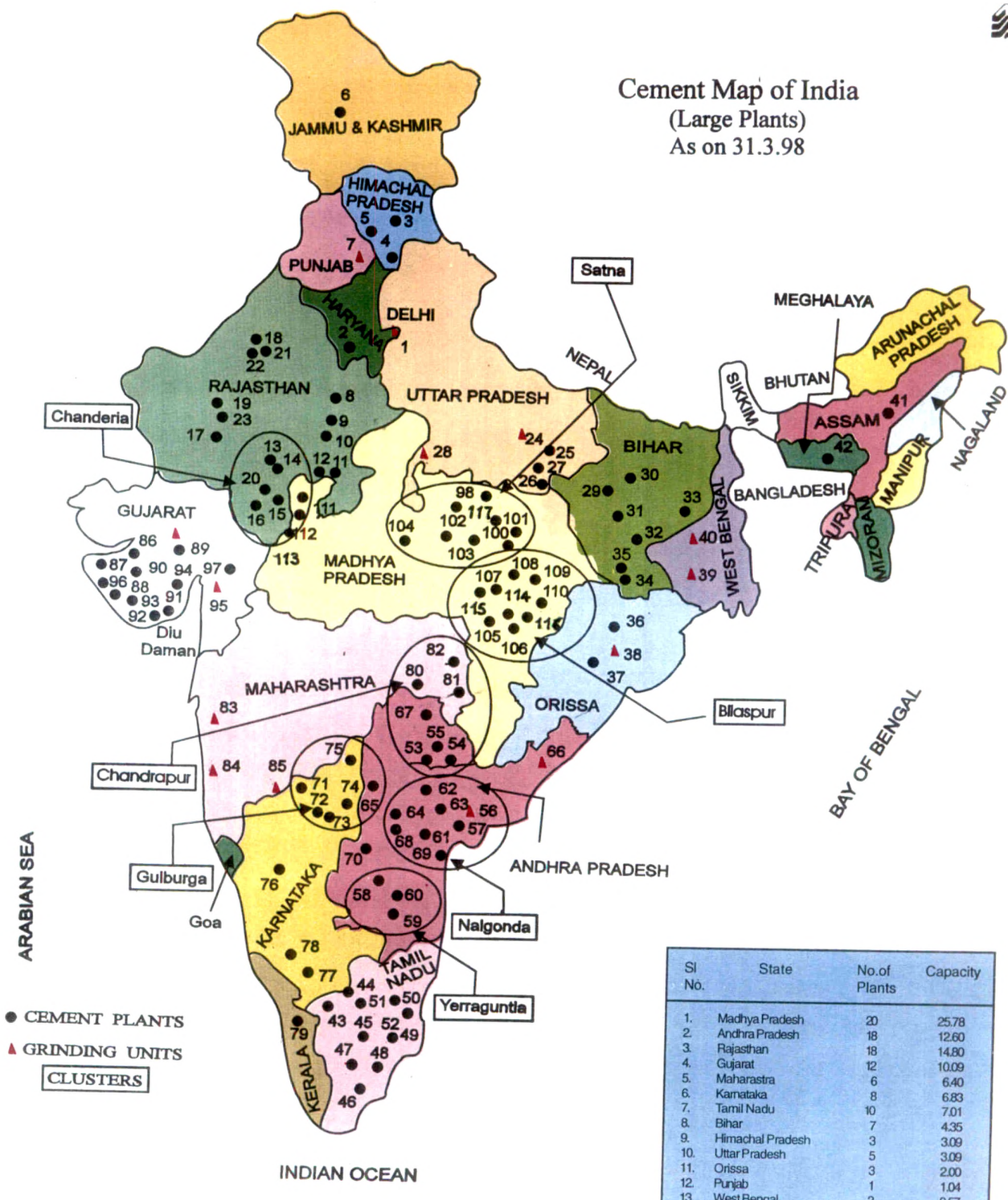
APPENDICES

APPENDIX 1.1



Sl No.	State	No.of Plants	Capacity
1.	Madhya Pradesh	20	25.78
2.	Andhra Pradesh	18	12.60
3.	Rajasthan	18	14.80
4.	Gujarat	12	10.09
5.	Maharastra	6	6.40
6.	Karnataka	8	6.83
7.	Tamil Nadu	10	7.01
8.	Bihar	7	4.35
9.	Himachal Pradesh	3	3.09
10.	Uttar Pradesh	5	3.09
11.	Orissa	3	2.00
12.	Punjab	1	1.04
13.	West Bengal	2	0.57
14.	Delhi	1	0.50
15.	Haryana	1	0.17
16.	Kerala	1	0.42
17.	Jammu & Kashmir	1	0.20
18.	Assam	1	0.20
19.	Meghalaya	1	0.20
	Total	117	100.30

