

1. Data on Goan Iron Ore Exports

Source : GMOEA Selected Statistics	Units	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	Remarks
		SS 2010	SS 2010	SS 2010	SS 2010	SS 2010	SS 2010	SS 2011	SS 2012	Awaited	
Goan iron ore exports	tons	23,308,033	25,537,924	30,893,953	33,434,429	38,075,223	45,686,900	46,846,383	38,252,554		This became "Registered Ore" from 2011 onwards
Non-Goan iron ore exports	tons	9,280,138	10,733,726	9,642,721	6,117,626	7,513,548	7,445,102	7,578,466	5,026,793		This became "Non-Registered Ore" from 2011 onwards
Total iron ore exports	tons	32,588,171	36,271,650	40,536,674	39,552,055	45,588,771	53,132,002	54,424,849	43,279,347		
Goan ore as % of total	%	72%	70%	76%	85%	83.5%	86.0%	86.1%	88.4%		Calculated
Goan iron ore production	tons	21,705,667	25,440,925	30,738,191	31,327,805	32,720,536	41,038,392				Not available after 2010
Goan production / exports	%	93%	100%	99%	94%	86%	90%	0%	0%		Calculated
Unaccounted for Goan ore	tons	1,602,366	96,999	155,762	2,106,624	5,354,687	4,648,508				Calculated. Cannot be calculated after 2010
Unaccounted for Goan ore	%	7%	0%	1%	7%	16%	11%				Calculated. Cannot be calculated after 2010
Sesa exports (Goan ore)	tons	4,288,326	4,830,205	4,802,390	7,529,441	10,210,820	11,293,978	11,778,513	11,379,975		
VS Dempo exports (Goan ore)	tons	3,853,138	3,445,994	3,998,095	3,644,954	4,347,543	4,715,265	4,169,373	3,551,804		
Total Sesa group exports (Goan ore)	tons	8,141,464	8,276,199	8,800,485	11,174,395	14,558,363	16,009,243	15,947,886	14,931,779		Calculated
Sesa group as % to Goa	%	35%	32%	28%	33%	38%	35%	34%	39%		Calculated
Scaling factor (Sesa to Goa total)	ratio	2.86	3.09	3.51	2.99	2.62	2.85	2.94	2.56		Calculated
Total Sales (incl Dempo from 2009-10)	Tons	9,810,000	9,558,000	10,871,000	12,391,000	15,103,000	21,410,000	18,100,000	16,000,000	3,100,000	All from Sesa Goa figures
Goan ore Sales (incl Dempo from 2009-10)	Tons	7,114,000	6,968,000	7,366,000	8,989,000	10,102,000	15,570,000	14,300,000	13,300,000	3,000,000	
Non-Goan ore Sales (Karnataka & Orissa)	Tons	2,696,000	2,590,000	3,505,000	3,402,000	5,001,000	5,840,000	3,800,000	2,700,000	100,000	
Total Sales (excl Dempo)	Tons	9,810,000	9,558,000	10,871,000	12,391,000	15,103,000	16,875,000	14,700,000	12,700,000	2,500,000	
Dempo Sales (assumed all exported)	Tons	-	-	-	-	-	4,535,000	3,400,000	3,300,000	600,000	
Total exports (excl Dempo)	Tons	9,319,000	8,988,000	10,123,000	11,587,000	14,494,000	15,744,000	12,500,000	9,700,000	2,200,000	
Total exports (incl Dempo)	Tons	9,319,000	8,988,000	10,123,000	11,587,000	14,494,000	20,279,000	15,900,000	13,000,000	2,800,000	
Sesa exports as per GMOEA	Tons	4,288,326	4,830,205	4,802,390	7,529,441	10,210,820	11,293,978	11,778,513	11,379,975	-	All from GMOEA Selected Statistics above
Dempo exports as per GMOEA	Tons						4,715,265	4,169,373	3,551,804	-	
Total Sesa Group exports as per GMOEA	Tons	4,288,326	4,830,205	4,802,390	7,529,441	10,210,820	16,009,243	15,947,886	14,931,779	-	
Difference in exports between Sesa & GMOEA	Tons	5,030,674	4,157,795	5,320,610	4,057,559	4,283,180	4,269,757	(47,886)	(1,931,779)		How is there this difference ?
Difference as a % of Sesa sales	%	51%	44%	49%	33%	28%	20%	0%	-12%		How is there this difference ?

