following facts came into light**

- ❖ As per the FRI experts, the existing practice of plantation being done is not ecologically appropriate. The forest deptt. have done plantation with mono culture single tier species or with 3-4 species, which are fast growing but not suitable for ecological restoration.**
- ❖ Plantation should be a 3-tier method. The lower cover should be small bushes and grasses which will provide bio-mass to soil and home to worms, insects and micro-organisms. The middle tier will be shrubs and the 3rd tier will be big trees. This 3- tier system will attract fauna, birds and other organisms and will be developed into full fledged forest eco-system.**
- ❖ Seed collection of native and local species from the field has to be done. The plantation on mined out lands and OB dumps can be done by “Seed Ball broadcasting method”. Local species seeds mixed with cow dung and soil have to be spread over the area before the onset of monsoon. The seeds will germinate in a natural way.**

# **SUMMARY OF ROAD MAP FOR ECO-RESTORATION OF BCCL MINE AREAS**

**Eco-restoration is the method of short-circuiting the process of natural recovery of degraded ecosystems through ecological interventions. Eco-restoration of mined areas is the most appropriate ecologically and socio-economically compatible measure.**

**The major objectives for preparation of the Road map are to improve productive capability of degraded lands and enhancing the conservation values of landscapes through:**

- Development and conservation of soil and in-situ moisture;**
- Restoration of degraded lands;**
- Availability of fuel wood, fodder, grasses and other forest products from the restored areas;**
- Securing people's participation in planning and restoration efforts in the surrounding villages to ensure sustainability.**

# **SUMMARY OF ROAD MAP FOR ECO-RESTORATION OF BCCL MINE AREAS**

***Execution Schedule:*** The total project to be implemented in two phases over a period of 10 years.

**Phase I:** 2011-16. Development of a model restoration plantation at one of the BCCL site by FRI, Dehradun on 10 hectares of overburden dump. Another 90 hectares of the area to be restored by BCCL.

**Phase II:** 2016-2021. Replication of proposed restoration models in the 126 hectares area of BCCL.

	Average cost of eco-restoration/ afforestation /ha	Rs. 11,200/-
Phase I	Total cost of eco-restoration /afforestation/100 ha	Rs.11.20 lakhs
Phase II	Total cost of eco-restoration /afforestation/126 ha	Rs.14,11,200

## **DEVELOPING A MODEL ECO-RESTORATION AREA AT TETULMARI OB DUMP**

- ❖ FRI experts have selected one OB dump of about 8 Ha., in Tetulmari, Sijua Area for developing it into a model eco-restoration spot.**
- ❖ A MoU was signed for developing this degraded land into a bio-diverse, 3- tier ecological restoration area.**
- ❖ The work was started by FRI scientists in the month of July 2011.**



# DEVELOPING A MODEL ECO-RESTORATION AT TETULMARI





# DEVELOPING A MODEL ECO-RESTORATION AT TETULMARI



# **TRAINING IN ECOLOGICAL RESTORATION**

- **BCCL had trained about 130 local villagers and unemployed youths in the methods of ecological restoration through FRI scientists, at BCCL's HRD Deptt. in the month of January, 2012.**
- **This was done with the objective for creating livelihood opportunities to the unemployed youths of Dhanbad district as well as upgrading the surrounding environment through ecological restoration.**
- **About 35 BCCL personnel were trained in ecological restoration at FRI, Dehradun during June-July 2011.**
- **All these personnel are being utilized for the work of ecological restoration.**
- **This exercise is the first of its kind taken up by BCCL in the coal industry.**



# **TRAINING OF BCCL PERSONNEL AT FRI, DEHRADUN**

- ❖ **A dedicated forestry team is being developed for eco-restoration in BCCL.**
- ❖ **Two persons from each area were selected and a total of 35 persons have been trained at FRI, Dehradun in ecological restoration methods in June-July 2011.**
- ❖ **Subsequently all these persons were also trained in the Coal field by FRI scientists at Tetulmari ecological restoration site of BCCL.**
- ❖ **The BCCL personnel were trained in the following aspects:**
  - **Concepts of eco-restoration and its application in mined lands**
  - **Biodiversity conservation in mined lands**
  - **Eco-restoration techniques**
  - **Soil and water conservation in mined lands**
  - **Nursery technology for eco-restoration**
  - **Medicinal plants and raising nursery for medicinal plant cultivation**
  - **Bamboo cultivation**

# IMPARTING TRAINING FOR LOCAL PEOPLE IN ECOLOGICAL RESTORATION





# GROUP OF LOCAL PEOPLE FOR ECO-RESTORATION WORK





# TRAINING OF BCCL PERSONNEL AT FRI, DEHRADUN



# **ANNEXURE-IV**

## **CORPORATE ENVIRONMENTAL POLICY**



**THE COMMITTEE DESIRED THAT the Corporate Environment Policy passed by BCCL Board, should be furnished.**

**Corporate Environmental Policy was approved in the 285<sup>th</sup> meeting of the Board of Directors of BCCL on 21.04.2012.**

**285.5E      Proposal for formulation and adopting Corporate Environmental Policy (CEP) under the Corporate Environmental Responsibility(CER) as required by Ministry of Environment and Forests (MoEF), New Delhi for approval of Environmental Clearances for all the mining Projects.**

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Board after deliberation accorded approval for the corporate environment policy/ Policy document(CEP) of Bharat Coking Coal Limited as proposed in line with CIL's environmental policy under the Corporate Environmental Responsibility (CER) as required by Ministry of Environment and Forests (MoEF), New Delhi.



