

53 Limestone & Other Calcareous Materials

The term limestone is applied to any calcareous sedimentary rock consisting essentially of carbonates. The two most important constituents are calcite and dolomite. Limestone often contains magnesium carbonate, either as dolomite $\text{CaMg}(\text{CO}_3)_2$ or magnesite (MgCO_3) mixed with calcite. It is then termed 'dolomitic', or 'magnesian' limestone. Such limestone contains 10 to 40% MgCO_3 . Limestones altered by dynamic or contact metamorphism become coarsely crystalline and are referred to as 'marbles' and 'crystalline limestones'. Other common varieties of limestones are 'marl', 'oolite', (oolitic limestone), shelly limestone, algal limestone, coral limestone, pisolitic limestone, crinoidal limestone, travertine, onyx, hydraulic limestone and lithographic limestone, etc. However, the limestone which is used by industries in bulk quantity is a bedded type sedimentary limestone. Other calcareous material used by industry is 'chalk', a white, extremely fine-grained, usually soft and friable variety of limestone, composed wholly or largely of microscopic small remains of foraminifera and broken shelly fragments; 'kankar', irregular nodules and concretions of impure calcium carbonate of all sizes found in the older surface alluvium or soils; and 'limeshell' the thick calcareous shells of molluscs deposited in the form of beds in present as well as ancient lakes and shallow seas. A limestone rock which separates well along the stratification into a few centimetres thick slabs is termed 'flagstone'. The dimensional limestone used for building and ornamental stone purposes is discussed in the Reviews on Marble and Slate, Sandstone & Other Dimension Stones.

RESOURCES

The total resources of limestone of all categories and grades as per UNFC system as on 1.4.2005 is estimated at 175,345 million tonnes, of which 12,715 million tonnes (7%) are under reserves category and 162,630 million tonnes are under remaining resources category. Karnataka is the leading State having 30% of the total resources followed by Andhra Pradesh (20%),

Gujarat and Rajasthan (11% each), Meghalaya (9%) and Chhattisgarh (5%). Gradewise, cement grade has leading share of about 59% followed by SMS & BF grades (18%) and chemical grade (3%). Remaining 20% are others, not known and unclassified grades (Table-1).

EXPLORATION & DEVELOPMENT

GSI conducted exploration for limestone in Madhya Pradesh, Meghalaya, Orissa, Rajasthan and Tamil Nadu. Directorates of Geology and Mining of Governments of Assam, Chhattisgarh, Himachal Pradesh, Jharkhand, Karnataka, Madhya Pradesh, Orissa, Rajasthan and Tamil Nadu carried out exploration for limestone. Mineral Exploration Corporation Ltd (MECL), Rajasthan State Mines & Minerals Ltd (RSMML) and Gujarat Mineral Development Corporation (GMDC) were also engaged in exploration of limestone. Details of work carried out by these organisations are given in Table - 2.

PRODUCTION, STOCKS AND PRICES

Limestone

The production of limestone in 2007-08 at about 188.1 million tonnes decreased by 4% as compared to that of the previous year. The production has been reduced during the year because several mines could not produce the mineral for want of permission from Ministry of Environment and Forest and some court cases.

There were 539 reporting mines in 2007-08 as against 583 during the previous year. Fourteen mines, each producing more than 3 million tonnes per annum reported 31% of the total production of limestone in 2007-08. The share of 11 mines, each in the production range of 2 to 3 million tonnes was 14% of the total production. About 28% of the total production was contributed by 37 mines, each producing 1 to 2 million tonnes annually. The remaining 27% of the total production was reported by 477 mines during the year. Twenty nine principal producers contributed 76% of the total production. About

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**Table - 1 : Reserves/Resources of Limestone as on 1.4.2005
(By Grades/States)**

(In '000 tonnes)

Grade/State	Reserves			Remaining resources					Total resources (A+B)			
	Proved STD111	Probable STD121	Total (A) STD122	Feasibility STD211	Pre-feasibility STD221	Measured STD331	Indicated STD332	Inferred STD333		Reconnaissance STD334	Total (B)	
All India : Total	7491971	3244898	12715317	37880	6309694	8734557	7883393	20725644	115472556	3465859	162629584	175344901
By Grades												
Chemical	165195	378715	639082	234	270429	621309	16958	1325604	1503025	-	3737560	4376642
SMS (O.H.)	176866	10356	223109	-	282599	1008809	454934	859174	4080345	751	6686611	6909720
SMS (L.D.)	3056	1052	100703	-	8000	20642	28100	-	7514569	-	7571311	7672013
SMS (O.H. & L.D. mixed)	33055	-	33055	-	-	-	-	2604	167182	-	169786	202841
BF	464623	97049	965555	12979	688738	236148	884325	848234	11487528	1487	14159438	15124993
SMS & BF mixed	67662	10172	94382	-	5165	60195	19230	93103	1535690	240423	1953806	2048189
Cement (portland)	5839973	1146776	9407293	20947	4946397	6085985	4529015	9755092	62319626	3025440	90682502	100089795
Cement (white)	80640	63289	13868	157797	-	404	8197	1180	190743	-	200524	358321
Cement (portland & white)	1618	20340	868	22825	-	-	117000	60000	162085	-	339085	361911
Cement (blendable/beneficial)	77268	126	16567	93961	24433	547933	178809	26369	1799137	-	2576681	2670642
BF & cement mixed	29645	55034	70283	154961	45855	47775	338670	-	511902	-	944202	1099163
SMS, chemical & paper	2952	609	7436	10996	6553	5026	-	395860	50904	-	458343	469340
Paper	2493	-	2495	4989	-	-	-	-	306	-	306	5294
Others	64237	17886	30723	112845	24751	23053	960055	513572	3154181	196049	4871661	4984507
Not known	328150	7093	20529	355773	1453	61279	58325	67619	946320	1500	1136495	1492267
Unclassified	154538	25586	157866	337990	5320	16000	289777	6777232	20049014	209	27141273	27479263
By States												
Andhra Pradesh	2065743	188150	1126885	3380779	12689	44586	113890	272610	27603548	3025184	31797756	35178535
Arunachal Pradesh	-	-	-	-	-	-	-	49220	433575	-	482795	482795
Assam	57156	157519	2000	216675	-	4257	98233	32200	953572	-	1088262	1304937
Bihar	4314	583	8795	13692	-	-	86379	38210	721143	-	845732	859424
Chhattisgarh	669205	197381	200015	1066602	-	1544395	600882	2136876	619250	3069683	7971087	9037689
Daman & Diu	-	-	0	48840	-	-	79830	-	-	-	128670	128670
Gujarat	585071	122861	222216	930149	234	86484	167762	26876	857691	17943215	19082262	20012410
Haryana	-	9675	-	9675	-	8222	-	-	50398	-	61574	71249

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Table - 1 (Concl.d.)

Grade/State	Reserves				Remaining resources					Total resources (A+B)			
	Proved STD111	Probable		Total (A)	Feasibility STD211	Pre-feasibility		Indicated STD332	Inferred STD333		Reconnaissance STD334	Total (B)	
		STD121	STD122			STD221	STD222						
Himachal Pradesh	275755	100816	64032	440604	3721	976539	9860	1154802	1891	2174926	-	4321739	4762342
Jammu & Kashmir	45409	18990	27428	91827	-	26801	160102	43621	-	1033672	203	1264400	1356227
Jharkhand	249920	42009	52889	344818	894	1630	2772	1956	9460	382745	1503	400961	745778
Karnataka	746295	230249	389331	1365875	19970	152101	450529	2493208	14327809	33076293	-	50519911	51885786
Kerala	136695	77	10936	147709	-	-	-	21551	2888	34838	-	59276	206985
Madhya Pradesh	562773	97810	134510	795092	-	423310	445248	390901	229338	3394373	242920	5126090	5921183
Maharashtra	142077	111199	124165	277442	290	378430	27750	116650	150489	786271	-	1459879	1737322
Manipur	-	-	-	-	-	-	-	19953	2138	23962	-	46053	46053
Meghalaya	85470	59240	12579	157289	-	-	186000	459600	2588804	12662369	-	15896773	16054062
Nagaland	825	-	-	825	-	-	-	-	1010000	27000	-	1037000	1037825
Orissa	260968	496768	240094	997830	35	120500	183605	56574	20291	359525	-	740530	1738360
Puducherry	-	-	-	-	-	4333	-	4433	-	6966	-	15732	15732
Rajasthan	1121846	77206	508279	1707331	-	2367136	5679033	317246	263307	8956152	196049	17778922	19486253
Sikkim	-	-	-	-	-	-	-	-	-	2380	-	2380	2380
Tamil Nadu	478504	60601	99259	638365	48	29715	25453	81462	20962	386416	-	544056	1182420
Uttarakhand	3945	540	2423	6907	-	91872	56051	29486	173604	1181881	-	1532894	1539801
Uttar Pradesh	-	106772	19060	125832	-	4800	7050	142763	40000	185533	-	380146	505978
West Bengal	-	-	-	-	-	-	-	7104	15482	22120	-	44706	44706

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 2 : Details of Exploration Activities for Limestone, 2006-07 and 2007-08

Agency/ Location of area	Mapping		Drilling		Sampling (No. of samples)	Remarks
	Scale	Area (sq km)	No. of bore- holes	Meterage drilled		
2006-07						
GSI						
Madhya Pradesh						
Niwar area, Katni district.	-	-	2	-	-	Two major limestone bands have been mapped. The pink limestone, which was found to be of flux grade, has been intersected in two boreholes ranging the thickness from 52.07 m to 57.15 m.
Meghalaya						
Lum-Syrman block, Jaintia Hills district.	-	-	-	-	-	Limestone was intersected below 3 to 6 m alluvial overburden and the thickness varied from 27.00 m to 34.20 m. A total resource of 280.80 million tonnes limestone has been estimated.
Orissa						
Purkapali, Katopoda and Gangajal area, Sundergarh district	-	-	-	-	-	Five different dolomite/limestone bands have been delineated with strike length varies from 3.5 to 4 km.
Tamil Nadu						
Uchchimedu area Cuddalore district.	-	-	-	-	-	Limestone band extending for 14 km strike length demarcated. A total resource of 33.74 million tonnes marginal cement grade limestone has been assessed.
STATE DGMs						
Assam						
New Umrangshu, N.C. Hills district	-	1.00	2	212	125	The total thickness of limestone band is about 90-98 m comprising of two bands, the lower band with an average thickness of 50 m is of cement grade. The strike extension of the deposit is about 1000 m.
Chhattisgarh						
Kawardha and Pandoria Tehsil dist. Kawardha	1:5000	1770	-	-	279	Eight localities of limestone of different dimensions have been located. Estimated 69.2 million tonnes of limestone resources.
Himachal Pradesh						
Salbag village, Tehsil Sunni, Shimla district.	1:2000	0.7	1	75.15	-	Under progress.
Gumma Rohana Tehsil Chopal, Shimla district.	1:2000	0.7	2	210.90	-	Under progress.
Madhya Pradesh						
Tala Bandharkh Tehsil Amarpaton Satna district	1:50,000 1:4000	300 2	25	552.35	395	-
Sehadpur Kailavas Morena district	-	-	-	-	-	Estimated 108.27 million tonnes resources.