2. Data on Goa State Finances

Year	Total Revenue Receipts	Mines Dept Revenue Receipts	%
2000-01	1,483.23	15.96	1.08%
2001-02	1,872.53	13.13	0.70%
2002-03	1,833.01	15.78	0.86%
2003-04	1,623.12	19.39	1.19%
2004-05	1,820.02	26.41	1.45%
2005-06	2,168.87	27.15	1.25%
2006-07	2,609.76	34.30	1.31%
2007-08	2,943.90	36.40	1.24%
2008-09	3,528.27	36.35	1.03%
2009-10	4,100.27	292.25	7.13%
2010-11	5,441.94	983.73	18.08%
2011-12	4,788.83	950.82	19.86%
2012-13	5,393.41	339.23	6.29%
Total	39,607.16	2,790.90	7.05%
Source and Notes	CAG Reports, Budget 2013-14	PAC Report upto 2010-11. Budget 2013-14 for 2011-12. AG	

3. Historical Analysis

Calculations for Sesa Goa only	Units	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Total	Source or Basis
Sesa Ore revenues	Rs. Cr	1,037	1,498	1,796	3,290	4,308	5,241	8,594	7,516	33,280	From Sesa Goa annual report
Sesa ore EBIT	Rs. Cr	450	772	847	2,045	2,171	2,869	4,819	3,246	17,218	From Sesa Goa annual report
Sesa effective tax rate (corporate)	%	34%	33%	33%	33%	26%	23%	24%	34%	25%	From Sesa Goa annual report
Sesa ore tax	Rs. Cr	151	255	276	683	573	671	1,159	1,105	4,872	Ore revenues x effective tax rate
Sesa ore PAT	Rs. Cr	299	517	571	1,362	1,598	2,198	3,660	2,141	12,346	EBIT - Tax (no interest expense)
Sesa Export Duty paid	Rs. Cr	-	-	-	159	216	148	662	1,623	2,808	From Sesa Goa annual report
Sesa Royalty, cesses and other taxes paid	Rs. Cr	7	8	10	12	22	170	335	326	889	From Sesa Goa annual report
Sesa total indirect taxes paid	Rs. Cr	7	8	10	171	237	317	997	1,949	3,697	Addition of export duty, royalty, etc.
Sesa effective indirect tax rate (on revenues)	%	1%	1%	1%	5%	6%	6%	12%	26%	11%	Indirect taxes / ore revenues
Net assets of ore business segment	Rs. Cr	324	431	536	733	636	728	2,043	763	6,194	From Sesa Goa annual report
Return on Net Assets	%	92%	120%	107%	186%	251%	302%	179%	281%	199%	Sesa ore PAT / Sesa ore assets
Asset Turnover Ratio	Times	3.20	3.47	3.35	4.49	6.78	7.20	4.21	9.85	5.37	Sesa ore revenues / Sesa ore assets
Earned profit (Return on Net Assets of 20%)	Rs. Cr	65	86	107	147	127	146	409	153	1,239	Sesa ore assets x 20%
Unearned profit (return on net assets > 20%)	Rs. Cr	234	431	464	1,216	1,471	2,052	3,251	1,989	11,108	Sesa ore PAT - earned profit
Truck expense	Rs. Cr	159	212	272	294	512	661	741	643	3,493	From Sesa Goa annual report
Hire charges for barges	Rs. Cr	21	24	27	31	42	82	81	51	358	From Sesa Goa annual report
Total truck + barge	Rs. Cr	179	235	299	325	554	743	821	694	3,852	Addition of truck expense and hire charges for barges
Total employee expense	Rs. Cr	49	52	64	68	100	169	207	268	978	From Sesa Goa annual report
Total Mining Dependent expense	Rs. Cr	229	287	363	394	654	912	1,028	963	4,829	Addition of truck, barge & employee expenses
Other Costs	Rs. Cr	351	431	577	681	1,246	1,143	1,749	1,358	7,535	Expenses other than taxes - mining dependent expense
Total Expenses (other than taxes, etc)	Rs. Cr	579	718	940	1,075	1,900	2,055	2,777	2,321	12,365	Revenues - EBIT - total indirect taxes

