

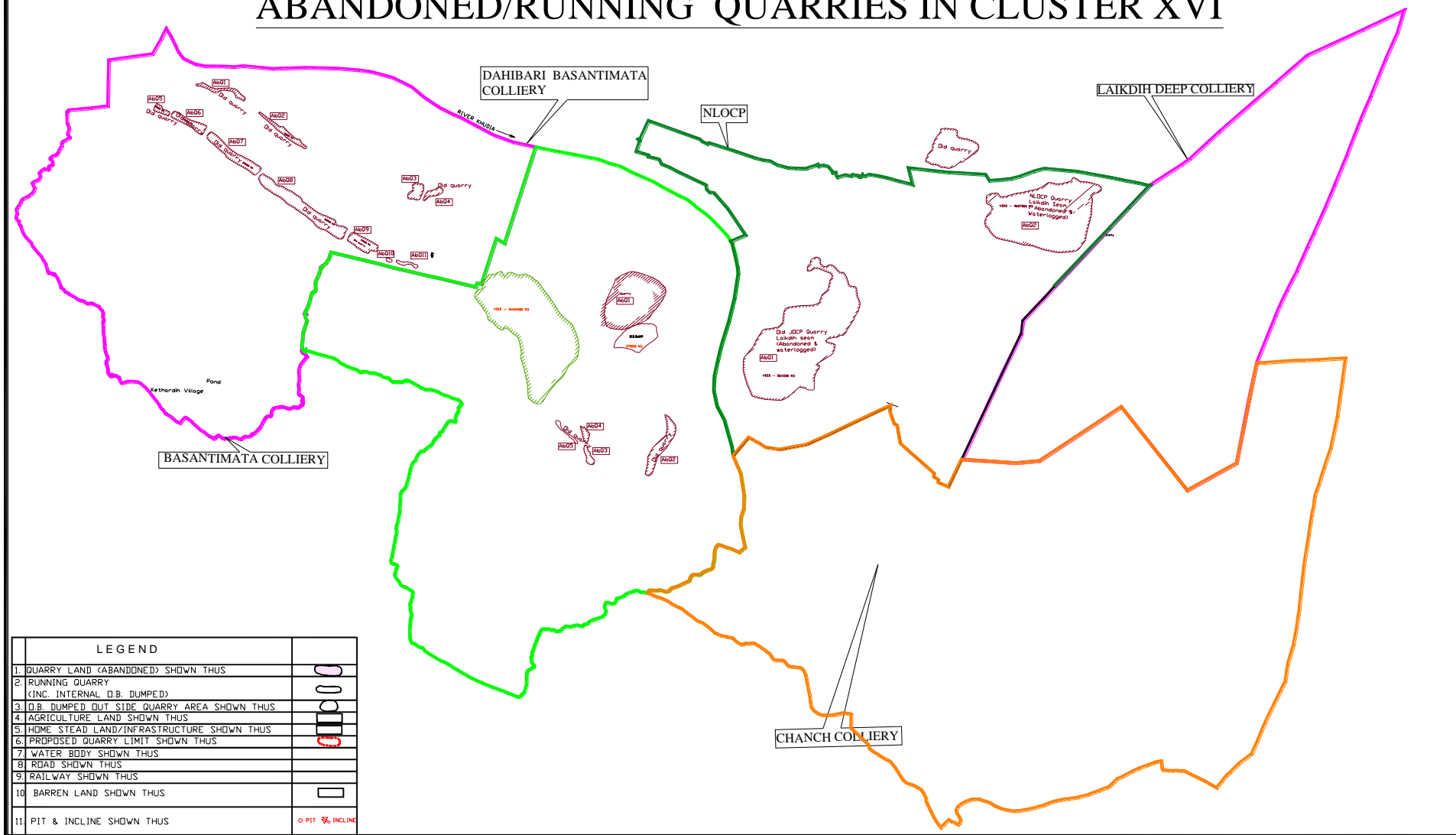
CLUSTER-XVI

**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

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 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

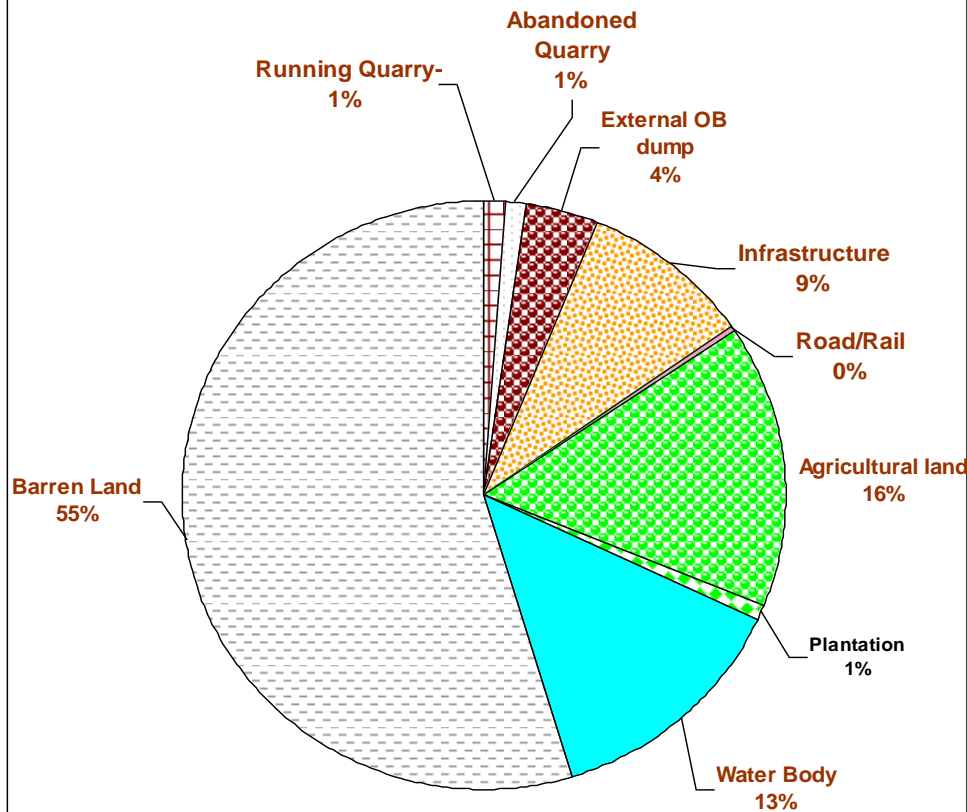
Mine wise Abandoned mines/pits/craters	Area in ha.	Mine-wise sub-total (Area in ha.)	Area in ha.	Status and proposed Post-mining Land-use (Water body/ to be backfilled up to ground level and reclaimed with plantation)
Pit no. AbQ-1 in Basantimata UG	0.67	11.62 in Basantimata UG	6	to be backfilled and 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 b developed into fish culture
Nil in Laikdih deep UG	nil			
Nil in Chanch UG	nil			
TOTAL	23.96			

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

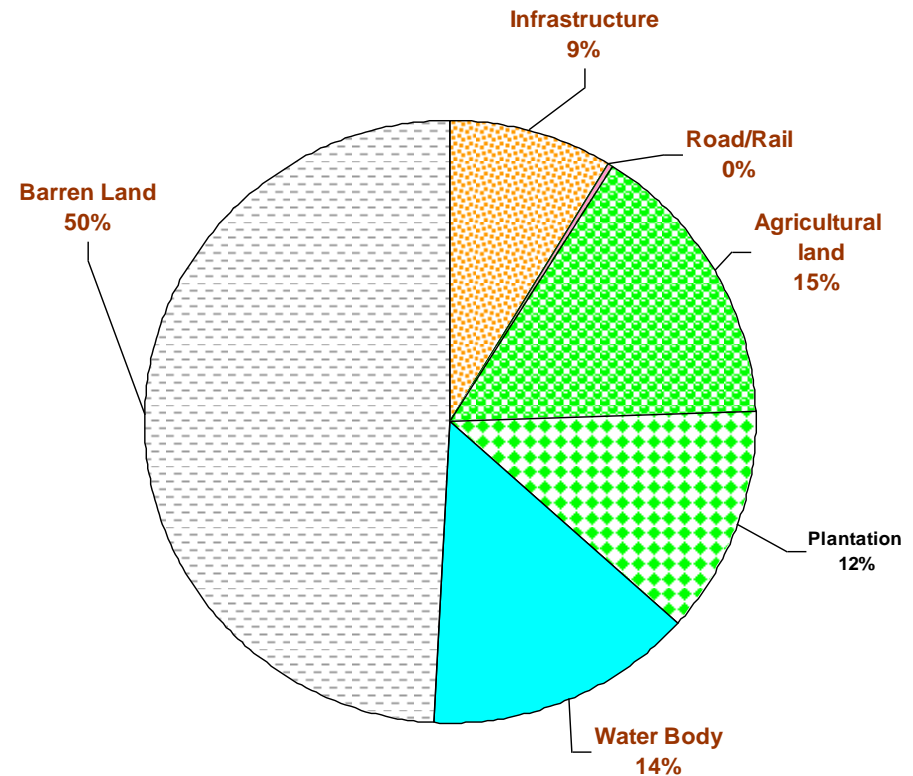
LAND USE OF CLUSTER XVI

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
	Total	227.09	17.00	0.46	1719.63	1964.18

