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CEMENT

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GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES

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5 Cement

The Cement Industry in India is among the core Industries that is vital for economic growth and development. Ever since the Industry was delicensed in 1991, there has been remarkable growth that metamorphosed it to a globally competitive Market, making India the second largest producer of cement after China in the world. Cement is the basic building material and is used extensively in urban housing, industrial sector and infrastructure development. It has become synonymous with construction activity and the per capita consumption of cement is accepted as an important indicator of the country's economic growth.

In terms of quality, technology, productivity and efficiency, India compares well with the best in the world. The demand for cement is closely linked to the overall economic growth, particularly the housing and infrastructure sector. The recent government thrust on housing and infrastructure development augurs well for the industry. However, the per capita consumption of cement in India still remains substantially low at about 195 kg when compared with the developed world or world average which stands at about 520 kg. The Indian Cement Industry plays a key role in the national economy, not only by generating substantial revenue for State and Central Governments but also as a key industry that generates maximum employment directly or indirectly. India has a lot of potential for development in the infrastructure and construction sector and the cement sector is poised for a positive growth in the days ahead. Some of the recent major government initiatives such as development of 98 smart cities are expected to provide a major boost to the sector.

India exported about 6.65 million tonnes cement valued at ` 2,303 crore (including 4.08 million tonnes clinker, 2.27 million tonnes of portland grey cement and 0.02 million tonnes portland white cement) in 2017-18 to Sri Lanka, Nepal, Bhutan, Maldives and Mozambique, etc.

IBM captures data from mineral consuming industries as per provisions made under Rule 45, MCDR-2017 in Form 'M' (Erstwhile Form 'O').

As per the returns received from various cement plants and Survey of Cement Industry & Directory, 2017 the total installed capacity and the total production of cement of these plants have been arrived at 532.16 million tonnes and 212.34 million tonnes, respectively.

The Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce, Govt. of India publishes data on production and capacity of cement in its Annual Report. As per Annual Report 2017-18, the total installed capacity of cement plants have been placed at 410 million tonnes and more than 350 mini cement plants with an estimated capacity of 11.10 million tonnes per annum. During 2016-17, the production of cement was 279.97 million tonnes & during the year 2017-18 the production of cement was 297.71 million tonnes.

Three cement plants, having a total capacity of 1.338 mtpa produced white cement. Most of these capacities are modern and based on the energy-efficient dry processing technology.

There are as many as 175 plants with over a million tonnes or more capacity. In the Public Sector, however, there is only one Central Public Sector undertaking i.e., CCI which had 10 units, spread over eight States/Union Territories. Out of these, only three plants namely; Bokajan, Rajban and Tandur units are operating, the remaining cement plants have shut operations for more than a decade now. There are five large cement plants owned by various State Government Undertakings like Tamil Nadu Cement, Malabar Cements, J&K Ltd and Mawmluh-Cherra Cement Ltd, Shillong, Meghalaya. The company-wise annual installed capacity and production of cement plants during the year 2017-18 in the country is furnished in Table-1.

Data on capacity, production and growth in cement industry are given in Table-2.

Table 1 : Company-wise installed Capacities and Production of Cement Plants 2017-18

(In million tonnes)

