

**Site Inspection Report in respect of diversion of 169.1779 ha of forest land for Diversion of Utkal –E block Coal mines of in favour of NALCO in Angul District of Odisha.**

This project was monitored by me on 13.01.2021 along with GM (Environment) Shri K.K. Panda as well as officers of Keonjhar Forest Division and other subordinates. The SIR has been prepared as per the proposal, information provided by the UA during site visit as well as available records.

<b>1.</b>	<b>Legal status of the forest land proposed for diversion:</b>																															
	The entire forest land of 169.1779 ha comes within the Angul Forest Division. The break up is as follows.																															
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<b>3.</b>	<b>Whether proposal involves any construction of buildings (including residential) or not. If yes, details thereof:</b>																															
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<b>4.</b>	<b>Total cost of the project at present rates:</b>																															
	The total cost of the project is Rs. 3443.02 Lakhs.																															
<b>5.</b>	<b><u>Wildlife:</u></b>																															
	<b>Whether forest area proposed for diversion is important from wildlife point of view or not:</b>																															
	The area does not form part of any National Park/Sanctuary/Biosphere reserve. It also does not come under any recognized wild life corridor.																															

6.	<b>Vegetation:</b> The area represents degraded forests of Tropical Moist Deciduous Forests with canopy density of 0.4 eco value Class-0.4. The area is dominated by Sal.																								
(a)	<p><b>Total number of trees to be felled.</b></p> <p>Total 13,729 nos. of trees will be felled in the whole area. The number of trees to be felled is as per sample enumeration carried out over the area on sample plots of 2ha each. Tree enumeration not carried out over non-forest land and shall be carried out after Stage-I by the UA.</p>																								
	<p><b>Effect of removal of trees on the general ecosystem in the area:</b></p> <p>The removal of trees shall have an impact on soil erosion of the area.</p>																								
(b)	<p><b>Important species:</b></p> <p>The area consists of vegetation of dry deciduous species like Sal (<i>Shorea robusta</i>), Barabakulia (<i>Dalbergia paniculata</i>), Char (<i>Buchnanian lanzan</i>), Asan (<i>Terminalia tomentosa</i>), Mahula (<i>Madhuca indica</i>), Dhaura (<i>Anogeissus latifolia</i>), Rohini (<i>Soyamida febrifuga</i>), Bela (<i>Aegle marmelos</i>), Hairda (<i>Terminalia chebula</i>), Jamun (<i>Syzigium cumini</i>), Khakada (<i>Casearia elliptica</i>), Mai (<i>Lannea cormoandelica</i>), Halanda (<i>Haldinia cordifolia</i>), Bahada (<i>Terminalia belerica</i>), Neem (<i>Azadirachta indica</i>) and Kendu (<i>Diospyrus melonxylon</i>) and other miscellaneous species with crop density of around 0.4.</p>																								
	<p><b>Number of trees of girth below 60 cm.</b></p> <p>1. 8130</p>																								
	<p><b>Number of trees of girth above 60 cm.</b></p> <p>2. 5599</p>																								
7.	<p><b>Background note on the proposal:</b></p> <p>M/s NALCO is operating a multi-locational Bauxite Mines – Alumina Complex along with the CPP, in the State of Odisha. The plant was commissioned in 1987. A major expansion programme (1<sup>st</sup> Phase) was started in 1997/1998 and the same has already been completed by the end of 2003.</p> <p>The plant capacity and location of various units of the complex after Phase-I expansion are given below:</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Bauxite (MT)</th> <th>Alumina Hydrate (MT)</th> <th>Aluminium (MT)</th> <th>Thermal Power (MU)</th> <th>Wind Power (MU)</th> </tr> </thead> <tbody> <tr> <td>2015-16</td> <td>6340142</td> <td>1953000</td> <td>372183</td> <td>5841</td> <td>156</td> </tr> <tr> <td>2016-17</td> <td>6825000</td> <td>2100100</td> <td>387422</td> <td>6066</td> <td>198</td> </tr> <tr> <td>2017-18</td> <td>7025109</td> <td>2105500</td> <td>425515</td> <td>6547</td> <td>243</td> </tr> </tbody> </table> <p>A proposal for expansion of NALCO's smelter capacity and allied units have been approved by Govt. of India vide letter dated 26.10.2004. The additional</p>	Year	Bauxite (MT)	Alumina Hydrate (MT)	Aluminium (MT)	Thermal Power (MU)	Wind Power (MU)	2015-16	6340142	1953000	372183	5841	156	2016-17	6825000	2100100	387422	6066	198	2017-18	7025109	2105500	425515	6547	243
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capacities under 2<sup>nd</sup> phase will be as follows:

Mine : 1.50 MMTPY of Bauxite  
Alumina Plant : 525.000 TPY of Alumina  
Smelter Plant : 115.000 TPY of Aluminium  
CPP : 2 x 120 MW Power

The port facilities at Vizag will be marginally augmented to handle additional loads for export of Alumina & import of Caustic soda lye.