Conceptual Land use of Basantimata UG

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

Conceptual Land use of Chanch UG						
Sl 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	0.38
5	Built up area (Infrastructure)				46.31	46.31
6	Afforestation					
7	Water Body				119.05	119.05
8	Undisturbed Area				409.66	409.66
	Total				575.40	575.40

Conceptual Land use of Laikdih Deep

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

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				1.47
2	External Waste Dumps	27.98				27.98
3	Excavation (backfill)	3.54				3.54
4	Road				1.82	1.82
5	Built up area (Infrastructure)				32.99	32.99
6	Afforestation				14.00	14.00
7	Water Body				78.32	78.32
8	Undisturbed Area				144.98	144.98
	Total	32.99			272.11	305.10

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

OBSERVATION OF THE COMMITTEE ON COAL TRANSPORT :

- 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

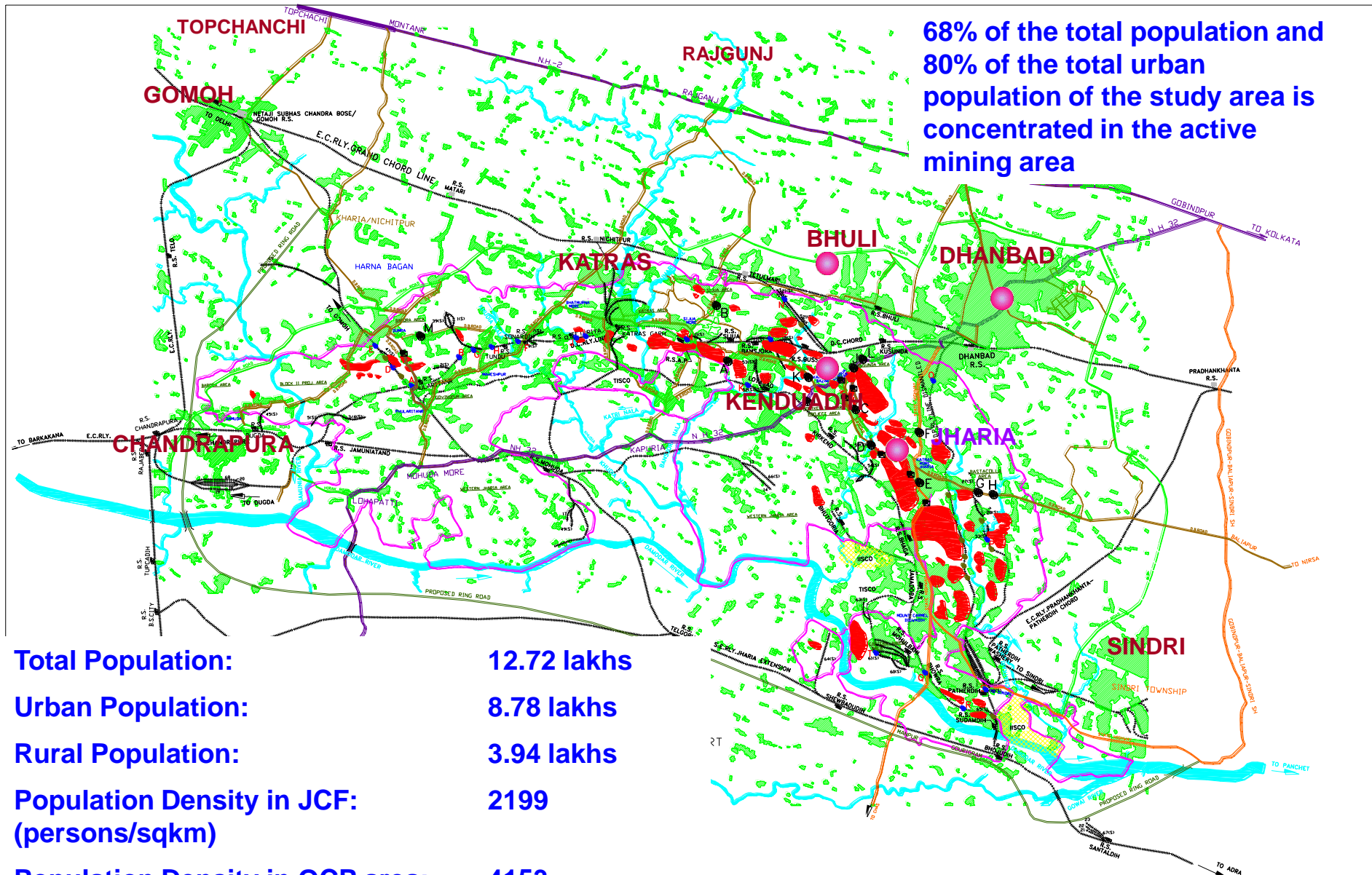
**IMPLEMENTATION OF JHARIA
ACTION PLAN**

JHARIA COALFIELD: BACKGROUND

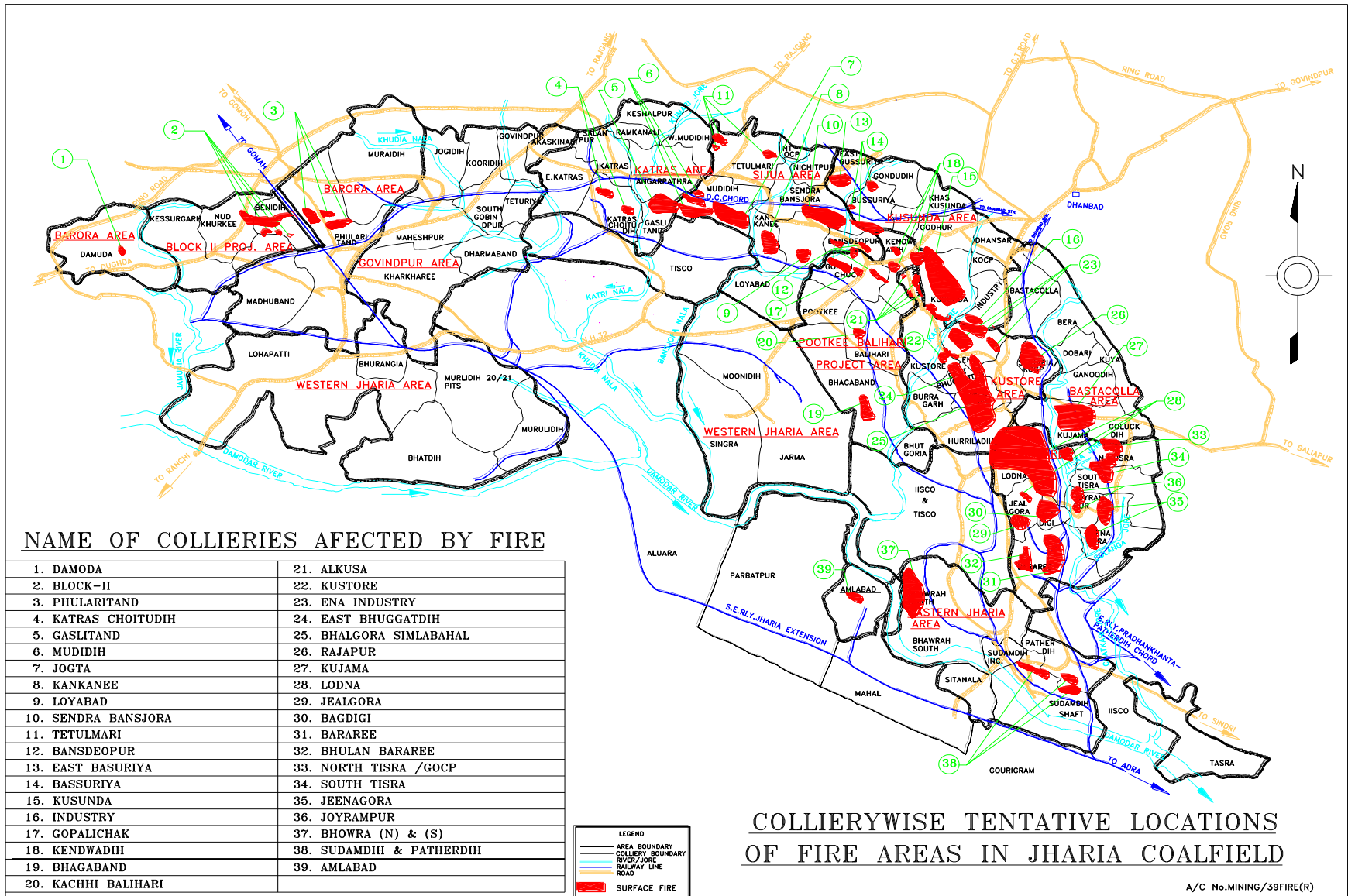
- ❖ **Mining operations in JCF are more than 100 years old.**
- ❖ **Prior to nationalisation, coal mining was done in a very unscientific manner by the private owners.**
- ❖ **This type of slaughter mining resulted in mine fires, subsidence, water inundation, land degradation and etc.**