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LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 2 (Contd.)

Agency/ Location of area	Mapping		Drilling		Sampling (No. of samples)	Remarks
	Scale	Area (sq km)	No. of bore- holes	Meterage drilled		
Rajasthan						
Rajpura & Jharoli	1:50,000	75	-	-	59	Five million tonnes of cement grade limestone resources estimated.
	1:10,000	10				
Tehsil Pindwara Sirohi district.	1:2,000	1.5				
Khiror - Devgaon Tehsil - Nawalgarh Jhunjhunu district	-	-	-	-	125	Estimated 30.63 million tonnes resources under indicated category and 6.09 million tonnes under inferred category.
Sam Tehsil Jasimer Jaisalmer district	1:10,000 1:2000	15 4	36	1063	632	SMS grade limestone 116.44 million tonnes resources. Cement grade limestone 94.00 million tonnes resources.
Kayampura, Magra Raghunathpura Tehsil Kishangarh Ajmer district	1:50,000 1:10,000 1:2,000	200 15 2	7	447	Spot - 94 Core - 59	Under progress
Khetolao, Somna Khanwar Nagaur district	1:10,000 1:2,000	10 2	-	-	Geo- chemical - 35	Estimated 35 million tonnes tentative geological resources.
Phlawa-Dhanora-Payri Tehsil Nimbahera Chittaurgarh district.	1:50,000 1:10,000 1:2,000	50 5 1.5	9	586	Core & composite 529	Cement grade limestone resources of about 60 million tonnes estimated.
Bhatkotri - Lasrawan Tehsil Nimbahera Chittaurgarh district	-	-	14	645	Core & composite 844	In Jorda block 220 million tonnes and in Bhatkotri block 296 million tonnes resources of cement grade limestone estimated.
Balapura - Kunwanti, Bardha, Hattipura, Khankhera, Bhanvarda & Kotkhera Tehsil & district Bundi	1:50,000 1:10000 1:3088	150 16 2.10	-	-	Spot 35	Estimated 1.30 million tonnes resources of marginal cement grade limestone.
Chureliya Tehsil & district Baran	1:50,000 1:10,000 1:2,000	100 15 1	-	-	Spot 34	Estimated 0.52 million tonnes resources of limestone.
Tamil Nadu						
Parapadi and Irraipuvari Tehsil Nonguneri Tirunelveli district	-	-	9	183.60	Core 117 Sludge 145	CaO content ranges from 10.81% to 52.15%.
Mysore Minerals Limited						
Muddapura Limestone mine Tehsil Mudhol, Bagalkote district	-	-	-	-	-	Estimated 9.7 million tonnes reserves of limestone.
Yodwad limestone mine Tehsil Gokale, Belgaum district	-	-	-	-	-	Estimated 25.87 million tonnes reserves of limestone.
Lokapura Limestone mine Tehsil Mudhol Bagalkote district.	-	-	-	-	-	Estimated 26.24 million tonnes reserves of limestone.
Chikkashellikere village Tehsil & dist. Bagalkote	1:2000	64.35	-	-	-	Estimated 32.91 million tonnes resources of limestone.

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LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 2 (Contd.)

Agency/ Location of area	Mapping		Drilling		Sampling (No. of samples)	Remarks
	Scale	Area (sq km)	No. of bore- holes	Meterage drilled		
MECL						
Village Saipam, Kolasib district, Mizoram	1:1000	0.12	-	-	-	Shell limestone resources of 0.21 million tonnes estimated suitable for manufacturing of polished slab/tiles.
2007-08						
GSI						
Madhya Pradesh						
Niwar area, Katni district.	-	-	-	-	-	A resource of 1.49 million tonnes flux grade limestone (Grade D category) has been estimated with an average grade of 48% CaO.
Rajasthan						
Netse block Ramgarh Tehsil, Jaisalmer district.	-	-	7	-	-	Further investigation will be taken up.
STATE DGMS						
Chhattisgarh						
Sohagpur-Udka area Kabirdham district.	1:50,000 1:4,000	35 0.52	10	185.10	98	Estimated 6.92 lakh tonnes of mixed grade limestone resources.
Tekapur Kalkasa area Rajnandgaon district.	1:50,000 1:4000	25 0.52	5	178.25	58	Estimated 25.68 lakh tonnes resources of all grade limestone.
Northern part of Rajnandgaon district.	1:50,000	2015	-	-	388	Estimated 50 million tonnes of limestone resources and 2.8 million tonnes of iron ore resources.
Himachal Pradesh						
Salbag village Tehsil Sunni Shimla district.	-	-	3	399	-	Drilling on behalf of M/s Cement India Ltd.
Gumma Rohana Tehsil Chopal Shimla district.	-	-	2	192	-	Drilling in progress
Jharkhand						
Gangabasa West Singhbhum district.	1:2000	1	13	248.55	205	Estimated 1.63 million tonnes resources.
Sudi, Armadag, Kori, Daridag, Ramgarh district.	1:50,000 1:5000	25.20 0.835	5	197.20	Core 233 Surface 162	10.8 million tonnes resources estimated.
Karnataka						
Malkhed, Tehsil Sedam and Jewargi Gulburga district.	-	-	2	388.5	400	Exploration continued.
Melanahalli village Tehsil Chikkanayakanahalli Tumkur district.	-	-	4	388	100	Exploration continued.
Madhya Pradesh						
Tehsil Amarpatan Satna district.	1:4000	2.40	-	28	1065.05	37 million tonnes resources estimated
Orissa						
Garramura area Nuapada district.	-	-	10	509.6	418	Cumulative thickness of limestone band varies from 15.4 to 44.17 m.

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LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 2 (Concl.)

Agency/ Location of area	Mapping		Drilling		Sampling (No. of samples)	Remarks
	Scale	Area (sq km)	No.of bore- holes	Meterage drilled		
Rajasthan						
Kerpura & Barundi villages	1:50,000 1:10,000	150 10	-	-	7	A limestone band of dimension 1000 m x 30 m identified.
Tehsil Begun & Mandalgarh Districts Chittaurgarh & Bhilwara districts.	1:4000	1				
Atwal, Gordhanpura, Rahera, Fatehpurkalon, Bithloda, Jodhpura, Basai etc., Tehsil - Kotputali Jaipur district.	1:50,000 1:10,000 1:4,000	150 10 4	4	283	-	Twenty million tonnes resources estimated.
Jayal, Kothoti, Chajoli Sandela villages Tehsil - Jayal, Nagaur district.	1:50,000 1:10,000 1:4,000	300 20 2	-	-	36	Limestone bands of varying thickness identified.
Harima and Pitasor Tehsil - Jayal, Nagaur district.	1:10,000 1:4000	30 4	-	-	75	Potential areas for cement grade limestone located.
Godhan & Bher Tehsil Khimsar, Nagaur district.	1:10,000 1:4000	20 4	-	-	26	Eighteen million tonnes resources estimated.
Sam & Sagronki Basti Tehsil & Jaisalmer district.	1:10,000 1:4000	20 7	51	1643	1014	SMS grade limestone 176 million tonnes, cement grade limestone 176.50 million tonnes resources estimated.
Hansuki Dhani, Bhilon ki Basti & Soon ki Dhani Tehsil & Jaisalmer district.	1:10,000 1:2000	15 3	-	-	-	-
Amarpura Tehsil Shatul Banswara district.	1:50,000 1:10,000 1:2000	150 10 1	-	-	18	Ten million tonnes resources of cement grade limestone estimated.
Abhepur, Chandakalon Rakshapura, Balwan, Kankra, Biswara, Nimsara, Sinota, Shergarh etc., Tehsil Indergarh and Pipalda, Bundi & Kota districts.	1:50,000 1:10,000 1:4000	150 10 2	-	-	Spot 12	Estimated 2.60 million tonnes resources.
Lassaria, Kemria, Jalpa Tehsil - Bhim Rajsamand district.	1:50,000 1:10,000 1:2000	150 10 1	-	-	135	Resources of 21.52 million tonnes cement grade limestone estimated
Harpura, Fatehgarh, Jetpura Tehsils Kotri, Salria, Shahpura, Bhilwara district.	1:50,000 1:10,000 1:2000	200 10 1	-	-	21	Limestone bands interbedded with dolomite ore located.
Phalwa-Dhanera-Payari and Gopalnagar Bherusinghji-Ka-Khera blocks, Chittaurgarh district.	1:50,000 1:10,000 1:4,000	150 15 2.75	14	756	973	Estimated 100 million tonnes resources in Phalwa-Dhanera-Payari blocks and 150 million tonnes in Gopalnagar- Bherusinghji-ka-Khara blocks.
GMDC						
Panandhro, Lakhpat tehsil, Kutch district.	-	-	-	-	-	Estimated 63 million tonnes geological reserves of limestone.
Karoli-ki-Dhani Mondo-ki-Dhani Rajsamand district.	1:50,000 1:10,000 1:2,000	75 10 1.5	-	-	-	Three dolomitic limestone bands of varying dimensions identified.

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6% of the production was shared by public sector mines during both the years.

About 96% of the total production of limestone was of cement grade, 2% of iron and steel grade and the rest 2% consisted of chemical and other grades.

