

<b>Abstract of Cost Benefit Analysis for the Project over a 20 year period for Rama Iron Ore Mine over an extent of 33.80 Ha.</b>				
SL. No.	Losses		Benefits	
1	Loss of Timber	0.000782	Benefit to the Project Proponent	3839.8323
2	Loss of Fodder	0.00169	Benefit to Economy	4453.4311
3	Losses to Environment	1.71	Benefit to the employees	147.6
4	Total Losses	1.72	Total Benefits	8440.8634
Cost Benefit Ratio		4918.927223		
		1:4918		

**For JSW Steel Ltd.**

**Authorized Signatory**

COST BENEFIT ANALYSIS				
1	Toposheet No	:	57 A/8	
2	Location	:	Ramanamalai Block Reserved Forest, Sandur North Range, Ramgad Village, Sandur Taluk Bellary Division Bellary District	
3	Extent	:	33.8	Ha
4	Unbroken Area		33.8	Ha
5	Total Volume of timber after Tree Enumeration		15.64	Cu. M
6	Tonnage of the Total Timber		15.64	Tonnes
7	Value of Timber		500	Rs
8	Density of Forest growth	=	0.1	Density of forest/ha
9	<b>A. Evaluation of Losses</b>			
10	<b>I. Loss of value of timber, fuelwood and minor forest produce on an annual basis, including loss of man-hours per annum of people who derived livelihood &amp; wages from the harvest of these commodities</b>			
11	Loss of timber	=	7820	Rs.
12	<b>II. Loss of animal husbandry productivity, including loss of fodder</b>			
13	Loss of fodder	=	16900	Rs
14	<b>III. Environmental losses : (Soil erosion, effect on hydrological cycle, wildlife habitat, microclimate upsetting of ecological balance)</b>			
15	Environmental Losses	=	17135248	Rs.
16		=	1.7135248	Cr.
17		=	17159968	Rs.
18	<b>Total Losses</b>	=	1.72	Cr.
19	<b>B. Benefits Evaluation</b>			
20	<b>I. Benefit to the Project Proponent</b>			
21	Estimated Iron Ore reserves in forest area	=	25675738	Tonnes
22	The cost at which project proponent used to acquire iron ore in the past	=	4000	Rs/Tonne
23	Value of the mineral/tonne @ JSW Steel Plant form this project	=	770	Rs./Tonne
24	Benefit to the project proponent by startig the production in this project	=	82932633740	Rs/Tonne
25		=	8293.263374	Cr.
26	Deductions to be made to pay various taxes, royalties to DMG, NMET, DMF, FDF after Iron Ore Production	=	4453.43108	Cr.
27	Total Benefit to the project proponent	=	3839.832294	Cr.
28	<b>II. Benefit to the economy</b>			
29	Sale price of Iron Ore as per IBM in Karnataka	=	1450	Rs.
30	Total premium to GoK	=	90.82%	%
31	DMG Royalty	=	15.00%	%
32		=	10.00%	%
33	DMF	=	1.500%	%
34		=	2%	%
35	NMET	=	0.300%	%
36	FDF	=	12.000%	%
37	Total % Benefit to economy	=	119.62%	%
38	Total Benefit to the Economy	=	44534310804	Rs.
39		=	4453.43108	Cr.
40	<b>III. Total benefit to Employees</b>			
41	Total Benefit due to the Project	=	8440.863374	Cr.
42	<b>C. Benefit to Cost Ratio</b>			
43	<b>Cost Benefit Ratio</b>	=	4918	Ratio

**Cost Benefit Analysis of Rama Iron Ore Mines(Precambrian Iron Ore Mines) M.L. No. 2621 of M/s JSW Steel Ltd., Ballari over an extent of 33.80 Ha.**

**1. Applicability of Cost Benefit Analysis**

<b>SNo.</b>	<b>Nature of Proposal</b>	<b>Applicable/ not applicable</b>	<b>Remarks</b>
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.	Loss of value of timber, fuelwood and minor forest produce on an annual basis, including loss of man-hours per annum of people who derived livelihood & wages from the harvest of these commodities	Value of Timber @Rs. 500 per tonne of timber loss. Total timber loss = Total Volume * Value of Timber Total Timber Loss = 15.64*500 = Rs. 7820
2.	Loss of animal husbandry productivity, including loss of fodder	Fodder loss @5Tonnes per hectatre with a value of Rs. 100 per tonne. Total Fodder loss = 5*33.8*100 = Rs. 16900 There is no loss of animal husbandry productivity.
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, dispenserries, 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.	Environmental losses : (Soil erosion, effect on hydrological cycle, wildlife habitat, microclimate upsetting of ecological balance).	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: 0.1 2.) Avg. density of the forest land to be diverted: 0.1 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: 0.1*126.74 Lacs: 12.674 Lacs. 5.) Total forest area required to be diverted: 33.80 Ha. 6.) Total Environmental loss due to forest land diversion: 12.674*33.80 Lacs 7.) Total Environmental loss due to forest land diversion: 428.38 Lacs 8.) Total Environmental loss due to forest land diversion per year: 428.38/50 Lacs per year = 8.567 Lacs per year 9.) Total Environmental loss due to forest land diversion for 20 years: 8.567*20 =171.35 Lacs = 1.71 Crores
6.	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.
	<b>Total Loss to environment</b>	<b>1.72 Crores</b>

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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 = 25675738 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)*25675738 = 8293.26 Cr. 5. Payments to be made against various royalties, taxes to NMET, FDF, DMF and DMG Royalty = 119.62 % on total mineable reserves as per the IBM Sale Price = 4453.43 Cr. 6. Net benefit to the project proponent for 20 years = 3893.83 Cr.
2.	Benefits to economy	A. Total mineable iron ore reserve = 25675738 Tonnes B. Average Sale price of iron ore as per IBM(Karnataka) = Rs. 1450 per tonne C. i. Premium to GoK = 90.82% . 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 = 119.62% of IBM Sale Price D. Total benefit to econmy of GoK = 3839.83 Cr.
3.	No. of population benefited	1. Population directly benefited = 1200 2. Population benefited indirectly = 1000
4.	Employment potential	Total benefit to the employees per annum = 738 Lacs per annum Total Benefit to the employees for 20 years = 148 Cr.
5.	Cost of acquisition of facility on non-forest land wherever feasible	No such facility is proposed as most of the Infrastrcutre related activities are proposed to be carried out on forest land only.
6.	Loss of (a) agricultural & (b) animal husbandry production due to diversion of forest land	No loss of agricultural and animal husbandry production due to diversion of forest land can be accounted.
7.	Cost of rehabilitating the displaced persons as different from compensatory amounts given for displacement	No such displacement is involved in this project.
8.	Cost of supply of free fuel- wood to workers residing in or near forest area during the period of construction	No such facilities can be provided as the area is already broken up by the erstwhile lessee. No loss of timber
	<b>Total Benefit</b>	<b>8440.86 Cr.</b>
		<b>Total Loss of the forest: 1.72 Cr</b>
		<b>Total benefits: 8440.86 Cr.</b>
		<b>Cost Benefit Ratio: 1: 4918</b>