

8-3/2010-2011
3/2/11

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नगर - पर्यावरण, भुवनेश्वर

BY SPEED POST

No.5-JHA/158/2010-BHU

Date: 24.02.2011

To

The Assistant Inspector General of Forests,
Ministry of Environment & Forests,
Paryavaran Bhawan,
CGO Complex, Lodhi Road,
New Delhi 110003

Subject:

Site inspection report in respect of diversion of 778.23 ha of forest land for coal mining project in favour of M/s Rohini Coal Company Private Limited in Hazaribagh (W) forest division of Jharkhand.

Sir,

With reference to the subject cited as above, I am directed to inform you that the site inspection of the above mentioned project was carried out by the Conservator of Forests (Central) of this office on 17.01.2011 and the site inspection report is enclosed herewith for favour of information and necessary action.

Yours faithfully,

(Signature)

(ASHOK KUMAR BISWAL)
CONSERVATOR OF FORESTS (C)

Encl : As above

2010/158/2011
15/2/11

AT (1/1/11)

for on file please
note TAC please

S.O./G.S.

14.3.2011

15/3/2011

M.M.

Site inspection report in respect of diversion of 778.23 ha of forest land for coal mining project in favour of M/s Rohne Coal Company Private Limited in Hazaribagh (W) forest division of Jharkhand.

The site inspection of the above diversion proposal was conducted by me on 17.01.2011. I was accompanied by Shri Y.K. Singh, DFO (Hazaribagh), Shri Ramilal Ram, Ranger all from the Forest Department Sri Sandip Ghosh, AGM, Sri Dhananjaya Kumar, Manager (Survey), Sri R.N. Chaubey, Regional Director, Sri Akilash Kumar, AGM (Mining) from the user agency. During the inspection to the CA site under Gumla division, the Range Officer Chaupur Sri Shivshankar Majhi, Forester Sri Jagdish Ram were present along with the officials of the user agency.

1. Legal status of the forest land proposed for diversion

The information given by State Government is as follows:

(Ref: Point No.3 of Page No. 1 of PCCF, Jharkhand letter No. 3785 dated 26/10/09)

Sl. No.	Name of Division	Notified and Demarcated Forest Land (Area in Ha)	Notified and un-demarcated Forest Land (Area in Ha)	Jungle – Jhari land (Area in Ha)	Total Forest Area in Ha
1	Hazaribagh West Forest Division	982.26	187.43	19.01	1189.30
2	Ramgarh Forest Division	1.20	-	2.29	3.49
TOTAL		983.46	187.43	21.90	1192.79*

*Total Forest area includes the 11.63 Ha of Safety Zone in forest (this area should not be considered for forest diversion) and 402.91 Ha for exploration drilling (PCCF, Jharkhand has asked for separate proposal for exploration drilling for forest permission).

Hence total forest area recommended for diversion is as below:

$$(1192.79) - (11.63) - (402.91) = 778.23 \text{ Ha}$$

The actual legal status of forest land proposed for diversion, as collected from the UA and enclosed at annexure 1, is as follows:

Sl. No.	Name of Division	Particulars	Notified and Demarcated Forest Land (Area in Ha)	Notified and un-demarcated Forest Land (Area in Ha)	Jungle – Jhari land (Area in Ha)	Total Area in Ha
1.1	Hazaribagh West Forest Division	Area required for mining and related activities within mining lease	603.47	101.13	18.23	722.83

1.2	Hazaribagh West Forest Division	Area required for conveyer corridor	3.51	0.80	6.00	3.51
2	Rangpath Forest Division	conveyor corridor outside mining lease	1.20	0.00	3.29	3.29
Total			607.38	161.93	20.57	789.88
Safety Zone in Forest Land						(11.65)
Total Forest area for diversion						778.23

2. Item-wise break-up details of the forest land proposed for diversion:

Item-wise break-up as per the proposal is as follows:

Sl. No.	Project Component	Breakup of Forest area (in Ha)		Total Forest area (in Ha)	Non Forest area (in Ha)	Total Land to be affected (in Ha)
		Forest	Jungle Jhari			
1	Mines	677.33	15.26	692.59	27.41	600.00
2	External Dump	22.92	0.68	23.60	6.40	30.00
3	Mining and allied services	32.37	0.51	32.88	3.06	35.00
1	Safety zone	11.50	0.09	11.65	2.35	14.00
2	Road	2.74	Nil	2.74	0.26	3.00
0	Area to be mined on slip side	35.67	Nil	35.67	0.33	36.00
0	Raw coal stockyard	40.68	3.01	43.69	1.71	47.00
5	Area to be used for exploration/civiling	402.01	Nil	402.01	17.09	420.00
A	Total	1166.18	19.61	1185.79	59.21	1245.00

Area to be utilized within the coal block/lease boundary (A)

Sl. No.	Project Component	Breakup of Forest area (in Ha)		Total Forest area (in Ha)	Non Forest area (in Ha)	Total Land to be affected (in Ha)
		Forest	Jungle Jhari			
Conveyer corridor						
0	a) Under Hazaribagh West Forest Division	3.51	Nil	3.51	0.13	5.04
	b) Under Rangpath Forest Division	1.20	0.39	1.60	0.57	4.50
B)	Total	4.71	0.39	5.10	1.00	8.00
Grand Total: (A + B)		1170.89	21.00	1192.79	61.21	1253.00

Area to be utilized outside the coal block/lease boundary (B)