**BHARAT COKING COAL LIMITED**  
(A Subsidiary of Coal India Limited – A Maharatna Company)

**CORPORATE ENVIRONMENTAL POLICY**

Bharat Coking Coal Limited (BCCL), a subsidiary of Coal India Limited, is a Public Sector Undertaking engaged in mining of coal and allied activities. It is the only producer of Prime Coking Coal in India. BCCL was incorporated in 1972 to operate coking coal mines operating in the Jharia and Raniganj Coalfields. Currently, the Company operates 66 coal mines and 8 Coal Washeries.

Our mission is to produce the planned quantity of coal efficiently and economically with due regard to safety, conservation and quality. BCCL affirms its commitment for environment friendly mining with right mitigation of pollution, reclamation of the degraded land, preservation of biodiversity and proper disposal of waste following the best environmental practices including judicious use of the non-renewable energy on the path of continual improvement. Towards this commitment, BCCL shall endeavor to:

- ❖ Conduct mining and associated operations in an environmentally responsible manner to comply with applicable laws and other requirements related to environmental aspects.
- ❖ Design projects with due consideration of Sustainable Development by integrating sound environmental management practices in all our activities.
- ❖ Prevent pollution of surrounding habitation by continuous monitoring and adopting suitable measures for environment protection.
- ❖ Ensure compliance of all applicable Environmental and Forest Clearance conditions and other statutory conditions issued by regulatory agencies.
- ❖ Implement the Environmental Management Plans in all our mines effectively to mitigate pollutions on air, water and noise; proper disposal of wastes and reclamation and ecological restoration of degraded land; and by also dovetailing the Jharia action/ Master Plan for dealing with Fires, Subsidence and Rehabilitation of affected people with the Environmental Management Plans under the Cluster Concept.
- ❖ Strive to conserve Bio-Diversity through Ecological restoration methods.
- ❖ Conserve natural resources through recycling of wastes on the principle of Reduce, Recycle and Reuse. Put special thrusts on efficient energy utilization as a measure to reduce carbon foot-print.
- ❖ Strive for continual improvement in our environmental performances by setting targets, measuring progress and taking corrective action.
- ❖ Create environmental awareness among the employees and the local communities through pro-active communication and training and encourage our business associates to adopt similar approach for environmental protection.

Place: Dhanbad  
Date: 25.5.12

  
Chairman-cum-Managing Director

**Chairman-cum-Mg. Director**  
**BHARAT COKING COAL LIMITED**  
Koyla Bhawan, Dhanbad - 826 005

# **ANNEXURE-V**

## **ACTION PLAN FOR DHANBAD CRITICALLY POLLUTED AREA**

**(As submitted to Jharkhand State Pollution Control Board, Ranchi)**




**THE COMMITTEE SOUGHT DETAILS OF specific mitigative measures drawn up in the context of the Environmental Action Plan for Dhanbad Critically Polluted Area where the cluster falls.**

- **CPCB has declared Dhanbad district as critically polluted area.**
- **This is due to the presence of various other industries like Thermal Power Plants, a number of private coke oven plants, stone crushing units etc. in the vicinity and also due to other polluting activities like un-planned transportation network with heavy traffic and traffic bottle necks, bad roads, burning of coal by the local population etc. besides coal mining activities in the Jharia Coalfield.**

**As sought by the Committee, details of specific mitigative measures drawn in the context of the plan for Dhanbad Critically Polluted Area which was submitted to JSPCB is given next.**

# Action Taken Report w.r.t Dhanbad Action Plan for abatement of pollution in CPA of Dhanbad, was submitted to Jharkhand State Pollution Control Board, Dhanbad, dated 23-12-2011

Annexure - 4

  
भारत कोकिंग कोल लिमिटेड  
(कोल इंडिया लिमिटेड का एक अंग)  
पर्यावरण विभाग  
कोयला भवन : धनबाद  
झारखंड

पत्र संख्या: भाकोकोलि/पयो/संचिका-18/2011/ 678-8018 दिनांक : 23.12.2011

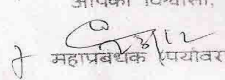
सेवा में  
क्षेत्रीय पदाधिकारी,  
झारखण्ड राज्य प्रदूषण नियंत्रण पंचद,  
क्षेत्रीय कार्यालय,  
एचओ आईओ जेओ-1  
हाउसिंग कालोनी,  
हीरापुर, धनबाद ।

विषय: धनबाद औद्योगिक क्लस्टर के संबंध में स्टैंड होल्डिंग्स की बैठक के संबंध में ।

संदर्भ: आप का पत्रांक 5538, दिनांक 17.12.2011.

