

Abstract of Cost Benefit Analysis of Bhadra Iron Ore Mine(Bellary Iron Ore Mine) M.L. No. 2365 of M/s JSW Steel Ltd., Ballari over an extent of 130.53 Ha. and an approach road over an extent of 3.05 ha. to link both the blocks/parts of the lease, totaling to 133.58 ha.

SL. No.	Losses in Crores		Benefits in Crores	
1	Loss of Timber	0.00720215	Benefit to the Project Proponent	5722.7834
2	Loss of Fodder	0.006679	Benefit to Economy	3948.9361
3	Losses to Environment	6.77	Benefit to the employees	158.8
4	Total Losses	6.79	Total Benefits	9830.5195
Cost Benefit Ratio			1448.678558	
			1:1448	

For JSW Steel Ltd.

Authorized Signatory

COST BENEFIT ANALYSIS					
1	Toposheet No	:	57 A/12		
2	Location	:	DM Forest, Sandur South Range Sandur Taluk Bellary Division Bellary		
3	Extent	:	133.58	Ha	
4	Unbroken Area		66.78	Ha	Unbroken up area after Joint Inspection Survey
5	Total Volume of timber after Tree Enumeration		144.043	Cu. M	After Tree Enumeration (SUM(Girth*Width))
6	Tonnage of the total timber		144.043	Tonnes	Tonnage after taking the average specific gravity 1.0
7	Value of Timber		500	Rs.	Rs per tonne
8	Density of Forest growth	=	0.1		Density of forest/ha
9	A. Evaluation of Losses				
10	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 & wages				
11	Loss of timber	=	72021.5	Rs.	Total volume of timber X Value of timber
12	II. Loss of animal husbandry productivity, including loss of fodder				
13	Loss of fodder	=	66790	Rs	Quantity of Fodder @ 5T/ Ha., Rs. 100/Tones for 20 years
14	III. Environmental losses : (Soil erosion, effect on hydrological cycle, wildlife habitat, microclimate upsetting of ecological balance)				
15	Environmental Losses	=	67719716.8	Rs.	(Timber value X Forest density/Ha X FC proposed area)/50
16		=	6.77197168	Cr.	
17	Total Losses	=	67858528.3	Rs.	Total Losses in Rs. through out 20 years
18		=	6.79	Cr.	Total Losses in Cr. through out 20 years
19	B. Benefits Evaluation				
20	I. Benefit to the Project Proponent				
21	Estimated Iron Ore reserves in forest area	=	29943404	Tonnes	Mineable Reserves - tonnes
22	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
23	Value of the mineral/tonne @ JSW Steel Plant form this project	=	770	Rs./Tonne	Planthead value of Iron Ore if this project gets started
24	Benefit to the project by starting the production in this project	=	96717194920	Rs./Tonne	Benefit*total mineable reserves
25		=	9671.719492	Cr.	
26	Deductions to be made to pay various taxes, royalties to DMG, NMET, DMF, FDF after Iron Ore Production	=	3948.93612	Cr.	109.90 % of the IBM Sale price (See row no. 37, 38))
27	Total Benefit to the project proponent	=	5722.783372	Cr.	
28	II. Benefit to the economy				
29	Sale price of Iron Ore as per IBM in Karnataka	=	1200	Rs.	As per average % grade = 56.6% (As per Information Memorandum)
30	Total premium to GoK	=	81.10%	%	To be paid on Dispatch IBM Sale Price
31	DMG Royalty	=	15.00%	%	% of IBM Sale Price
32	DMF	=	10.00%	%	% of DMG Royalty
33		=	1.500%	%	% of IBM Sale Price
34	NMET	=	2%	%	% of Royalty
35		=	0.300%	%	% of IBM Sale Price
36	FDF	=	12.000%	%	% of IBM Sale Price
37	Total % Benefit to economy	=	109.90%	%	% of IBM Sale Price
38	Total Benefit to the Economy	=	39489361195	Rs.	All kind of levies including charges by Forest Dept., DMG etc.
39		=	3948.93612	Cr.	
40	III. Total benefit to Employees	=	158.8	Cr.	
41	Total Benefit due to the Project	=	9830.519492	Cr.	
42	C. Benefit to Cost Ratio	=	1448.678558	-	
43	Cost Benefit Ratio	=	1448	-	