Sl. No.	Project Component	Breakup of Forest area (in Ha)		Total Forest area (in Ha)	Non forest area (in Ha)	Total Land to be affected (in Ha)
		Forest	Jungle Jhari			
1	Total area in Ha falls under Hazaribagh West Forest Division	1189.30	10.61	1189.30	30.51	1248.61
2	Total area in Ha falls under Rampur Forest Division	1.20	2.29	1.40	11.87	4.06

Item-wise break up details of the forest land as per the State Government is as follows:

Sl. No.	Project Component	Area in Ha
1	Mines	668.26
2	Exploration Drilling	402.91
3	Road	2.74
4	Rwy Coal Stock Yard	43.69
5	Temporary Shed for Mining and allied activities	32.91
6	External Dump	23.60
7	Conveyer Belt	7.50
TOTAL		1181.14

Total 778.23 Ha of forest land for diversion is recommended by Principle Chief Conservator of Forest (PCCF), Jharkhand.

= (1181.14) - (402.91) (PCCF, Jharkhand has asked for separate proposal for drilling exploration over an area of 402.91 ha for forest permission (Ref. Point No. 8, para 2nd of page No.2).

= 778.23 Ha

Reconciling the figures, the actual breakup and explanation for variation, as collected from the UA and enclosed at annexure 2, is as follows:

Sl. No.	Project Component	Forest area (in Ha) given by the PCCF, Jharkhand vide Letter No. 3785 dated 26.10.09	Remarks on Figure given by the PCCF, Jharkhand vide Letter No. 3785 dated 26.10.09
1	Mines	668.26	(i) Mines - 668.26 (ii) Area for dip side mines - 35.67

			Sub-Total	668.26	
2	Exploration Drilling	402.01			
3	Road	2.74			
4	Raw coal stockyard	45.69			
5	Temporary Road for Mining and allied activities	32.64			
6	External Dump Safety Zone	23.00			Point No. (4) of page No.2
7	Conveyor Belt (Corridor)	7.00			
A	Total Forest area within & outside lease	1192.79			Point No. (3) of page No.1
B	Total Forest Area within mines including safety zone	1185.79	(i) Total Forest area (ii) Forest area for Conveyor Belt (outside lease) Sub-Total	1192.79 7.00 1,185.79	Point No. (4) of page No.2
C	Total Forest Area within lease proposed for diversion (excluding safety zone)	1174.14	(i) Total Forest area in mines (ii) Safety Zone area in forest Sub-Total (within mines)	1185.79 11.65 1174.14	Point No. (4) of page No.2
D	Total Forest Area outside lease proposed for diversion (Conveyor Belt)	7.00			
E	Total Forest Area proposed for diversion	1181.14		1174.14 + 7.00 = 1181.14	Point No. (8) of page No.2
F	Total Forest Area recommended by PCCT, Jharkhand	778.23	(i) Total forest area proposed for diversion (ii) Exploration Drilling Total Forest area recommended by PCCT	1181.14 (-): 402.91 778.23	Point No. (5) para 2 nd of page No.2

3. Whether proposal involves any construction of buildings (including residential) or not. If yes, details thereof:

As above.

4. Total cost of the project at present rates:

Rs.577.00 crores.

5. Wildlife:

Whether forest area proposed for diversion is important from wildlife point of view or not:

Hazaribagh (W) Division: Animals like elephant, hyena, python, pangolin, wild duck, monitor lizard, chameleon chital are found.

Ramgarh Division: - No.

6. Vegetation:

As per the proposal the density of the forest is as follows.

Hazaribagh (W) Division: 0.5

Rainagar Division: 0.3

Different points in the proposed area have been visited, the details is as follows:

The proposed area mostly falls on hilly tracts, the ranges are found towards south-west, entire west, north, central, and also above southern boundary to some extent, individual hillocks also are found. There are few small small open areas, cultivation lands and hamlets in the entire landscape. The flatter lands mostly occur towards the northern direction, outside the proposed area, where cultivation is mostly practiced, and bigger villages exist. A major road, connecting Ranchi- Patraty- Hazaribagh passes through the area in the middle of the proposed block. The transmission lines of RGGVY pass through the area at many locations.

Towards the S-W side of the entire area, the hill range is taller, on the bigger hill few rock platform and some open flat lands exists else the entire area is covered with trees. The upper storey species are mainly Sal, Mahwa, Parangi, Bargad, Dumar, Kogusm etc. In the middle storey the trees are Sal, Mahwa, Pyar, Kand, Khair, Bel, Palas etc. In the lower storey, the trees are mainly Dudhi Koroya, Kend, Putli, Bhelwa, Dumer, Sal etc. The Mahulan climber is also seen. Sal is the major crop, but many of the Sal trees are in pole stage. We have seen small children with head loads of firewood, also an old lady with fire wood in this portion, which is near to Churwa Tola of Passeriya village. In some areas the white ant mounds are seen.

Towards the North-Western side of the proposed project, a relatively taller hill is located which is covered with trees on all the slopes and the slope appears to be steep. The tree crop is mixed, the density is good. A flat rock floor is seen on the top from a distance. Except for the rock floor other areas are covered with thick forest.