Andhra Pradesh was the leading producing State accounting for 20% of the total production of limestone, followed by Rajasthan (16%), Madhya Pradesh (14%), Gujarat (12%), Tamil Nadu (9%) Chhattisgarh & Karnataka (8%) each, Maharashtra (5%) and Himachal Pradesh 4 percent. The remaining 4% was contributed by Orissa, Jharkhand, Kerala, Assam, Meghalaya, Bihar and Jammu & Kashmir (Tables - 3 to 7).

Mine-head stocks of limestone at the end of the year 2007-08 were 9 million tonnes as against 8 million tonnes in the beginning of the year (Table - 7).

Average daily labour employment in limestone in 2007-08 was 19,829 as against 18,757 in the previous year. Prices of limestone are furnished in Table - 8.

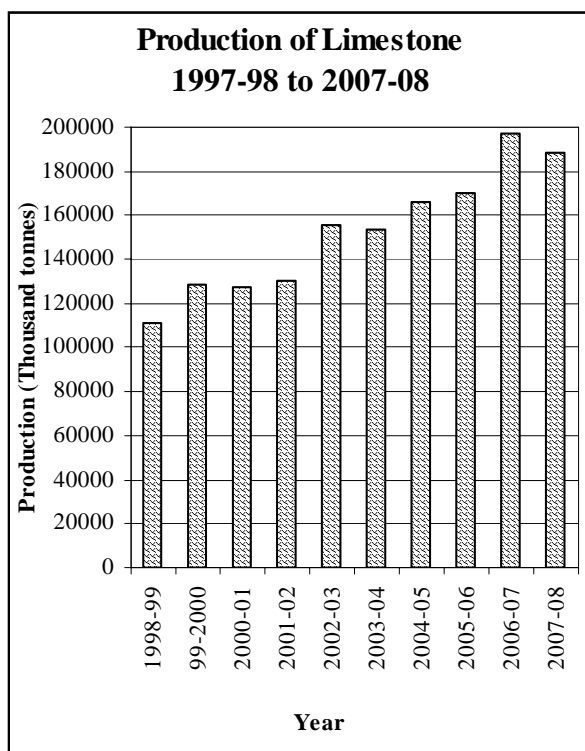


Table – 3 : Principal Producers of Limestone 2007-08

Name and address of producer	Location of mines	
	State	District
Gujarat Ambuja Cement Ltd, (Unit of Ambuja Cement), P.O. Ambujanagar, Tq.: Kodinar, Distt. Junagadh-363 715, Gujarat.	Gujarat Himachal Pradesh Maharashtra	Junagadh Solan Chandrapur
The ACC Ltd, Cement House, 121, Maharshi Karve Road, Mumbai-400 020, Maharashtra.	Andhra Pradesh Jharkhand Himachal Pradesh Karnatak Chhattisgar Madhya Pradesh Maharashtra Rajasthan Tamil Nadu	Adilabad Singhbhum (West) Bilaspur Gulbarga Durg Katni Yavatmal Bundi Coimbatore
Grasim Industries Ltd, Ahura Centre, Ist Floor, Mahakali Caves Road, Andheri (East), Mumbai-400 093, Maharashtra.	Chhattisgarh Madhya Pradesh Karnataka Rajasthan Tamil Nadu	Raipur Neemuch Gulbarga Chittorgarh, Naguar Ariyalur
Ultra Tech Cement Ltd, L& T House, Ballard Estate, P.O.Box 278, Mumbai-400 001, Maharashtra.	Andhra Pradesh Gujarat Chhattisgarh Maharashtra	Kurnool Amreli Raipur Chandrapur
India Cements Ltd, Dhun Building, 827, Annasalai, Chennai-600 002, Tamil Nadu	Andhra Pradesh Tamil Nadu	Cuddapah, Nalgonda Namakkal, Perambalur Salem, Thoothukudi, Tirunelveli
Birla Corporation Ltd, Birla Building, 9/1, R.N. Mukherjee Rd, Kolkata-700 001, West Bengal.	Madhya Pradesh Rajasthan	Satna Chittorgarh
Madras Cement Ltd, Rammandiram, P.O.Rajapalayam-626 117, Distt Virudhunagar, Tamil Nadu.	Andhra Pradesh Karnataka Tamil Nadu	Krishna Chitradurga Ariyalur, Tuticorin, Virudhunagar

(Contd.)

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Table - 3 (Contd.)

Name and address of producer	Location of mines	
	State	District
J.K.Cement Works, Kailash Nagar-312 617, Nimbahera (W.R.), Distt – Chittorgarh, Rajasthan.	Rajasthan	Chittorgarh
Lafarge India Ltd, Sonadih Cement Plant, P.O. Raseda, Via Baloda Bazar, Distt : Raipur-493 332, Chhattisgarh.	Chhattisgarh	Jangir- Champa, Raipur
Century Textiles & Industries Ltd, Century Bhawan, Dr. Annie Besant Road, Worli, Mumbai-400 025, Maharashtra.	Chhattisgarh Madhya Pradesh Maharashtra	Raipur Satna Chandrapur
Shree Cement Ltd, Bangur Nagar, Post Box No.33, Beawar-305 901, Distt. Ajmer, Rajasthan.	Rajasthan	Ajmer, Pali
J. K. Corpn. Ltd, Nehru House, Bahadur Shah Jafar Marg, New Delhi..	Rajasthan	Sirohi
Vasavadatta Cement, (Prop: Kesoram Industries Ltd), Post: Sedam-585 222, Distt. : Gulbarga, Karnataka.	Karnataka	Gulbarga
Sanghi Industries Ltd, Sanghipuram-370 655, P.O Motiber, Tq-Abdasa Distt – Kachchh Gujarat.	Gujarat	Kachchh
Dalmia Cement Ltd, Dalmiapuram, P.O. Dalmiapuram-621 651, Dist-Thiruchirapalli Tamil Nadu.	Tamil Nadu	Ariyalar, Perambalur, Thiruch- irapalli
M/s Jaiprakash Associates, Jaypee Rewa Cement Ltd, P.O. Jaypee Nagar, Dist: Rewa M.P.	Madhya Pradesh	Rewa
Maratha Cement works (A unit of Gujarat Ambuja Cement Ltd.) P.O.Upparwahi-442 908, Dist.Chandrapur, Maharashtra.	Maharashtra	Chandrapur

(Contd.)

Table - 3 (Concl.)

Name and address of producer	Location of mines	
	State	District
Binani Cement Ltd, Binani Building, 38, Strand Road, Kolkata-700 001, West Bengal.	Rajasthan	Sirohi
Prism Cement Ltd, 305, Laxmi Niwas Apartments, Ameerpeth, Hyderabad, Andhra Pradesh	Madhya Pradesh	Satna
A. P. Mineral Dev. Corpn. Ltd, Pancorn Business Centre, 2 nd & 3 rd floor 8-3-945, Ameerpet, Hyderabad-500 073, Andhra Pradesh.	Andhra Pradesh	Adilabad
Zuari Cement Ltd, Krishnanagar, Yerraguntla-516 311, Distt. Cuddapah, Andhra Pradesh.	Andhra Pradesh	Cuddapah
Chettinad Cement Corp. Ltd, 603, Anna Salai, Rami Seetha Hall Building, Chennai, Tamil Nadu.	Tamil Nadu	Dindigul, Karur
Mysore Cement Ltd, Industry House First floor, 45, Race Course Road, Banglore, Karnataka.	Karnataka	Tumkar
Ambuja Cement Rajasthan Ltd, P.O. Rabriyawas,Teh. Jaitaran, Distt. Pali-306 709, Rajasthan.	Rajasthan	Pali
M/s Maihar Cement, (Prop. Century Textiles & Industries Ltd) P.O.- Sarlanagar, Maihar, Dist:- Satna (M.P.)	Madhya Pradesh	Satna
Rajasthan State Mines & Minerals Ltd, C-89, Lalkothi, Janpath, Jaipur-302 001, Rajasthan.	Rajasthan	Jaisalmer
Mangalam Cement Ltd., P.O Adityanagar-326 520, Morak, Distt. Kota, Rajasthan.	Rajasthan	Kota, Nagaur
Ambuja Cement Eastern Ltd, P.O.Rawan, Th.Baloda Bazar, Distt. Raipur-493 331, Chhattisgarh.	Chhattisgarh	Raipur
Penna Cement Industries Ltd, Plot No.703, Sriniketan Colony, Road No. 3, Banjara Hills, Hyderabad-500 034.	Anantapur	Andhra Pradesh

LIMESTONE AND OTHER CALCAREOUS MATERIALS

**Table - 4 : Production of Limestone, 2005-06 to 2007-08
(By States)**

(Qty. in '000 tonnes; value in Rs. '000)

State	2005-06		2006-07		2007-08 (P)	
	Quantity	Value	Quantity	Value	Quantity	Value
India	170029	19060882	196695	24050066	188125	24135445
Andhra Pradesh	31122	3164728	33678	3645433	36811	4268615
Assam	406	61748	360	60685	383	76164
Bihar	313	117555	437	150351	393	148037
Chhattisgarh	15088	1931566	14972	2140206	15546	2560304
Gujarat	19121	1971499	33861	3929477	22120	2743616
Himachal Pradesh	7521	620341	7422	668461	8082	732084
Jammu & Kashmir	166	39296	245	55699	253	57188
Jharkhand	1428	166793	1943	396422	2056	465911
Karnataka	13616	1136835	14701	1293133	14859	1309892
Kerala	585	165473	498	154315	475	147326
Madhya Pradesh	25274	2773692	28411	3407380	25640	3161722
Maharashtra	10113	1021077	11087	1146174	9600	987938
Meghalaya	887	142465	2031	392432	1761	341342
Orissa	2615	503385	2707	608336	2769	719361
Rajasthan	26176	3228296	27310	3492160	30041	3901654
Tamil Nadu	15578	2014182	17000	2482406	17336	2514291
Uttarakhand	20	1951	32	26996	-	-