Cost Benefit Analysis of Bhadra Iron Ore Mine(Bellary Iron Ore Mine) M.L. No. 2365 of M/s JSW Steel Ltd., Ballari over an extent of 130.53 Ha. and an approach road over an extent of 3.05 ha. to link both the blocks/parts of the lease, totaling to 133.58 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.

Cost Benefit Analysis of Bhadra Iron Ore Mine(Bellary Iron Ore Mine) M.L. No. 2365 of M/s JSW Steel Ltd., Ballari over an extent of 130.53 Ha. and an approach road over an extent of 3.05 ha. to link both the blocks/parts of the lease, totaling to 133.58 ha.

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 = 144.043*500 = Rs. 72021
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*133.58*100 = Rs. 66790 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: 133.58 Ha. 6.) Total Environmental loss due to forest land diversion: 12.674×130.53 Lacs 7.) Total Environmental loss due to forest land diversion: 1692.99 Lacs 8.) Total Environmental loss due to forest land diversion per year: 1692.99/50 Lacs per year = 33.85 Lacs per year 9.) Total Environmental loss due to forest land diversion for 20 years: 33.85*20 =677.20 Lacs = 6.772 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.
	Total Loss to environment	6.79 Crores

Cost Benefit Analysis of Bhadra Iron Ore Mine(Bellary Iron Ore Mine) M.L. No. 2365 of M/s JSW Steel Ltd., Ballari over an extent of 130.53 Ha. and an approach road over an extent of 3.05 ha. to link both the blocks/parts of the lease, totaling to 133.58 ha.

3. Evaluation of the Benefits

SNo.	Parameters	Mining Project
1.	Increase in productivity attributable to the specific project.	<p>1. Total Mineable reserves = 29943404 Tonnes</p> <p>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)</p> <p>3. Estimated Cost of Iron ore if produced by the project proponent = Rs. 250+520 = 770 per tonne (at JSW Steel Plant)</p> <p>4. Profit to the project proponent after starting this project for 20 years = $(4000-770)*25675738 = 9671.71$ Cr.</p> <p>5. Payments to be made against various royalties, taxes to NMET, FDF, DMF and DMG Royalty = 109.90 % on total mineable reserves as per the IBM Sale Price = 3948.94 Cr.</p> <p>6. Net benefit to the project proponent for 20 years = 5722.78 Cr.</p>
2.	Benefits to economy	<p>A. Total mineable iron ore reserve = 29943404 Tonnes</p> <p>B. Average Sale price of iron ore as per IBM(Karnataka) = Rs. 1200 per tonne (Fines)</p> <p>C. i. Premium to GoK -81.10% .</p> <p>ii. Other Levies</p> <p>DMG Royalty = 15 % of IBM Sale price</p> <p>DMF = 10 % of Royalty (For Auctioned Mines)</p> <p>NMET = 02 % of Royalty</p> <p>FDF = 12% of IBM Sale price</p> <p>Grand Total = 109.90% of IBM Sale Price</p> <p>D. Total benefit to econmy of GoK = 3948.93 Cr.</p>
3.	No. of population benefited	<p>1. Population directly benefited = 1200</p> <p>2. Population benefited indirectly = 1000</p>
4.	Employment potential	Total benefit to the employees per annum = 7.94 Lacs per annum
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
	Total Benefit	9830.51 Cr.
	Total Loss of the forest: 6.79 Cr	
	Total benefits: 9830.51 Cr.	
	Cost Benefit Ratio: 1 : 1448	