3. Historical Analysis

Calculations for Goan ore industry	Units	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Total	Source or Basis
Goan iron ore exports (GMOEA)	Mn Tons	23.31	25.54	30.89	33.43	38.08	45.69	46.85	38.25	282.04	From GMOEA data
Sesa ore sales	Mn Tons	9.81	9.56	10.87	12.39	15.10	21.41	18.10	16.00	113.24	From Sesa Goa annual report
Goan industry : Sesa Goan ore	Ratio	2.38	2.67	2.84	2.70	2.52	2.13	2.59	2.39	2.49	Goan iron ore exports / Sesa ore sales
Goan ore revenues	Rs. Cr	2,463	4,002	5,105	8,878	10,861	11,184	22,242	17,969	82,704	Sesa ore figures x (ratio of goan industry to sesa ore business)
Goan ore EBIT	Rs. Cr	1,068	2,062	2,407	5,518	5,473	6,121	12,473	7,761	42,884	Sesa ore figures x (ratio of goan industry to sesa ore business)
Goan ore direct taxes	Rs. Cr	358	681	784	1,842	1,445	1,432	3,000	2,641	12,182	Sesa ore figures x (ratio of goan industry to sesa ore business)
Goan PAT	Rs. Cr	710	1,381	1,623	3,676	4,029	4,690	9,473	5,120	30,701	Sesa ore figures x (ratio of goan industry to sesa ore business)
Goa Export Duty	Rs. Cr	-	-	-	429	544	315	1,713	3,881	6,882	Sesa ore figures x (ratio of goan industry to sesa ore business)
Goa Royalty, cesses and other taxes	Rs. Cr	18	22	27	31	54	362	868	779	2,162	Sesa ore figures x (ratio of goan industry to sesa ore business)
Actual Royalty Receipts reported	Rs. Cr	26	27	34	36	36	292	984	951	2,387	Actuals from Goa Government data
Indirect taxes paid by Goan ore industry	Rs. Cr	26	27	34	466	580	607	2,697	4,832	9,270	Goa export duty + actual royalties
Total taxes paid by Goan ore industry	Rs. Cr	384	708	819	2,307	2,025	2,039	5,697	7,473	21,452	Goan indirect taxes + Goan direct taxes
Goan ore assets	Rs. Cr	770	1,152	1,523	1,977	1,602	1,554	5,288	1,825		Sesa ore figures x (ratio of goan industry to sesa ore business)
Earned profit (Return on Net Assets of 20%)	Rs. Cr	154	230	305	395	320	311	1,058	365	3,138	Goan ore assets x 20%
Unearned profit (return on net assets > 20%)	Rs. Cr	556	1,151	1,318	3,281	3,708	4,379	8,415	4,755	27,563	Sesa ore figures x (ratio of goan industry to sesa ore business)
Value of the Ore before extraction (owned by Goans)	Rs. Cr	941	1,859	2,136	5,588	5,733	6,418	14,112	12,228	49,015	Total taxes paid by Goan ore industry + Unearned Profit
Total Capture Rate by State and Center	%	41%	38%	38%	41%	35%	32%	40%	61%	44%	Total taxes paid by Goan ore industry / Value of the ore
Goa Capture Rate	%	3%	1%	2%	1%	1%	5%	7%	8%	4%	Royalty received by Goa / Value of the ore
Goan truck expense	Rs. Cr	377	565	774	794	1,290	1,411	1,917	1,537	8,666	Sesa ore figures x (ratio of goan industry to sesa ore business)
Goan hire charges for barges	Rs. Cr	49	63	77	84	106	174	209	122	885	Sesa ore figures x (ratio of goan industry to sesa ore business)
Total Goan truck + barge	Rs. Cr	426	629	851	878	1,396	1,585	2,126	1,660	9,551	Addition of truck expense and hire charges for barges
Total employee expense	Rs. Cr	117	139	181	185	252	361	536	642	2,412	Sesa ore figures x (ratio of goan industry to sesa ore business)
Total Mining Dependent expense	Rs. Cr	544	767	1,032	1,063	1,648	1,946	2,662	2,301	11,962	Addition of truck, barge & employee expenses
Other Costs	Rs. Cr	833	1,150	1,639	1,837	3,141	2,440	4,527	3,247	18,814	Expenses other than taxes - mining dependent expense
Total Expenses	Rs. Cr	1,377	1,918	2,671	2,900	4,789	4,386	7,188	5,548	30,776	Sesa ore figures x (ratio of goan industry to sesa ore business)