Company/ Plant Name	Capacity	Production
ACC Ltd	**34.49**	**12.18**
Bargarh, Bargarh, Odisha	2.5	1.22
Chaibasa, Singhbhum, Jharkhand	0.9	0.92
Chanda, Chandrapur, Maharashtra	3.8	2.67
Damodar (G), Purulia, West Bengal	0.75	-
Gagal-I & II, Bilaspur, Himachal Pradesh	4.4	3.55
Jamul, Durg, Chhattisgarh	2.4	-
Kudithini (G), Ballari, Karnataka	1.1	-
Kymore, Katni, Madhya Pradesh	2.72	-
Lakheri, Bundi, Rajasthan	1.5	-
Madukkarai, Coimbatore, Tamil Nadu	1.08	0.24
Sindri (G), Dhanbad, Jharkhand	2.35	-
Thondebhavi (G), Chikballapur, Karnataka	1.66	-
Tikaria (G), Sultanpur, Uttar Pradesh	3	-
Vizag (G), Vizag, Andhra Pradesh	0.3	-
Wadi & Wadi New, Wadi, Karnataka	6.03	3.58
ACL, Jaypee Group	**2.85**	**-**
Durga Cement Works, Guntur, Andhra Pradesh	2.31	-
Vishaka Cement Works, Vizag, Andhra Pradesh	0.54	-
Adhunik Cement Ltd	**1.5**	**0.77**
Adhunik Cement Ltd, Jaintia Hills, Meghalaya	1.5	0.77
Ambuja Cement Ltd	**32.36**	**20.75**
Ambujanagar I & II, Kodinar, Junagadh, Gujarat	5.7	4.97
Bathinda (G), Bhatinda, Punjab	1.2	0.45
Bhatapara, Raipur, Chhattisgarh	3.5	2.64
Dadri- (G), G B Nagar, Uttar Pradesh	1.8	1.12
Darlaghat, Solan, Solan, Himachal Pradesh	1.6	1.00
Farakka (G), Murshidabad, West Bengal	1.25	1.07
Magdalla (G), Surat, Gujarat	1.56	-
Maratha Cement, Chandrapur, Maharashtra	4.75	3.68
Nalagargh, Solan (G), Solan, Himachal Pradesh	1.5	1.09
Rabriyawas, Pali, Rajasthan	3.6	2.08
Roorkee (G), Haridwar, Uttrakhand	1	0.11
Ropar (G), Ropar, Punjab	2.5	2.54
Sankrail (G), Howrah, West Bengal	2.4	-
Amrit Cement	**3**	**-**
Jaintia Hills, Jaintia Hills, Meghalaya	3	-
Anjani Portland Cements	**1.2**	**0.92**
Anjani Portland Cements, Nalgonda, Telangana	1.2	0.92
Asian CCPL	**1.3**	**-**
Asian Cement, Solan, Himachal Pradesh	1.3	-
Asian FCPL	**1.5**	**-**
Asian Cement, Patiala, Punjab	1.5	-
Bagalkot Cement & Ind Ltd	**0.6**	**-**
Bagalkot Cement, Bijapur, Karnataka	0.6	-
Barak Valley Cement	**0.33**	**-**

(Contd.)

Table-1 (Contd.).

