Cost Benefit Analysis for the Project over a 50 year period for Narasimha Iron Ore Mine (ML.No.2148) of M/s MSPL Limited over an extent of 64.86Ha.

SL. No.	Losses in Crores		Benefits in Crores	
1	Ecosystem Services losses due to proposed forest diversion	32.88	Benefit to the Project Proponent	813.79
2	Loss of animal husbandry productivity, including loss of fodder	3.29	Benefit to Economy	12240.93
3	Possession value of forest land diverted	9.86	Population benefited due to the specific project	16.28
4	Habitat Fragmentation Cost	16.44	Benefit to the employees	101.52
5	Compensatory afforestation & Soil and Moisture conservation Cost	11.48	Economic Benefits due to Compensatory afforestation cost	5.21
	Total Losses	73.95	Total Benefits	13177.72
Cost Benefit Ratio	**1**	:	**178**	

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Cost Benefit Analysis for the Project over a 50 year period for Narasimha Iron Ore Mine of M/s MSPL Limited over an extent of 32.49Ha. (ML Area-60.66 , Road -4.20Ha)

3. Evaluation of the Benefits

SNo.	Parameters	Mining Project
1.	Increase in productivity attributable to the specific project.	1. Total Mineable reserves = 6,01,60,000 Tonnes 2. Cost of the iron ore per tonne which the project proponent used to acquire in the past = Rs.2800 per tonne 3. Estimated Cost of Iron ore if produced by the project proponent = Rs. 2034.73+350+280=2664.73 Per tonne 4. Profit to the project proponent after starting this project for 50 years = (2800-2664.73)*60.16= 813.78Cr. 5. Payments to be made against various royalties, taxes to NMET, FDF, DMF and DMG Royalty = 146.7%on total mineable reserves as per the IBM Sale Price = 12241Cr 6. Net benefit to the project proponent for 50 years = 813.78Cr.
2.	Benefits to economy due to the specific project	A. Total mineable iron ore reserve =6,01,60,000Tonnes B. Average Sales price of iron ore as per IBM(Karnataka)- = Rs 1387 April-21per tonne C. i. Premium to GoK =129.90%. ii. Other Levies DMG Royalty = 15 % of IBM Sale price DMF = 10 % of Royalty(Auctioned Mines) NMET = 02 % of Royalty Grand Total =146.7 % of IBM Sale Price D. Total benefit to econmy of GoK =12,241 Cr
3.	No. of population benefited due to specifc project	Keeping straight 2% of the net profit in CSR Activities = 0.02*813.78 = 16.27 **Crores**
4.	Economic benefits due to the direct and indirect employment due to the project	Total benefit to the employees per annum = 2.03 Crores per annum Total Benefit to the employees for 50years =101.5 **Cr.**
5.	Economic Benefits due to Compensatory afforestation charges	**Rs.5.21 (Guidelines for Foresf diversion of forest land for non forestry purpose under forest conservation act 1980 Guidelines. For Coolection of NPV, NPV chaarges taken @8.03La/Ha**
	Total Benefit	
	Total Loss of the forest: 37.025 Cr	
	Total benefits: 13177.76	
	Cost Benefit Ratio: 1 : 32	

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Cost Benefit Analysis for the Project over a 50 year period for Narasimha Iron Ore Mine (Old *ML.No.2148)* of *M/s* MSPL Limited over an extent of 64.86Ha (ML Area-60.66 , Road -4.20Ha)

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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Cost Benefit Analysis for the Project over a 50 year period for Narasimha Iron Ore Mine (Old ML.No.2148) of M/s MSPL Limited over an ext 64.86Ha (ML Area-60.66 , Road -4.20Ha)

