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# Mining and mineral based industries: **BIG NUMBERS**

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# The Study

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- Data on forests and environment clearances granted by the MoEF in the last five years - 11<sup>th</sup> FYP (2007 – August, 2011)
- Studied 5 sectors
- Data collated from MoEF website and other sources
- EC granted at the state-level not included
- Our analysis is an underestimation on the level of EC granted



# Environment clearances

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## **Mining: Non-Coal**

- 361 mining projects granted EC during: 2007-August 2011
  
- 186 greenfield and 175 expansion projects

# Mining



<b>State</b>	<b>Number of mines</b>
Andhra Pradesh	27
Chhattisgarh	13
Goa	35
Gujarat	31
Haryana	1
Himachal Pradesh	2
Jammu & Kashmir	1
Jharkhand	17
Karnataka	29
Madhya Pradesh	32
Maharashtra	10
Meghalaya	2
Odisha	68
Rajasthan	79
Tamil Nadu	3
Uttarakhand	11
<b>Total</b>	<b>361</b>

# Mining



<b>State</b>	<b>ML area (in ha)</b>	<b>Major minerals given environment clearance</b>
Rajasthan	34134.53	limestone, copper, lead, zinc
Odisha	27624.84	iron, manganese, chromite, bauxite
Gujarat	11359.22	limestone, bauxite
Chhattisgarh	10343.50	iron, limestone
Madhya Pradesh	6326.19	limestone, manganese
Andhra Pradesh	5219.02	limestone, iron
Karnataka	4329.35	iron , manganese, gold
Uttarakhand	3561.62	minor minerals, aggregates
Jharkhand	3556.69	bauxite, iron, aggregates, minor minerals
Goa	3257.82	minor minerals, aggregates, iron, manganese
Haryana	1348.61	minor minerals (sand)
Maharashtra	1279.83	iron
Meghalaya	430.12	limestone, uranium
Himachal Pradesh	404.90	limestone
Tamil Nadu	199.41	limestone
Jammu & Kashmir	48.00	limestone



## Mining: Top 5 districts

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<b>State</b>	<b>District</b>	<b>ML area (in ha)</b>
Odisha	Keonjhar	13217.72
Rajasthan	Nagaur	7564.83
Gujarat	Kutch	7078.65
Odisha	Sundargarh	5838.14
Rajasthan	Udaipur	4997.33
<b>Total</b>		<b>38696.65</b>



# Iron Ore

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- **113 iron ore mines** were given EC
- Capacity granted EC: **162 MTPA**
- ML area under iron ore granted EC: **32,500 ha**
- India produced 213 million tonnes of iron ore in 2010-11 and 100 million tonnes of this was exported
- The iron ore capacity granted EC during the 11th FYP period, **is 75% of the existing capacity of iron ore mining in the country**
- **EC largely for exporting iron ore**

# Iron Ore



State	Number of mines	Capacity (in MTPA)	ML area (in ha)
Andhra Pradesh	4	5.64	826.04
Chhattisgarh	4	26.25	6601.28
Goa	32	12.50	2398.50
Jharkhand	9	8.99	2451.00
Karnataka	15	18.74	2403.43
Madhya Pradesh	1	0.04	17.01
Maharashtra	4	1.30	648.94
Odisha	43	88.81	17115.87
Rajasthan	1	0.04	24.60
<b>Total</b>	<b>113</b>	<b>162.32</b>	<b>32486.67</b>



# Keonjhar – No cumulative impact assessment



- At the end of 10<sup>th</sup> FYP, Keonjhar had 101 major mineral leases producing 33 MT on iron ore and about a million tonnes of manganese
- Highly polluted and huge ecologically damage due to mining, sponge iron and mineral transportation
- During 11<sup>th</sup> FYP, EC granted for additional 55+ MTPA of iron ore capacity – 13,000 ha mine lease area  
**Cumulative impact not considered**
- Huge amount of illegal mining and non-compliance with environmental regulation – **not considered in EC**

[http://ibm.nic.in/illegalmining\\_orissastate.htm](http://ibm.nic.in/illegalmining_orissastate.htm)

# Limestone

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- 101 limestone mines given EC in 11<sup>th</sup> FYP
- ML area under limestone granted EC: 34,400 ha
- Capacity granted EC: 94 MTPA; **50% of the existing capacity in the country**

# Limestone



State	Number of mines granted EC	Capacity (MTPA)	ML area (in ha)
Andhra Pradesh	10	20.05	2986.32
Chattisgarh	4	6.06	1062.29
Gujarat	18	23.17	7169.55
Himachal Pradesh	2	3.07	404.9
Jammu & Kashmir	1	0.44	48
Jharkhand	1	0.04	12.33
Karnataka	4	1.66	588.05
Madhya Pradesh	19	12.07	4975.04
Meghalaya	1	0.44	139.67
Odisha	6	4.54	1711.56
Rajasthan	33	21.31	15141.24
Tamil Nadu	2	1.07	121.91
<b>TOTAL</b>	<b>101</b>	<b>93.91</b>	<b>34360.84</b>