Towards little east of above taller hillock, another hillock is found which is covered with good forest. However, small -small open rocks and small cliffs could be seen in that hillock. Further North of the small hillock, the flat cultivation land of village Taleswar, Muddih, Koelung etc. are found outside the limit. In that flat cultivation lands big individual trees and small small woodlots are seen from a

distance. Beyond the lease, beyond the flat area and the woodlots, a much bigger hill range exists at far north. Towards the border of the proposed area, relatively less steep lands exist as thin band. One big pond is found outside the proposed area, alongside the earlier mentioned pucca road passing through the proposed area. Otherwise most of the proposed area falls on the hills and hill ranges. From the flat land outside the northern limit, looking at the block we could see many rock floors, but good forest exists between the folds and also on slopes. Except for the open rocks, there are reasonably good vegetations, though most of the crops are coppice Sal, planted Chakundi, or Eucalyptus in bushy stage etc. The forests around the periphery of the proposed lease in the northern side, towards the flat habituated lands are relatively thinner in view of human interference, people are collecting firewood and bamboo etc. from these areas.

Toward the central northern portion another bigger hillock range starts on which trees are found all over. However, small open areas, mainly rock structures, rock protrusions and small grass lands are seen at many portions. Except for these small small open areas, the entire area is covered with trees.

The Central, Western and Northern portion of the proposed project are covered with hillocks, small undulating and sloping valleys exist between the hillocks. A relatively bigger valley, with gentle slope, exists within the Southern and Northern boundary, towards the eastern side.

From central portion the hill range continue towards extreme north east, with one two branching off. On this portion entire area is covered with forest, however there are few open patches, mostly occurring in the central area. In the central portion, on some areas, the tree density appears to be relatively less.

Towards the Central Northern side there are few small hillocks. On some hilltops and hill slopes human habitations like the Chirowa, Indra Toli etc exist. The East-Central side is relatively open, there are many cultivation lands. The hamlets are surrounded by trees. Between the cultivation lands, there are open forest, small woodlots, big individual trees etc. In the cultivation areas, some pond was also found.

The Puserya village is located towards Southern side and most of the village limit is outside the lease limit. The forest and hill ranges continue beyond the village.

Around the periphery, towards the eastern side, small small hillocks and hill ranges continue which are covered with trees.

In the central portion, mostly towards the northern side, some open areas with rock floor are found. The entire area is almost covered with coppice Sal crop. Other bigger trees in the upper storey are Mahwa, Kend, Doka, Pryn, Siddha etc. The middle storey species are mainly Khair, Siddha, Dhaw, Jamun, Kend, Bholwa. In the lower storey Ber, Koreya, Piar, Bantula, Chiraita etc. are found. In this portion Chakandi plantation has been carried out on hill slopes earlier, which now exists. Many big eucalyptus trees are found in the central portion towards northern side. The forest floor is mostly open. Many kuccha roads found in the entire forest patch.

Between the hill ranges in the central portion and the north-eastern boundary, the area is having good soil depth; trees at many places are taller, bigger Mahwa trees are found at many areas. Also big eucalyptus trees are found, the slope is not that steep, rather mild. The soil colour is yellow and soil is covered with grasses. Karonda bushes are found in this area, also Khair trees are found. The other tree composition is similar to the tree composition as mentioned earlier, only Chakandi plantation is not there. Some cultivation lands of Indratoli hamlet, as narrow bands exist in this portion, the paddy have been harvested from the fields.

In the central portion, where hamlets occur, there are few cultivation lands occur on the hill slopes or hill folds and around those cultivation lands good forest exists. Around the village and on the lands of cultivation lands many Mahwa trees are found, Sal trees as small woodlots, are also found in the village areas. Kend is another important species found near the villages. Except for the small cultivation fields and open areas, the entire landscape is covered with trees, near to the villages there are more number of bigger individual trees, mostly Mahwa. In the Indratoli village we saw a middle school, Anganwari Kendra.

Towards the north eastern corner, the hill is not that steep, again the forest is mixed, the crop are mainly Mahwa, kend, sal, asan, siddha, bahra etc. Sal is the major crop though mostly in coppice form. Agricultural fields are found at many places. On the ground, we found a lot of round quartz pebble

mixed with soil.

Total number of trees to be felled.

Hazaribagh (W) Division: 1.02 lakh number of trees.

Ramgarh Division: 169 number of trees.

Effect of removal of trees on the general ecosystem in the area:

It will adversely affect the ecosystem.

(b) Important species:

Hazaribagh (W) Division: Mango, Asau, Awanla, Bhejwa, Bel, Doka, Khair, Karam, Kercha, Kusum, Mahua, Neem, Pym, Papal, Paras, Sidha, etc.

Ramgarh Division: - Bargul, Bhejwa, Kendu, khair, Mahua, Palash, Ratangaura, Rohini, Sal, Sidha, etc.

Number of trees of girth below 60 cm.

Hazaribagh (W) Division: 91,747 number of trees

Ramgarh Division: - 159 number of trees

Number of trees of girth above 60 cm.

Hazaribagh (W) Division: 10253 number of trees

Ramgarh Division: - 10 number of trees

7. Background note on the proposal:

Rohne coal block in the State of Jharkhand has been allocated by Ministry of Coal, Government of India vide letter No. 38011/4/2006 CA- I dt. 5.06.2008 to M/s JSW Steel Limited, M/s Bhushan Power & Steel Limited and M/s Jal Balaji Industries Limited for meeting their proportionate share of requirement of Coal. A joint venture company has been formed by these companies namely "Rohne Coal Company Private Limited" and has already been registered.

The topography of the block is hilly and rugged. The ground in general slopes towards North, North West & West. The area is dissected by number of seasonal streams originating from the adjoining metamorphic terrain occupying the higher elevation. During rainy season they discharge their load into Badmahi River which is an important tributary of Maharo River, ultimately meets Damodar River at Bunde block. Damodar river is flowing West to East on the Southern Side of block at distance of 8 – 10 km away.