JHARIA COALFIELD AND SURROUNDINGS – PRESENT SCENARIO OF SURFAC FEATURES

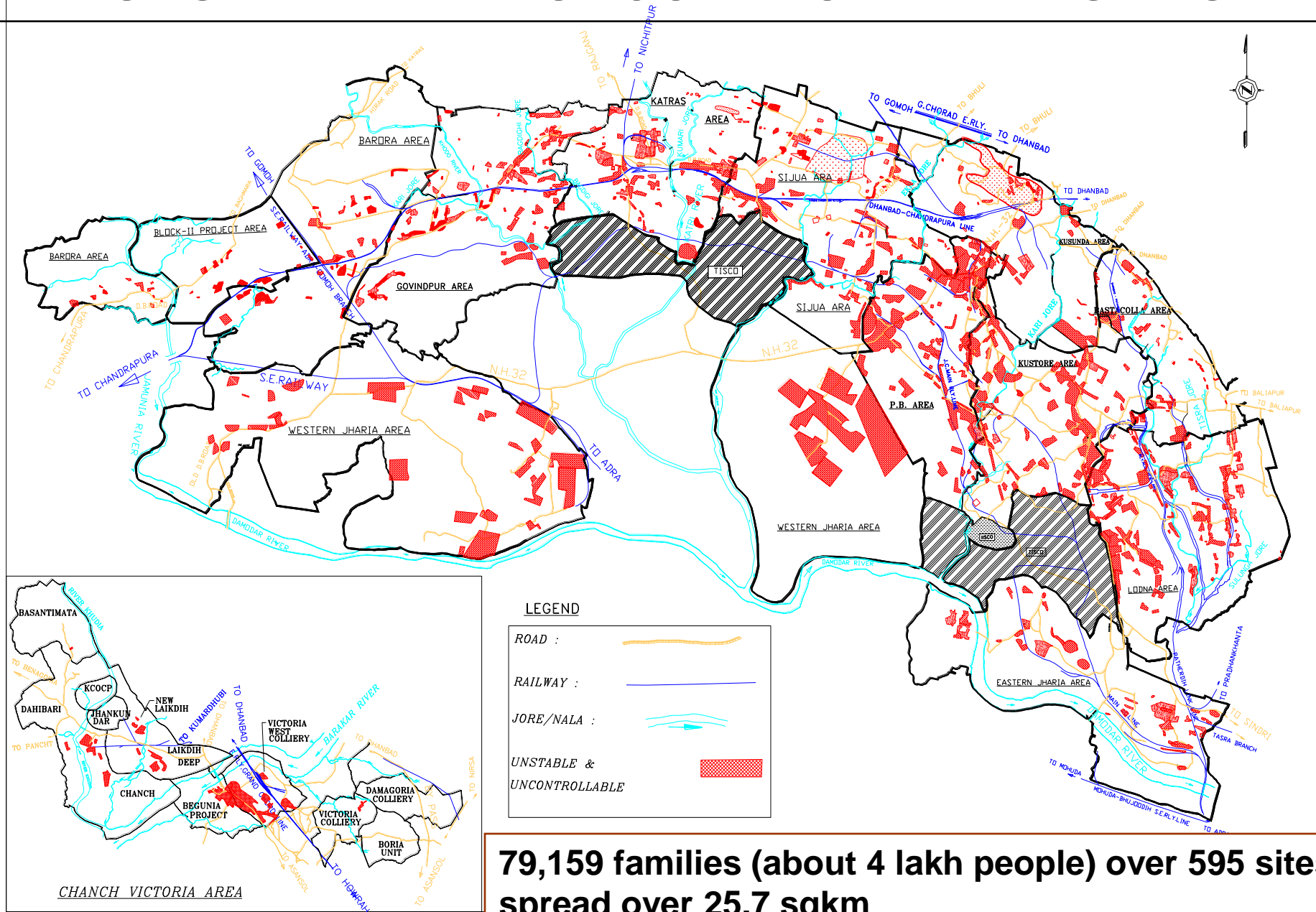
68% of the total population and
80% of the total urban
population of the study area is
concentrated in the active
mining area