Company/ Plant Name	Capacity	Production
Karimganj, Karimganj, Assam	0.33	-
Bharathi Cement	**5**	**2.83**
Kadapa, Kadapa, Andhra Pradesh	5	2.83
Bhavya Cement	**1.4**	**0.79**
Bhavya Cement, Guntur, Andhra Pradesh	1.4	0.79
Bheema Cement (Earlier Coromandel Cements)	**0.9**	**-**
Bheema Cement , Nalgonda, Telangana	0.9	-
Binani Cement	**6.25**	**1.73**
Sikar (G), Sikar, Rajasthan	1.4	-
Sirohi, Sirohi, Rajasthan	4.85	1.73
Birla Corp. Ltd	**9.8**	**5.64**
Chanderia, Chittorgarh, Rajasthan	4	3.57
Durgapur and Durga Hitech Cement (G), Bardhaman, West Bengal	2.3	-
Raebareli (G), Raebareli, Uttar Pradesh	1.3	-
Satna, Satna, Madhya Pradesh	2.2	2.07
Birla Corp. Ltd (erstwhile Reliance Cement)	**5.5**	**3.35**
Butibori (G), Nagpur, Maharashtra	0.5	-
Kundanganj (G), Raebareli, Uttar Pradesh	2	0.67
Maihar, Satna, Madhya Pradesh	3	2.68
BJCL, Jaypee Group	**3.5**	**-**
Bhilai Jaypee (G), Durg, Chhattisgarh	2.2	-
Bhilai Jaypee, Satna, Madhya Pradesh	1.3	-
Burnpur Cement	**0.6**	**-**
Asansol, Burdwan, West Bengal	0.3	-
Patratu, Ramgargh, Jharkhand	0.3	-
C.C.I. Ltd	**1.45**	**-**
Bokajan, Karbi, Assam	0.2	-
Rajban, Sirmaur, Himachal Pradesh	0.25	-
Tandur, Rangareddy, Telangana	1	-
Calcom Cement India Ltd	**1.72**	**-**
Calcom Cement India Ltd, Noagoan, Assam	1.72	-
Century Textiles and Industries Ltd	**12.6**	**4.66**
Century Cement, Raipur, Chhattisgarh	2.1	-
Maihar Cement I & II, Satna, Madhya Pradesh	4.2	1.61
Manikgarh Cement I & II, Chandrapur, Maharashtra	4.8	3.05
Sonar Bangla (G), Murshidabad, West Bengal	1.5	-
Chettinad Cement	**14.2**	**6.02**
Ariyalur, Ariyalur, Tamil Nadu	5.5	1.55
Kallur, Gulbarga, Karnataka	2.5	1.70
Karikkali, Dindigul, Tamil Nadu	4.5	1.66
Puliyur, Karur, Tamil Nadu	1.7	1.11
Dalmia Cement (Bharat) Ltd	**12.9**	**6.61**
Ariyalur, Ariyalur, Tamil Nadu	3	1.53
Belagavi, Belagavi, Karnataka	4	1.19
Cuddapah, Kadapa, Andhra Pradesh	2.5	1.57
Dalmiapuram, Trichy, Tamil Nadu	3.4	2.32
Dalmia Cement (Bharat) Ltd (erstwhile Jaypee Group)	**2.1**	**-**
Bokaro (G), Bokaro, Jharkhand	2.1	-
DCM Shriram Cement	**0.4**	**-**
Shriram Cement Works, Kota, Rajasthan	0.4	-
Deccan Cement	**1.8**	**1.46**

(Contd.)

Table-1 (Contd.)