All the coal seams falling within the area are medium coking coal, though substantial reserves fall under ungraded category as ash percentage is higher than 35%.

The bulk of the OB rocks are represented by sandstone and shale followed by the interstratified varieties, carbonaceous shale and covered by soil.

The life of the mine is 28 years.

8. Compensatory afforestation:

As per the PCCF, Jharkhand, 1019.76 ha of Gair Majurba-Khas land have been made available by the DC, Gumla.

The PCCF also informed that once the 778.23 of land is identified, site specific CA scheme can be possible.

The CA site under Gumla division at Chhotakatra (Plot No- 796) and Hassari (Plot No. 797) were visited. Both the plots were at the foothills, near to some hutments of village Chotakatra. The adjacent hill is having reasonably good vegetation on non-rocky areas. Few big trees occur in this hill where soil depth is more towards upper side of the hill. Sal forest exists in some portions.

The foothill over which CA area has been selected, is having trees of Mango, Karanj, Phutkal, etc. here and there. Most of the CA area is without vegetation except for bushes and weed like Lantana. Few hutments exist nearby.

During the discussion in the field, the local Range Officer informed that some land from the above area has been declared as forest land and are under the ownership of the forest department, so these lands shouldn't be accounted. The DTO, while taking over the CA land, should ensure that none of the land is notified as forest and subsequently mutated in favour of State Forest Department. As per PCCF 1019.76 ha of land has been made available out of which 778.23 ha of area need to be finalized.

(a) **Whether land for compensatory afforestation is suitable from plantation and management point of view or not:**

Yes

(b) **Whether land for compensatory afforestation is free from encroachment/other encumbrances:**

Encroachment not reported.

(c) **Whether land for compensatory afforestation is important from Religious/Archaeological point of view:**

Not reported

(d) **Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not:**

The PCCF also informed that all the 778.23 of land is yet to be identified.

(e) **Map with details:**

All the lands have not been fully identified.

(f) **Total financial outlay:**

Rs. 6,67,75,128.00 as per the scheduled rate. The site specific CA scheme is yet to be prepared.

9. **Whether proposal involves violation of Forest (Conservation) Act, 1980 or not. If yes, a detailed report on violation including action taken against the concerned officials:**

Work has not started.
No violation reported.

10. **Whether proposal involves rehabilitation of displaced persons. If yes, whether rehabilitation plan has been prepared by the State Government or not :**

Total 109 families to be displaced out of which SC-02 and ST-107 families. The comparative rehabilitation plan, as collected from the L.A is enclosed at annexure-3.

11. **Reclamation plan:**

Enclosed in the proposal. The details collected from the user agency are enclosed at annexure 4.

Details and financial allocation:

Rs.576.00 lakhs

12. **Details on catchment and command area under the project:**

Not applicable.

Catchment area treatment plan to prevent siltation of reservoir:

Not applicable.

13. **Cost benefit ratio:**

34.38:1

14. **Recommendations of the Principal Chief Conservator of Forests/State Government:**

Yes. The PCCF has recommended the proposal.

15. **Recommendations of Chief Conservator of Forests (Central) along with detailed reasons:**

Annexed separately

16. **Dy. Conservator of Forests shall give detailed comments on whether there are any alternative routes/alignment for locating the project on the non-forest land:**

Mining is site specific.

17. **Utility of the project:**

Numbers of Scheduled Caste/Scheduled Tribes to be benefited by the project:

About 873 persons directly and 2000 persons indirectly be benefited.

18.

(a) **Whether land being diverted has any socio-cultural/ religious value:**

Not reported.

(b) **Whether any sacred grove or very old growth trees/forests exist in the areas proposed for diversion:**

Not reported.

(c) **Whether the land under diversion forms part of any unique eco-system:**

No.

19. **Situation with respect to any Protected Area:**

Hazaribag WLS is around 50 Kms away

20. **Any other information relating to the project:**

1. Managing Hazaribag-Patratu Ranchi road at the Central part- A road, connecting Hazaribag-Patratu-Ranchi almost cut the entire block into two parts. In the proposal, no safety zone has been prepared for this major road, and also no road diversion has been proposed. There should be plan for the management of this road so that traffic is not disturbed. The UA has informed that in the initial period there will be no diversion of this road, the road will be coming under mining later. In the meantime, they will develop alternate road over the already reclaimed area, the information received by the UA on the issue is enclosed at annexure-5.
2. Top soil storage - In the proposal there is no component for the top soil storage and its management. The same should be shown separately. As per the mining plan, the top soil will be stored alongside the main dump, however, the same has not been shown in the purpose wise

break-up. The area for the top soil storage should be earmarked from the beginning and should be maintained in the active form. Since, the backfilling starts quite early, there is scope to use the top soil early, the soil should be remained in the active form, and should be utilized quickly after giving the proper land shape to the reclaimed area. The information on top soil, as collected from the user agency, is enclosed at annexure-6.

3. Re-handling of External Over burden dump & Final Land form- The U.A has planned for 30 ha of area as external dump, and at the end of the mine life the OB dump will remain over which plantation will be carried out. The concept is good, but the best reclamation is the reclamation which gives land an appropriate shape, easily negotiable by wild animals, over which food and water are available; and the best land form is the land with gentle slope. In the coal mine areas, almost all the external OB dumps have poor vegetation over it, and some portion of the artificial hillocks formed due OB dump are unstable, gully erosion is severe. Under these circumstances, it is better that the external OB should be re-handled quickly, and the entire volume should be brought back into the de-coaled area, and after compaction of the soil and addition of nutrients and good soil, trees suitable and natural to the area should be planted over the land.