महोदय,

उपरोक्त पत्र के संदर्भ में कार्य योजना के तहत कि गई कार्रवाई / की जाने वाली कार्रवाई से संबंधित प्रतिवेदन इस पत्र से साथ संलग्न है ।


आपका विश्वासो,  
  
महाप्रबंधक (पर्यावरण)

संलग्नक: राशोपरि ।

प्रतिलिपि:

- निदेशक (तक) आपरेशन, भाओकोओलिओ - सूचनार्थ हेतु प्रेषित ।
- निदेशक (तक) योओ एवं परिओ, भाओकोओलिओ - सूचनार्थ हेतु प्रेषित ।

E:\kg\ISPCB\Sudhir Kumar Ispcb.Doc

  
BCCL

# Action Plan for Collieries

SN	Action point	Action plans for stake holders	Date of completion	Action taken
1.	The ambient air of the collieries remains dusty due to pliance of uncovered trucks and those too on kutchha haul roads and on OB dumps and due to drilling & blasting and uncontrolled emission of their boilers.	(a) The covering of loaded transport vehicle will be compulsory.	30.09.11 (ST)	<p>It has been complied.</p> <p>1. The clause of covering of loaded coal transport vehicle has been incorporated in the transport agreement/ contract.</p> <p>2. Instruction for strict compliance of covering of coal transport vehicle has been issued to all area CGM/GM.</p>
		(b) Coal transport roads and long time transport road shall be made pucca by, New haul roads will be taken in use after making in pucca.	31.09.12 (ST)	<p>1. As per the earlier submitted Action Plan appox. 6.5 Km length is to be made Pucca In the year 2011-12, approval for which is under process.</p> <p>2. In the year 2012-13, 5.0 km road is proposed to be made pucca.</p>
		(c) OB dumps will be enclosed by pucca boundary wall to prevent entry through them.	31.09.12 (ST)	Approval for Garland Drains/ Retaining walls/ Toe walls etc for a length of appox 1.5 Kms, to be made around OB dumps is under process.
		(d) All drillings shall be done with dust containment and suppression systems, from the fixed type sprinklers will be installed in all dust prone areas. Including all coal stock & sidings	31.09.12 (ST)	<p>1. Proposal for Fixed type sprinklers to be installed for a length of about 6.6 Kms in different BCCL mines/siding is in the process.</p> <p>2. Regarding drilling it has already been complied in all mines. Breakdown if any for a particular machine is being dealt as per routine maintenance schedule.</p> <p>3. Total 74 nos. of mobile water sprinkler having capacity 971 KL, are operating at present in BCCL mines.</p>

2.	The receiving water bodies get polluted from surface run off of the collieries and from their discharges.	(a) The water bodies shall be created in which and mine water/waste water shall be pumped to them after treatment.	31.09.12 (ST)	Construction of two water reservoirs of total capacity 47.00 MGD at the cost of Rs 11.30 crores for at Khonatih and Behrakuder Villages to utilize surplus mine water for irrigation/for community use is in progress.
		(b) The direction of surface run-off of the premises of collieries shall be diverted to created water bodies.	31.09.12 (ST)	This possibility is under study as creation of water bodies in coal bearing area will pose safety threats to nearby mine and it will be violation of mine act. CIMFR/DGMS has been contacted and matter is discussed. Proposal has been moved for awarding the work of study in this regard.
		(c) The waste water shall be passed through oil separator-cum-filtration system, by and then discharged to newly created water bodies.	31.09.12 (ST)	1. Regional Workshop of Block-II is having oil and grease trap 2. For Sinnidih workshop work order has already been issued to CMPDI,HQ. 3. Proposal for Oil & Grease Traps in Muraidih opencast, PB area and Satabdi OCP Workshops is in process.
		(d) Township-wise STP shall be installed.	30.09.12 (ST)	The job has been awarded to CMPDI,HQ, Ranchi for preparation of scheme for installation of STP at Koyla Nagar Township. Contour map, location and capacity have been assessed.