MINE FIRE LOCATIONS IN JCF



UNSTABLE AND UNCONTROLLABLE SITES



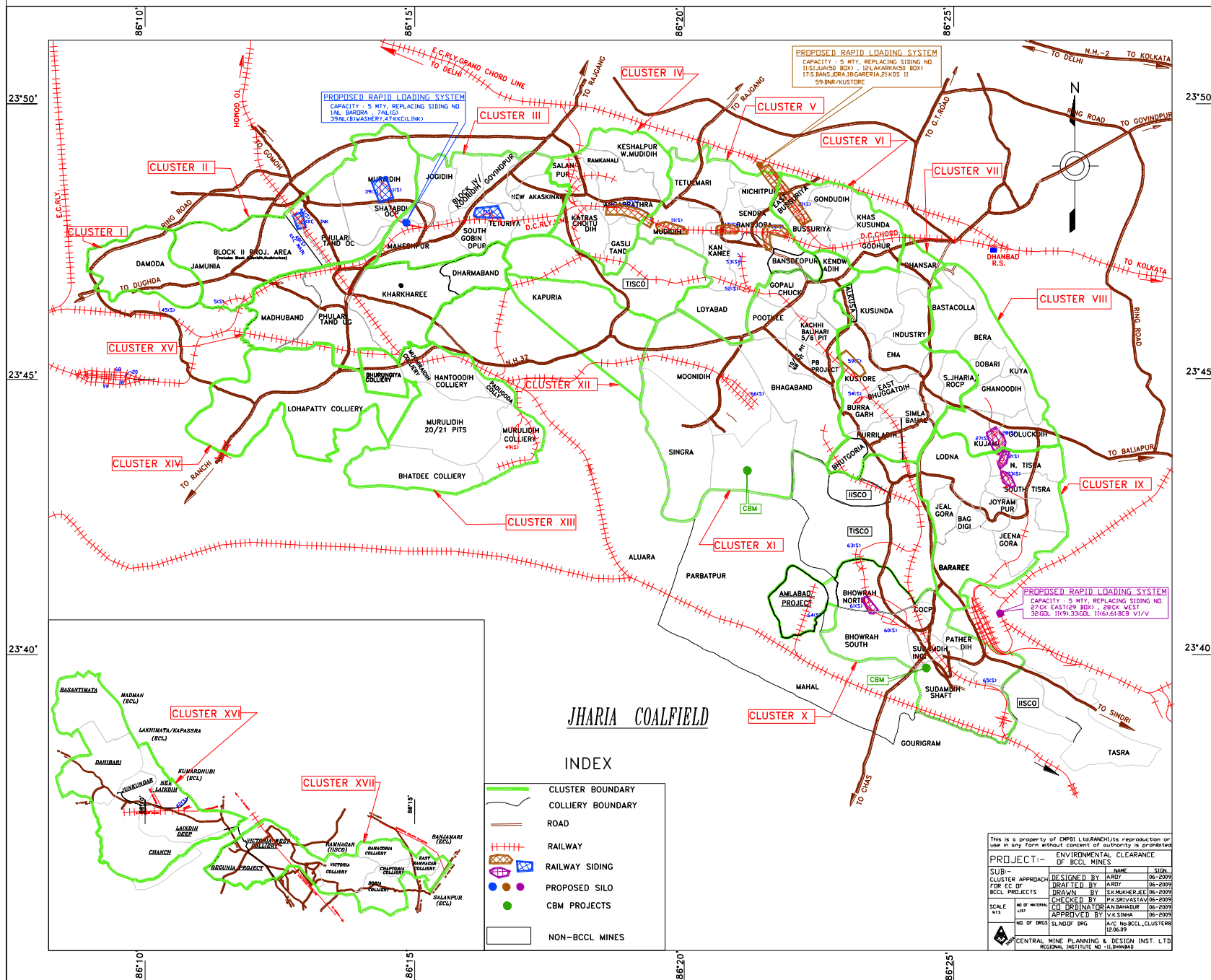
JHARIA COALFIELD: SURFACE CONSTRAINTS

- ❖ **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.