**Table - 5 : Production of Limestone, 2006-07 and 2007-08
(By Frequency Groups)**

Production group (in tonnes)	No. of mines		Production for the group ('000 tonnes)		Percentage in total production		Cumulative percentage	
	2006-07	2007-08	2006-07	2007-08	2006-07	2007-08	2006-07	2007-08
All Groups	583	539	196695	188125	100	100	-	-
Up to 10000	270	217	3651	639	1.86	0.34	1.86	0.34
10001 - 50000	116	109	2855	2586	1.45	1.37	3.31	1.71
50001 - 100000	31	45	2155	3238	1.10	1.72	4.41	3.43
100001 - 200000	29	29	3972	4192	2.02	2.23	6.43	5.66
200001 - 300000	15	14	3615	3367	1.84	1.79	8.27	7.45
300001 - 400000	11	20	3514	6954	1.79	3.70	10.06	11.15
400001 - 500000	13	9	5876	4037	2.99	2.15	13.05	13.30
500001 - 600000	7	3	3795	1638	1.93	0.87	14.98	14.17
600001 - 700000	11	14	7057	9201	3.59	4.89	18.57	19.06
700001 - 800000	10	2	6771	1532	3.44	0.81	22.01	19.87
800001 - 900000	6	7	5129	5911	2.60	3.14	24.61	23.01
900001 - 1000000	6	8	5575	7630	2.83	4.06	27.44	27.07
1000001 - 2000000	31	37	44270	52081	22.51	27.68	49.95	54.75
2000001 - 3000000	11	11	26392	25972	13.42	13.81	63.37	68.56
3000001 & Above	16	14	72068	59147	36.63	31.44	100	100

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 6 : Production of Limestone, 2006-07 and 2007-08
(By Sectors/States/Districts/Grades)

(Qty. In '000 tonnes; value in Rs. '000)

State/District	2006-07						2007-08(p)							
	Grades			Total			Grades			Total				
	No. of mines	Cement	Iron & steel	Chemical	Others	Qty.	Value	No. of mines	Cement	Iron & steel	Chemical	Others	Qty.	Value
India	583(2)	188356	4163	3039	1137	196695	24050066	539(1)	180777	3777	3291	280	188125	24135445
Public sector	39(1)	7999	4036	-	30	12065	2913115	40(0)	9115	2772	-	43	11930	2747964
Private sector	544(1)	180357	127	3039	1107	184630	21136951	499(1)	171872	794	3291	238	176195	18600080
Andhra Pradesh	83	33040	398	-	240	33678	3645433	84	36368	443	-	-	36811	4268615
Adilabad	3	2897	-	-	-	2897	246803	3	2951	-	-	-	2951	258062
Anantapur	7	1613	-	-	5	1618	192563	5	80	-	-	-	80	6734
Cuddapah	4	4813	-	-	-	4813	479154	4	4626	-	-	-	4626	467925
Guntur	7	3095	-	-	45	3140	376596	11	3198	-	-	-	3198	403004
Karimnagar	1	1235	-	-	-	1235	276540	1	1428	-	-	-	1428	397781
Krishna	8	1781	398	-	-	2179	357543	7	2297	443	-	-	2740	487542
Kurnool	28	4342	-	-	63	4405	483011	27	6559	-	-	-	6559	799348
Nalgonda	22	10735	-	-	127	10862	1001754	23	12821	-	-	-	12821	1225478
Ranga Reddy	3	2529	-	-	-	2529	231469	3	2408	-	-	-	2408	222741
Assam	4	360	-	-	-	360	60685	4	383	-	-	-	383	76164
Karbi Anglong	1	209	-	-	-	209	31280	1	247	-	-	-	247	48977
North Cachar Hills	3	151	-	-	-	151	29405	3	136	-	-	-	136	27187
Bihar	5	437	-	-	-	437	150351	3	393	-	-	-	393	148037
Rohtas	5	437	-	-	-	437	150351	3	393	-	-	-	393	148037

(Contd.)

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 6 (Contd.)

State/District	2006-07										2007-08(p)											
	Grades					Total					Grades					Total						
	No. of mines	Cement	Iron & steel	Chemical	Others	Qty.	Value	No. of mines	Cement	Iron & steel	Chemical	Others	Qty.	Value	No. of mines	Cement	Iron & steel	Chemical	Others	Qty.	Value	
Chhattisgarh	36	14304	623	-	45	14972	2140206	34	14812	656	-	78	15546	2560304								
Bastar	6	26	-	-	4	30	3337	5	7	-	-	10	17	1951								
Durg	13	934	623	-	41	1598	665555	14	1080	656	-	68	1804	720108								
Janjgir-Champa	1	2232	-	-	-	2232	245538	1	2389	-	-	-	2389	350339								
Raigarh	2	11	-	-	-	11	1386	2	13	-	-	-	13	2089								
Raipur	13	11101	-	-	-	11101	1224385	11	11323	-	-	++	11323	1485810								
Rajnandgaon	1	++	-	-	-	++	5	1	++	-	-	-	++	7								
Gujarat	1111(1)	30946	-	2915	-	33861	3929477	97	18921	-	3199	-	22120	2743616								
Anreli	2	6688	-	-	-	6688	596228	2	6437	-	-	-	6437	628181								
Jamnagar	16(1)	1036	++	343	-	1379	227280	13(1)	1169	-	424	-	1593	280903								
Junagadh	47	18750	-	1175	-	19925	2468041	47	6557	-	1336	-	7893	1082931								
Kachechh	2	3535	-	-	-	3535	318128	2	3492	-	-	-	3492	314270								
Porbandar	44	937	-	1397	-	2334	319800	33	1266	-	1439	-	2705	437331								
Himachal Pradesh	24	6899	46	-	477	7422	668461	24	7288	794	-	-	8082	732085								
Bilaspur	1	3277	-	-	-	3277	268674	1	3844	-	-	-	3844	315249								
Sirmour	22	510	46	-	477	1033	185038	22	346	794	-	-	1140	203142								
Solan	1	3112	-	-	-	3112	214749	1	3098	-	-	-	3098	213694								
Jammu & Kashmir	3	245	-	-	-	245	55699	3	253	-	-	-	253	57188								
Pulwama	3	245	-	-	-	245	55699	3	253	-	-	-	253	57188								

(Contd.)

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 6 (Contd.)

State/District	2006-07										2007-08(p)				
	No. of mines	Grades				Total Qty.	Value	No. of mines	Grades			Total Qty.	Value		
		Cement	Iron & steel	Chemical	Others				Cement	Iron & steel	Chemical			Others	
Jharkhand	21	1883	60	-	-	1943	396422	18	1960	96	-	-	2056	465911	
Bokaro	1	3	-	-	3	625		1	3	-	-	-	3	780	
Garwah	1	-	60	-	60	57310		1	-	96	-	-	96	91610	
Hazaribagh	8	60	-	-	60	13806		6	71	-	-	-	71	17595	
Palamau	1	33	-	-	33	9989		1	36	-	-	-	36	10637	
Ranchi	1	++	-	-	++	17		0	0	-	-	-	0	0	
Singhbhum (West)	9	1787	-	-	1787	314675		9	1850	-	-	-	1850	345289	
Karnataka	57	14413	38	-	250	1293133	52	14806	53	-	-	-	14859	1309892	
Bagalkot	38	372	-	-	232	103559		33	408	-	-	-	408	64340	
Belgaum	7	12	-	-	18	2915		6	43	-	-	-	43	5202	
Chitradurga	5	244	-	-	244	35063		6	211	-	-	-	211	29545	
Gulbarga	3	13579	-	-	13579	1092401		3	13735	-	-	-	13575	1101625	
Shimoga	1	-	38	-	38	11270		1	-	53	-	-	53	15736	
Tumkur	3	206	-	-	206	47925		3	409	-	-	-	409	93444	
Kerala	1	498	-	-	498	154315	1	475	-	-	-	-	475	147326	
Palakkad	1	498	-	-	498	154315		1	475	-	-	-	475	147326	
Madhya Pradesh	85	27562	809	-	40	3407380	84	24814	826	-	-	-	25640	3161722	
Damoh	3	2648	-	-	2647	282211		3	1690	-	-	-	1690	187718	
Jabalpur	2	5	-	++	5	501		2	8	-	-	-	8	849	
Katni	31	3532	800	-	15	820000		35	2758	826	-	-	3584	709988	
Neemuch	2	4961	-	-	4961	476690		2	5199	-	-	-	5199	527278	
Rewa	8	7463	-	-	7463	691229		8	6112	-	-	-	6112	568369	
Sagar	1	+++	-	-	++	++		-	-	-	-	-	-	-	
Satna	38	8953	9	-	25	1136749		34	9047	-	-	-	9047	1167520	

(Contd.)

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 6 (Contd.)

State/District	2006-07										2007-08(p)											
	Grades					Total					Grades					Total						
	No. of mines	Cement	Iron & steel	Chemical	Others	Qty.	Value	No. of mines	Cement	Iron & steel	Chemical	Others	Qty.	Value	No. of mines	Cement	Iron & steel	Chemical	Others	Qty.	Value	
Maharashtra	26	11037	-	-	50	11087	1146174	22	9596	-	-	4	9600	987938								
Chandrapur	10	5971	-	-	-	5971	528282	9	4568	-	-	-	4568	382456								
Yavatmal	16	5066	-	-	50	5166	617892	13	5028	-	-	4	5032	605482								
Meghalaya	7	1910	-	121	-	2031	392432	9	1692	-	69	-	1761	341342								
Jaintia Hills	4	980	-	-	-	980	172652	6	1209	-	-	-	1209	197875								
Khasi Hills East	3	930	-	121	-	1051	219780	3	483	-	69	-	552	143467								
Orissa	15	2376	331	-	-	2707	608336	15	2541	228	-	-	2769	719361								
Bargarh	1	908	-	-	-	908	253300	1	973	-	-	-	973	271952								
Koraput	1	186	-	-	-	186	23239	1	177	-	-	-	177	24494								
Sundergarh	13	1282	331	-	-	1613	331797	13	1391	228	-	-	1619	422915								
Rajasthan	19	25452	1858	-	-	27310	3492160	19	29571	470	-	-	30041	3901654								
Ajmer	1	1395	-	-	-	1395	174367	1	1077	-	-	-	1077	135972								
Bundi	1	431	-	-	-	431	92616	1	691	-	-	-	691	152921								
Chittorgarh	6	8878	-	-	-	8878	956821	6	9027	-	-	-	9027	989537								
Jaisalmer	2	-	1858	-	-	1858	537005	2	-	470	-	-	470	145646								
Kota	1	1805	-	-	-	1805	203998	1	1781	-	-	-	1781	210080								
Nagaur	2	238	-	-	-	238	35108	3	519	-	-	-	519	80529								
Pali	2	6002	-	-	-	6002	599847	2	7997	-	-	-	7997	1009944								
Sikar	1	5	-	-	-	5	560	0	-	-	-	-	-	-								
Sirohi	3	6698	-	-	-	6698	891838	3	8479	-	-	-	8479	1177025								

(Contd.)