3.	<p>The mine overburden is the main problem in open cast mines. The OBs of collieries are dumped either on riverbed or on their banks at least at 14 places in river Damodar or its tributaries. Besides, the hazardous solid wastes are also generated in the workshops. They are recyclable and incinerable in ovens.</p>	(a) All over burden dumps shall be removed from river bed or its proximity.	30.06.11 (ST)	<p>1. No, overburden has been dumped in any river bed. Wherever OB dump is near river, it is already stable and having vegetation on it.</p> <p>2. Eco-restoration of 15 ha in an around the dumps near river or jore is taken up with the help of FRI, Dehradun at the cost of Rs. 20 lakhs at Sijua.</p> <p>3. Similar work is also taken up at Damoda under guidance of Prof. CR Babu Vice Chairman expert committee of MoEF.</p> <p>30 officials have been trained on Eco- restoration work at FRI, Dehradun. Two persons from each area has also been given practical training at Sijua and Damoda Eco restoration site by FRI personnel's to take-up the job of eco restoration of dump near river / Jore.</p>
		(b) The removed OBs shall, as far as possible, be utilized for low land filling in place of live soil or for making roads.	30.06.11 (ST)	<p>Complied.</p> <p>100 ha of land have been backfilled in the year 2010-11. The process of backfilling is concurrent with the mining operation is going on.</p> <p>1. OBs are mostly being used for concurrent backfilling of decoaled area in OCPs.</p> <p>2. OB in all the opencast mines is being used for haul roads making.</p> <p>3. It is used for filling of open mouth and exposed coal seam to stop illegal mining.</p>
		(c) Tree plantation on the dumps of left out removed OBs (which could not be utilized for low land filling or for road making).	15.07.11 (ST)	<p>Complied.</p> <p>1. Plantation over 137.40 Ha. of OB dump with the cost of approximately Rs. 1.55 Crores has already been done by DFO, Dhanbad .</p> <p>2. Model Eco restoration work by FRI, Dehradun at the cost of Rs. 20.00 Lakh is already being done on 8.0 Ha of OB dump at Telumari Sijua.</p> <p>3. OB dumps of 5.0 ha at Gutway section of Damoda colliery has also been taken up for Eco-restoration under the guidance of Prof CR Babu, of MoEF.</p>
		(d) All hazardous wastes shall be disposed off to its re-processor or co-processor.	30.09.11 (ST)	<p>Complied.</p> <p>1. Burnt oil is used for lubrication of haulage system in underground mine.</p> <p>2. Remaining burnt oil is disposed through units for which authorization for hazardous Waste as per rule has been applied with fees to JSPCB.</p> <p>3. Disposal of Hazardous waste, burnt Oil / batteries is being done through E-auctioning to authorized recycler/ re-processor having valid authorization from CPCB/ SPCB.</p>

4.	Due to deep mining of coal and the pumping out of water of the mines, many of the ground water aquifers are disturbed and ground water table has depleted. Because of which river Damodar and its tributaries of this area are not charged from the ground during rainy seasons. Due to which the flow of river has become to be minimum. Their flows are day by day decreasing.	(a) All abandoned/ inoperative mines will be earmarked.	31.03.11 (ST)	<p>Complied.</p> <p>In BCCL, there are only 5 abandoned mines. Four of these mines are underground and the land above these mines is full of thick vegetation.</p> <ol style="list-style-type: none"> <li>1. JhunkunderOCP</li> <li>2. Muchiaraidih UG</li> <li>3. Hantudih UG</li> <li>4. Padugoda UG</li> <li>5. Bhurungia UG</li> </ol> <p>Jhunkundar closed OC mine, which has been converted into beautiful lake. BCCL is supplying water for domestic purpose from this lake to surrounding villagers and BCCL employees. The lake acts as a "Rain Water Harvesting Structure" which helps in recharging the ground water table. Pisciculture (fish) by local villagers is done here. The surrounding area (32 Ha.) of the quarry is planted with dense trees (about 80,000 trees) by BCCL. The site has been restored to a natural eco-system.</p> <p>The other four are UG mine is also covered with thick vegetation cover and are working as water accumulation/ harvesting purpose</p> <p>The abandoned mines are being proposed to be re-opened where reserve is available, through Joint Venture of Global/ National Partner. Action has already been taken by CIL for listing such interested parties against EOI.</p>
		(b) All outflow points of abandoned / inoperative mines will be suitably blocked.	30.06.11 (ST)	<p>There is no out flow points.</p> <p>Mouths are being filled up with OB material to stop illegal mining.</p>
		(c) The orientation of flow of surface run-off of mines to abandoned / inoperative mines shall be completed.	31.03.12 (ST)	<p>This possibility is under study as it will be violation of mine act and will pose threat to man and machine to nearby mine.</p> <p>CIMFR/DGMS has been contacted and matter is discussed. Proposal has been moved for awarding the work of study in this regard.</p>
		(d) The setting of pipe lines to abandoned / inoperative mines for pumping out mine water.	31.09.12 (ST)	<p>Pipeline are being laid for pumping out surplus mine water of mines of Govindpur, Block-II and Barora Area Area through common pipeline and storing it in two reservoirs of total capacity 47.00 MGD for irrigation/community use of Khonatih and Behrakuder Villages.</p> <p>Further possibility of implementing the similar scheme in other areas is being explored.</p>