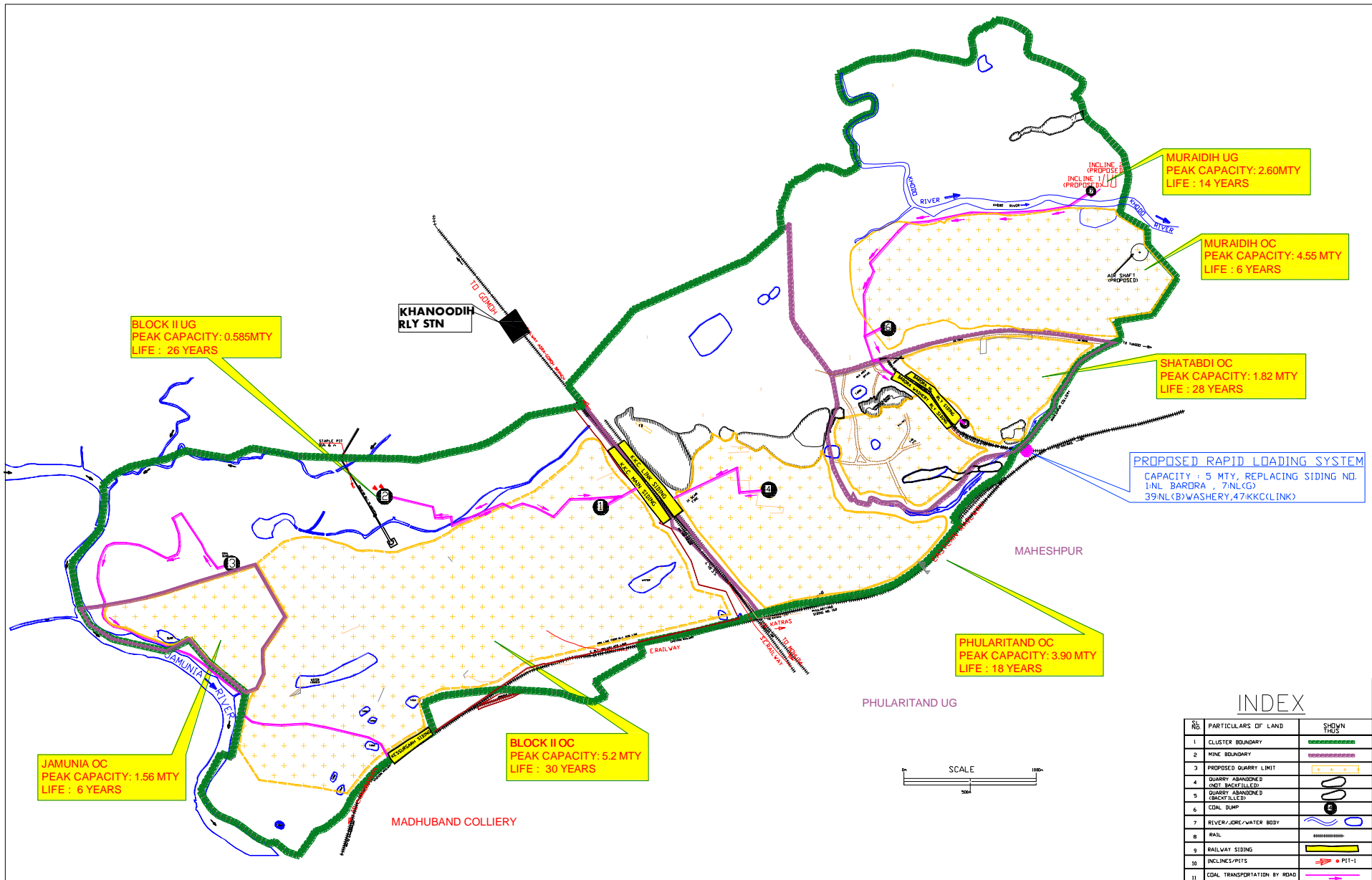
BCCL's PRESENT COAL DESPATCH TRANSPORTATION NET WORK

- ❖ **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.**

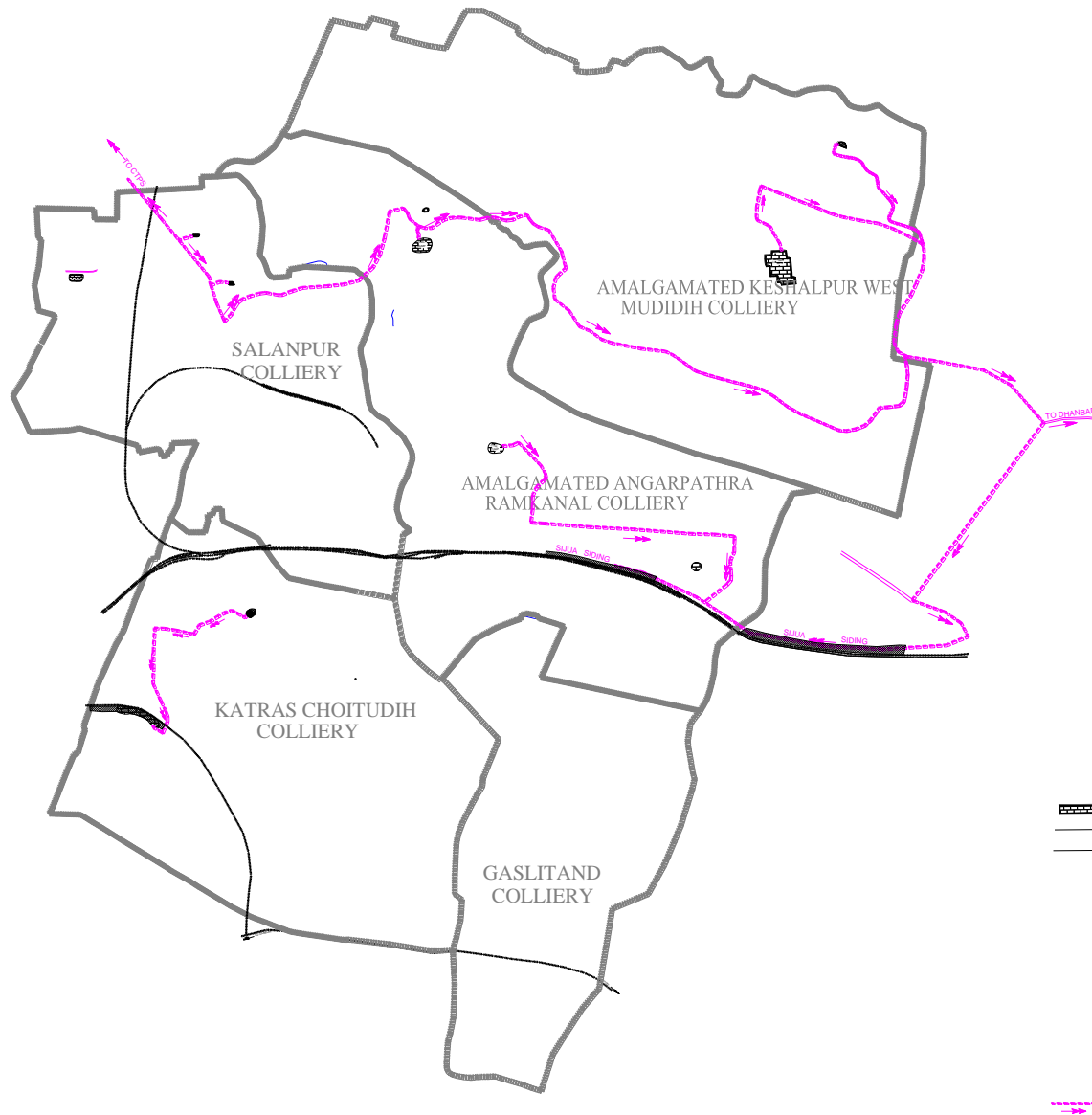
BCCL MINES WITH ROAD, RAILWAYS, SIDINGS & PROPOSED SILOS



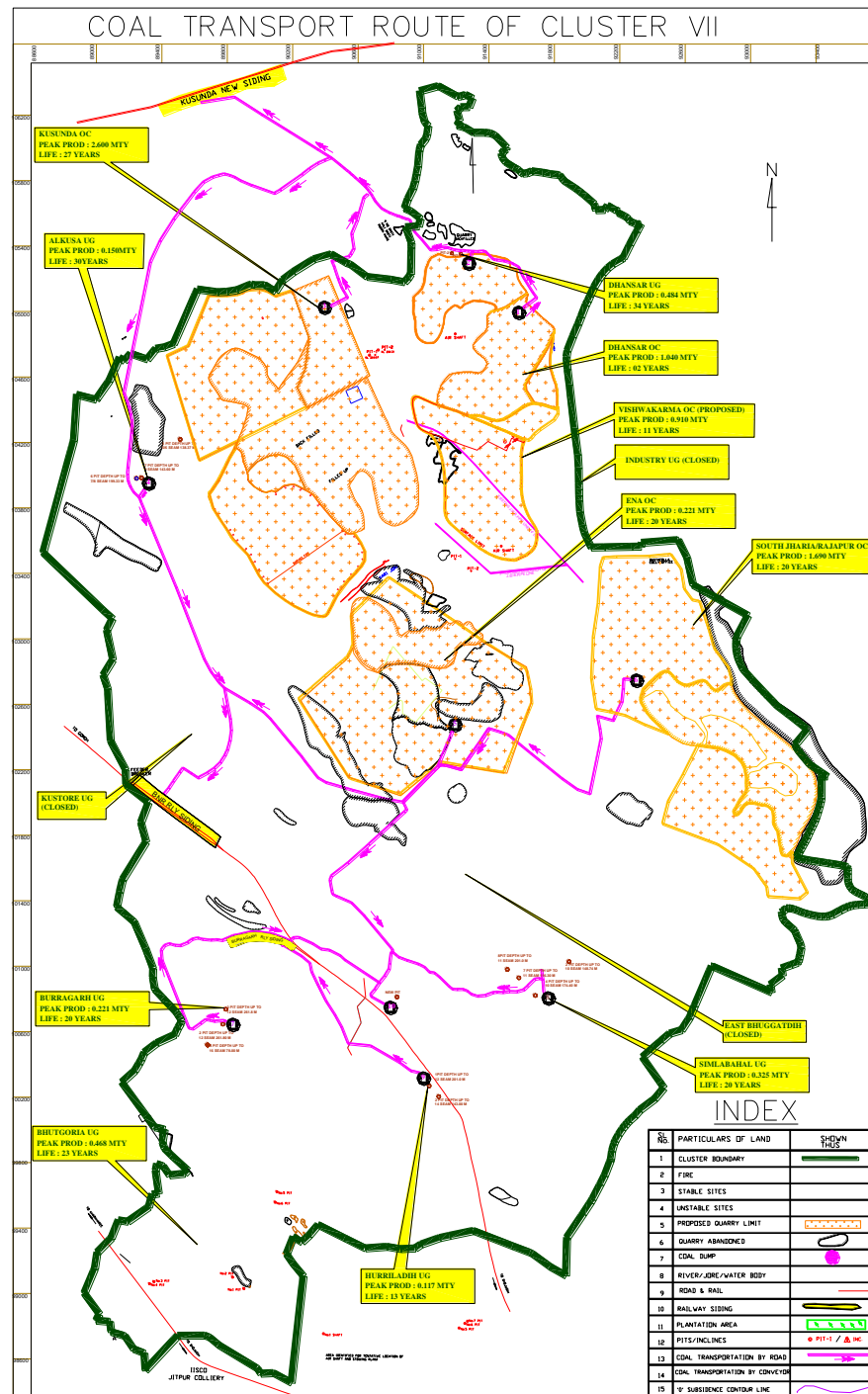
BCCL's PRESENT COAL DESPATCH TRANSPORTATION NET WORK IN CLUSTER-II



EXISTING TRANSPORT ROUTE OF CLUSTER IV



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



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

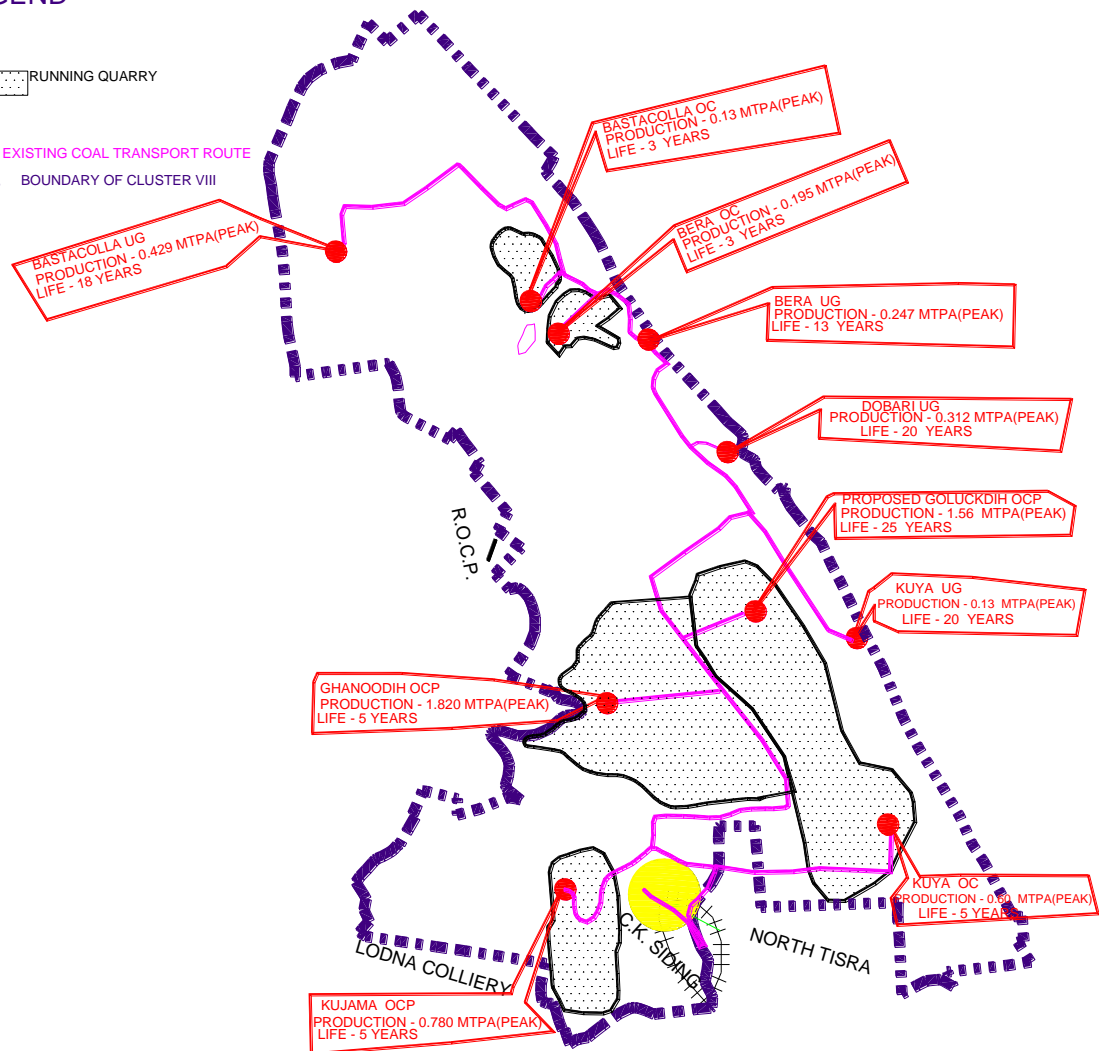
EXISTING TRANSPORT ROUTE OF CLUSTER VIII

