Abstract of Cost Benefit Analysis for the Project over a 20 year period for Existing/Proposed Approach Road, Downhill Pipe Conveyor, Service Roads, Transmission Line Cable and Water Pipeline for Devadari Iron Ore Mine ML No. over an extent of 5.271 Ha.				
SL. No.	Losses in Crores		Benefits in Crores	
1	Ecosystem Services losses due to proposed forest diversion	1.068874464	Benefit to the Project Proponent	3854.1928
2	Loss of animal husbandry productivity, including loss of fodder	0.106887446	Benefit to Economy	3671.7072
3	Possession value of forest land diverted	0.32	Population benefited due to the specific project	77.083856
4	Habitat Fragmentation Cost	0.53	Benefit to the employees	172.2
	Total Losses	2.03	Total Benefits	7775.18
Cost Benefit Ratio			3828.515104	
			1:3828	

	COST BENEFIT ANALYSIS				
1	Toposheet No	:	57 A/12		
2	Location	:	Swamimalai Block, Sandur South Range, Lakshmipura Village, Sandur Taluk Bellary Division Bellary District		
3	Extent	:	5.271	Ha	
4	Unbroken Area		5.271	Ha	Unbroken up area after Joint Inspection Survey
5	Density of Forest growth	=	0.4		Density of forest/ha
6	**A. Evaluation of Losses**				
7	**I. Ecosystem Services losses due to proposed forest diversion : (Soil erosion, effect on hydrological cycle, wildlife habitat, microclimate upsetting of ecological balance)**				
8	Ecosystem Services losses due to proposed forest diversion	=	10688744.64	Rs.	(Timber value X Forest density/Ha X FC proposed area)/50
9		=	1.068874464	Cr.	
10	**II. Loss of animal husbandry productivity, including loss of fodder**				
11	Loss of animal husbandry productivity, including loss of fodder	=	0.106887446	Cr.	10 % of the NPV of the forest as per the new guidelines
12	**III. Possession value of forest land diverted**				
13	Possession value of forest land diverted	=	0.320662339	Cr.	30 % of environmental costs (NPV) due to loss of forest or circle as per the new guidelines
14	**IV. Habitat Fragmentation Cost**				
15	Habitat Fragmentation Cost	=	0.534437232	Cr.	50 % of the environmental cost (NPV) as a thumb rule as per the new guidelines
16	Total losses due to forest driversion		2.030861482	Cr.	
17	**B. Benefits Evaluation**				
18	**I.Benefit to the Project Proponent**				
19	Estimated Iron Ore reserves in forest area	=	23300000	Tonnes	Mineable Reserves - tonnes
20	The cost at which project proponent used to acquire iron ore in the past	=	4000	Rs/Tonne	Average iron ore acquiring and dispatch cost per tonne, taken the source form Orissa & Jharkhand
21	Value of the mineral/tonne @ JSW Steel Plant form this project	=	770	Rs./Tonne	Planthead value of Iron Ore due to this project.
22	Benefit to the project proponent by startig the production in this project	=	75259000000	Rs/Tonne	Benefit*total mineable reserves
23		=	7525.9	Cr.	Total revenue generated if this project is approved by GoI & GoK, as it will allow the ore to be transported to our JSW Steel Plant
24	Deductions to be made to pay various taxes, royalties to DMG, NMET, DMF, FDF after Iron Ore Production	=	3671.7072	Cr.	Certain deduction will have to be made before and post the project functioning
25	Total Benefit to the project proponent	=	3854.1928	Cr.	(Benefits after starting the project - Deductions/Payments to be made to pay various taxes, royalties to the Govt. of Karnataka
26	**II. Benefit to the economy**				
27	Sale price of Iron Ore as per IBM in Karnataka	=	1200	Rs.	As per average % grade = 56.6%
28	Total premium to GoK	=	102.52%	%	To be paid on Dispatch IBM Sale Price
29	DMG Royalty	=	15.00%	%	% of IBM Sale Price
30	DMF	=	10.00%	%	% of DMG Royalty
31			1.500%	%	% of IBM Sale Price
32	NMET	=	2%	%	% of Royalty
33			0.300%	%	% of IBM Sale Price
34	FDF	=	12.000%	%	% of IBM Sale Price
35	Total % Benefit to economy	=	131.32%	%	% of IBM Sale Price
36	Total Benefit to the Economy	=	36717072000	Rs.	All kind of levies including charges by Forest Dept., DMG etc.
37		=	3671.7072	Cr.	
38	**III. Population benefited due to the specific project**				
39	Population benefited due to the specific project	=	77.083856	Cr.	Keeping 2% of the net profit as the benefits to the population (CSR activities)
40	**IV. Total benefit to Employees**	=	172.2	Cr.	
41	**Total Benefit due to the Project**	=	7775.183856	Cr.	
42	**C. Benefit to Cost Ratio**	=	3828.515104		
43	**Cost Benefit Ratio1**	:	**3828**	Ratio	