5.	Due to operation of collieries, the bio-diversity of plant species, terrestrial animals and aquatic organism have adversely been affected.	(a) The plantation of saplings for creation of tree and forest cover of local species.	31.07.11 (ST)	Complied.  1. 137.40 Ha. of OB dump is already under plantation with the cost of approximately Rs. 1.55 Crores is being done by DFO, Dhanbad for details enclosed. 2. Model Eco restoration work by FRI, Dehradun at the cost of Rs. 20.00 Lakh is already being done on 8.0 Ha of OB dump at Telumari Sijua. 3. OB dumps of 5.0 ha at Gutway section of Damoda colliery is also taken up for Eco-restoration under the guidance of Prof CR Babu, of MoEF.
		(b) The conversion of abandoned / inoperative mines into water bodies.	31.07.11 (ST)	Proposal for the Study for the conversion of abandoned / inoperative mines into water bodies by CIMFR is under process.
		(c) The charging of seeds of local aquatic	30.09.11 (ST)	Pisciculture (fish) by local villagers is done at Jhunkunder Abandoned mine.
6.	There is an underground fire in the areas of 41 collieries of BCCL. It was with the collieries of Tata Steel, Jharia Division also. They, however, quenched by stowing underground mines, developing water bodies etc	(a) Alienation of U/g affected mines.	31.03.11 (ST)	Mine fire has been alienated and as per Govt. of India approved Master Plan there are 67 mine fires existing in 41 Collieries/mines of BCCL. Schemes to deal the fire are under implementation by excavation/ digging out fire method through
		(b) Stowing of all un stowed underground mines.	30.06.11 (ST)	Stowing is done to deal with the fire/subsidence as and when required. Digging out fire by excavation method is being adopted for final removal of fire.
		c) Developmnt of water bodies over them.	30.06.11 (ST)	Water pooling is done as per the scheme under master Plan.
		d) Final quenching of fire by charging nitrogen etc.	30.09.11 (ST)	Nitrogen Flushing is done as per the scheme under Master Plan. Digging out fire by excavation method is being adopted for final removal of fire.

7.	Action for maintenance and continuity of the condition of good and aesthetic environment and compliance of legal provisions.	Monitoring of ambient air reporting every month, effluent reporting every month, surface water reporting every month, ground water reporting every month, disposal of OBs reporting every quarter, hazardous wastes reporting every six months, fire extinguishing reporting every month and tree plantation reporting every year	30.09.11 (ST)  (monitoring work shall start as per schedule. Establishment of laboratory in phase manner and shall be completed by 30.09.12)	1. Monitoring is being done by Own laboratory. Also baseline data are being generated through CIMFR/ISM/PDIL.  2. Proposal has been made for establishing a Laboratory by CMPDI, HQ.
		Introduction of GIS/ GPS for continuous recording.	30.06.11 (ST)	Geomatic department CMPDI, HQ has been given the job of satellite surveillance of the Jharia coal field through NRSA Hyderabad and the information is being uploaded in the website.
		Every week broadcasting through TV and radio.	30.06.11 (ST)	Workshop and seminar are being organized at HRD and IICM, Ranchi. Information regarding Environmental Management is being put in public domain.

# Action Plan for Coal Washeries

SN	Action point	Action plans for stake holders	Date of completion	Action Taken
1.	The ambient air of the premises of coal washeries remains dusty due to pliance of uncovered trucks and those too on kutcha haul roads and on reject dumps and due to uncovered processing of coal.	<p>(a) The covering of loaded transport vehicle will be compulsory.</p> <p>(b) All transport roads will be made pucca,</p> <p>(c) Rejects dumps will be enclosed by pucca boundary to prevent entry through them.</p> <p>(d) All processing (crushing, screening etc.) chambers of coal will covered.</p> <p>(e) Fixed type water sprinklers will be installed in all dust prone areas.</p>	<p>31.03.2011 (ST)</p> <p>31.09.12 (ST)</p> <p>31.09.12 (ST)</p> <p>31.03.12 (ST)</p> <p>31.03.12 (ST)</p>	<p>Being complied in all washeries.</p> <p>Action has been taken and job will be taken up after approval.</p> <p>Estimate has been made and work will be started.</p> <p>90% work has been completed.</p> <p>It exists in washeries.</p>
2.	The receiving water bodies gets polluted from surface run off of the collieries and from their mine water pumped for mining of coal and from the waste water emanating from workshops etc.	<p>(a) All coal washeries shall keep waste water in close circuit. If discharge at all inevitable, treated water shall be pumped to created water bodies.</p> <p>(b) The direction surface run off of the premises of coal washeries shall be diverted to created water bodies.</p> <p>(c) The workshop waste water shall be passed through oil separator-cum-filtration system and then discharged to newly created water bodies.</p> <p>(d) Township-wise STP shall be installed.</p>	<p>31.03. 12 (ST)</p> <p>30.09. 11 (ST)</p> <p>31.09. 11 (ST)</p> <p>31.09. 12 (ST)</p>	<p>Washeries are designed for zero effluent discharge.</p> <p>For Discharge of out side area of local community passing nearby Sudamdih washery, a treatment facility has been installed.</p> <p>Not applicable as washery is running in closed circuit and water is reused for coal washing.</p> <p>Not applicable as washery is running in closed circuit and water is reused for coal washing.</p>