LEGEND

 RUNNING QUARRY

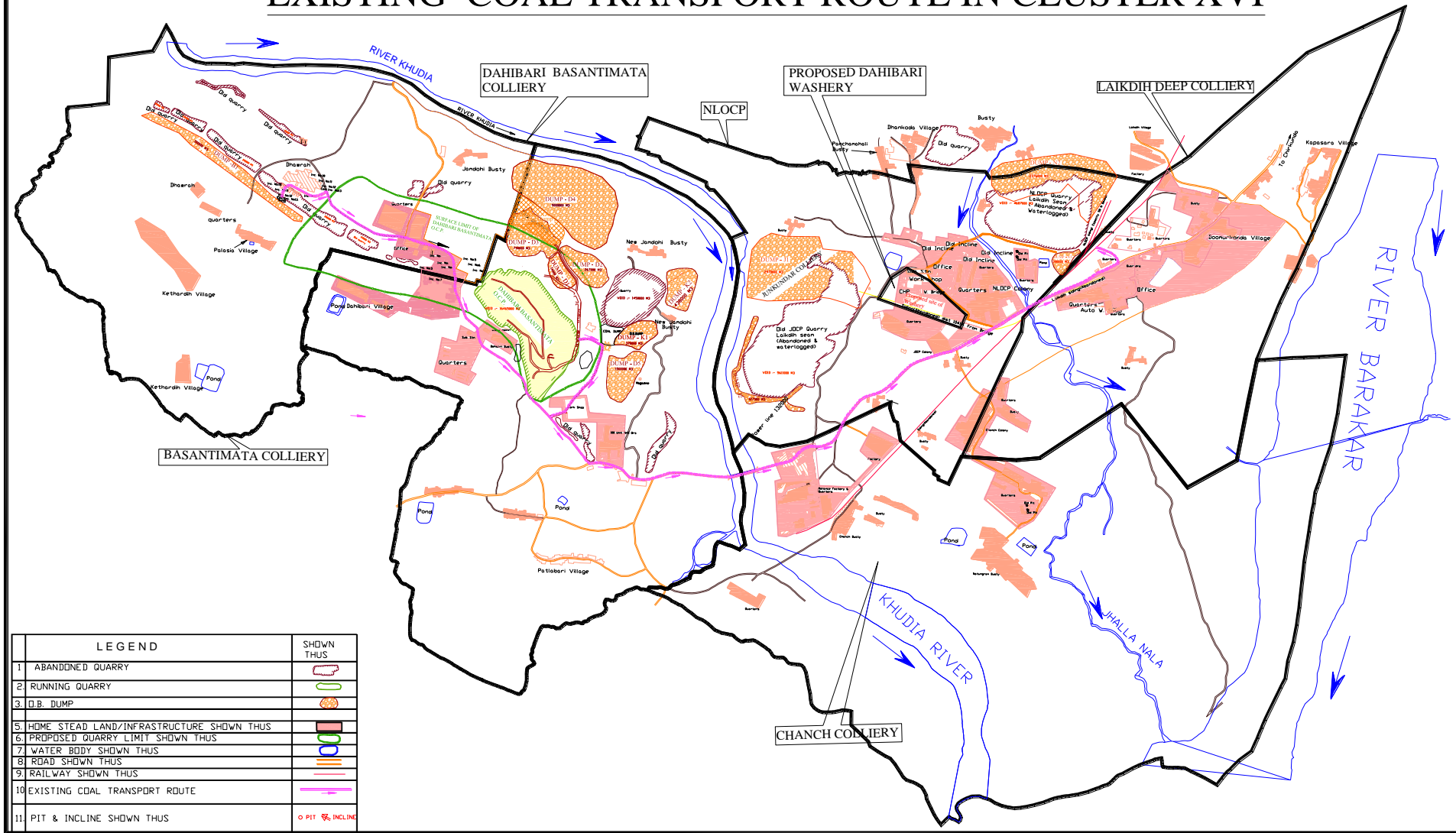
 EXISTING COAL TRANSPORT ROUTE

 BOUNDARY OF CLUSTER VIII



EXISTING COAL TRANSPORT ROUTE IN CLUSTER XVI

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):

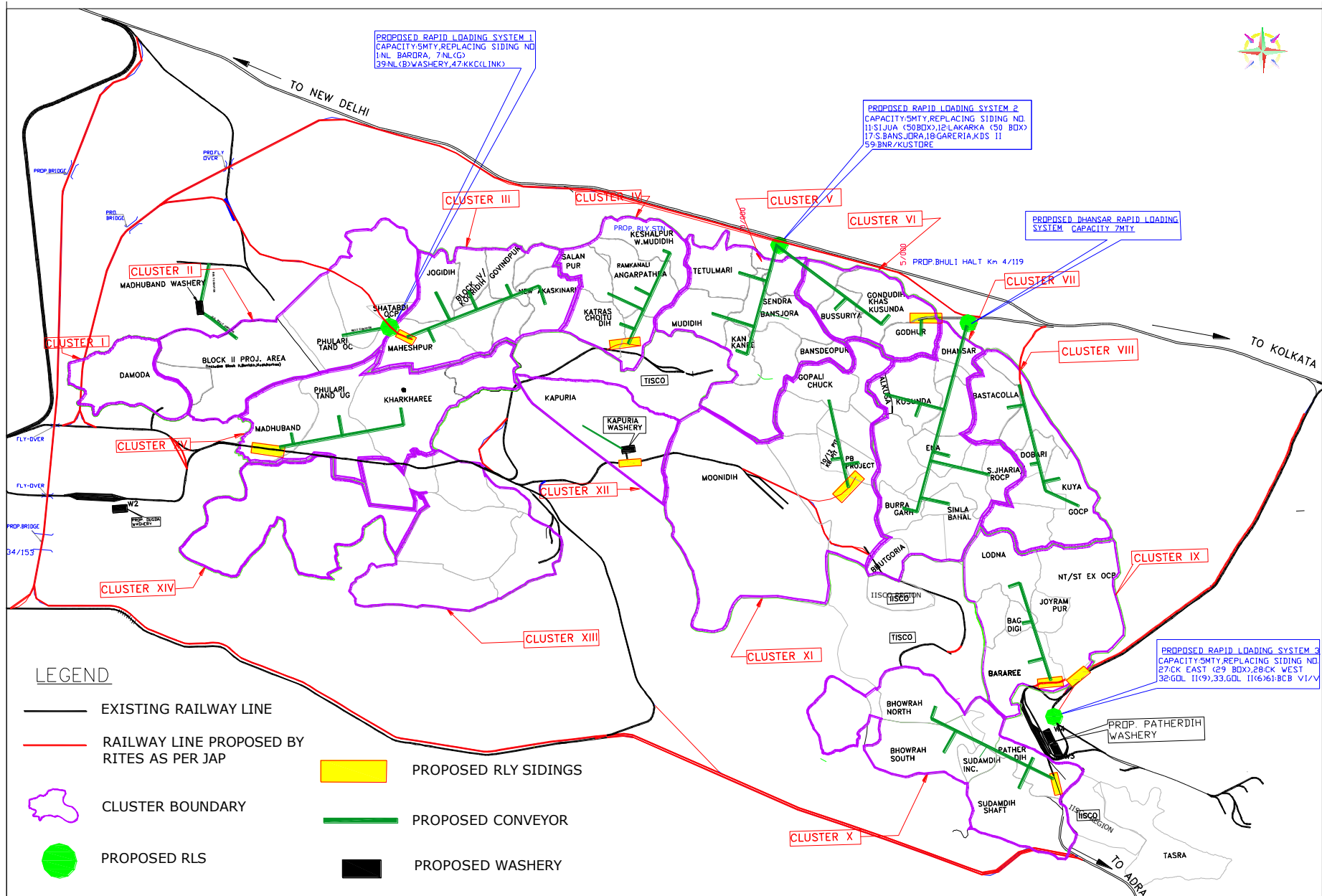
- ❖ **As suggested by the Committee it is proposed to continue the existing Road-Rail transport net work system in view of the implementation of the Jharia Action Plan (for 10 years) and**
- ❖ **Another 5 years gestation period after the completion of Jharia Action Plan **for consolidation of the backfilled 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	
	TOTAL	11.505	
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	
	TOTAL	0.87	
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	
	TOTAL	1.106	
			34