3. Historical Analysis

Per ton calculations	Units	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Total	Source or Basis
Goan ore revenues	Rs. / ton	1,057	1,567	1,652	2,655	2,852	2,448	4,748	4,698	2,932	Figures for Goan ore industry / Goan ore volumes
Goan ore EBIT	Rs. / ton	458	807	779	1,650	1,438	1,340	2,662	2,029	1,521	Figures for Goan ore industry / Goan ore volumes
Goan direct taxes	Rs. / ton	154	267	254	551	379	313	640	691	432	Figures for Goan ore industry / Goan ore volumes
Goan PAT	Rs. / ton	305	541	525	1,099	1,058	1,027	2,022	1,338	1,089	Figures for Goan ore industry / Goan ore volumes
Indirect taxes paid by Goan ore industry	Rs. / ton	11	11	11	139	152	133	576	1,263	329	Figures for Goan ore industry / Goan ore volumes
Total taxes paid by Goan ore industry	Rs. / ton	165	277	265	690	532	446	1,216	1,954	761	Figures for Goan ore industry / Goan ore volumes
Unearned profit (return on net assets > 20%)	Rs. / ton	239	451	427	981	974	959	1,796	1,243	977	Figures for Goan ore industry / Goan ore volumes
Goan truck expense	Rs. / ton	162	221	251	238	339	309	409	402	307	Figures for Goan ore industry / Goan ore volumes
Goan hire charges for barges	Rs. / ton	21	25	25	25	28	38	45	32	31	Figures for Goan ore industry / Goan ore volumes
Total Goan truck + barge	Rs. / ton	183	246	275	263	367	347	454	434	339	Figures for Goan ore industry / Goan ore volumes
Total employee expense	Rs. / ton	50	54	59	55	66	79	114	168	86	Figures for Goan ore industry / Goan ore volumes
Total Mining Dependent expense	Rs. / ton	233	300	334	318	433	426	568	602	424	addition of truck, barge & employee expenses on a per ton basis

Unit sized calculations	Units	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Total	Source or Basis
Goan ore revenues	% of Rev	100%	100%	100%	100%	100%	100%	100%	100%	100%	Figures for Goan ore industry / Goan ore industry revenues
Goan ore EBIT	% of Rev	43%	52%	47%	62%	50%	55%	56%	43%	52%	Figures for Goan ore industry / Goan ore industry revenues
Goan direct taxes	% of Rev	15%	17%	15%	21%	13%	13%	13%	15%	15%	Figures for Goan ore industry / Goan ore industry revenues
Goan PAT	% of Rev	29%	35%	32%	41%	37%	42%	43%	28%	37%	Figures for Goan ore industry / Goan ore industry revenues
Indirect taxes paid by Goan ore industry	% of Rev	1%	1%	1%	5%	5%	5%	12%	27%	11%	Figures for Goan ore industry / Goan ore industry revenues
Total taxes paid by Goan ore industry	% of Rev	16%	18%	16%	26%	19%	18%	26%	42%	26%	Figures for Goan ore industry / Goan ore industry revenues
Unearned profit (return on net assets > 20%)	% of Rev	23%	29%	26%	37%	34%	39%	38%	26%	33%	Figures for Goan ore industry / Goan ore industry revenues
Goan truck expense	% of Rev	15%	14%	15%	9%	12%	13%	9%	9%	10%	Figures for Goan ore industry / Goan ore industry revenues
Goan hire charges for barges	% of Rev	2%	2%	1%	1%	1%	2%	1%	1%	1%	Figures for Goan ore industry / Goan ore industry revenues
Total Goan truck + barge	% of Rev	17%	16%	17%	10%	13%	14%	10%	9%	12%	Figures for Goan ore industry / Goan ore industry revenues
Total employee expense	% of Rev	5%	3%	4%	2%	2%	3%	2%	4%	3%	Figures for Goan ore industry / Goan ore industry revenues
Total Mining Dependent expense	% of Rev	22%	19%	20%	12%	15%	17%	12%	13%	14%	Figures for Goan ore industry / Goan ore industry revenues