KEY TO THE CEMENT MAP OF INDIA

(Large Plants) - 31.3.1998

Sl. No.	Name of Cement Company/Plants	Location	Annual Installed Capacity (Lakh Tonnes)	
	NORTHERN REGION			**228.99**
	UNION TERRITORY OF DELHI			
1.	CCI Ltd. (G)	Tughalakabad	5.00	5.00
	HARYANA			
2.	CCI Ltd.	Charkhi-Dadri	1.72	1.72
	HIMACHAL PRADESH			
3.	ACC Ltd.	Gagal	19.38	
4.	CCI Ltd.	Rajban	2.00	
5.	Gujarat Ambuja	Darlaghat	9.60	30.98
	JAMMU & KASHMIR			
6.	J & K Cements	Khrew	2.00	2.00
	PUNJAB			
7.	Gujarat Ambuja Cements (G)	Ropar	10.40	10.40
	RAJASTHAN			
8	Jaipur Udyog Ltd.	S. Madhopur	10.00	
9.	ACC Ltd.	Lakheri	3.22	
10.	Shriram Cement Works	Kota	2.00	
11.	Mangalam Cement	Morak	4.00	
12.	Neer Shree	Morak	7.00	
13.	Birla Cement Works	Chittorgarh	6.00	
14.	Chittor Cement Wrks	Chittorgarh	8.00	
15.	J.K. Cement Works	Nimbahera	15.40	
16.	J.K. Cement Works (G)	Mangrol	2.10	
17.	J.K. Udaipur Udyog Ltd.	Udaipur	9.00	
18.	Shree Cement Ltd.	Beawar	7.60	
19.	Lakshmi Cement	Sirohi Road	22.30	
20.	Aditya Cement	Shambhupura	10.00	
21.	DLF Cement	Pali	14.00	
22.	Raj Cement	Beawar	12.40	
23.	Binani Cement	Sirohi	15.00	148.02
	UTTAR PRADESH			
24.	U.P. State Cement (G)	Churar	16.80	
25.	U.P. State Cement	Churk	4.75	
26	U.P. State Cement	Dalla	4.32	
27.	U.P. State Cement (KCC)	Dalla --Clinkerisation Unit--		
28	Diamond Cement (G)	Jhansi	5.00	30.87
	EASTERN REGION			**82.84**
	BIHAR			
29.	Kalyanpur Cement	Banjari	10.00	
30	Rohtas Inds Ltd	Dalmianagar	6.20	
31	Sone Valley Portland	Japla	2.54	
32.	Lemos Cement	Khalari	1.09	
33.	ACC Ltd.	Sindri	3.05	
34	ACC Ltd	Chaibasa	6.35	
35	TISCO	Singhbhum	14.30	43.53
	ORISSA			
36.	OCL India Ltd.	Rajgangpur	10.01	
37.	IDCOL Cement Ltd.	Bargarh	9.60	
38.	L & T Ltd. (G)(*)	Jharsuguda	7.00	26.61
	WEST BENGAL			
39.	Birla Jute & Inds.Ltd (G)	Durgapur	6.00	
40.	Damodhar Cement (G)	Purulia	2.70	8.70
	ASSAM			
41.	CCI Ltd.	Bokajan	2.00	2.00
	MEGHALAYA			
42.	Mawmluh Cherra Cement	Cherrapunji	2.00	2.00
	SOUTHERN REGION			**148.51**
	TAMIL NADU			
43	ACC Ltd.	Madukkarai	7.30	
44	India Cements Ltd	Sankarnhurg	6.00	
45	Chettinad Cement	Karur	6.00	
46	India Cements Ltd	Talaiyuthu	11.00	
47	Tamil Nadu Cements	Alangulam	4.00	
48	Madras Cements Ltd.	R.S. Raja Nagar	7.50	
49.	Dalmia Cements (B) Ltd.	Dalmiapuram	5.25	
50.	Tamil Nadu Cements	Ariyalur	5.00	
51.	Madras Cements	Alathuyur	9.00	
52.	India Cements	Dalavoi	9.00	70.05
	ANDHRA PRADESH			
53.	ACC Ltd.	Macherial	3.35	
54.	Orient Cement	Rechni Road	11.80	
55.	Kesoram Cement	Ramagundam	9.00	
56	Andhra Cement (G)	Vijayawada	2.40	
57.	Kistna Cement	Kistna	2.14	
58.	Zuari Cement	Tadipatri	5.00	
59.	India Cements Ltd	Yerraguntla	4.00	
60.	India Cement	Chilamkur	10.00	
61.	Madras Cements	Jaggayyapet	11.00	
62.	Raasi Cement	Wadapally	18.00	
63.	Priyadarshini Cement	Ramapuram	6.00	
64.	Sri Vishnu Cement	Sitapuram	10.00	
65.	CCI Ltd.	Tandur	10.00	