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	Tetulumari Colliery UG	0.189	Coal transport by Conveyor to Tetumari RLS at Rly siding
	Mudidih Colliery UG	0.238	
	Sendra Bansjore Colliery OC	0.78	
	Kankanee Colliery UG	0.156	
	Bansdeopur Colliery UG	0.156	
	TOTAL	1.519	
VI	Bassuriya Colliery	0.156	Coal transport by Conveyor to Rly siding
	Gondudih Khas kusunda Colliery OC	2.6	
	Godhur Colliery OC	2.6	
	Godhur Colliery UG	0.325	
	TOTAL	5.681	
VII	Dhansar UG	1.04	Coal transport by Conveyor to Dhansar RLS at Rly siding
	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	
	TOTAL	6.715	

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)
VIII	Bastacolla Colliery UG	0.429	Coal transport by Conveyor to Rly siding
	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	
	TOTAL	2.431	
IX	Lodna (UG)	0.15	Coal transport by Conveyor to Patherdih RLS at Rly siding
	Bagdigi (UG)	0.143	
	Joyrampur (UG)	0.199	
	Bararee (UG)	0.221	
	PROPOSED North Tisra/South Tisra Expansion OCP	7.8	Mine to Patherdih Washeries by conveyor system . Washed coal despatch by rail
	TOTAL	8.513	
X	Bhowrah North UG	0.143	Coal transport by Conveyor to Rly siding
	Bhowrah South (UG)	0.377	
	Patherdih (UG)	0.07	
	Sudamdih Incline (UG)	0.117	
	Sudamdih Shaft (UG)	0.24	
	TOTAL	0.947	

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)
XI	Gopalichak UG Project	0.143	Coal transport by Conveyor to Rly siding
	Kachi Balihari 10/12 UG	0.117	
	PB Project UG	1.04	
	Moonidih UG Mine (with proposed integrated washery)	5.2	Mine to Moonidih Washery by conveyor system . Washed coal despatch by rail
	TOTAL	6.5	
XII	Kapurja UG	3.12	Mine to Kapurja Washery by conveyor system . Washed coal despatch by rail
XV	Kharkharee Colliery UG	0.12	Coal transport by Conveyor to Rly siding
	Madhuband Colliery UG	0.147	
	Phularitand Colliery UG	0.156	
	TOTAL	0.423	
XVI	Dahibari Basantimata OCP	1.69	Mine to Dahibari Washery by conveyor system. Washed coal despatch by rail
	Basantimata UG	0.273	
	TOTAL	1.963	

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.**

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

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

- **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 18th 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:

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

- **BCCL has already uploaded the present CSR activities / community development scheme in its official website 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.**

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 it's 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 Mm³, 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
	Total :	185.78	215.78	257.88

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
	Total	315.00	

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
Total	622.64

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 its 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:

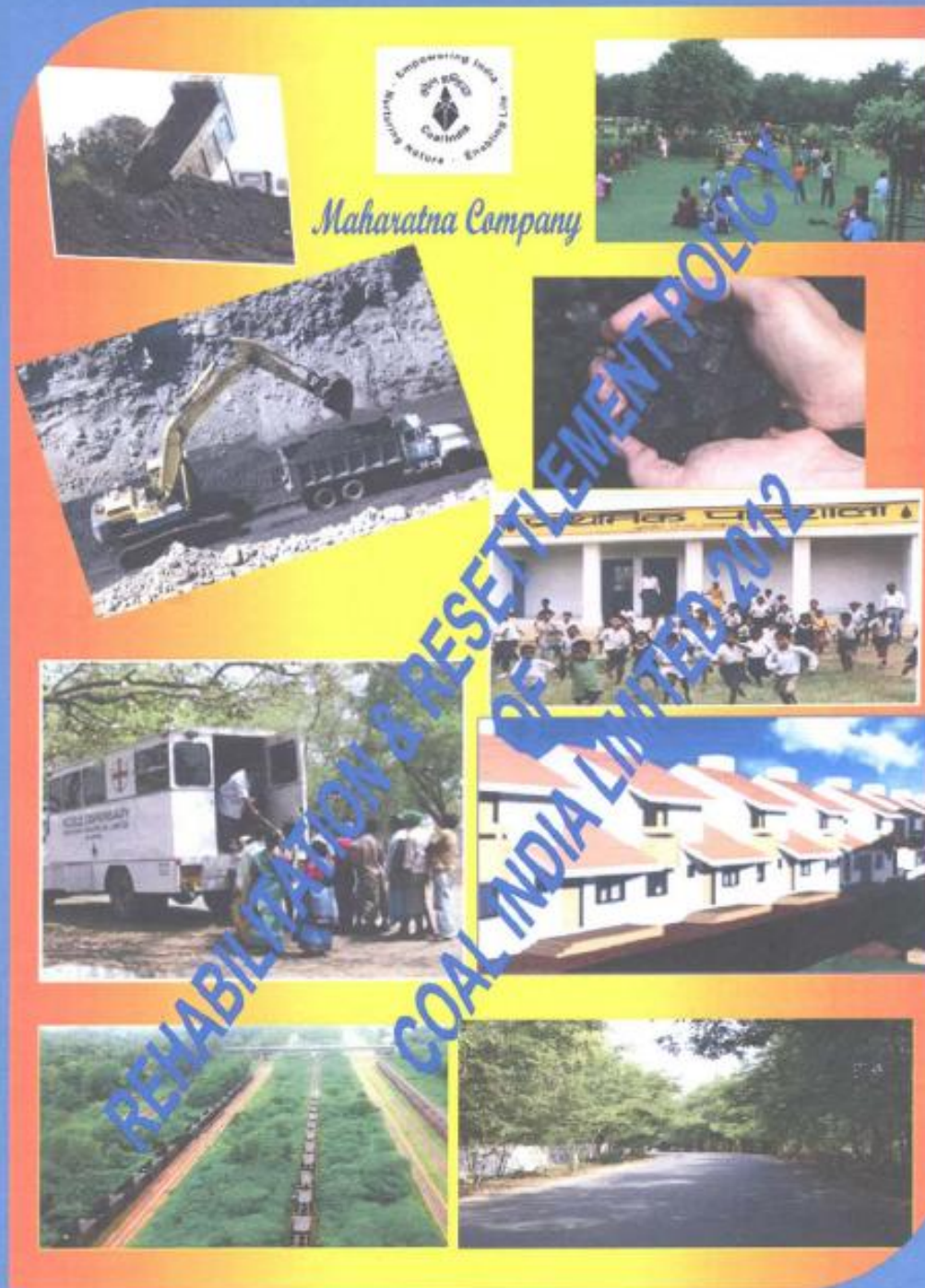
- ❖ **Installation of Pressure Filters : 28 nos. Pressure Filter Plants will be established in different areas of BCCL, with a installed capacity of 5.76 mgd (approx.) . Tender for the job is under finalization.**
- ❖ **Desiltation of Jamunia Dam : Desiltation work of Jaminua Dam, which is the raw water 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
SHASTRIBHAVAN, NEW DELHI-110001

26th 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)

CONTENTS

SL.NO	DESCRIPTION	PAGE-NO
1	Preamble	1
2	Objectives and general principles of Coal India's Resettlement and Rehabilitation Policy- 2012	2
3	Scope	3
4	Definition	3
5	Socio-economic Survey and preparation of RAP	4
5.A	Implementation, Monitoring and Evaluation, Dispute Mechanism	5
5.B	Environment Impact Assessment (EIA)	5
6	Eligibility Criteria	5
7	Census & Identification of displaced families:	6
8	Types of Compensation and Rehabilitation Entitlement	6
8.1	Eligibility and Compensation	6
8.(i)(A)	Land Compensation	7
8.(i)(B)	Employment provision	7
8.(i)(C)	Lumpsum Monetary Compensation	8
8.(ii)	Compensation to the-Person whose homestead is acquired	8
8.(iii)	Compensation to the- Sharecroppers, land lessees, tenants and day labourers	9
8.1(iv)	Compensation to the- Landless tribals, Tribal dependent on forest produce	9
9	Resettlement & Rehabilitation Committee	10
10	Community facilities	10
11	Corporate Social Responsibilities	10
12	Monitoring and Evaluation	10
13	Flexibility to the Subsidiary Companies	11

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 279th meeting held on 12th and 13th 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.