3.	The rejects of coal washeries is the main problem. They are dumped. Besides, the hazardous wastes are also generated. They are recyclable and incinerable in ovens.	a) All rejects of these dumps shall be removed from river bed or its proximity. (Except Sudamdih coal wahery and Madhuban coal washery where it is to be completed by 19.05.11 ) b) The removed rejects shall be disposed of by utilisation or sale. c) All hazardous wastes shall be disposed of to its re-processor or co-processor.	30.06.11 (ST)  30.06. 11 (ST)  30.06.11 (ST)	There is no rejects being dumped in river bed. Removal of rejects from near by rivers is being done.  Reject is non vendable, effort is being made to make it vendable.  Not applicable for Washerries.
4.	Due to discharge of waste water of coal washeries, the bio-diversity of aquatic organisms has adversely been affected.	(a) Creation of water bodies.  (a) Orientation of rain water to this water bodies.	31.03.12 (ST)  31.03.12 (ST)	All Washerries reuse are closed circuit.  It will be done in rainy season, although there is no discharge.
5.	Action for maintenance and continuity of the condition of good and aesthetic environment and compliance of legal provisions.	a) Monitoring of ambient air reporting every month, effluent reporting every month, downstream surface water reporting every month, ground water reporting every month, disposal of rejects reporting every quarter, hazardous wastes reporting every six months, and tree plantation reporting every year. b) Introduction of GIS/ GPS for continuous recording.  c) Every week broadcasting through TV and radio.	30.06.12 (ST)  30.09.12 (ST)  30.06.11 (ST)	Monitoring is being done by Own laboratory. Actions are taken to get the monitoring done through CIMFR/ISM/PDIL. Proposal has been made for establishing a Laboratory by CMPDI, HQ.  Geomatic department CMPDI, HQ has been given the job of satellite surveillance of the Jharia coal field through NRSA Hyderabad and the information is being uploaded in the website.  Workshop and seminar are being organized at HRD and IICM, Ranchi. Information regarding Environmental Management is being put in public domain.

## **ACTION PLAN FOR PUCCA ROAD CONSTRUCTION BY BCCL 2012-13**

<b>SNo.</b>	<b>Mine</b>	<b>Area</b>	<b>Proposed Pucca Road (Mtrs)</b>
<b>1</b>	<b>Akshminari</b>	<b>Govindpur</b>	<b>250</b>
<b>2</b>	<b>PB Project</b>	<b>PB</b>	<b>150</b>
<b>3</b>	<b>Bhowra (S)</b>	<b>EJ</b>	<b>200</b>
<b>4</b>	<b>Bhowra(N)</b>	<b>EJ</b>	<b>200</b>
<b>5</b>	<b>Patherdih</b>	<b>EJ</b>	<b>250</b>
<b>6</b>	<b>Sudamdih</b>	<b>EJ</b>	<b>250</b>
<b>7</b>	<b>Lodna</b>	<b>Lodna</b>	<b>500</b>
<b>8</b>	<b>NT UG</b>	<b>Lodna</b>	<b>500</b>
<b>9</b>	<b>Bagdigi</b>	<b>Lodna</b>	<b>500</b>
<b>10</b>	<b>Joyrampur</b>	<b>Lodna</b>	<b>500</b>

## **ACTION PLAN FOR PUCCA ROAD CONSTRUCTION BY BCCL 2012-13**

<b>SNo.</b>	<b>Mine</b>	<b>Area</b>	<b>Proposed Pucca Road (Mtrs)</b>
<b>11</b>	<b>Barari</b>	<b>Lodna</b>	<b>500</b>
<b>12</b>	<b>Dahibari Basantimata</b>	<b>CV</b>	<b>200</b>
<b>13</b>	<b>Muraidih</b>	<b>Barora</b>	<b>500</b>
<b>14</b>	<b>Angarpathra</b>	<b>Katras</b>	<b>100</b>
<b>15</b>	<b>Kankani</b>	<b>Sijua</b>	<b>250</b>
<b>16</b>	<b>Alkusa</b>	<b>Kustrore</b>	<b>200</b>
<b>17</b>	<b>Ena</b>	<b>Kustore</b>	<b>150</b>
<b>18</b>	<b>Rajapur</b>	<b>Kustore</b>	<b>150</b>
<b>19</b>	<b>Kujama</b>	<b>Bastacola</b>	<b>500</b>
<b>20</b>	<b>Bera</b>	<b>Bastacola</b>	<b>500</b>
	<b>Total</b>		<b>6500</b>