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 6 (Conclid.)

State/District	2006-07										2007-08(p)											
	Grades					Total					Grades					Total						
	No. of mines	Cement	Iron & steel	Chemical	Others	Qty.	Value	No. of mines	Cement	Iron & steel	Chemical	Others	Qty.	Value	No. of mines	Cement	Iron & steel	Chemical	Others	Qty.	Value	
Tamil Nadu	85	16962	-	3	35	17000	2482406	70	17115	-	23	198	17336	2514291								
Ariyalur	8	6074	-	-	-	6074	828868	7	6029	-	-	-	6029	816168								
Coimbatore	2	1172	-	-	-	1172	198261	2	1087	-	-	-	1087	192431								
Dharmapuri	1	-	-	-	1	1	70	1	1	-	-	-	1	87								
Dindigul	6	2404	-	-	-	2404	396091	6	2593	-	-	-	2593	423414								
Karur	4	3	-	-	-	3	475	2	16	-	-	-	16	2769								
Madurai	1	0	-	-	4	4	812	1	4	-	-	-	4	869								
Namakkal	5	2	-	-	7	9	2318	3	8	-	-	-	8	2428								
Perambalur	14	2611	-	-	8	2619	312510	13	2465	-	-	43	2508	307528								
Salem	7	59	-	-	2	61	8946	5	57	-	-	-	57	8438								
Thiruvarur	1	123	-	-	-	123	22424	0	-	-	-	-	-	-								
Tiruchirapalli	3	1556	-	-	-	1556	159986	4	2326	-	-	-	2326	238599								
Tirunelveli	20	1914	-	2	5	1921	349700	19	1730	-	23	155	1908	361977								
Thoothukudi/ Tuticorin	6	473	-	-	-	473	94289	3	465	-	-	-	465	93592								
Virudhunagar	7	571	-	1	8	580	107656	4	334	-	-	-	334	65991								
Uttarakhand	0(1)	32	-	-	-	32	26996	-	-	-	-	-	-	-								
Bageshwar	0(1)	32	-	-	-	32	26996	-	-	-	-	-	-	-								

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 7 : Mine-head Stocks of Limestone, 2007-08 (p)
(By States/Grades)

(In '000 tonnes)

State	At the beginning of the year					At the end of the year				
	Grades				Total	Grades				Total
	Cement	Iron & Steel	Chemical	Others		Cement	Iron & Steel	Chemical	Others	
India	6753	794	17	236	7800	6640	1806	177	7	8630
Andhra Pradesh	700	34	-	36	770	738	44	-	-	782
Assam	68	-	-	-	68	110	-	-	-	110
Bihar	83	-	-	-	83	69	-	-	-	69
Chhattisgarh	71	64	-	4	139	62	62	-	7	131
Gujarat	196	2	14	-	212	247	-	26	-	273
Himachal Pradesh	206	21	1	126	354	67	185	-	-	252
Jammu & Kashmir	6	-	-	-	6	3	-	-	-	3
Jharkhand	18	118	-	-	136	42	179	2	-	223
Karnataka	1211	-	-	50	1261	1282	-	-	-	1282
Kerala	16	-	-	-	16	21	-	-	-	21
Madhya Pradesh	747	15	-	13	775	803	-	-	-	803
Maharashtra	927	-	-	3	930	970	-	-	-	970
Meghalaya	617	-	1	-	618	477	-	-	-	477
Orissa	736	540	-	-	1276	185	1125	-	-	1310
Rajasthan	579	-	-	-	579	278	211	-	-	489
Tamil Nadu	572	-	1	4	577	1286	-	149	-	1435

Table - 8 : Prices of Limestone, 2005-06 to 2007-08
(Domestic Markets)

(In Rs. per tonne)

Grade	Market	2005-06	2006-07	2007-08(p)
Cement Grade	Ex-mine Katni (Madhya Pradesh)	223	245	250
40-80 mm	RSMML, Jodhpur (Rajasthan)	379	402	437
30-50mm	RSMML, Jodhpur (Rajasthan)	379	402	437
10-35mm	RSMML, Jodhpur (Rajasthan)	214	237	237
80-84% CaCO ₃	Ex-mine Bundu-Basaria/Kurkutta (Jharkhand)	255	285	285
Cement Grade		210	240	-
Cement Grade	Ex-mine MML (Karnataka)	65	65	110
Chemical Grade	Ex-mine MML (Karnataka)	75	75	115
40 mm to 80 mm	Ex-mine MML (Karnataka)	160	160	185
Crushed, 10-30 mm	Ex-mine MML (Karnataka)	195	193	205
Fines below 10 mm	Ex-mine MML (Karnataka)	50	50	75
Cement Grade	Ex-mine Sripuram (Tamil Nadu)	180.21	180.21	180.21
Cement Grade	Ex-mine Guntur (Andhra Pradesh)	148.70	161.70	215.61

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Limeshell

The production of limeshell at 139 thousand tonnes during 2007-08 registered an increase of 34% as compared to the preceding year.

There were 10 reporting mines in 2007-08 as against 11 in the previous year. Three principal producers accounted for 92% of the total production during the year. The share of public sector in 2007-08 was 20 % and 80 percent was from private sector.

Karnataka continued to be the leading producer of limeshell contributing about 73% of the total production followed by Kerala 24% and Andhra Pradesh 3 percent. (Tables - 9 to 11).

Mine-head stocks of limeshell at the end of 2007-08 was 7417 tonnes as against 4432 tonnes in the beginning of the year. (Table - 12).

The average daily employment of labour during the year 2007-08 was 484 as against 523 in the previous year.

Table - 9 : Principal Producers of Limeshell 2007-08

Name and address of producer	Location of mines	
	State	District
P. S. Gaonkar, 139, Hindwadi, Belgaum-590 001, Karnataka.	Karnataka	Uttar Kannad
The Travancore Cement Ltd, Nattakom -608 013, Distt. Kottayam, Kerala.	Kerala	Kottayam
The Vaikom Limeshell Co-op. Society Ltd, No. 3145, Pallippurathussery -686 606, Kottayam, Kerala.	Kerala	Kottayam

Table - 10 : Production of Limeshell, 2005-06 to 2007-08 (By States)

(Qty. in tonnes; value in Rs.'000)

State	2005-06		2006-07		2007-08 (p)	
	Quantity	Value	Quantity	Value	Quantity	Value
India	110296	59832	103548	72949	138612	90748
Andhra Pradesh	8583	1717	8418	3030	4330	1357
Karnataka	81901	38126	59012	31645	101232	55605
Kerala	19812	19989	36073	38247	33050	33786
Tamil Nadu	-	-	45	27	-	-

Table - 11 : Production of Limeshell, 2006-07 and 2007-08 (By Sectors/States/Districts)

(Qty. in tonnes; value in Rs.'000)

State/District	2006-07			2007-08 (p)		
	No. of mines	Quantity	Value	No. of mines	Quantity	Value
India	11	103548	72949	10	138612	90748
Public sector	1	26752	25869	1	27990	27066
Private sector	10	76796	47080	9	110622	63682
Andhra Pradesh	2	8418	3030	2	4330	1357
Nellore	2	8418	3030	2	4330	1357
Karnataka	6	59012	31645	6	101232	55605
Udupi	1	1170	584	1	1561	893
Uttara Kannad	5	57842	31061	5	99671	54712
Kerala	2	36073	38247	2	33050	33786
Kottayam	2	36073	38247	2	33050	33786
Tamil Nadu	1	45	27	-	-	-
Kuddalore	1	45	27	-	-	-

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 12 : Mine-head Stocks of Limeshell, 2007-08 (p)
(By States)

(In tonnes)

State	At the beginning of the year	At the end of the year
India	4432	7417
Andhra Pradesh	2900	2030
Karnataka	1476	5387
Tamil Nadu	56	-

Limekankar

The production of limekankar at 336 thousand tonnes in 2007-08 registered a decline of 15% as compared to that in the previous year due to lack of demand.

There were three reporting mines in both the years. Almost the entire production of limekankar was reported from Tamil Nadu and a very nominal production was reported by two mines located in Andhra Pradesh. (Tables - 13 to 15).

Mine-head stocks at the end of 2007-08 was 118 thousand tonnes as against 121 thousand tonnes in the beginning of the year. (Table - 16). The average daily employment of labour in 2007-08 was 20 as against 31 in the preceding year.

Table - 13 : Producers of Limekankar 2007-08

Name and address of producer	Location of mines	
	State	District
Madras Cements Ltd, Ramamandiram, Rajapalayam - 626 117, Distt. Virudhunagar, Tamil Nadu.	Tamil Nadu	Virudhunagar
D. Kailas Sharma, DFN Area, Shreeram Nagar, Distt. Vizianagaram, Andhra Pradesh	Andhra Pradesh	Vizianagaram

Table - 14 : Production of Limekankar, 2005-06 to 2007-08
(By States)

(Qty. in tonnes; value in Rs.'000)

State	2005-06		2006-07		2007-08 (p)	
	Quantity	Value	Quantity	Value	Quantity	Value
India	291926	54776	395817	68378	336440	58031
Andhra Pradesh	2405	636	2919	800	1665	450
Tamil Nadu	289521	54140	392898	67578	334775	57581

Table - 15 : Production of Limekankar, 2006-07 and 2007-08
(By Sectors/States/Districts)

(Qty. in tonnes; value in Rs.'000)

State/District	2006-07			2007-08 (p)		
	No. of mines	Quantity	Value	No. of mines	Quantity	Value
India	3	395817	68378	3	336440	58031
Private sector	3	395817	68378	3	336440	58031
Andhra Pradesh	2	2919	800	2	1665	450
Vizianagaram	2	2919	800	2	1665	450
Tamil Nadu	1	392898	67578	1	334775	57581
Virudhunagar	1	392898	67578	1	334775	57581

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table – 16 : Mine-head Stocks of Limekankar, 2007-08 (p)
(By States)

(In tonnes)

State	At the beginning of the year	At the end of the year
India	121052	117994
Andhra Pradesh	165	629
Tamil Nadu	120887	117365

Chalk

The production of chalk at 192 thousand tonnes in 2007-08 decreased by 9% as compared to previous year due to labour problem and increased water level in some mines.