<i>Category of Persons affected by the Project</i>	<i>Compensation and Rehabilitation entitlement option</i>
	Provisions
(i) Persons (including tribals cultivating land under traditional rights) from whom land is acquired.	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>A). Land Compensation - 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): Employment provision: Apart from payment of the land compensation, employment may be given in the following manner –</p> <ol style="list-style-type: none"> 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 . 2) For every two acres of land one employment can be considered; 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. 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 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"> a) The initial employment shall be given with pay of Category-I pay scale of NCWA, with training period of 6 months. 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. c) The land loser trainees shall be posted as per requirement, including underground duties.

Category of Persons affected by the Project	Compensation and Rehabilitation entitlement option
	Provisions
	<p>(C): Lumpsum Monetary Compensation –</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>Note: <i>A person receiving a job forgoes all claims to above compensation and a person receiving above compensation forgoes all claims to employment.</i></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>

Category of Persons affected by the Project	Compensation and Rehabilitation entitlement option
	Provisions
(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"> - 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. - 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. - Tribal affected families resettled out of the district shall be given 25% higher rehabilitation and resettlement benefit.

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)

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

ECOLOGICAL RESTORATION ACTIVITIES IN BCCL

- **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

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

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.)

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

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

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

Earlier Plantation done by BCCL

Plantation on Over burden dump



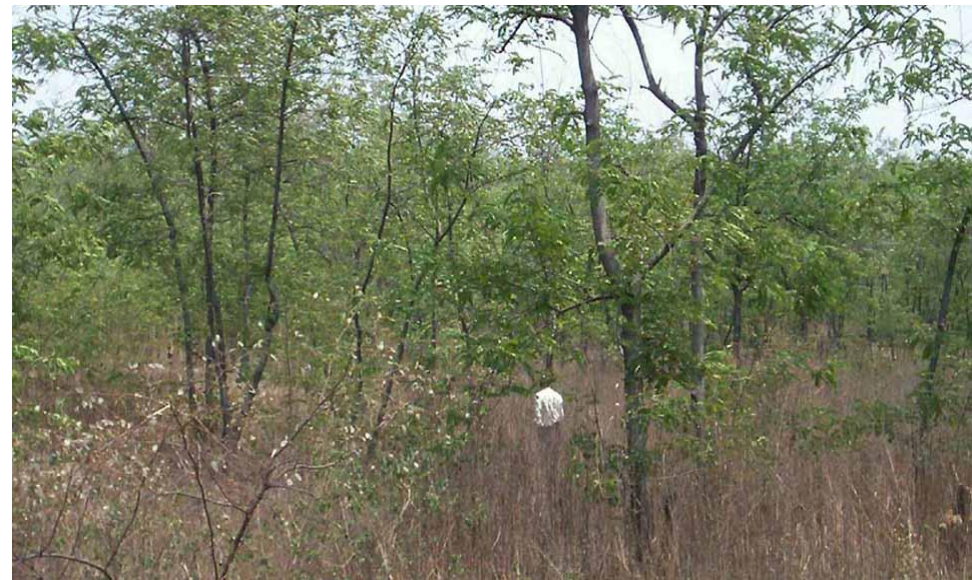
Plantation along road side



Plantation over Subsided area



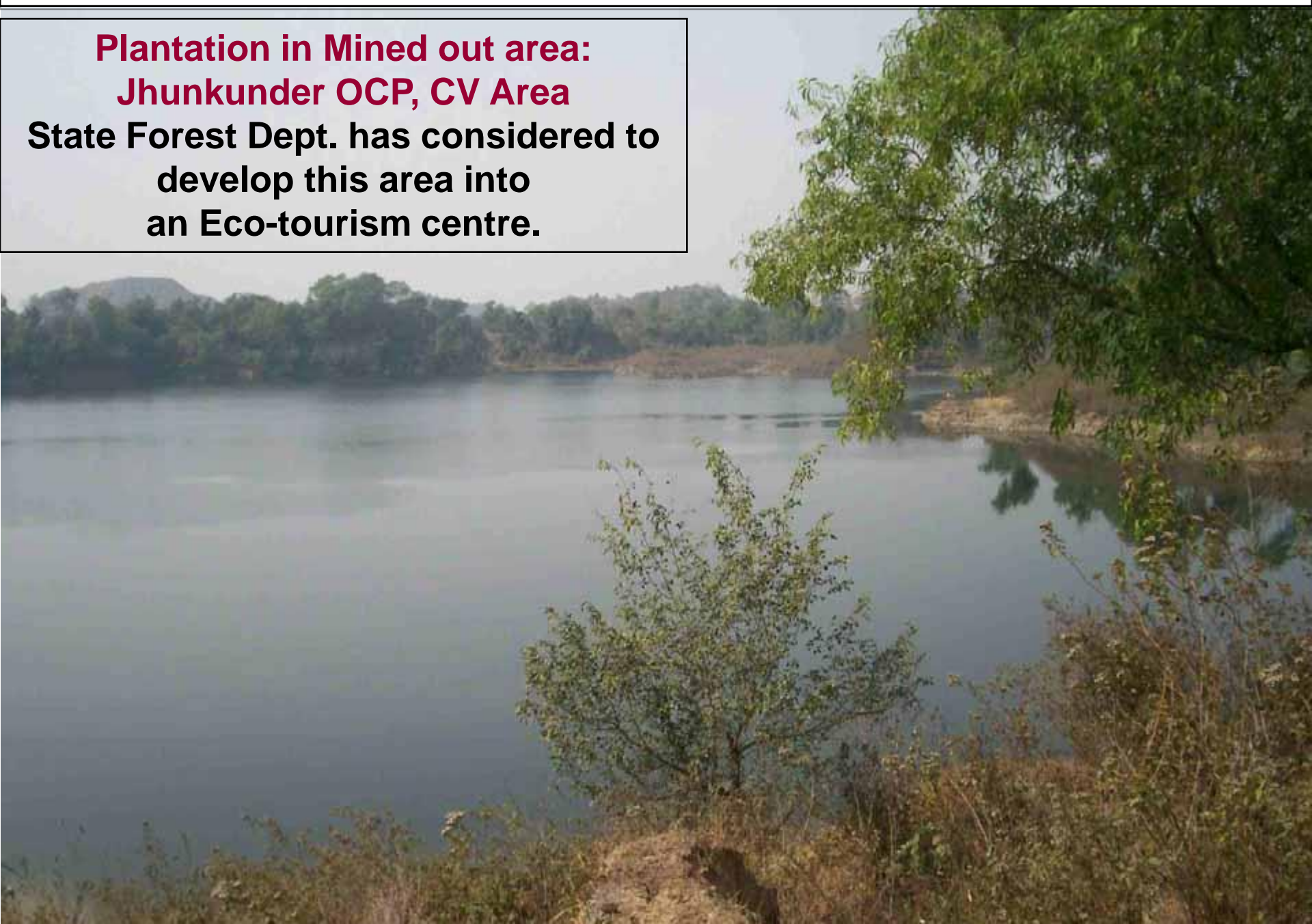
Plantation over Fire area



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
TREES:	
<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
SHRUBS:	
<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
GRASSES:	
<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



THANK YOU