## **ACTION PLAN FOR PUCCA ROAD CONSTRUCTION BY BCCL 2013-14**

<b>SNo.</b>	<b>Mine</b>	<b>Area</b>	<b>Proposoed Pucca Road (Mtrs)</b>
<b>1</b>	<b>Gondudih</b>	<b>Kusunda</b>	<b>350</b>
<b>2</b>	<b>Dhansar Mixed</b>	<b>Kusunda</b>	<b>400</b>
<b>3</b>	<b>Kusunda</b>	<b>Kusunda</b>	<b>400</b>
<b>4</b>	<b>West Mudidih</b>	<b>Katras</b>	<b>350</b>
<b>5</b>	<b>Katras choitudih</b>	<b>Katras</b>	<b>250</b>
<b>6</b>	<b>Salanpur</b>	<b>Katras</b>	<b>400</b>
<b>7</b>	<b>Tetulmari</b>	<b>Sijua</b>	<b>450</b>
<b>8</b>	<b>Basdevpur</b>	<b>Sijua</b>	<b>450</b>
<b>9</b>	<b>Nichitpur</b>	<b>Sijua</b>	<b>500</b>
<b>10</b>	<b>GOCP/KOCP</b>	<b>Bastacola</b>	<b>450</b>
<b>11</b>	<b>Bastacolla UG</b>	<b>Bastacola</b>	<b>500</b>
<b>12</b>	<b>Dobari UG</b>	<b>Bastacola</b>	<b>500</b>
	<b>Total</b>		<b>5000</b>

## Details of Fixed Sprinklers to be provided in BCCL Collieries

<b>SNo.</b>	<b>Mine/colliery</b>	<b>Length of Fixed sprinklers (mtr) at sidings</b>
<b>1</b>	<b>Kustore</b>	<b>500</b>
<b>2</b>	<b>Satabdi</b>	<b>500</b>
<b>3</b>	<b>Muraidih</b>	<b>500</b>
<b>4</b>	<b>Nichitpur</b>	<b>500</b>
<b>5</b>	<b>Jamunaia OC</b>	<b>800</b>
<b>6</b>	<b>Block-II OC</b>	<b>800</b>
<b>7</b>	<b>Kusunda</b>	<b>800</b>
<b>8</b>	<b>Lodna</b>	<b>1000</b>
<b>9</b>	<b>Dahibari-Basantimata</b>	<b>600</b>
	<b>Total</b>	<b>6000</b>

## DETAIL OF MOBILE WATER SPRINKLER IN BCCL

SNo	Area/ Mine	Existing Sprinkler(No)	Total Capacity (KL)
	<b>Barora Area</b>		
<b>1</b>	<b>Phularitand</b>	<b>2</b>	<b>26</b>
<b>2</b>	<b>Shatabdi</b>	<b>2</b>	<b>36</b>
<b>3</b>	<b>Muraidih</b>	<b>2</b>	<b>36</b>
	<b>Block-II Area</b>		
<b>1</b>	<b>Block-II OC</b>	<b>2</b>	<b>56</b>
<b>2</b>	<b>Jamunia OC</b>	<b>1</b>	<b>24</b>
	<b>Govindpur</b>		
<b>1</b>	<b>Akashkinari</b>	<b>1</b>	<b>12</b>
<b>2</b>	<b>Block-IV</b>	<b>3</b>	<b>60</b>
<b>3</b>	<b>Govindpur</b>	<b>1</b>	<b>4</b>
<b>4</b>	<b>Jogidih</b>	<b>1</b>	<b>4</b>

## **DETAIL OF MOBILE WATER SPRINKLER IN BCCL**

<b>SNo.</b>	<b>Area/ Mine</b>	<b>Existing Sprinkler(No)</b>	<b>Total Capacity(KL)</b>
	<b>Katras Area</b>		
<b>1</b>	<b>W Mududuh</b>	<b>3</b>	<b>42</b>
<b>2</b>	<b>Salanpur</b>	<b>1</b>	<b>12</b>
	<b>Sijua Area</b>		
<b>1</b>	<b>Tetulmari</b>	<b>3</b>	<b>28</b>
<b>2</b>	<b>Nichitpur</b>	<b>2</b>	<b>24</b>
<b>3</b>	<b>Kankani</b>	<b>1</b>	<b>12</b>
<b>4</b>	<b>Sendra Bansjora</b>	<b>2</b>	<b>20</b>
<b>5</b>	<b>Mudidih</b>	<b>1</b>	<b>20</b>