Company/ Plant Name	Capacity	Production
Nalgonda, Nalgonda, Telangana	1.8	1.46
ECO Cement	**1**	**-**
Durgawati, Bhabhua, Bihar	1	-
Emami Ltd	**4.5**	**2.8**
Panagarh, Burdwan, West Bengal	2	0.88
Risda, Baloda Bazaar, Chhattisgarh	2.5	1.92
Green Valley Industries	**1**	**-**
Green Valley Industries, Jowai, Meghalaya	1	-
Grey gold Cement	**0.09**	**0.08**
Grey gold Cement, Nalgonda, Telangana	0.09	0.08
Heidelberg Cement	**5.21**	**-**
Ammasandra, Tumkur, Karnataka	0.51	-
Imlai (G), Damoh, Madhya Pradesh	2	-
Jhansi (G), Jhansi, Uttar Pradesh	2.7	-
Hi-Bond cement	**1.2**	**-**
Hi-Bond cement, Gondal, Gujarat	1.2	-
Hills Cement Company	**1**	**-**
Hills Cement, Jaintia Hills, Meghalaya	1	-
Hemadri Cement Ltd Andhra Pradesh	**0.251**	**0.24**
Hemadri Cement,Vedadri,Jaggyyapet, Andhra Pradesh	0.25	0.24
India Cements Ltd	**19.31**	**11.28**
Chilamkur Works, Kadapa, Andhra Pradesh	1.46	1.28
Dalavoi, Ariyalur, Tamil Nadu	2.16	1.18
Malkapur, Rangareddy, Telangana	2.9	1.75
Parli (G), Beed, Maharashtra	1.1	-
Sankaridurg, Salem, Tamil Nadu	0.86	0.82
Sankarnagar, Tirunelveli, Tamil Nadu	2.05	1.28
Trinetra Cement, Banswara, Rajasthan	1.8	1.54
Vallur (G), Chennai, Tamil Nadu	1.1	-
Vishnupuram, Nalgonda, Telangana	3.5	1.73
Yerraguntla, Kadapa, Andhra Pradesh	0.73	0.42
Andaman nicobar Island	1.65	1.28
J&K Cement Ltd	**0.5**	**-**
Khrew, Pulwama, J & K	0.4	-
Samba, Jammu, J & K	0.1	-
J.K. Cement Ltd	**10.8**	**6.48**
Gotan White, Nagaur, Rajasthan	0.5	-
Jharli(G), Jhajjar, Haryana	1.5	-
Mangrol, Chittorgarh, Rajasthan	2.5	2.22
Muddapur, Bagalkot, Karnataka	3	1.90
Nimbahera, Chittorgarh, Rajasthan	3.30	2.36
JAL, Jaypee Group	**6.5**	**-**
Chunar (G), Mirzapur, Uttar Pradesh	2.5	-
Churk, Mirzapur, Uttar Pradesh	1.5	-
Rewa, Rewa, Madhya Pradesh	2.5	-
Sadva Khurd (Blending), Allahabad, Uttar Pradesh		
JCCL, Jaypee Group	**1.2**	**-**
Shahabad Cement, Shahabad, Karnataka	1.2	-
JK Lakshmi Cement Ltd	**15.05**	**5.07**
Durg, Durg, Chhattisgarh	2.7	2.12
Jhajjar (G), Jhajjar, Haryana	1.3	-
Kalol (G), Gandhinagar, Gujarat	1	-
Sirohi, Sirohi, Rajasthan	8.70	2.95 (Contd.)

Table-1 (Contd.)

Company/ Plant Name	Capacity	Production
Surat, Surat, Gujarat	1.35	-
JPVL, Jaypee Group	**2**	**-**
Jayprakash Power Ventures (G), Singrauli, Madhya Pradesh	2	-
JSPL	**0.85**	**-**
Raigarh, Raigarh, Chhattisgarh	0.85	-
JSW (erstwhile Heidelberg Cement (I) Ltd)	**1**	**-**
Dolvi (G) , Raigad, Maharashtra	1	-
JSW Cement	**10.4**	**1.48**
Nandyal, Kurnool, Andhra Pradesh	4.8	1.48
Salboni, P Medinipur, West Bengal	2.4	-
Vijayanagar, Bellary, Karnataka	3.2	-
JUD Cements	**0.5**	**-**
Jaintia Hills, Jaintia Hills, Meghalaya	0.5	-
Kalburgi Cement	**2.75**	**2.65**
Gulbarga, Gulbarga, Karnataka (formerly Virat Sagar Cement Pvt Ltd)	2.75	2.65
Kalyanpur Cement	**1**	**-**
Kalyanpur Cement, Rohtas, Bihar	1	-
Kanodia Cement	**1.53**	**-**
Kanodia Cement, Bulandsahar, Uttar Pradesh	0.33	-
Kanodia Infra, Bhabhua, Bihar	1.2	-
Keerthi Industries (Formerly Suvarna Cement)	**0.59**	**-**
Keerthi Industries, Nalgonda, Telangana	0.59	-
Kesoram Industries	**10.75**	**5.34**
Kesoram Cement, Karimnagar, Telangana	1.75	0.98
Vasvadatta Cement, Gulbarga, Karnataka	9	4.36
Khyber Industries (P) Ltd	**0.33**	**-**
Khyber Cement, Srinagar, J & K	0.33	-
KJS Cement	**2.1**	**1.50**
KJS Cement, Satna, Madhya Pradesh	2.1	1.50
Lafarge Cement (Nuvoco Vistas Corp Ltd)	**11.2**	**1.48**
Arasmeta, Janjgir, Chhattisgarh	1.8	-
Chittorgarh, Chittorgarh, Rajasthan	2.6	-
Jojobera(G), Singhbhum, Jharkhand	4.6	-
Mejia (G), Bankura, West Bengal	1.65	1.48
Sonadih, Raipur, Chhattisgarh	0.55	-
Maa Chandi Cement	**0.33**	**-**
Bamunara, Burdwan, West Bengal	0.33	-
Malabar Cements	**0.86**	**0.41**
Cherthala (G), Alappuzha, Kerala	0.2	-
Walayar, Palakkad, Kerala	0.66	0.41
Mancherial Cement	**2.33**	**-**
Mancherial Cement, Adilabad, Telangana	0.33	-
Jalgaon (G),Jalgaon, Maharashtra	2	-
Mangalam Cement Ltd	**4**	**2.44**
Aligarh(G), Aligarh, Uttar Pradesh	0.75	-
Mangalam Cement I & II, Kota, Rajasthan	3.25	2.44
Mawmluh Cherra Cements Ltd	**0.18**	**0.04**
Mawmluh Cherra Cements Ltd	0.18	0.04