# Bauxite

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- 29 bauxite mines given EC in 11<sup>th</sup> FYP
- ML area under limestone granted EC: 0.12 lakh ha
- Capacity granted EC: 21 MTPA
- **1.3 times the existing capacity in the country**

# Bauxite



State	Number of mines	Capacity (in MTPA)	ML area (in ha)
Andhra Pradesh	3	2.50	702.00
Chhattisgarh	3	1.60	2484.05
Goa	1	0.90	826.16
Gujarat	7	2.30	1229.87
Jharkhand	4	0.56	284.72
Karnataka	2	0.04	178.06
Maharashtra	3	0.59	525.06
Odisha	5	12.07	5160.13
Rajasthan	1	0.003	123.20
<b>India</b>	<b>29</b>	<b>20.56</b>	<b>11513.24</b>



# Cement

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- 106 cement projects with a production capacity of 190 MTPA granted EC during the 11<sup>th</sup> FYP
- At the end of the 10<sup>th</sup> FYP, the installed capacity was 179 MTPA
- **More clearances have been granted in the last five years than those installed in the previous 60 years**



## Cement: Top states

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- Spread over 16 states, but four states account for 70% cement capacity granted EC in the country
- Andhra Pradesh is the top – 41 MTPA
- Rajasthan and Karnataka are next with 40 MTPA and 32 MTPA of cleared cement capacity respectively
- 25 MTPA capacity in Chhattisgarh

# Cement



<b>State</b>	<b>Number</b>	<b>Capacity (in MTPA)</b>
Andhra Pradesh	24	41.24
Assam	10	0.59
Chhattisgarh	9	25.19
Gujarat	4	8.1
Haryana	1	0.03
Himachal Pradesh	1	3
Jammu and Kashmir	2	0.16
Jharkhand	3	1.51
Karnataka	9	31.74
Madhya Pradesh	3	8.83
Maharashtra	4	8.1
Meghalaya	4	7.79
Odisha	2	0.92
Rajasthan	21	39.59
Tamil Nadu	8	10.76
Uttar Pradesh	1	2.5
<b>Total</b>	<b>106</b>	<b>190.05</b>





## Cement: Top 10 districts

District	Number of plants	Capacity (in MTPA)
Gulbarga	6	23.33
Nalgonda	8	14.3
Durg	2	12.75
Jhunjhunu	3	11.01
Cuddapah	7	10.58
Raipur	6	10.44
Anantpur	4	9.6
Chittorgarh	5	8.55
Chandrapur	4	8.1
Jaintia Hills	4	7.79
<b>Total</b>	<b>49</b>	<b>116.45</b>



# Gulbarga - Cumulative impact?

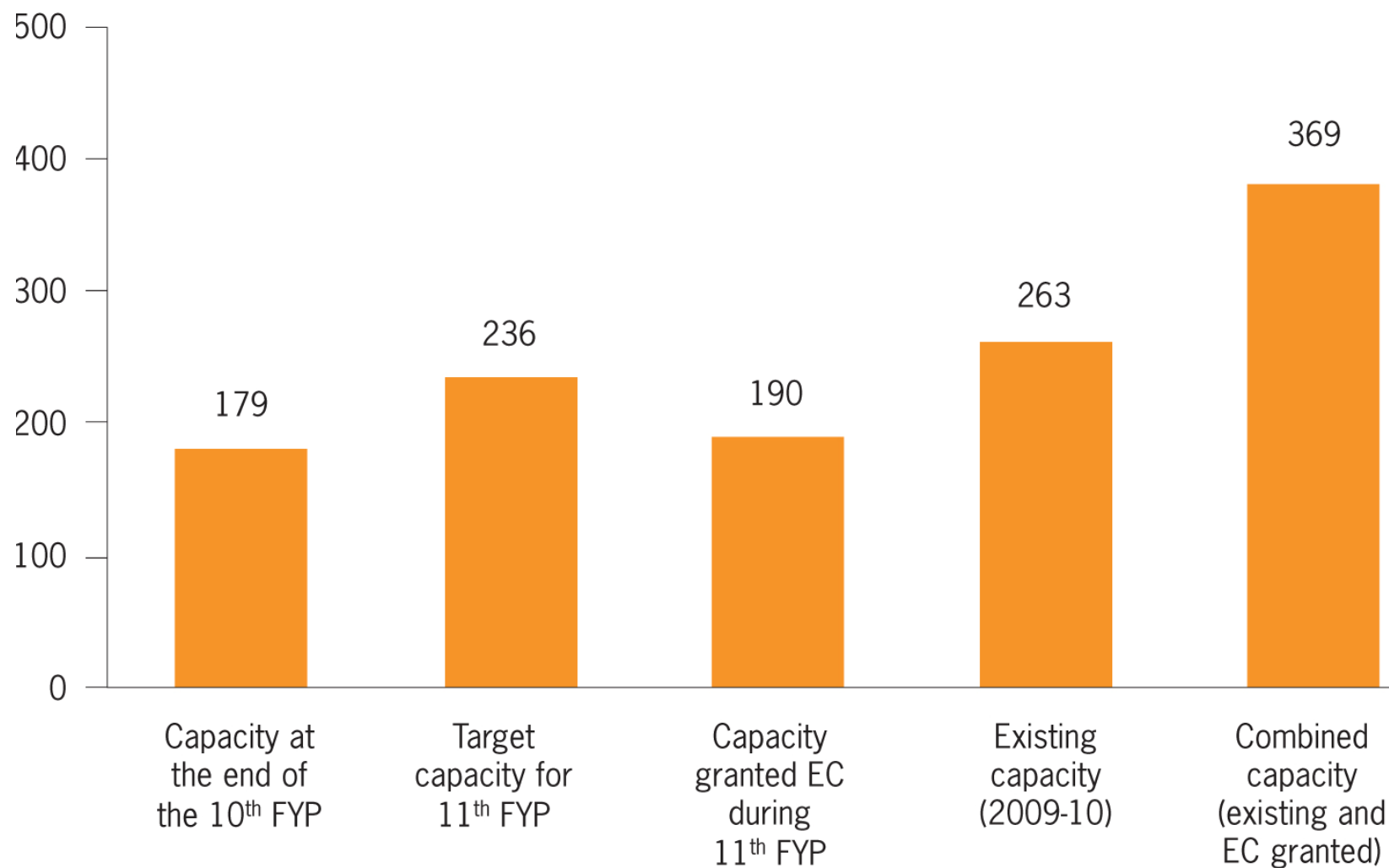
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- Gulbarga, Karnataka which is already the largest limestone producing district of the country (production in 2007 was 14 MTPA) and has major cement plants will get an additional 23 MTPA capacity -- **cumulative 35 MTPA cement + 50 MTPA limestone mines**