## DETAIL OF MOBILE WATER SPRINKLER IN BCCL (Contd.)

<b>SNo.</b>	<b>Area/ Mine</b>	<b>Existing Sprinkler (No)</b>	<b>Total Capacity (KL)</b>
	<b>Kusunda Area</b>		
<b>1</b>	<b>Kusunda/Godhur</b>	<b>3</b>	<b>45</b>
<b>2</b>	<b>Dhansar/Industry</b>	<b>1</b>	<b>15</b>
<b>3</b>	<b>Gondudih</b>	<b>2</b>	<b>30</b>
	<b>PB Area</b>	<b>-</b>	<b>-</b>
<b>1</b>	<b>PB Project</b>	<b>1</b>	<b>12</b>
<b>2</b>	<b>KB 10/12</b>	<b>1</b>	<b>12</b>
<b>3</b>	<b>Bhagaband</b>	<b>1</b>	<b>12</b>
<b>4</b>	<b>Gopalichak</b>	<b>1</b>	<b>12</b>

## DETAIL OF MOBILE WATER SPRINKLER IN BCCL (Contd.)

SNo.	Area/ Mine	Existing Sprinkler (No)	Total Capacity (KL)
	<b>Kustore Area</b>		
<b>1</b>	<b>Alkusa</b>	<b>1</b>	<b>15</b>
<b>2</b>	<b>Huralidih</b>	<b>1</b>	<b>15</b>
<b>3</b>	<b>Simlabahal</b>	<b>2</b>	<b>30</b>
<b>4</b>	<b>Ena</b>	<b>2</b>	<b>30</b>
<b>5</b>	<b>Rajapur</b>	<b>3</b>	<b>36</b>
	<b>Bastacola Area</b>		
<b>1</b>	<b>Kujama</b>	<b>1</b>	<b>20</b>
<b>2</b>	<b>GOCP /KUYA</b>	<b>1</b>	<b>20</b>
<b>3</b>	<b>Bastacolla</b>	<b>1</b>	<b>20</b>
<b>4</b>	<b>Dobari</b>	<b>1</b>	<b>20</b>
<b>5</b>	<b>Ganoodih OCP</b>	<b>1</b>	<b>20</b>
<b>6</b>	<b>Bera</b>	<b>1</b>	<b>20</b>



## DETAIL OF MOBILE WATER SPRINKLER IN BCCL (Contd.)

SNo.	Area/ Mine	Existing Sprinkler(No)	Total Capacity(KL)
	<b>Lodna Area</b>		
1	Lodna	1	8
2	NT UG	1	12
3	Bagdigi	1	10
4	Jairampur	1	8
5	Jeenagora	2	28
6	Bararee	1	8
7	NTST	2	28
	<b>E Jharia Area</b>		
1	Bhowra(N)/3 Pit Ocp	3	36
2	Bhowra (S)	1	12
3	Patherdih	1	20
	<b>W Jharia Area</b>		
1	Muralidih 20/21	1	10
2	Muralidih	1	10
3	Lohapatty	1	10
	<b>CV Area</b>		
1	Dahibari basantimata	4	50
	<b>TOTAL</b>	<b>74</b>	<b>975</b>

## **DETAIL OF MOBILE WATER SPRINKLER IN BCCL (through HIRING OF HEMM)**

<b>Area/ Mine</b>	<b>Existing Sprinkler(No)</b>	<b>Total Capacity(KL)</b>
<b>Barora</b>	<b>3</b>	<b>36</b>
<b>Govindpur</b>	<b>1</b>	<b>12</b>
<b>Katras</b>	<b>7</b>	<b>90</b>
<b>Sijua</b>	<b>6</b>	<b>84</b>
<b>Kusunda</b>	<b>2</b>	<b>24</b>
<b>Kustore</b>	<b>6</b>	<b>72</b>
<b>Bastacola</b>	<b>2</b>	<b>24</b>
<b>Lodna</b>	<b>4</b>	<b>44</b>
<b>E J</b>	<b>2</b>	<b>24</b>
<b>CV</b>	<b>1</b>	<b>12</b>
<b>TOTAL</b>	<b>34</b>	<b>422</b>

### Details of Proposed Garland Drains

Sl. No.	Name of Mine	Existing Garland drain in Mtrs.	Proposed Garland drain in mtrs.	Date of Completion
1	Jamunia	-----	200	Completed
2	Gopalichak	-----	-----	-----
3	Muralidih	100	----	---
4	Bhowra(North)	-----	150	31.09.12
	Bhowra(South)	-----	150	31.09.12
5	Akashkinari	300	200	31.09.12
6	Block-IV	160	200	30.09.12
7	Muraidih	----	----	----
8	West Mudidih	----	----	----
9	Gaslitand	-----	250	31.09.12
10	Tetulmari	---	---	---
11	Nichitpur	----	175	31.09.12
12	Sendra Bansjora	-----	175	31.09.12
13	Mudidih	-----	-----	----
14	Damoda	----	----	---
	<b>Total</b>	<b>560</b>	<b>1500</b>	

**THANK YOU**