Again, the final land shape shouldn't have unnecessary undulations, unstable denuded hillocks due to accumulation of mine materials; rather the whole land form should be given very gentle slope, forest plantation comprising of species of the locality including transplantation of trees, should be created over it. Small water bodies with gentle slope to the water body should be created for the use of wildlife.

4. Transplanting of trees- During my visit to M/s Sacada Mines, in Barbil, Orissa, it has been noticed that transplantation of Sal has been carried out in a mini-scale, around 100 young trees have been transplanted. This concept should be adopted in all the mines, there should be effort to transplant all the trees in the mined out areas except for very old and diseased trees. Instead of going for total felling of trees over the entire area, trees should be felled in phases, de-coaled portion should be created, and over it trees should be transplanted after giving the land a proper shape. In this way a good forest can be created at an earliest; the mortality of the trees can be supplemented through gap planting.
5. Mine Reclamation Research Centre- There will be extensive coal mining in the Hazaribag and Ramgarh district, and extensive coal mining is going on in districts like Bokaro, Ramgarh, Dhanbad, Godda and Pakur etc. in the state of Jharkhand. The reclamation, and returning the land to the mother nature in the best shape has taken a back seat, may be regional planning is not there, people are not that motivated, most importantly proper knowledge is not getting disseminated to the stakeholders. The species so planted in the mines are mainly acacia, Chukundi type of species, the natural Sal forests are getting vanished, not getting recreated, in its place these less productive woodlots are getting created. Also there is lack of co-ordination between the different mines regarding regional planning. In view of such a large scale mining, existing and up coming mines include, there is the extreme urgency to oversee the reclamation process from the forestry and wildlife angle by a state as well as centre, there should be concrete suggestion in place for plantation, reclamation in the regional level, connectivity between forests, ground water recharging etc. As on today, the DFOs are ill equipped and overstretched to oversee the mine reclamation works, their own knowledge on mining is

limited. An institute linked to the eminent institutes like the Wildlife Institute of India, Dehradun, ICFRE Dehradun and its research centres, Indian School of Mines, Dhanbad, IIT, Kharagpur, IIT, Benars, Botanical Survey of India and any other reputed organizations should be created to look into the mine reclamation at the regional level.

6. Soil and water conservation- The Jharkhand state, of late, is getting less rainfall; many of the areas are declared as drought areas. Hazaribag is constantly getting less and less rainfall. Now, with likely reduction of forest cover in this district in view of large number of coal mines coming to this district, there will be less retention of water in the forest areas, resulting in water scarcity during the lean period. Also, almost all the mines will be drawing water from the ground, there will be stress on the ground water, the greenery will be affected, the wildlife will be the worst sufferer, and they may not get sufficient water. To overcome this kind of extreme situations, it is necessary that the ground water table be increased through creation of series of water conservation structures, not in the mines only, but also on government lands available in the vicinity and far areas. The farmers and individuals, who are interested for water harvesting structures, should be encouraged. All the industrial and mining units should proportionately contribute, most importantly, the entire mass of the district should be divided between the mining and industrial units for creation and maintenance of such structures.

In the forest areas, there should be good water harvesting structures which can ensure proper water availability to the wild life during the lean period. If necessary artificial water holes should be created and during very dry period, water should be provided through tankers, or from ground water.

7. Area to be used for exploration drilling - 420.00 ha of land will be reserved for exploratory drilling; the trees there on should be preserved, the UA should take steps for ranching the forest in this area, including protection as per the advice of the forest department.
8. Opening of coal depot for the common people - The common people, though many brand them stealers of natural coal from forest areas, but many are actually using the coal available from the jungle areas for their domestic purpose; though organized gangs are directing much part of these illegal coals for industrial use in many occasions. But a portion of this coal definitely is meeting the needs of the local people, though many term the collection as illegal. With opening of the new mines, these sources will be dried up; the commoners will look at the forest for the source of energy, which will reduce the forest coverage. So there should be efforts to supply coal to the common people too, instead of using the entire volume for the industrial use.
9. Woodlot creation: - The forest, particularly around the villages are stressed due to human pressure. We have noticed small children, also very old body with fire wood from the forest. There is definitely need of the small timber and firewood in the villages, the reasons of course are increased population, but another reason is that the small woodlots in the villages are turning to cultivation areas through encroachment. Improper land record is one reason for people coming to the woodlot areas increasingly. It is highly needed that the government lands in and around the industrial units, including the mines, should be properly recorded and these areas should be brought under greenery, so that common people will not depend on good forest for their daily small timber needs. The road side plantation is of course one effort, but much

higher effort is needed.