There were 131 reporting mines of chalk in 2007-08 as against 128 in the previous year. The entire production of chalk was in private sector in both the years, and from Gujarat only. (Tables - 17 to 19).

Mine-head stocks of chalk at the end of 2007-08 was 66 thousand tonnes as against 68 thousand tonnes in the beginning of the year. (Table - 20).

The average daily employment of labour during 2007-08 was 1408 as against 1304 in the previous year. Prices of the chalk are furnished in Table - 21).

Table - 17 : Principal Producers of Chalk 2007-08

Name and address of producer	Location of mines	
	State	District
Porbandar Industrial Products Harish Mansion, P. O. Bag No. 27, Porbandar-360 575 Gujarat.	Gujarat	Porbandar
Dolar Rai Mulji Bhai Thanki C/o Naresh I. Thanki, Near Income Tax Office, Bhojeshwar Plot, District:Porbandar Gujarat.	Gujarat	Porbandar
Saurashtra Minerals Pvt. Ltd, Adityana Via: Ranavav, P.O. Porbandar-360 545 Dist. Porbandar Gujarat.	Gujarat	Porbandar
Prashant Minerals, C/o, Sanjaykumar G. Khanpara, Post: Adityana-360 545 Dist. Porbandar Gujarat.	Gujarat	Porbandar

(Contd.)

Table - 17 (Concl.)

Name and address of producer	Location of mines	
	State	District
Krishna Minerals Adityana-360 545 Dist. Porbandar Gujarat.	Gujarat	Porbandar
P. Duttani & Co. M.G. Road, Distt: Porbandar Post: Porbandar-360 575 Gujarat.	Gujarat	Porbandar
Universal Mineral Industries, Barvan Ness, Taluka: Ranavav, Post: Ranavav-360 560 Distt: Porbandar, Gujarat.	Gujarat	Porbandar
Sidhibhai Veja Bhai Godhaniya, C/O Naresh T. Thanki; Khijdi Chouk, Bhageshwar Plot, Post : Porbandar-360 575 Distt : Porbandar, Gujarat.	Gujarat	Porbandar
Shreenathji Minerals, Adityana Via: Ranavav, P.O. Porbandar, Gujarat.	Gujarat	Porbandar
K. Rasiklal & Co. Post: Adityana-360 454 Distt: Porbandar, Gujarat.	Gujarat	Porbandar
Shivam Minerals Mervadar, Post : Mervadar, Distt : Rajkot, Gujarat.	Gujarat	Porbandar

Table - 18 : Production of Chalk, 2006-07 to 2007-08 (By State)

(Qty. in tonnes, value in Rs. '000)

State	2005-06		2006-07		2007-08(p)	
	Qty	Value	Qty	Value	Qty	Value
India	148352	41208	210838	69137	192402	63057
Gujarat	148352	41208	210838	69137	192402	63057

LIMESTONE AND OTHER CALCAREOUS MATERIALS

**Table – 19 : Production of Chalk, 2006-07 and 2007-08
(By Sectors/States/Districts)**

(Qty. in tonnes; value in Rs.'000)

State/District	2006-07			2007-08 (p)		
	No. of mines	Quantity	Value	No. of mines	Quantity	Value
India	128	210838	69137	131	192402	63057
Private sector	128	210838	69137	131	192402	63057
Gujarat	128	210838	69137	131	192402	63057
Jamnagar	6	5295	1439	6	8778	2479
Junagadh	3	6416	2981	3	6665	2794
Porbandar	97	181303	59765	101	151966	50648
Rajkot	22	17824	4951	21	24993	7136

**Table - 20 : Mine-head Stocks of Chalk, 2007-08(p)
(By State)**

(In tonnes)

State	At the beginning of the year	At the end of the year
India	68467	66345
Gujarat	68467	66345

**Table - 21 : Prices of Chalk, 2005-06 to 2007-08
(Domestic Markets)**

(In Rs. per tonne)

Grade	Market	2005-06	2006-07	2007-08 (p)
Grade A	Ex-mine Adityana (Gujarat)	340	340	340
Grade B	Ex-mine Adityana (Gujarat)	210	240	240
Raw Chalk (crude)	Ex-mine Porbandar (Gujarat)	100	125	240
Levigated Chalk Lumps loose	Ex mine Porbandar (Gujarat)	310	325	450
Chalk crude	Ex mine Porbandar (Gujarat)	80	90	105
Chalk Lumps loose	Ex mine Porbandar (Gujarat)	700	750	800
Grade - 1	Ex mine Porbandar (Gujarat)	900	950	1000
Grade - 2	Ex-mine Porbandar (Gujarat)	800	800	800

MINING & MARKETING

In India, limestone mines are worked by opencast method. Captive mines are mechanised and supply feed to cement and iron & steel units. Some mines have well laid road-cum-rail routes and aerial ropeways. The large mines are developed by forming benches in overburden and limestone bed. The face length, width and height of the benches correspond to the mining machinery deployed and production schedule and may be up to 30 - 300m x 25 m x 3-8 m. Heavy earth-moving machinery like 3.3 to 4 cu. m capacity hydraulic excavators in combination with 10-35 tonne dumpers are normally used. Other mines are mainly opencast and are worked by semi-mechanised and manual mining methods.

In Andhra Pradesh, limestone production from Adilabad and Kurnool districts is used in paper mills, sugar, cement and steel plants. Tile, mosaic, chip and polished stonemakers also use limestone.

Limestone produced in Bihar is supplied mainly to cement plants, foundries and lime kiln units.

In Raipur and Durg districts of Chhattisgarh the limestone produced is suitable for iron & steel industry. The Bhilai Steel Plant obtains its requirements of limestone from Nandini mines in Durg district. The cement grade limestone is also produced in the region. M/s Lafarge India Ltd, Raipur, Chhattisgarh is one of the principal producers of cement grade limestone.

Limestone produced in Gujarat is consumed mainly in cement and chemical industries and also in textile, foundries and steel plants. The dolomitic limestone in Gujarat is used for making slabs and tiles.

Limestone in Himachal Pradesh is supplied to cement plants, paper industry, sugar mills and lime kilns. The production from Bilaspur district

is despatched to fertilizer unit of National Fertilizers Ltd, (NFL) at Naya Nangal.

Limestone in Jammu & Kashmir is suitable for cement manufacture. In limestone bands in Anantnag district, magnesia content is low and does not exceed 1.70 percent.

In Karnataka, limestone is supplied generally to paper mills and cement plants. However, limestone of Gulbarga district, commonly known as "Shahabad stones", is used as flag stone or flooring stones.

Limestone from Madhya Pradesh is used in cement, sugar, paper, steel and lime industries.

In Maharashtra, apart from cement and sugar industries, limestone is used in ferromanganese industry as flux and also in tanning industry.

Limestone mined in Rajasthan is consumed in captive cement plants on a large scale. Limestone of Nagaur district is utilised as feed for white cement plants, in steel plants as low silica SMS grade flux, in chemical industry, etc. Crystalline limestone of Rajasthan is widely known as a decorative ornamental stone. The limestone worked in Bundi district and Raghunathgarh in Jaipur district is an excellent flagstone, for use as a paving stone. Kota limestone is suitable for cement manufacture and also for lime burning.

The limestone produced in Dehradun-Garhwal areas of Uttarakhand is used to be supplied to sugar, paper, steel, glass, chemical and cement industries in the past.

Limestone in Tamil Nadu is consumed by various industries like cement, steel, paper, foundry, fertilizer and chemicals.

Limeshell from Kerala is used mainly in chemical, cement and white cement industries. It is also used in the manufacture of polyfibre and in tanning industry.

USES

Limestone used for industrial purpose falls under 'major mineral' while the use of limestone in lime kilns and for building purposes comes under 'minor mineral'.

The principal use of limestone is in cement industry. Other important uses are as flux in metallurgical processes; in glass, ceramic, paper, textile and tanning industries; for manufacture of calcium carbide, alkali and bleaching powder; for water purification and sugar refining; in fertilizer (calcium ammonium nitrate) and as soil conditioning agent in agriculture; crushed stone for ballast and filler in concrete and asphalt; as rectangular slab in lithography. The whiting (chalk and precipitated limestone) is used as a filler in rubber, oilcloth, paint, cosmetic, toothpaste, shoe polish, etc. Limestone is also used in underground mine dusting to prevent the propagation of explosions.

Lime is prepared by heating limestone in kilns up to 1000° C. The CO₂ released is effluxed and 'quicklime' (CaO) formed remains as hard white lumps. This when slaked with water and mixed with sand, forms mortar or plaster. Commonly, the commercial lime is prepared as dry hydrated lime Ca(OH)₂ by adding to quicklime just the right amount of water (18 parts to 56 parts of CaO). The value of lime for most purposes depends upon its CaO (or CaO + MgO) content.

The manufacture of metallic calcium is one of the latest uses of lime. Calcium is used in reducing organic compounds, desulphurising petroleum, debismuthising lead production of hard lead alloys and calcium-silicon alloys, and in the manufacture of calcium hydride which is further used as an efficient hydrogen carrier.

Limeshell is used mainly in chemical and cement industries. It is also used in the manufacture of polyfibre and in tanning industry. Lime kankar is used in cement industry.

SPECIFICATIONS

Cement Industry

Limestone containing 45% (min.) CaO and above is usually preferred in the manufacture of cement. Magnesia, sulphur and phosphorus are regarded as deleterious elements. Limestone should have less than 3% magnesium oxide (MgO), maximum tolerance being 5 percent. The presence of P and P₂O₅ more than 1% slows down considerably the setting time of Portland Cement. Indian cement manufacturers prescribe that the limestone should have CaO 42% (min.), Al₂O₃ 1 to 2%, Fe₂O₃ 1 to 2%, SiO₂ 12 to 16% and MgO 4% (max.). The broad chemical specifications of cement grade limestone (r.o.m.) for cement manufacture suggested by the National Council for Cement and Building Materials, New Delhi, are given in Table-22.