(Contd.)

Table-1 (Contd.)

Company/ Plant Name	Capacity	Production
Megha Technical & Engineers Pvt. Ltd	**0.7**	**-**
MTEPL-Lumshong, Jaintia Hills, Meghalaya	0.7	-
Meghalaya Cements Ltd	**0.86**	**0.53**
Jaintia Hills, Jaintia Hills, Meghalaya	0.86	0.53
Mehta Group	**2.7**	**1.51**
Gujarat Sidhee Cement, Junagadh, Gujarat	1.2	0.11
Saurashtra Cement, Porbandar, Gujarat	1.5	1.40
Murli Industries	**3**	**-**
Murli Cement, Chandrapur, Maharashtra	3	-
My Home Industries Ltd	**6.8**	**3.78**
Mellacheruvu, Nalgonda, Telangana	3.3	2.21
Mulakalapalli (G), Vizag, Andhra Pradesh	2	1.31
Tuticorin, Tuticorin, Tamil Nadu	1.5	0.26
NCL Industries	**2.99**	**1.12**
Kondapalli (G), Krishna, Andhra Pradesh	0.99	-
Simhapuri, Nalgonda, Telangana	2.00	1.12
Nirma Ltd.	**2.28**	**-**
Nirma Cement, Pali, Rajasthan	2.28	-
OCL India Ltd	**6.7**	**4.03**
Bengal Works, Midnapore, West Bengal	1.35	-
Kapilas (G), Cuttack, Odisha	1.35	1.26
Rajgangpur, Sundargarh, Odisha	4	2.77
Orient Cement	**8**	**3.57**
Chittapur, Gulbarga, Karnataka	3	1.82
Devapur, Adilabad, Telangana	3	1.75
Jalgaon (G), Jalgaon, Maharashtra	2	-
Panyam Cement	**1**	**-**
Panyam Cement, Kurnool, Andhra Pradesh	1	-
Parasakti Cement	**1.26**	**0.96**
Parasakti Cement, Guntur, Andhra Pradesh	1.26	0.96
Penna Cement Industries Ltd	**7.4**	**1.86**
Boyareddypalli, Anantpur, Andhra Pradesh	2	-
Ganeshpahad, Nalgonda, Telangana	1.2	1.07
Talaricheruvu, Anantpur, Andhra Pradesh	2.2	0.79
Tandur, Rangareddy, Telangana	2	-
Prism Cement Ltd	**6.6**	**-**
Prism Cement-I & II, Satna, Madhya Pradesh	6.6	-
Purbanchal Cement	**0.36**	**-**
Kamrup, Kamrup, Assam	0.36	-
Rain Cements Ltd	**4.27**	**2.12**
Kurnool Cem Plant, Kurnool, Andhra Pradesh	2.77	1.32
Ramapuram Cem Plant, Nalgonda, Telangana	1.5	0.80
Ramco Cements Ltd	**16.49**	**6.14**
Alathiyur Works I & II, Perambalur, Tamil Nadu	3.05	1.31
Ariyalur, Perambalur, Tamil Nadu	3.5	1.85
Changelpet(G), Kancheepuram, Tamil Nadu	0.5	-
Jayantipuram, Krishna, Andhra Pradesh	3.65	1.23
Kolaghat (G), P Medinipur, West Bengal	0.95	-
Mathodu, Chitradurga, Karnataka	0.29	-
Ramasamyraja Nagar, Virudhnagar, Tamil Nadu	2	1.75
Salem (G), Salem, Tamil Nadu	1.6	-
Vizag (G), Vizag, Andhra Pradesh	0.95	-
Kakatiya Cement & Sugar Industries Ltd Telangana	**0.29**	**0.16**