4. Analysis of the Capture Rate

1. Historical data is largely based on Sesa Annual Reports, scaled up based on volumes exported

2. Future data is largely based on the averages from the historical data

	Units	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Total	Future	Remarks, Source & Basis for the Past	Remarks on Future
Goan iron ore exports (GMOEA)	Mn Tons	23	26	31	33	38	46	47	38	282	1,300	GMOEA Special Statistics	CM statement on available reserves
Average Sesa Export Price	Rs. / Ton	1,062	1,707	1,811	2,770	2,894	2,559	4,975	5,239	3,111	3,111	Calculated from Annual Reports	Future based on past average
Total Goan iron ore exports	Rs. Cr	2,475	4,358	5,595	9,261	11,018	11,692	23,307	20,041	87,748	404,460	Multiplication above	Future based on past average
Total truck + barge expense	Rs. Cr	426	629	851	878	1,396	1,585	2,126	1,660	9,551	44,022	Sesa expense x Goan exports / Sesa sales	
Total employee expense	Rs. Cr	117	139	181	185	252	361	536	642	2,412	11,116	Sesa expense x Goan exports / Sesa sales	
Total mining dependent expense	Rs. Cr	544	767	1,032	1,063	1,648	1,946	2,662	2,301	11,962	55,138	Addition above	
Other costs (other than taxes)	Rs. Cr	833	1,150	1,639	1,837	3,141	2,440	4,527	3,247	18,814	86,721	Sesa expense x Goan exports / Sesa sales	
Total Expenses	Rs. Cr	1,377	1,918	2,671	2,900	4,789	4,386	7,188	5,548	30,776	141,859	Addition above	
Earned profit (20% RoNA)	Rs. Cr	154	230	305	395	320	311	1,058	365	3,138	14,465	Sesa expense x Goan exports / Sesa sales	
Total expenses + earned profit	Rs. Cr	1,531	2,148	2,976	3,295	5,109	4,696	8,246	5,913	33,914	156,324	Addition above	
Captureable value	Rs. Cr	944	2,210	2,619	5,966	5,909	6,996	15,061	14,128	53,833	248,136	Revenues - total expenses - earned profit. This is the "captureable value"	
Supreme Court 10% mandate	Rs. Cr	-	-	-	-	-	-	-	-	-	40,446		SC mandates 10% of sale price to be deposited into the GMPF. We have taken final sale price, not pit-head price.
Royalties (Goa)	Rs. Cr	26	27	34	36	36	292	984	951	2,387	11,004	PAC Report, CAG Reports. Actuals, not scaled from Sesa	
Export Duty (Center) (est.)	Rs. Cr	-	-	-	429	544	315	1,713	3,881	6,882	196,686	Sesa expense x Goan exports / Sesa sales	
Income Tax (Center) (est.)	Rs. Cr	358	681	784	1,842	1,445	1,432	3,000	2,641	12,182	196,686	Sesa expense x Goan exports / Sesa sales	The question is which entity will get what proportion of this. State, Center or private miners. The owners are the people of Goa, represented by the State
Total Taxes	Rs. Cr	384	708	819	2,307	2,025	2,039	5,697	7,473	21,452	196,686	Addition above	
Unearned Profit	Rs. Cr	560	1,502	1,801	3,658	3,884	4,957	9,364	6,655	32,381	196,686	Captureable value - total taxes	
Total Capture Rate (Goa + Center)	%	40.7%	32.0%	31.3%	38.7%	34.3%	29.1%	37.8%	52.9%	39.8%		Total taxes / Captureable value	
Goa Capture Rate	%	2.8%	1.2%	1.3%	0.6%	0.6%	4.2%	6.5%	6.7%	4.4%	20.7%	Royalties / Captureable value	Based on SC judgment on GMPF and existing royalties
Captureable value per ton	Rs. / Ton	405	865	848	1,784	1,552	1,531	3,215	3,693	1,909	1,909		
90% Capture Rate	Rs. Cr	850	1,989	2,357	5,369	5,318	6,296	13,555	12,715	48,450	223,322	Capture assuming a 90% Capture Rate	Capture assuming a 90% Capture Rate
Additional Capture	Rs. Cr	823	1,962	2,323	5,333	5,281	6,004	12,571	11,764	46,062	171,872	Incremental Capture by Goa	Incremental Capture by Goa
Cumulative Capture	Rs. Cr	850	2,839	5,196	10,565	15,883	22,180	35,735	48,450	48,450	223,322		
3% Return on amount captured	Rs. Cr	25	85	156	317	476	665	1,072	1,453	1,453	6,700	Interest that would be earned by the state if the GMPF were in place	What is at stake. This amount will be earned in perpetuity.
Govt. Revenue Receipts	Rs. Cr	1,820	2,169	2,610	2,944	3,528	4,100	5,442	4,789	27,402			
Return as % of Govt Rev	%	1%	4%	6%	11%	14%	16%	20%	30%			If the GMPF were in place, it would already contribute very substantially	