# Cement: why new projects?

**Figure 1: Target vs granted**



# Iron & Steel



## Iron & Steel capacity and production: 2009-10

	Capacity (in MTPA)	Production (in million tonnes)
Steel	73	65
Sponge iron	31	21

- 188 iron & steel projects granted EC; adding 29 *MTPA of sponge iron capacity and 89 MTPA of steel capacity*
- **More than doubled the capacity in the last 5 years**



## Iron and Steel: State-wise EC

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- Jharkhand is the top state in terms of steel capacity granted EC in the country – 25 MTPA
- Chhattisgarh and Odisha are next with 20 MTPA and 14 MTPA of steel capacity respectively
- Maximum sponge iron capacity in Chhattisgarh (8.4 MTPA) followed by Odisha (6 MTPA)



# Iron and Steel: State-wise EC

State	Capacity (in MTPA)	
	Sponge iron	Steel
Andhra Pradesh	1.77	2.81
Chhattisgarh	8.38	20.44
Goa	0	0
Gujarat	0.35	5.02
Jharkhand	3.69	24.93
Karnataka	1.94	8.48
Maharashtra	1.14	1.82
Madhya Pradesh	1.01	2.69
Odisha	6.03	14.19
Punjab	0	0.11
Tamil Nadu	0.42	1.32
West Bengal	3.82	7.49
<b>Total</b>	<b>28.55</b>	<b>89.30</b>



## Steel capacity: Top 10 districts

<b>District</b>	<b>Capacity (in MTPA)</b>
East Singhbhum	9.83
<u>Bellary</u>	8.44
Raigarh	6.73
Hazaribagh	6.02
Jagatsinghpur	6
Bastar	5.5
Surat	5
Saraikela-Kharswan	3.4
Bokaro	3.04
Jagdapur	3
<b>Total</b>	<b>56.96</b>

# Sponge iron capacity: Top 10 districts



<b>District</b>	<b>Capacity (in MTPA)</b>
Raigarh	2.96
Saraikela-Kharswan	2.85
Jharsuguda	2.47
Raipur	2.35
West Midnapore	1.95
<u>Bellary</u>	1.47
Sambalpur	1.36
Rajnandgaon	1.26
Purulia	1.12
Durg	1.12
<b>Total</b>	<b>18.91</b>





## Bellary– Cumulative impacts?

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- A billion tonnes on iron ore reserve
- Existing iron & steel capacity, including sponge iron: 27 MTPA (2011 data)
- Land allocated to Mittal steel, Essar Steel, Bhushan Steel and Brahmani steel by state govt. Posco is also setting up its steel plant near Almatti dam
- More than 60 MTPA steel capacity; 125 MTPA iron ore mining (current is 40-45 MTPA) – iron ore reserve will not last even 10 years
- Already critically polluted and ecologically devastated.  
**What will be impact of upcoming projects on water, land, forests, pollution, people ??????**



# What next?

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- In all sectors clearances granted to capacities almost equal to the existing capacities
- Concentration of mining and industries in a few states and districts
- No cumulative impact being considered
- **Where is the question of environment clearances impeding growth?**