10. Dip side mining: The dip side mining appears to be not necessary at present, which will result in large scale removal of OD, due to higher depth of the coal seam. Rather, this area should be preserved, in future, in case the additional area kept for exploratory drilling is allowed for coal mining, then this area should be opened up along with the new area. This area should be opened up only towards the end of the mine life.
11. Large scale up-coming mining in Hazaribag: The PCCF Jharkhand informed in the covering letter that the picture about the extent of mining in the North Karampura coal field is not clear in view of non availability of allotment of coal blocks by the Ministry of Coal, so the extent of area affected due to such large scale mining is not possible to be accounted. However, as per the map enclosed in the proposal, it is clear that a huge chunk of forest land between south-east of Barkagaon, Barkagaon and Tandwa will be affected due to such extensive coal mining. It is necessary to develop the infrastructure facilities for coal evacuation. The road transportation should be totally done away with, even the transportation to the rail siding should be through closed conveyor belt, not by truck transportation. This truck transportation has ruined the road, at many places, the environment and social hazards are noticeable at many places in Bokaro and Dhanbad districts. Since large scale mining is going to happen, there should be a comprehensive Wildlife Management plan for the entire Hazaribag area.
12. Forest Connectivity:- In view of large scale mining coming to the Hazaribag sector, there should be plan in place for the connectivity between bigger chunks of forests in Hazaribag and adjacent districts of the Jharkhand state as well as areas in Bihar, with an aim to maintain corridor for the wild animals, protecting the gene pool and maintaining the bio-diversity. Also, it is required to preserve the biodiversity of the area, the knowledge of the bio-diversity is a necessity, for which study should be made, reputed organizations, including the Wildlife Institute of India should be involved in study of biodiversity, its preservation and maintenance.
13. Compensatory Afforestation:- The CA sites are selected in the Gumla district, in deep interior areas, where the Naxal activities are at the peak. The government officials, as understood during the time of visit, many a times fails to go for duty in view of Naxal fear. Also, at present the field staffs of the Jharkhand forest department, like forest guards and foresters and range officers are averaging 55 years of age. I have not seen young forest guards and foresters. Under these circumstances, with the age mobility reduces which is the biggest limitation, and plantation is a field job where regular movement is required, the forestry plantation is bound to be affected. Also, the forest department is having inadequate number of staffs, again, most of the staffs are busy in NAREGA works, hardly they have the time and space for effective plantations in the field. Under these scenario to make a more effective plantation, what is most important is a good plantation in the field, it will be probably a good idea to start planting only in the non-forest areas through user agency if the CA area is bigger, say more than 100 Ha, a big area is easy to manage, less areas should be created by the forest department or the local Gram Panchayats; then the success rate will be better. If the UA take up a plantation, then they should be given a time frame to create a plantation, failing which the further permission should be withheld. All the UA should understand his responsibility towards forest and wildlife conservation.

14. Conveyor Belt system:- The UA has planned for closed conveyor belt mode of transport of coal from the mine to railways siding at Maishrahi Morlia, around 9 kms away from the mine. As per the information provided by the UA, enclosed at annexure-7, there will not be any track or any other mode of transportation of coal, only by closed conveyor belt system. At present, as per the information, the railways line exists at a place around 12 km away, so another 3-4 kms of railways line needs to be laid on the ground. Since the entire transportation will be by road only, the UA should not be allowed to transport coal by road.



(A. K. BISWAL)
CONSERVATOR OF FORESTS (C)

RECOMMENDATION OF CHIEF CONSERVATOR OF FORESTS (CENTRAL)

The forest diversion proposal for 778.23 ha for coal mining in favour of M/s Rohne Coal Company Private Limited in Hazaribagh (W) Forest Division received from State Government of Jharkhand is forwarded with the site inspection report of CF (Central) along with the observations on the following issues:

1. Proposed area with 0.5 tree density: Apart from 1.2 ha forest land proposed in Ramgarh Forest Division, the rest of the proposed area in Hazaribagh Forest Division have fairly dense forest having 0.5 density which shall be affected by this project.
2. Lack of infrastructure for coal evacuation: The PCCF, Jharkhand has expressed concern (available at Page-21-C) over the upcoming large scale coal mining in the North Karanpura coalfields, which shall further deteriorate the roads and other infrastructure, which are already in a very poor state in the area.

Evacuation route for the proposed mine is non-existent at present which is proposed to be developed by using pipe conveyor system with railway siding proposed at Misra Mohra i.e. 8 km from mine site. User agency has also proposed 3.2 km construction of new railway line from Ashageoria up to which railway line is existing now, which may take some time for creation of said infrastructure. Considering the possible congestion and pollution caused by road transport, the coal block may not be allowed to be opened till the infrastructure for evacuation is installed. The transport should be permitted only by closed conveyer pipeline upto railway siding and from there through railways. The wagons should be covered with tarpaulin during journey.

3. Need for study to maintain Forest Connectivity: In view of large scale mining coming to the Hazaribagh sector, there should be an over all planning for maintaining the connectivity between bigger chunks of forests in Hazaribagh and adjacent districts of Jharkhand state as well as areas in Bihar to maintain corridor for wildlife movements which is essential for their survival and maintenance of biodiversity. Reputed organizations, including the Wildlife Institute of India may be involved for study of biodiversity of the area and its preservation with respect to upcoming mining disturbances.

4. Resettlement issue: 109 families are going to be affected and shall be resettled due to the proposed mine. Perusal of resettlement plan (available at Page-92 Annexure-xi of DP) shows that due care in surveying/selecting the site for resettlement is not taken for example, the water scarcity is already existing in the selected site which shall further deteriorate after the settlement of additional population, which was not examined.

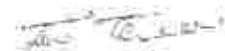
5. Re-examining the fuel and fodder need of the local inhabitants: Site Inspection Report states that local people have been depending upon these coal rich areas for fuel and the standing forests for small wood and fodder need.