4. Analysis of the Capture Rate

As a % of Capturable Value	Units	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Total	Future	Remarks, Source & Basis	Remarks on Future
Total Goan iron ore exports	% of Value	262%	197%	214%	155%	186%	167%	155%	142%	163%	163%		
Total truck + barge expense	% of Value	45%	28%	32%	15%	24%	23%	14%	12%	18%	18%	Includes diesel, maintenance, etc.	
Total employee expense	% of Value	12%	6%	7%	3%	4%	5%	4%	5%	4%	4%		
Total mining dependent expense	% of Value	58%	35%	39%	18%	28%	28%	18%	16%	22%	22%	Small fraction of the value of the ore, or even unearned profit	
Other costs (other than taxes)	% of Value	88%	52%	63%	31%	53%	35%	30%	23%	35%	35%	Large variety of other expenses	
Total Expenses	% of Value	146%	87%	102%	49%	81%	63%	48%	39%	57%	57%		
Earned profit (20% RoNA)	% of Value	16%	10%	12%	7%	5%	4%	7%	3%	6%	6%		
Total expenses + earned profit	% of Value	162%	97%	114%	55%	86%	67%	55%	42%	63%	63%		
Captureable value	% of Value	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100% by definition	100% by definition
Supreme Court 10% mandate	% of Value	-	-	-	-	-	-	-	-	-	16%		SC mandates 10% of sale price to be deposited into the GMPF
Royalties (Goa)	% of Value	3%	1%	1%	1%	1%	4%	7%	7%	4%	4%		
Export Duty (Center) (est.)	% of Value	0%	0%	0%	7%	9%	5%	11%	27%	13%	79%		The question is which entity will get what proportion of this. State, Center or private miners. The owners are the people of Goa, represented by the State
Income Tax (Center) (est.)	% of Value	38%	31%	30%	31%	24%	20%	20%	19%	23%			
Total Taxes	% of Value	41%	32%	31%	39%	34%	29%	38%	53%	40%			
Unearned Profit	% of Value	59%	68%	69%	61%	66%	71%	62%	47%	60%			
Govt. Revenue Receipts	% of Value	193%	98%	100%	49%	60%	59%	36%	34%	51%	0%	Total Government receipts were a fraction of the loss of the value of the ore	

As a % of Revenues	Units	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Total	Future	Remarks, Source & Basis	Remarks on Future
Total Goan iron ore exports	% of Rev	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		
Total truck + barge expense	% of Rev	17%	14%	15%	9%	13%	14%	9%	8%	11%	11%		
Total employee expense	% of Rev	5%	3%	3%	2%	2%	3%	2%	3%	3%	3%		
Total mining dependent expense	% of Rev	22%	18%	18%	11%	15%	17%	11%	11%	14%	14%		
Other costs (other than taxes)	% of Rev	34%	26%	29%	20%	29%	21%	19%	16%	21%	21%		
Total Expenses	% of Rev	56%	44%	48%	31%	43%	38%	31%	28%	35%	35%		
Earned profit (20% RoNA)	% of Rev	6%	5%	5%	4%	3%	3%	5%	2%	4%	4%		
Total expenses + earned profit	% of Rev	62%	49%	53%	36%	46%	40%	35%	30%	39%	39%		
Captureable value	% of Rev	38%	51%	47%	64%	54%	60%	65%	70%	61%	61%		
Supreme Court 10% mandate	% of Rev	-	-	-	-	-	-	-	-	-	10%	SC mandates 10% of sale price to be deposited into the GMPF	SC mandates 10% of sale price to be deposited into the GMPF
Royalties (Goa)	% of Rev	1%	1%	1%	0%	0%	2%	4%	5%	3%	3%		
Export Duty (Center) (est.)	% of Rev	0%	0%	0%	5%	5%	3%	7%	19%	8%	49%		
Income Tax (Center) (est.)	% of Rev	14%	16%	14%	20%	13%	12%	13%	13%	14%			
Total Taxes	% of Rev	16%	16%	15%	25%	18%	17%	24%	37%	24%			
Unearned Profit	% of Rev	23%	34%	32%	40%	35%	42%	40%	33%	37%			
Govt. Revenue Receipts	% of Rev	74%	50%	47%	32%	32%	35%	23%	24%	31%	0%		

5. Impact on State Finances and on every Goan

1. This sheet analyzes Goa's situation using some of the World Bank methodology for Adjusted Net Savings.
2. Adjusted Net Savings essentially measures whether Hartwick's rule has been met (for Intergenerational Equity)
3. This uses Goa savings rate estimates from an academic paper
4. The value of the ore / mineral depletion uses the unearned profit methodology from Sesa Goa's figures
5. Conclusion is clear - Goa has become much much poorer.