Utkal-E Block in Talcher Coalfield has been allotted by Ministry of Coal, Govt. of India to M/s NALCO vide letter No. 47011/7(60)/93-CPA/CPAM/CA dated 27.08.2005.

The coal mine is to be used as the captive source for the expansion of power plant of NALCO in Angul district i.e. 9<sup>th</sup> & 10<sup>th</sup> units of 120 MW each. The grade of coal is expected to be 'G'. The annual requirements of coal will be 2.00 million tonnes at 90% PLF of the power plant.

Utkal –E Block, forming a part of larger Utkal Block lies in the South-central part of the Talcher Coalfield which has not occupied a premier position with its vast extent of 1860 sq. KM, as far as availability of power grade coal is concerned in this part of the country.

On the basis of regional exploration in the south-central part of the coalfield, a potential area about 22 sq. KM named as Utkal Block was identified. Subsequently, the Utkal block was sub-divided into 7 blocks viz. A, B1, B2, C, D, E & F. All these blocks were identified by the Ministry of Coal, Govt. of India for captive mining. Although, regional exploration in larger Utkal block was carried out by Mineral Exploration Corporation Limited at the instance of Central Mine Planning and Design Institute Limited from Feb'84 and detailed exploration by CMPDI commenced in April, 1989, it was only in November, 2003 that Utkal-E block was taken up, independently for detailed exploration by CMPDI after the advice from Ministry of Coal, to explore this block on top priority. Accordingly, CMPDIL deployed one drill from Regional Institute-VI, Singrauli, RI-VI mobilised two of its drilling rigs and started drilling w.e.f. 10.12.2003.

The detailed exploration in Utkal Block was undertaken to make qualitative and quantitative assessment of the coal resources available with a view to establish the quarriable potentialities and firm up the structural set-up. The present investigations were restricted upto to Seam IIA because Seam I, belonging to Karhabari formation, occurs in 3 or more, less than 1 m thick splits and shows impersistent development in nearby blocks.

Utkal-E block is located between Utkal-F block in the west & Utkal-D block, in the east, in the south-central part of Talcher Coalfield. Administratively, it is under the jurisdiction of Chhendipada Tahasil, Angul District. Angul is the nearest

	<p>township and district headquarter located at a distance of about 26 KM from the block towards south-east on NH-42, 10 KM from Tahasil headquarter Jarapara on south-west with an un-metalled road. The block is at a distance of 3 KM from village Raijharan located towards east with metalled road joining Chhendipada to Angul through village Dubamalia. Angul Railway Station is the nearest railway station, is about 26 KM from the block, on Sambalpur-Talcher-Bhubaneswar rail line of South-Eastern Railways. Paradip Port &amp; Biju Pattnaik International Airport are the nearest water &amp; air terminal. The State Capital Bhubaneswar is around 170 KM from the area.</p> <p>Utkal –E block, covering a surface area of 4.60 sq. KM is a rectangular in shape having about 3.5 km length in north-south direction and approximately 1.3 km width in east-west direction.</p> <p>It is reported that the total land involved in this project is 523.7325 ha comprising of 169.1779 ha of forest land (169.0349 ha of Revenue &amp; 0.143 ha of DLC) and 354.5546 ha of non-forest land (132.0581 ha of Govt. non-forest land &amp; 222.4965 ha of private forest land). The project will provide direct employment to 50 numbers of persons and indirect employment to 200 persons.</p>
8.	<p><b><u>Compensatory afforestation:</u></b></p> <p>As reported by the State Govt., 340 ha of degraded forest land has been identified in Barghati RF of Saintala Range under Bolangir Division for raising CA in lieu of the degraded forest land earlier identified in Parjang RF of Angul Forest Division against the 169.1779 ha of forest land proposed to be diverted for Utkal-E block by M/s NALCO. Accordingly, a CA Scheme has been prepared by the DFO, Bolangir Division in ANR module @ 600 plants per ha in the prevailing wage rate of Rs. 303.40 per man day. Further, the financial outlay for CA scheme over an area of 340 ha of degraded forest land identified for CA has been technically approved by the PCCF (FD &amp; NO, FC Act) amounting to Rs. 4,35,63,000/-.</p>
(a)	<p><b>Whether land for compensatory afforestation is suitable from plantation and management point of view or not:</b></p> <p>Yes.</p>
(b)	<p><b>Whether land for compensatory afforestation is free from encroachment/other encumbrances:</b></p> <p>Yes.</p>
(c)	<p><b>Whether land for compensatory afforestation is important from Religious/Archaeological point of view:</b></p> <p>No.</p>
(d)	<p><b>Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not:</b></p> <p>One Patch.</p>