Table - 22 : Broad Chemical Specifications of Cement Grade (Run-of-Mine) Limestone (Clause 6.1.1)

Oxide component/ Other Constituents	Acceptable range for manufacture of Ordinary Portland Cement (33, 43 & 53 Grade) (percent)	Limiting values taking into con- sideration other types of cements, scope of beneficiation and blending (percent)
CaO	44-52	40(min)
MgO	3.5(max.)	5.0(max)
SiO ₂	To satisfy LSF, silica	-
Al ₂ O ₃	Modules and alumina	-
Fe ₂ O ₃	Modules	-
TiO ₂	<0.5	<1.0
Mn ₂ O ₃	<0.5	<1.0
R ₂ O (Na ₂ O + K ₂ O)	<0.6	<1.0
Total S as SO ₃	<0.6	<0.8
P ₂ O ₅	<0.6	<1.0
Cl	<0.015	<0.05
Free silica	<8.0	<10.0

Source : Report on Notes for limestone deposits for cement manufacture by National Council for Cement and Building Materials, New Delhi, May 2001.

Iron & Steel Industry

In Iron & Steel Industry, limestone is used both in blast furnace and steel melting shop as a flux after calcining. It is also added as flux in self-fluxing iron ore sinters. It has two basic functions in steel making, first to lower the temperature of melting and second to form calcium silicate which comes out as a slag, as it combines with silica in iron ore.

For use in the blast furnace, the calcium carbonate (CaCO_3) content in limestone should not be usually less than 90 percent. The combined SiO_2 and Al_2O_3 should not exceed 6% though up to 11.5% is allowed; MgO should be within 4% and sulphur and phosphorus as low as possible.

In Steel Melting Shop (SMS), insolubles in limestone should not exceed 4 percent. Good fluxing limestone should naturally be low in acid constituents like silica, alumina, sulphur and phosphorus. Limestone should be dense, massive, preferably fine-grained, compact and non-fritting on burning.

BIS has prescribed specifications for flux grade limestone for use in steel plants as per IS : 10345 - 2004 (Second Revision; Reaffirmed 2003).

Glass Industry

Glass industry requires high calcium limestone (94.5% CaCO_3) and 97.5 percent of combined CaCO_3 and MgCO_3 . Iron and other colouring matters are regarded as objectionable and Fe_2O_3 should be up to 0.20% (max.). For colourless glass, limestone should contain 98.5% CaCO_3 (min.), iron content as Fe_2O_3 should not be more than 0.04%; and for bottle glass, Fe_2O_3 up to 0.05% is used. The BIS specifications (IS : 997 - 1973; Reaffirmed 1998) for limestone for use in glass industry are as follows:

Silica as SiO_2	2.5%
Total iron (Fe_2O_3)	
a) Calcite or marble	0.05%
b) Limestone	0.10%
c) Dolomitic limestone or dolomite	0.15%
Lime (as CaO)	53.0%
Total lime and magnesia (as $\text{CaO} + \text{MgO}$)	54.50%

Chemical Industry

The calcium carbide manufacturers generally prefer lime containing 95% CaO (min.); not more than 3% SiO_2 , not more than 0.95% phosphorus and other impurities not exceeding 2 percent. For the manufacture of bleaching powder also, lime containing 95% and above CaO is required. Total $\text{Fe}_2\text{O}_3 + \text{Al}_2\text{O}_3 + \text{MnO}_2$ should be less than 2%; MgO should be below 2% and SiO_2 less than 1.5 percent. Bleaching powder is prepared by absorption of chlorine by dry hydrated lime. The hydrated lime should not contain more than 2% excess water. Iron and manganese oxides lead to unsuitability of the product and iron oxides tend to discolour the bleached material. Magnesia renders the bleaching powder hygroscopic. Silica and clay impede solution and settling of bleaching powder.

Sugar Industry

In sugar industry, lime is used for the clarification of juice from cane and beet. Milk of lime 1% in volume of cane juice is added to pre-heated juice. Limestone used in sugar industry must be high in active lime (CaO 80% min), but low in iron, alumina and silica, etc. Magnesia should be less than 1 percent. Excess silica is undesirable because it separates as a gelatinous precipitate which covers the sugar crystals and retards their growth and filtration. Magnesia is objectionable because magnesium carbonate is soluble in sugar juice. Presence of iron tends to colour the finished product.

The BIS specifications of limestone for bleaching powder, caustic soda, calcium carbide and sugar industries are furnished in Table - 23.

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 23 : Specifications of Limestone for Bleaching Powder, Caustic Soda, Calcium Carbide and Sugar Industries (IS : 3204 - 1978; Reaffirmed 2003)

Characteristics	Requirement in percent by mass for			
	Bleaching powder	Caustic soda	Calcium carbide	Sugar
Loss on ignition	46.0	46.0	46.0	44.0
SiO ₂ (max)	0.75	-	1.0	2.0
Fe ₂ O ₃ (max)	0.15	-	0.25	-
CaO (min)	54.00	53.0	54.0	50.0
MgO (max)	2.00	1.0	0.8	1.0
Mn ₂ O ₃ (min)	0.06	-	-	-
CO ₂ (min)	42.00	42.00	42.00	41.00
S (max)	-	-	0.1	-
P (max)	-	-	0.01	-
Al ₂ O ₃ +Fe ₂ O ₃ (max)	-	-	0.50	1.5
SiO ₂ +Al ₂ O ₃ +Fe ₂ O ₃ (max)	-	3.0	-	-

Fertilizer Industry

Limestone is used only as carrier in the manufacture of calcium ammonium nitrate fertilizer. For this purpose, limestone should contain MgCO₃+CaCO₃ 85% (min.), SiO₂ 5% (max.) and acid insolubles 14% (max.).

Foundry Industry

The chemical requirements of limestone for use in foundries as per BIS specification (IS : 4149 - 1978; Reaffirmed 2000) are given in Table - 24.

INDUSTRY & CONSUMPTION

India was the second largest producing country of cement in the world after China. There were 130 large cement plants having an installed capacity of 166.73 million tonnes, about 206 mini-cement plants having estimated capacity of around

11.10 million tonnes per annum and three white cement plants having total 890,000 tpy capacity. The domestic cement capacity totals to 177.83 million tonnes.

In 2006-07 and 2007-08, the total consumption of limestone & other calcareous minerals/materials, as reported by different industries was 167.6 million tonnes and 175.4 million tonnes, respectively.

In 2007-08, cement was the major consuming industry accounting for 94% consumption, followed by iron and steel industry (4%) and chemicals (1%). The remaining consumption was reported by paper, sugar, fertilizer, glass, foundry, etc. Consumption of limestone and other calcareous materials from 2005-06 to 2007-08 is given in Tables - 25(A), 25(B) and 25(C). Information on consumption of limestone in Iron & Steel industry by principal plants is given in Table - 25(D).

LIMESTONE AND OTHER CALCAREOUS MATERIALS

**Table - 24 : Chemical Specification of Limestone for Use in Foundries
(IS : 4149 - 1978; Reaffirmed 2000)**

Characteristics	Requirement in percent by mass		
	Grade 1	Grade 2	Grade 3
Calcium oxide (CaO) (min)	52	50	45
Silica (SiO ₂) (max)	1.5	3	5
Mixed oxides R ₂ O ₃ (Fe ₂ O ₃ + Al ₂ O ₃), (max)	1	1	2
Magnesium oxide (MgO), (max)	2	3	5
Insoluble matter, (max)	0.5	1	2
Sulphur and phosphorus	Traces	Traces	Traces

**Table - 25 (A) : Reported Consumption of Limestone, 2005-06 to 2007-08,
(By Industries)**

(In tonnes)

Industry	2005-06(R)	2006-07	2007-08(p)
All Industries	136972400	149784800	156402700
Aluminium	178500 (4)	208600 (4)	210000 (4)
Alloy steel	84800 (12)	84800 (12)	84300 (12)
Cement	127304900 (99)	139183000(102)	145588200(102)
Chemical	1457200 (24)	1237200 (24)	1237200 (24)
Fertilizer	138800 (6)	150000 (6)	150000 (6)
Ferro-alloys	11300 (16)	13300 (16)	10000 (16)
Foundry	24600 (23)	24700 (27)	24700 (27)
Glass	88300 (26)	88300 (26)	88300 (26)
Iron & steel	5914700 (16)	6967500 (17)	7174000 (17)
Metallurgy	45200 (2)	38300 (2)	50100 (2)
Paper	107700 (16)	110100 (17)	104700 (17)
Sugar (e)	518400	607500	607500
Others*	1098000 (36)	1071500 (38)	1073700 (38)

Figures rounded off. Data collected on non-statutory basis.

Figures in parentheses denote the number of units in organised sector reporting consumption.

* Include ceramics, explosive, lead & zinc, mining machinery, paint, pesticides, pharmaceutical, refractory, rubber, sponge iron, textile, vansapati and zinc.

**Table - 25 (B) : Reported Consumption of Other Calcareous Minerals/Materials, 2005-06 to 2007-08
(By Industries)**

(In tonnes)

Industry	2005-06 (R)	2006-07	2007-08(p)
All Industries (A+B+C+D)	4773900	17862200	19016400
(A) Cement {(i) + (ii)}	4753700(103)	17842000(107)	18996200(108)
(i) Other Calcareous Material	1056700(95)	14002800(103)	15874400(104)
B F Slag	2995800(33)	3625800 (36)	3904300 (37)
Fly ash/flue dust	6948700 (54)	10279200 (59)	11872300 (59)
CaCO ₃ sludge / Lime sludge	112200 (8)	97800 (8)	97800 (8)
(ii) Other Calcareous Minerals	3697000(8)	3839200(8)	3121800(4)
Limeshell	28900 (1)	28900(1)	28900(1)
Calcareous sea sand	++(1)	++(1)	++(1)
Marble	601300 (2)	601500 (2)	601500 (2)
Marl	3066800 (4)	3208800 (4)	2491400 (4)
(B) Paper / Limeshell	10700 (1)	10700 (1)	10700 (1)
(C) Glass / B F Slag	9500 (3)	9500 (3)	9500 (3)
(D) Fertilizer/Limeshell	++(1)	++ (1)	++(1)

Figures rounded off. Data collected on non-statutory basis.