Value of the ore extracted	Units	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Total	Source	Source
Value of Mineral Depleted	Rs. Cr	944	2,210	2,619	5,966	5,909	6,996	15,061	14,128	53,833	Taken from the Capture Rate analysis using Sesa & GMOEA data	Multiply above
Goa GSDP at Current Prices	Rs. Cr	12,713	14,327	16,523	19,565	25,414	29,126	33,605	36,025	187,297		Goa Eco Survey
Mineral Depletion / GSDP	%	7%	15%	16%	30%	23%	24%	45%	39%	29%		Calculated

Goa State Finances & Mining	Units	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Total	Remarks	Source
Goa GSDP at Current Prices	Rs. Cr	12,713	14,327	16,523	19,565	25,414	29,126	33,605	36,025	187,297	2011-12 is Provisional	Goa Eco Survey
GSDP from Mining	Rs. Cr	562	670	1,547	2,533	4,279	5,003	6,706	6,200	27,499		Goa Eco Survey
Mining as a % of GSDP	%	4%	5%	9%	13%	17%	17%	20%	17%	15%		GDSP from Mining / GSDP
Govt. Revenue Receipts	Rs. Cr	1,820	2,169	2,610	2,944	3,528	4,100	5,442	4,789	27,402		CAG Reports, Budget 2013-14
Mines dept. revenue receipts	Rs. Cr	26	27	34	36	36	292	984	951	2,387		PAC Report
Mining as % of total revenue	%	1%	1%	1%	1%	1%	7%	18%	20%	9%		Revenue from Mining / Total revenue
Mineral depletion	Rs. Cr	944	2,210	2,619	5,966	5,909	6,996	15,061	14,128	53,833	This is the value of the ore exported	From above
% mineral depletion captured	%	2.8%	1.2%	1.3%	0.6%	0.6%	4.2%	6.5%	6.7%	4.4%	Capture Rate - how much of the value of the ore was received by Goa	Mining revenues / mineral depletion
Govt total expenditure	Rs. Cr	2,182	2,486	2,709	3,175	3,880	4,865	5,509	7,202	32,008		Goa Eco Survey
Fiscal Deficit	Rs. Cr	550	581	529	541	916	1,242	486	543	5,386		Goa Eco Survey
Govt outstanding debt	Rs. Cr		3,714	4,690	5,127	5,623	6,077	6,614		NA		Goa Eco Survey

5. Impact on State Finances and on every Goan

Goa Savings Rate	Units	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Total	Remarks	Source
Goa GSDP at Current Prices	Rs. Cr	12,713	14,327	16,523	19,565	25,414	29,126	33,605	36,025	187,297	2011-12 is Provisional	Goa Eco Survey
India Gross Savings Rate	%	31%	32%	33%	34%	30%	31%	33%	29%			World Bank
Goa Gross Savings Rate	%	45.95%	47.23%	47.31%	49.95%	50.19%	48.29%	48.29%	48.29%	48.39%	Date series ends in 2009-10	IIMA Paper by Deepak Sethia, Annexure 2.9
Goa Gross Savings	Rs. Cr	5,842	6,766	7,817	9,773	12,755	14,065	16,228	17,396	90,642		GSDP * (India Gross savings rate+10%)
Goa NSDP at Current Prices	Rs. Cr	10,999	12,488	14,394	17,045	22,149	25,224	28,464	29,396	160,159		Goa Eco Survey
Depreciation	Rs. Cr	1,715	1,839	2,129	2,519	3,265	3,902	5,141	6,628	27,138		GSDP - NSDP
Goa Net Savings	Rs. Cr	4,127	4,928	5,688	7,253	9,490	10,163	11,087	10,768	63,504		Gross Savings - Depreciation
Goa Net Savings % of GDP	%	32%	34%	34%	37%	37%	35%	33%	30%	34%		Net Savings / GSDP

Goa Net Savings	Rs. Cr	4,127	4,928	5,688	7,253	9,490	10,163	11,087	10,768	63,504		From above
Dissaving (Mineral depletion)	Rs. Cr	944	2,210	2,619	5,966	5,909	6,996	15,061	14,128	53,833	Huge amounts of wealth lost to Goa	From above
Adjusted Net Saving	Rs. Cr	3,183	2,718	3,068	1,288	3,582	3,167	-3,974	-3,360	9,671	Extremely high savings rate turned negative	Calculated
Adjusted Net Saving % to GSDP	%	25%	19%	19%	7%	14%	11%	-12%	-9%	5%	This savings rate is extremely low, and negative at the end	Calculated