(e)	<b>Map with details:</b>  Enclosed in the proposal.						
(f)	<b>Total financial outlay:</b>  <input type="checkbox"/> 4,35,63,000/-.						
9.	<b>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:</b>  No.						
10.	<b>Whether proposal involves rehabilitation of displaced persons. If yes, whether rehabilitation plan has been prepared by the State Government or not:</b>  A total of 417 number of families have been displaced and 811 numbers of families have been affected due to Utkal-E block Coal Mine project. The R&R Site, for Utkal-E Coal Block displaced families have been identified at Kosala Mouza under Chhendipada Tahasil in Angul District which is about 5 KMs from village Kosala adjacent to State Highway-63 (Angul-Chhendipada) and approx. 1.5 km from the western side of Phuljhari Chhak. The total land for R&R colony measures 67.27 Acres.						
11.	<b>Reclamation plan:</b>  Enclosed in the proposal in Chapter V as well as Chapter XI under Progressive Mine Closure Plan but does not contain details like annual backfilling as well as financial outlay to be made for reclamation.						
	<b>Details and financial allocation:</b>  Please refer to para11.						
12.	<b>Details on catchment and command area under the project:</b>  NA						
	<b>Catchment area treatment plan to prevent siltation of reservoir:</b>  NA						
13.	<b>Cost benefit ratio:</b> <table border="1"> <tr> <td>Total loss per annum due to loss of environment loss, NPV cost, CA, SZ &amp; other mandatory payments.</td> <td><input type="checkbox"/> 3443.02 Lakhs.</td> </tr> <tr> <td>Total benefit to the economy due to annual production of iron ore.</td> <td><input type="checkbox"/> 36448.75 Lakhs</td> </tr> <tr> <td>Hence, the cost benefit ratio of the mining project.</td> <td>1:10.586</td> </tr> </table>	Total loss per annum due to loss of environment loss, NPV cost, CA, SZ & other mandatory payments.	<input type="checkbox"/> 3443.02 Lakhs.	Total benefit to the economy due to annual production of iron ore.	<input type="checkbox"/> 36448.75 Lakhs	Hence, the cost benefit ratio of the mining project.	1:10.586
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14.	<b>Recommendations of the Principal Chief Conservator of Forests/State Government:</b>  Recommended.						

15.	<p><b>Recommendations of Dy. Director General of Forest (Central) along with detailed reasons:</b></p> <p>The area is part of Talcher coal Block. This block is divided into A, B, C, D, E and other blocks. This particular block is allotted to NALCO for its CPP. The UA has not submitted the reclamation plan in details. The reclamation which is dealt in Chapter-5 of the mining plan submitted by CMPDI and approved by Coal India contains details of year wise OB dump generation but does not contain details of area to be backfilled and reclaimed. These details are missing in Progressive mine Closure Plan too. This case is recommended subject to the condition that before final approval the reclamation Plan should be incorporated with backfilling details year wise and financial expenditure to be incurred annually. The revised Mining plan should be submitted before final approval.</p>
16.	<p><b>Dy. Director General of Forests shall give detailed comments on whether there are any alternative routes/alignment for locating the project on the non-forest land:</b></p> <p>This is a mining project and it is site specific.</p>
17.	<p><b>Utility of the project:</b></p>
	<p><b>Numbers of Scheduled Caste/Scheduled Tribes to be benefited by the project:</b></p> <p>NA</p>
18.	
(a)	<p><b>Whether land being diverted has any socio-cultural/ religious value:</b></p> <p>No.</p>
(b)	<p><b>Whether any sacred grove or very old growth trees/forests exist in the areas proposed for diversion:</b></p> <p>No.</p>
(c)	<p><b>Whether the land under diversion forms part of any unique ecosystem:</b></p> <p>No.</p>
19.	<p><b>Situation with respect to any Protected Area:</b></p> <p>NA.</p>
20.	<p><b>Any other information relating to the project:</b></p> <p>No other information is available as on date.</p>

*Subrat Mohapatra*  
18.1.2021

(Subrat Mohapatra, IFS)  
Dy. Director General of Forest (Central)