In addition to the creation of wood lots in the surrounding / village areas, the user agency may open subsidized gas supply to cater to the stifled fuel requirement as a social responsibility and a token offer to the marginalized stakeholders. This should be treated as a joint responsibility of all the new coal mines coming in the area within a radius of 5 km from the outer boundary of coal field.

6. Cost benefit analysis also needs correction (available at Page-26, Annexure-I of DP). The mine closure cost has not been taken for analysis and several other factors like opportunity cost of fodder loss, fuel loss etc. has been highly under-estimated, thereby magnifying the benefit, which requires to be corrected/explained. Benefit side has also been highly magnified.

7. Reclamation and Final land use plan: It appears that the project proponent needs to re-examine the mine closure/reclamation plan (Available at Page-95 Annexure-xi) of DP) for revised post mine land use proposition properly, utilizing the dumps for retrieval of land, so that the final land use should aim at maximum land utilisation, maintaining connectivity with the surrounding chunks of forests for optimum benefit of nature including wildlife and human-being, which need to be visualized and planned from the beginning of mining. Since the present mine is only a small part of the several more coal blocks being developed, the master plan of the area, my note on the mining in coal field may also be examined for taking decision in an integrated manner.

With the above note along with the observations of CF (Central) in his site inspection report, the 778.23 ha forest diversion proposal of Govt. of Jharkhand is forwarded with recommendation for consideration by the FAG/Ministry.



(J.K. TEWARI)
CHIEF CONSERVATOR OF FORESTS (CENTRAL)

Note on coal mining related issues

In my view, infrastructure development is a pre-requisite before opening individual coal mining blocks in large coal fields such as Talcher, Ib Valley and North Karanpura. Appropriate rail linkages must be established for evacuation of coal from the mines. It involves rail linkages within the coalfields and also to distant destinations like Maharashtra, Gujarat, UP, Uttaranchal etc. as many of the routes are already over loaded and may require additional line considering the huge quantity of coal transport. From the mine site, coal can be transported to railway siding preferably through a closed conveyer pipe line. In case of large and medium power plants and other industries at pit head, transport by closed conveyer pipe line only should be permitted.

If the railway linkages are not developed in advance, the user agency will try to transport maximum possible quantity through the road network which should be totally banned on environmental considerations. The number of new coal blocks already allotted in Orissa is 63, West Bengal - 31 and Jharkhand - 74. It is understood that quantity of coal planned to be transported from Machhakuta, Mahanadi and Chhendipada 1 & 2 (from Talcher coalfields in Orissa) which are allotted to Maharashtra, Gujarat and UP including Uttaranchal will be to the tune of 120 MT/annum when fully operational in 10 years. This gives an idea of the quantity of coal to be mined and transported in future from various coalfields. It may be seen that in Joda and Barbil area, which require evacuation of iron ore to the tune of around 25-30 million tonnes/annum, day time traffic is possible only because during day time there is a complete ban on the movement of ore by the District administration, but during night time it is very difficult to move on the road except by iron ore laden trucks. The coal is much lighter than iron, hence will require much more space. The development of infrastructure for such a huge quantity would require dedicated rail and road corridors which obviously

will take quite a long time. The opening of mines should be linked to the development of railway infrastructure.

2. Strategic environmental planning needs to be done for all the major coalfields such as Talcher, Ib Valley, North Karanpura, Raniganj etc. It should take into account cumulative impact of entire pollution load due to various mines and suggest mitigative measures accordingly.
3. Individual EIA study should take into account incremental pollution load and mitigative action may be taken accordingly. Directions/guidelines of regional EIA/EMP will be fully incorporated in the individual EIA/EMP.
4. Mine Closure Plan: It refers to land use plan after the mines are closed, but also includes land use plan for the portion of the mines which may be reclaimed or closed during the operation of mine. The ultimate land use plan should be described in detail even before opening the mine and carefully monitored during the operation of the mine as the concurrent back filling operation should be in line with the mine closure plan. Since it is a long term perspective planning, it is possible that the priorities may change over the time. Such changes with due approval can be incorporated in the mine closure plan as and when required and implemented during the course of mining. Ultimate objective is that in no way the productivity of the land can be compromised and future generations should not be allowed to suffer. A good mine closure plan may achieve following objectives :-
 - (a) National Food Security: Almost all the coal mines have sufficient soil and sub-soil depth and if this is preserved properly and kept as sweet soil, keeping the biological productivity intact by providing green cover (i.e. planting grass and creepers) during time of storage, it would suffice for reclaiming major portion of the mined out area, with a quality so as to have sustainable agriculture and part of the area for horticulture and

forestry purposes. The coal mines always leave a water body which can be used for drinking and irrigation purposes. Considering the large area under various mines, it would significantly contribute to the national food security of the nation.

For this purpose, preservation of top soil and sub-soil is extremely important. At present the condition for top soil preservation is being stipulated, but not observed anywhere except in so called old Australian mine (Ashoka-Piperwar) when Australians were supervising the work, but not after they left. Preservation and proper utilisation of top soil and sub-soil is key to good reclamation and essential for maintaining sustainable productive capacity of the land.

(b) Wildlife Management Issues: Proper regional planning for opening and closure of mines will ensure that wild life habitats are not fragmented and corridors are always kept intact. In case of extreme necessity, a new corridor can be established in nearby area before closing the old corridor. The water bodies should be developed in a way so that wildlife can access it safely.

(c) R & R Issues: If proper mine closure plan is prepared and implemented, the reclaimed mine sites or/and non-mineralised area can be used for resettlement of the displaced people easily. The availability of water body, sustainable agricultural land, good horticulture area make the closed mine area suitable for rehabilitation of the people.