Cost Benefit Analysis of Existing/Proposed Approach Road, Downhill Pipe Conveyor, Service Roads, Transmission Line Cable and Water Pipeline for Devadari Iron Ore Mine ML No. over an extent of 5.271 Ha.			
1. Applicability of Cost Benefit Analysis			
SNo.	**Nature of Proposal**	**Applicable/ not applicable**	**Remarks**
1.	All categories of proposals involving forest land up to 20 hectares in plains and up to 5 hectares in hills.	Not applicable	These proposals are to be considered on case by case basis and value judgement.
2.	Proposal for defence installation purposes and oil prospecting (prospecting only)	Not applicable	In view of National Priority accorded to these sectors, the proposals would be critically assessed to help ascertain that the utmost minimum forest land above is diverted for non-forest use.
3.	Habitation, establishment of industrial units, tourist lodges/complex and other building construction	Not applicable	These activities being detrimental to protection and conservation of forest, as a matter of policy, such proposals would be rarely entertained.
4.	**All other proposals involving forest land more than 20 hectares in plains and more than 5 ha. in hills including roads, transmission lines, minor, medium and major irrigation projects, hydel projects mining activity, railway lines, location specific installations like micro-wave stations, auto repeater centres, T.V. towers etc.**	**Applicable**	These are cases where a cost-benefit analysis is necessary to determine when diverting the forest land to non-forest use is in the overall public interests.

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2. Evaluation of Loss of Forest

S. No.	Parameters	Mining Project
1.	Ecosystem serrvices losses due to proposed forest diversion	The details of environmental losses are identified as per the given thumb rule for the forest area required for the project are as follows: 1.) Density of the forest: 0.4 2.) Avg. density of the forest land to be diverted: 0.4 3.) Thumb rule for the environment losses per Ha. for density 1.0 over a period of 50 Years (In Lacs): 126.74 Lacs 4.) Environemental loss per Ha. of forest land to be diverted: 0.4×126.74 Lacs: 50.696 Lacs. 5.) Total forest area required to be diverted: 5.271 Ha. 6.) Total Environmental loss due to forest land diversion: 50.696×5.271 Lacs 7.) Total Environmental loss due to forest land diversion: 267.22 Lacs 8.) Total Environmental loss due to forest land diversion per year: 267.22/50 Lacs per year = 5.344 Lacs per year 9.) Total Environmental loss due to forest land diversion for 20 years: 5.344*20 =106.887 Lacs = 1.069 Crores
2.	Loss of animal husbandry productivity, including loss of fodder	10 % of the Net Present Value (environmental services losses) = 0.10*1.069 Crores = 0.1069 Crores
3.	Cost of human resettlement	There is no loss involved on account of human resettlement.
4.	Loss of public facilities and administrative infrastructure (Roads, buildings, schools, dispensaries, electric lines, railway etc) on forest land, or which would require forest land if these facilities were diverted due to the project.	No administrative infrastructure such as roads, buildings, schools, dispenseries, electric line, railway, etc are affected due to diversion of forest land to this project. There will be no loss involved on this account.
5.	Possession Value of forest land diverted	30 % of the Net Present Value (environmental services losses) = 0.30*1.069 Crores = 0.3207 Crores
6.	Cost of suffering to oustees	There will not be any losses on this account as diversion of the forest land to this project will not affect any house or structure.
7.	Habitat Fragmentation Cost	50 % of the Net Present Value (environmental services losses) = 0.50*1.069 Crores = 0.5345 Crores
Total Loss to environment		**2.03 Crores**

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3. Evaluation of the Benefits

SNo.	Parameters	Mining Project
1.	Increase in productivity attributable to the specific project.	1. Total Mineable reserves = 23300000 Tonnes 2. Cost of the iron ore per tonne which the project proponent used to acquire in the past = Rs. 4000 per tonne (at JSW Steel Plant) 3. Estimated Cost of Iron ore if produced by the project proponent = Rs. 250+520 = 770 per tonne (at JSW Steel Plant) 4. Profit to the project proponent after starting this project for 20 years = (4000-770)*23300000 = 7525.9 Cr. 5. Payments to be made against various royalties, taxes to NMET, FDF, DMF and DMG Royalty = 131.32 % on total mineable reserves as per the IBM Sale Price = 3671.7072 Cr. 6. Net benefit to the project proponent for 20 years = 3854.19 Cr.
2.	Benefits to economy due to the specific project	A. Total mineable iron ore reserve = 23300000 Tonnes B. Average Sale price of iron ore as per IBM(Karnataka) = Rs. 1200 per tonne C. i. Premium to GoK =102.52 % . ii. Other Levies DMG Royalty = 15 % of IBM Sale price DMF = 10 % of Royalty(Auctioned Mines) NMET = 02 % of Royalty FDF = 12% of IBM Sale price Grand Total = 131.32% of IBM Sale Price D. Total benefit to econmy of GoK = 3671.70 Cr.
3.	No. of population benefited deu to specifc project	Keeping straight 2% of the net profit in CSR Activities = 0.02*3854.19 = 77.083 Crores
4.	Economic benefits due to the direct and indirect employment due to the project	Total benefit to the employees per annum = 861 Lacs per annum Total Benefit to the employees for 20 years = 172.2 Cr.
	Total Benefit	**7775.18 Cr.**
	Total Loss of the forest: 2.03 Cr	
	Total benefits: 7555.18 Cr.	
	Cost Benefit Ratio: 1: 3828	