1	Toposheet No	:	57A/8 &57/12		
2	Location	:	Narasimha Iron Ore Mine, Ballari District, Karnataka State.		
3	Extent	:	64.86	Ha	ML Area -60.66Ha , Road - 4.20 HA
4	Unbroken Area		13.74	Ha	Unbroken up area
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	=	328814256	Rs.	(Env losses/ha for density 1 X Forest density/Ha X FC proposed area)-Env loss/Ha - 12674000
9		=	32.88	Cr.	
10	**II. Loss of animal husbandry productivity, including loss of fodder**				
11	Loss of animal husbandry productivity, including loss of fodder	=	3.29	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	=	9.86	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	=	16.441	Cr.	50 % of the environmental cost (NPV) as a thumb rule as per the new guidelines
16	**V.Compensatory afforestation & Soil and Moisture conservation Cost**				
17	Compensatory afforestation & Soil and Moisture conservation Cost	=	11.08	Cr.	Rs.17.08 Lakhs per Ha as Per Letter No:KFD/HoFF/A5-3(GFL)/34/2019-FC dated.19.04.2021
18	Soil and Moisture conservation Cost	=	0.4	Cr.	
19	Total losses due to forest driversion		73.95	Cr.	
20	**B. Benefits Evaluation**				
21	**I.Benefit to the Project Proponent**				
22	Estimated Iron Ore reserves in forest area	=	60160000	Million Tonne	Mineable Reserves - tonnes
23	The cost at which project proponent used to acquire iron ore in the	=	2800	Rs/Tonne	Average iron ore acquiring and dispatch cost per tonne
4	Value of the mineral/tonne	=	2664.73	Rs./Tonne	Planthead value of Iron Ore due to this project. Mining cost -350Rs, transportation cost-280
25	Benefit to the project proponent by startig the production in this	=	8137903360	Rs/Tonne	Benefit*total mineable reserves
26	project	=	813.79	Cr.	Total revenue generated if this project is approved by GoI & GoK,
27	Total Benefit to the project proponent	=	814	Cr.	(Benefits after starting the project - Deductions/Payments to be made to pay various taxes, royalties to the Govt. of Karnataka
28	**II. Benefit to the economy**				
29	Sale price of Iron Ore as per IBM in Karnataka	=	1387	Rs.	As per IBM ASP Below 55% Fe , April-2021
30	Total premium to GoK	=	129.90%	%	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	=	0.000%	%	% of IBM Sale Price
37	Total % Benefit to economy	=	146.70%	%	% of IBM Sale Price
38	Total Benefit to the Economy	=	122409296640.0	Rs.	All kind of levies including charges by Forest Dept., DMG etc.
39		=	12240.93	Cr.	
40	**III. Population benefited due to the specific project**				
41	Population benefited due to the specific project	=	16.28	Cr.	Keeping 2% of the net profit as the benefits to the population (CSR activities)
42	**IV. Total benefit to Employees**	=	101.52	Cr.	(no of employees X CTC per employee X 50 years)
43	**V. Economic Benefits due to Compensatory afforestation cost**	=	5.21	Cr.	Guidelines for Forest diversion of forest land for non forestry purpose under forest conservation act 1980 Guidelines. For Coolection of NPV, NPV chaarges taken @8.03La/Ha
44	**Total Benefit due to the Project**	=	13178	Cr.	
45	**C. Benefit to Cost Ratio**	=	178.1910		
46	**Cost Benefit Ratio1**	:	178	Ratio	

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Cost Benefit Analysis for the Project over a 50 year period for Narasimha Iron Ore Mine (Old ML.No.2563) of M/s MSPL Limited over an extent of 64.86Ha. (ML Area-60.66 , Road -4.20Ha)

2. Evaluation of Loss of Forest

S. No.	Parameters	Mining Project
1.	Ecosystem service 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: 64.86Ha. 6.) Total Environmental loss due to forest land diversion: 50.696×64.86 Lacs 7.) Total Environmental loss due to forest land diversion: 3288.1426 8.) Total Environmental loss due to forest land diversion per year: 3288.1426/50 = 65.76 Lacs per year 9.) Total Environmental loss due to forest land diversion for 50 years: =32.88 Cr
2.	Loss of animal husbandry productivity, including loss of fodder	10 % of the Net Present Value (environmental services losses) = 0.10*32.88Crores = 3.288 **Cr**
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*32.88Crores = 10Cr
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*32.88 Crores =16cr
8.	Compensatory afforestation & Soil and Moisture conservation plan	**Rs.11.478** (Rs.17.08 Lakhs per Ha as Per Letter No:KFD/HoFF/A5-3(GFL)/34/2019-FC dated.19.04.2021)
	Total Loss to environment	**73.95 Cr**

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