

ANNEXURE -6

Cost Benefit Analysis for the Project over a 50 year period for Ramdev Iron Ore Mine of M/s MSPL Limited over an extent of 32.49Ha. (ML Area -30.09 & Road-2.40 Ha)

SL. No.	Losses in Crores		Benefits in Crores	
1	Ecosystem Services losses due to proposed forest diversion	16.47	Benefit to the Project Proponent	233.19
2	Loss of animal husbandry productivity, including loss of fodder	1.65	Benefit to Economy	1296.31
3	Possession value of forest land diverted	4.94	Population benefited due to the specific project	4.66
4	Habitat Fragmentation Cost	8.24	Benefit to the employees	69.30
5	Compensatory afforestation & Soil and Moisture conservation Cost	6.02	Economic Benefits due to Compensatory afforestation cost	3.99
	Total Losses	37.31	Total Benefits	1607.45
Ratio		1	:	43

For MSPL LIMITED


K. Madhusudhana
 Vice President Mines and CC

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1	Toposheet No	:	57 A/8	
2	Location	:	Ramdev Iron Ore Mine, RM Block, Sandur Taluk, Ballari District, Karnataka State.	
3	Extent	:	32.49	Ha
4	Unbroken Area	:		Ha
5	Density of Forest growth	=	0.4	
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	=	164711304.00	Rs.
9		=	16.47	Cr.
10	II. Loss of animal husbandry productivity, including loss of fodder			
11	Loss of animal husbandry productivity, including loss of fodder	=	1.65	Cr.
12	III. Possession value of forest land diverted			
13	Possession value of forest land diverted	=	4.94	Cr.
14	IV. Habitat Fragmentation Cost			
15	Habitat Fragmentation Cost	=	8.24	Cr.
16	V. Compensatory afforestation & Soil and Moisture conservation Cost			
17	Compensatory afforestation &	=	5.97	Cr.
18	Soil and Moisture conservation Cost	=	0.05	Cr.
19	Total losses due to forest diversion	=	37.31	Cr.
20	B. Benefits Evaluation			
21	I. Benefit to the Project Proponent			
22	Estimated Iron Ore reserves in forest area	=	8050000.00	Tonnes
23	The cost at which project proponent used to acquire iron ore in the past	=	2600.00	Rs/Tonne
24	Value of the mineral/tonne	=	2310.32	Rs/Tonne
25	Benefit to the project proponent by starting the production in this project	=	2331937363.00	Rs/Tonne
26		=	233.19	Cr.
27	Total Benefit to the project proponent	=	233.19	Cr.
28	II. Benefit to the economy			
29	Sale price of Iron Ore as per IBM in Karnataka	=	1260.03	Rs.
30	Total premium to GoK	=	111.00%	%
31	DMG Royalty	=	15.00%	%
32	DMF	=	10.00%	%
33		=	1.500%	%
34	NMET	=	2%	%
35		=	0.300%	%
36	FDF	=	0.000%	%
37	Total % Benefit to economy	=	127.80%	%
38	Total Benefit to the Economy	=	12963062637.00	Rs.
39		=	1296.31	Cr.
40	III. Population benefited due to the specific project			
41	Population benefited due to the specific project	=	4.66	Cr.
42	IV. Total benefit to Employees			
43	V. Economic Benefits due to Compensatory afforestation cost	=	3.99	Cr.
45	Total Benefit due to the Project	=	1607.45	Cr.
46	C. Benefit to Cost Ratio	=	43.0834	
47	Cost Benefit Ratio 1	:	43	Ratio

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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 service losses due to proposed forest diversion	<p>The details of environmental losses are identified as per the given thumb rule for the forest area required for the project are as follows:</p> <p>1.) Density of the forest: 0.4</p> <p>2.) Avg. density of the forest land to be diverted: 0.4</p> <p>3.) Thumb rule for the environment losses per Ha. for density 1.0 over a period of 50 Years (In Lacs): 126.74 Lacs</p> <p>4.) Environmental loss per Ha. of forest land to be diverted: 0.4×126.74 Lacs: 50.696 Lacs.</p> <p>5.) Total forest area required to be diverted: 32.49 Ha.</p> <p>6.) Total Environmental loss due to forest land diversion: 50.696×32.49 Lacs</p> <p>7.) Total Environmental loss due to forest land diversion: 1647.11 Lacs</p> <p>8.) Total Environmental loss due to forest land diversion per year: $1647.113/50$ = 32.94 Lacs per year</p> <p>9.) Total Environmental loss due to forest land diversion for 50 years: =16.47Cr</p>
2.	Loss of animal husbandry productivity, including loss of fodder	10 % of the Net Present Value (environmental services losses) = 0.10×16.47 Crores = 1.647 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, dispensaries, 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) = 0.30×43.64 Crores = 4.941Cr
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) = 0.50×16.47 Crores = 8.23 Cr
8.	Compensatory afforestation & Soil and Moisture conservation plan	Rs.6.04 Cr (Rs.18.36 Lakhs per Ha as Per Letter No:KFD/HoFF/A5-3(GFL)/34/2019-FC dated.19.04.2021)
Total Loss to environment		37.31Cr

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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 = 8050000Tonnes 2. Cost of the iron ore per tonne which the project proponent used to acquire in the past = Rs. 2600 per tonne 3. Estimated Cost of Iron ore if produced by the project proponent = Rs.1610+350+350= Rs.2310 Per tonne 4. Profit to the project proponent after starting this project for 50 years = (2600-2310)*8050000 = 233.45Cr. 5. Payments to be made against various royalties, taxes to NMET, FDF, DMF and DMG Royalty = 127.8% on total mineable reserves as per the IBM Sale Price =Rs1296Cr 6. Net benefit to the project proponent for 50 years = 155.04Cr.
2.	Benefits to economy due to the specific project	A. Total mineable iron ore reserve =8050000 Tonnes B. Average Sales price of iron ore as per IBM(Karnataka)-last 12 months = Rs.1260 per tonne C. i. Premium to GoK =111.00% . ii. Other Levies DMG Royalty = 15 % of IBM Sale price DMF = 10 % of Royalty(Auctioned Mines) NMET = 02 % of Royalty Grand Total = 127.8% of IBM Sale Price D. Total benefit to econmy of GoK = 1296 Cr.
3.	No. of population benefited due to specfic project	Keeping straight 2% of the net profit in CSR Activities = 0.02*155.04= 3.10Crores
4.	Economic benefits due to the direct and indirect employment due to the project	Total benefit to the employees per annum = 1.396 Crores per annum Total Benefit to the employees for 50years = 69.30 Cr.
5.	Economic Benefits due to Compensatory afforestation charges	Rs. 3.99 (Guidelines for Forest diversion of forest land for non forestry purpose under forest conservation act 1980 Guidelines. For Coolection of NPV, NPV chaarges taken @12.28La/Ha
	Total Benefit	
	Total Loss of the forest: 37	
	Total benefits: 1606	
	Cost Benefit Ratio: 1:43	

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