66.	Andhra Cement (G)	Vishakhapatnam	5.00	
67.	CCI Ltd.	Adilabad	4.00	
68.	Andhra Cement	Nadikude	5.00	
69.	KCP Ltd.	Macherla	4.00	
70.	Panyam Cements	Bugganipalle	5.31	136.80
	KARNATAKA			
71.	HMP Cements Ltd.	Shahabad	4.76	
72.	ACC Ltd.	Wadi	19.50	
73.	Vasavadatta Cement	Sedam	12.00	
74.	Rajashree Cement	Malkhed	20.00	
75.	CCI Ltd.	Kurkunta	2.00	
76.	Kanoria Inds. Ltd.	Bagalkot	3.30	
77.	Mysore Cements Ltd.	Ammasandra	5.70	
78.	Visvesvaraya	Bhadravati	1.00	68.26
	KERALA			
79.	Malabar Cements Ltd.	Palghat	4.20	4.20
	WESTERN REGION			**422.64**
	MAHARASHTRA			
80.	L & T Ltd. (Awarpur) (*)	Chandrapur	25.50	
81.	Manikgarh Cement	Manikgarh	15.00	
82.	ACC Ltd.	Chanda	6.20	
83	Shree Digvijay Cmt (G)	Sewree	2.00	
84	Narmada Cement (G)	Ratnagiri	3.33	
85.	Rajashree (G)	Hotgi	12.00	64.03
	GUJARAT			
86	Shree Digvijay Cement	Sikka	10.25	
87	Dwarka	Dwarka	2.37	
88	HMP Cements Ltd	Porbandar	1.98	
89.	Sevaba	Sevaba	2.15	
90	Saurashtra Cement	Ranavav	11.64	
91	Gujarat Ambuja Cement	Kodinar	10.00	
92	Gujambuja	Kodinar	20.00	
93	Gujarat Sadhee Cement	Veraval	12.00	
94	Narmada Cement	Jafrabad	1.00	
95	Narmada Cement (G)	Magdalla	6.60	
96	Tata Chemicals Ltd.	Mithapur	4.80	
97.	L & T LTD.	Pipavav	15.00	100.86
	MADHYA PRADESH			
98.	Satna Cement Works	Satna	7.50	
99.	Birla Vikas	Satna	8.00	
100	Jaypee Cement	Rewa	25.00	
101	Jaypee Cement	Bela	15.00	
102.	Malhar Cement	Malhar	20.00	
103	ACC Ltd.	Kymore	12.00	
104	Diamond Cement	Damoh	10.25	
105.	ACC Ltd.	Jamul	15.80	
106	CCI Ltd.	Mandhar	3.80	
107	Century Cement	Tikla	12.00	
108	Ambuja Cement Eastern Ltd	Bhatapara	18.00	
109	CCI Ltd.	Akaltara	4.00	
110	Raymond Ltd. Cem. Div	Akaltara	22.40	
111	Vikram Cement	Jawad Road	15.00	
112	Vikram Super Cement	Jawad Road	10.00	
113	CCI Ltd.	Neemuch	4.00	
114	TISCO	Somadih	3.00	
115	L & T (*)	Hirma	14.00	
116	Orissa Cement	Raipur	18.00	
117	Prism Cement	Satna	20.00	257.75
	Grand Total : (117 Plants)			**1802.98**

APPENDIX 6.1

METHOD OF ESTIMATING DEMAND / SALES FORECAST BY THE PRINCIPLE OF LEAST SQUARES

Let the equation of the linear trend be given by the Equation

$$Y = a + bx \quad \text{————} \quad *$$

Where Y is the value of the phenomenon in the time series, x is the time variable which takes the values 1,2,3,----n ; a and b are parameters which are to be estimated by the "PRINCIPLE OF LEAST SQUARES".

Thus by following the "PRINCIPLE OF LEAST SQUARES", the normal equations for estimating best values of a and b are :

$$\Sigma Y = na + b\Sigma X \quad \text{———} \quad (1)$$

$$\Sigma XY = a\Sigma x + b\Sigma x^2 \quad \text{———} \quad (2)$$

On solving the equations (1) & (2) simultaneously we can get the best values of the parameters a and b. On substituting these values of a and b in Equation *, we can get the best estimated trend line.

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