Per Capita Data	Units	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Total	Remarks	Source
Population	Th	1,429	1,474	1,517	1,568	1,629	1,691	1,749	1,799	NA		Goa Eco Survey
Per capita income (NSDP)	Rs	76,968	84,721	94,882	108,708	135,946	149,164	162,747	163,404	976,540		Goa Eco Survey
Per Capita Net Savings	Rs	28,881	33,431	37,493	46,258	58,258	60,099	63,391	59,856	387,667		Goa Net Savings / Population
Mineral depletion per capita	Rs.	6,608	14,993	17,267	38,046	36,271	41,372	86,114	78,533	319,204	Each person in Goa has lost this amount.	Mineral Depletion / Population
Adjusted per capita income	Rs.	70,360	69,728	77,615	70,662	99,675	107,792	76,633	84,871	657,336	Goa drops precipitiously in the ranks of per capita income	Income - Mineral Depletion

6. Recoverable from Illegal Mining

Recoverable from illegal mining	Units	2007-08	2008-09	2009-10	2010-11	2011-12	Total	Remarks / Sources
Sesa iron ore sales	Mn Tons	6.2	15.1	21.4	18.1	16.0	76.8	Sesa Goa annual accounts
Sesa iron ore sales	Rs. Cr	1,645	4,308	5,241	8,594	7,516	27,304	Sesa Goa annual accounts
Sesa iron ore EBIT	Rs. Cr	1,022	2,171	2,869	4,819	3,246	14,128	Sesa Goa annual accounts
Sesa effective tax rate	%	33%	26%	23%	24%	34%	25%	Sesa Goa annual accounts
Sesa iron ore income tax (est.)	Rs. Cr	341	573	671	1,159	1,105	3,849	Multiplying EBIT by the effective tax rate
Sesa iron ore Profit After Tax (PAT)	Rs. Cr	681	1,598	2,198	3,660	2,141	10,278	EBIT - income tax (est.)
Sesa Goa								
Sesa goan iron ore sales	Mn Tons	4.5	10.1	15.6	14.3	13.3	57.8	Sesa Goa annual accounts
Sesa goan iron ore to total iron ore	%	73%	67%	73%	79%	83%	75%	
Sesa goan iron ore PAT	Rs. Cr	494	1,069	1,598	2,892	1,780	7,833	PAT x (ratio of goan iron ore to total iron ore)
Earned profit (0% RoNA)	Rs. Cr	-	-	-	-	-	-	Illegal mining. No profit from illegalities
Sesa goan iron ore recoverable amt	Rs. Cr	494	1,069	1,598	2,892	1,780	7,833	After 20-Nov-2007 to be recovered from Sesa Goa
Goa								
Goan iron ore exports	Mn Tons	16.7	38.1	45.7	46.8	38.3	185.6	GMOEA Special Statistics
Sesa goan iron ore sales	Mn Tons	4.5	10.1	15.6	14.3	13.3	57.8	Sesa Goa annual accounts
Sesa as % of Goa	%	27%	27%	34%	31%	35%	31%	Sesa sales a significant part of Goa exports
Goa exports / Sesa sales		3.72	3.77	2.93	3.28	2.88	3.21	Scaling factor
Goan iron ore recoverable amount	Rs. Cr	1,838	4,029	4,690	9,473	5,120	25,149	After 20-Nov-2007 to be recovered
Recoverable amount per ton	Rs. / MT	1,099	1,058	1,027	2,022	1,338	1,355	
Goan iron ore recoverable amount including interest								
Goan iron ore recoverable amount	Rs. Cr	1,838	4,029	4,690	9,473	5,120	25,149	All of 2012-13 needs to be added. Penalties and interest needs to be added. Compensation for environmental damage needs to be added.
Years until 31-Mar-2014		6	5	4	3	2		
Interest @ 12% till Mar 31, 2014	Rs. Cr	1,323	2,417	2,251	3,410	1,229	10,631	Total interest due
Recoverable amount incl. Interest	Rs. Cr	3,161	6,446	6,941	12,883	6,349	35,780	Value of ore + interest
Goa Population								
Goa Population	Lakhs						14.58	2011 Census
Recoverable amount per person	Rs.						245,450	

Note : Values for 2007-08 are for four illegal months out of a eight month season