I may emphasise that the quality of reclamation by the coal mines is very poor and some of the reclaimed sites are devoid of vegetation and sometimes burning naturally due to presence of coal/carbonaceous shale. The closed mine of Basundhara (East) OCP of MCL is a living example.

Recently a good beginning has been made and as per the coal mining guidelines dated 27th August, 2009 issued by the Ministry of Coal, the user agency will deposit Rs. 6 lakhs/ha for open cast mine and Rs. 1 lakh/ ha for underground mine in escrow account and the said amount will be released @ 20% per year during last four years of the life of the mine for mine closure. Actual implementation of the said order is not known to this office. But invariably present day mine closure plan provides only for plantation after back filling and is very sketchy in nature. It also provides for a water body which naturally is cost saving for the user agency.

5. Cost Benefit (CB) Analysis: CB analysis is pure manipulation of figures to show improbable high level of profits. On the cost side, the figures are depressed and losses on account of agriculture, animal husbandry, fodder etc. are either totally ignored or highly discounted values are given. On the benefit side, highly inflated values are shown which includes not only the value of the product, sale tax, excise duty, royalty etc. but also the wages given to the labourer, cost of rehabilitation of displaced persons as different from the compensatory amount given for the displacement, cost of supply of free fuel wood to the labourers etc. It may be appreciated that wages given to the labourer etc. should go towards cost side and not towards the beneficial side. In fact, cost of Chattibariatu Coal mining project will be approximately Rs. 200/ton more than the price of the linked coal from Coal India Ltd. But CB ratio is shown as 1:11.8. At times, due to high cost of mining, it is very difficult for the coal mining project authorities to earmark higher funding for environmental related activities as the project itself may become non-viable.
6. There is vast opportunity to develop open cast mines to extract coal from the upper seams in the Raniganj-Assansol-Jharia coal belt areas where underground mining has either been completed or existing UG mines are producing far less than the desired productivity. Systematic and large coal mining OCPs in BCCL and ECL areas will help in reducing the social and environmental impact as follows:

- a. The human population living in these areas on a high pollution environment could be re-located and re-settled in other areas having good environment and other infrastructure.
 - b. The OCPs will help reducing incidences of fire in these areas.
 - c. Once coal is taken out, the area can be reclaimed for a better post-mining land use i.e. agriculture, fisheries, forests or eco-tourism.
 - d. The consumers will get better quality of coal than present quality being supplied from MCL and CCL.
 - e. The projects of SonopurBazari OCP, Sarsathali OCP and Tara East and West OCP in ECL and Block-II OCP in BCCL for example are producing far better quantity of coal than the existing non-viable underground projects. It is understood that Tara East mine now has a targeted production of 4 MTPY which was opened by a joint venture company of WBPLD and Bengal EMTA and was water logged and was not in operation since long.
7. Over burden dumps are created with very steep slopes resulting in continuous erosion along the slopes and therefore devoid of vegetation. Due to poor reclamation, top of the dumps support only few hardy species.
8. (a) Most of the coal blocks are adjoining/very close to forest areas therefore, their resettlement is likely to create problems as the number of affected people is very high. It is possible that a significant number of people may take refuge in the forests causing additional burden on the forests and environment. Therefore, a bio-data with photograph of all the affected people should be prepared and hard and soft copies should be kept under the safe custody for monitoring. A group of social scientists should be engaged for each coalfields to monitor and document the effect of coal mining on affected population. Similarly a

group of ecologists should be engaged to monitor and document the effect of coal mining and displacement of people on the forests.

(b). Due to enhanced activities, a lot of people from outside will migrate to the locality and effect of their migration on the forests should also be monitored and documented by the above sociologists and ecologists groups.

(c) Entire forest area outside the coal block should be surveyed through DGPS, demarcated before opening the mine and monitored to ensure that no encroachment takes place. The demarcation pillars should be planted at every 30 meters spacement.

9. Before allotment, a quick biological resource survey should be done by the reputed institutes like ZSI, BSI etc. and base line data prepared and changes should be closely monitored and appropriate mitigative steps taken. Appropriate action should be taken to conserve the important germ plasm of the coalfields before opening the mine. Present EIA/EMP reports are mostly tailor made and many times cut and paste arrangements

10. The old abandoned mining projects should be identified, reclamation plan made and the land should be restored to such an extent that original land use or environmentally compatible land use may be created.

11. It is worth considering to create an "Eco-restoration Authority" for coalfields with all financial autonomy and technical and physical infrastructure be created at the cost of the coal mining projects. This authority should be supervised jointly by the Ministry of Environment and Forests and the Ministry of Coal. The idea of regional reclamation plan may also be examined and feasibility explored.

12. The R & D expenses of the Coal India Ltd. are very meagre. As per the annual plan 2010-11 of the Ministry of Coal, Govt. of India, the total amount spent by the Coal India Ltd. including all subsidiary companies was only Rs. 14.04 crores which is too small an amount considering the size of CIL and its subsidiary companies. MCL has not financed any R & D projects at all. All the research projects pertain to production related items, but none of the R & D projects relate to eco-restoration activities. As a responsible corporate body, CIL must finance R & D projects for eco-restoration activities so that mined out areas can be sustainably restored without compromising on the productivity of the land as compared to its pre-mining status.

The above points may be considered and appropriate view may be taken.



(J.K. TEWARI)
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