Figures in parentheses denote the number of units in organised sector reporting consumption.

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 25 (C) : Reported Consumption of Limestone & Other Calcareous Minerals/Materials, 2005-06 to 2007-08 (By Industries)

(In tonnes)

Industry	2005-06(R)	2006-07	2007-08 (p)
All Industries	141746300	167647000	175419100
Aluminium	178500 (4)	208600 (4)	210000 (4)
Alloy steel	84800 (12)	84800 (12)	84300 (12)
Cement	132058600 (99)	157025000 (102)	164584400 (102)
Chemicals	1457200 (24)	1237200 (24)	1237200 (24)
Fertilizers	138800 (7)	150000 (7)	150000 (7)
Ferro-alloys	11300 (16)	13300 (16)	10000 (16)
Foundry	24600 (25)	24700 (27)	24700 (27)
Glass	97800 (29)	97800 (29)	97800 (29)
Iron & Steel	5914700 (16)	6967500 (17)	7174000 (17)
Metallurgy	45200 (2)	38300 (2)	50100 (2)
Paper	118400 (17)	120800 (18)	115400 (18)
Sugar(e)	518400	607500	607500
Others*	1098000 (39)	1071500 (38)	1073700 (38)

Figures rounded off. Data collected on non-statutory basis.

Figures in parentheses denote the number of units in organised sector reporting consumption.

* Include asbestos products, ceramic, electrode, explosive, lead & zinc, mining machinery, paint, pesticides, pharmaceutical, refractory, rubber, sponge iron, textile, vansapati and zinc.

Table - 25 (D) : Reported Consumption of Limestone in Iron & Steel Industry, 2005-06 to 2007-08 (By Principal Plants)

(In tonnes)

Plant	2005-06	2006-07	2007-08
Bhilai Steel Plant	1346992	1402832	1402832 ^(e)
Bokaro Steel Plant	1322500	1322500 ^(e)	1322500 ^(e)
Durgapur Steel Plant	514351	494521	545233
IISCO Steel Plant	174941	135877	61988
Rourkela Steel Plant	480134 ^(e)	303792	351918
Visvesvaraya Iron & Steel Plant	26165	38558	55050
Visakhapatnam Steel Plant ^(e)	815000	815000	815000
JSW Steel Ltd	433396 ^(e)	871574	1029795
Tata Steel Ltd ^(e)	1863757*	1863757 ^(e)	1863757 ^(e)
IDCOL, Kalinga Iron Works Ltd	17,863	24939	24939 ^(e)

* Including dolomite.

FOREIGN TRADE

Exports

Exports of limestone decreased to 0.88 million tonnes in 2007-08 from 1.27 million tonnes in the previous year. During the same period, exports of chalk also decreased to 614 tonnes from 640 tonnes in the previous year. Limestone in bulk was exported mainly to neighbouring countries; viz, Bangladesh (87%) and Nepal (3%), besides other countries. Chalk was exported to Nepal, USA, UAE, Nigeria, etc.

Exports of bleaching powder decreased to 13,496 tonnes in 2007-08 from 17,971 tonnes in

the previous year. Bleaching powder was exported mainly to Bangladesh (17%), Ghana (11%), Algeria (6%) and Kenya (5%).

In 2007-08 about 4 tonnes of calcium carbide was exported as against 43 tonnes in the previous year (Tables - 26 to 29).

Imports

Imports of limestone increased to 3.29 million tonnes in 2007-08 from 2.30 million tonnes in the previous year. Imports of chalk in 2007-08 were 141 tonnes against 69 tonnes in the previous year.

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Limestone was imported mainly from UAE (52%), Oman (20%), Thailand (19%) and Australia (4%), while chalk was imported mainly from China and Rep. of Korea.

Imports of calcium carbide increased to 56,000 tonnes in 2007-08 from 49,024 tonnes in the previous year. In 2006-07 and 2007-08, imports of bleaching powder were negligible. Calcium carbide was imported mainly from China (46%) and Bhutan (39%) (Tables - 30 to 33).

Table - 26 : Exports of Limestone (By Countries)

Country	2006-07		2007-08	
	Qty. (t)	Value (Rs. '000)	Qty. (t)	Value (Rs. '000)
All Countries	1271059	601630	879784	603376
Bangladesh	1145953	357175	765473	282193
Nepal	18717	17523	24915	61743
UK	11014	58481	11741	47769
Netherlands	5574	31553	10042	43627
Bhutan	12733	35257	13863	31368
Australia	2328	10645	4178	18880
Ireland	2809	14175	4431	18172
Spain	2903	16678	4806	15863
USA	4078	8219	4970	9761
Belgium	1109	6696	2687	8741
Other countries	9841	5460528	32678	65259

Table - 27 : Exports of Chalk (By Countries)

Country	2006-07		2007-08	
	Qty. (t)	Value (Rs. '000)	Qty. (t)	Value (Rs. '000)
All Countries	640	3294	614	3328
USA	-	-	138	1625
Nepal	144	291	165	402
UAE	217	1223	123	343
Qatar	40	164	30	212
Nigeria	-	-	65	192
Philippines	22	149	21	157
Kenya	7	40	15	121
Cameroon	49	192	-	-
Ghana	39	240	-	-
Russia	100	941	-	-
Other countries	22	54	57	276

Table - 28 : Exports of Calcium Carbide (By Countries)

Country	2006-07		2007-08	
	Qty. (t)	Value (Rs. '000)	Qty. (t)	Value (Rs. '000)
All Countries	43	1206	4	382
Nepal	-	-	2	207
Thailand	-	-	1	89
UAE	-	-	++	49
USA	-	-	1	26
Indonesia	-	-	++	11
Angola	38	1089	-	-
Egypt	5	117	-	-

Table - 29 : Exports of Bleaching Powder (By Countries)

Country	2006-07		2007-08	
	Qty. (t)	Value (Rs. '000)	Qty. (t)	Value (Rs. '000)
All Countries	17971	504939	13496	482309
Ghana	405	21774	1518	78578
Kenya	1977	49799	701	36391
Bangladesh	3398	52527	2253	34200
Algeria	1831	64918	818	30497
Cameroon	370	17693	594	30417
Ivory Coast	389	12991	621	29935
Egypt	564	21043	554	25265
Tanzania	370	15827	342	15712
Dominican Rep.	956	39186	-	-
Netherlands	1583	31930	-	-
Other countries	6128	177251	6095	201314

Table - 30 : Imports of Limestone (By Countries)

Country	2006-07		2007-08	
	Qty. (t)	Value (Rs. '000)	Qty. (t)	Value (Rs. '000)
All Countries	2300498	2677737	3294191	4317614
UAE	1305476	1452486	1705958	2009009
Oman	210173	199153	664718	873822
Thailand	629580	615208	627272	718949
Malaysia	26807	96007	68824	205049
Australia	-	-	138047	143069
Vietnam	14999	34039	37227	106302
Italy	7698	62712	11569	97814
Belgium	2568	30941	2954	35589
Turkey	3351	27105	4479	32141
UK	3067	38550	2497	28792
Other countries	96779	121536	30646	67078

LIMESTONE AND OTHER CALCAREOUS MATERIALS

**Table - 31 : Imports of Chalk
(By Countries)**

Country	2006-07		2007-08	
	Qty. (t)	Value (Rs. '000)	Qty. (t)	Value (Rs. '000)
All Countries	69	1740	141	2659
China	49	820	82	1111
Korea, Rep. of	13	456	52	1095
Italy	1	107	6	247
UK	++	26	1	140
Germany	-	-	++	30
Denmark	-	-	++	29
Chinese Taipei/ Taiwan	1	21	-	-
Israel	3	192	-	-
Japan	++	14	-	-
Singapore	2	100	-	-
Other countries	++	4	++	7

**Table - 32 : Imports of Calcium Carbide
(By Countries)**

Country	2006-07		2007-08	
	Qty. (t)	Value (Rs. '000)	Qty. (t)	Value (Rs. '000)
All Countries	49024	1135402	56000	1464903
Bhutan	20960	537393	22006	655941
China	24033	505844	25808	615585
Armenia	-	-	4023	89979
Argentina	947	22019	2138	54081
South Africa	201	4704	1338	31958
Iran	-	-	300	7966
Georgia	-	-	287	6639
Malaysia	60	1155	100	2754
Bangladesh	1956	47132	-	-
Saudi Arabia	146	3466	-	-
Other countries	721	13689	-	-

**Table - 33 : Imports of Bleaching Powder
(By Countries)**

Country	2006-07		2007-08	
	Qty. (t)	Value (Rs. '000)	Qty. (t)	Value (Rs. '000)
All Countries	++	13	++	41
Italy	-	-	++	35
Germany	-	-	++	4
UK	-	-	++	2
Netherlands	++	13	-	-

FUTURE OUTLOOK

India has huge resources of limestone distributed over different parts of the country. India is comfortably placed in the world in annual capacity and production of cement. Cement-grade limestone occurs in all the limestone-bearing areas, while SMS, BF and chemical- grade limestones occur in selective areas. Increase in steel production in the country has escalated the demand for SMS and BF grade limestone. Concerted efforts to locate SMS and BF-grade limestone along with cement- grade limestone in the States of Meghalaya, Rajasthan, Madhya Pradesh, Gujarat, Orissa and Assam are imperative to meet the growing demand.

In order to ensure rational utilisation of limestone reserves of various grades available in the mining lease area and to assess the shortfall, if any, for expansion of existing cement plants, it is imperative that periodic re-assessment of captive limestone reserves to be made. Utilisation of marginal-grade limestone could be further explored.

Access to potential limestone deposits of hill States and north-eastern States for exploitation on selective basis needs to be pursued for the industrial development of the region.

The total limestone requirement in the XIth Plan was estimated with the growth scenario of cement at 9% (2322.81 million tonnes), 10% (2376.00 million tonnes) and 11% (2432.10 million tonnes) for the GDP growth of 7%, 8% and 9%, respectively.