(Contd.)

Table-1 (Contd.)

Company/ Plant Name	Capacity	Production
RNB Cement	**0.4**	**-**
East Khasi Hills, East Khasi, Meghalaya	0.4	-
Sagar Cement Ltd	**1**	**0.70**
BMM Cement, Anantpur, Andhra Pradesh	1	0.70
Sagar Cements	**3.2**	**-**
Bayyavaram, Vizag, Andhra Pradesh	0.2	-
Mattampally, Nalgonda, Telangana	2.65	-
Pedaveedu, Nalgonda, Telangana	0.35	-
Sanghi Industries Ltd	**4.1**	**2.39**
Sanghi Cement, Kutch, Gujarat	4.1	2.39
Shree Cements	**29.2**	**21.1**
Baloda Bazar, Raipur, Chhattisgarh	3	2.44
Bangur Cement (G), Aurangabad, Bihar	3.6	2.84
Beawar I & II, Ajmer, Rajasthan	3	1.71
Bulandsahar (G), Sikandrabad, Uttar Pradesh	2	1.40
Jaipur (G), Jaipur, Rajasthan	1.5	0.83
Khushkhera (G), Alwar, Rajasthan	3.5	2.65
New Bihar Cement Plant, Bihar	2	0.07
Ras, Pali, Rajasthan	3	2.59
Roorkee (G), Haridwar, Uttrakhand	1.8	1.61
Ras New Cement Unit, Ras, Rajasthan	4.0	3.37
Suratgarh (G), Sriganganagar, Rajasthan	1.8	1.59
Shree Cements (erstwhile Jaypee Group)	**1.5**	**1.07**
Panipat (G), Panipat, Haryana	1.5	1.07
Shree Digvijay Cement Co.	**1.2**	**0.96**
Shree Digvijay-Sikka, Sikka, Gujarat	1.2	0.96
Shristi Cement	**0.36**	**-**
Mangalpur, Burdwan, West Bengal	0.36	-
Sparta Cements & Infra Ltd	**1**	**-**
Sparta Cements, Bhuj, Gujarat	1	-
Sri Chakra Cements	**0.57**	**-**
Annamarajupet Grinding Unit (G), Vizianagaram, Andhra Pradesh	0.26	-
Narasimhapuri Cement Unit, Guntur, Andhra Pradesh	0.31	-
Sri JayaJothi Cements Pvt. Ltd	**3.2**	**1.79**
Sri JayaJothi Cement Plant, Kurnool, Andhra Pradesh	3.2	1.79
Sri Lalita	**1**	**-**
Matampally, Nalgonda, Telangana	1	-
Star Cement Ltd	**3**	**0.42**
CMCL-Lumshong, Jaintia Hills, Meghalaya	1	0.42
CMCL-Sonapur (G), Guwahati, Assam	2	-
Swasata Cements Ltd	**1.5**	**-**
Swasata Cements, Purulia, West Bengal	1.5	-
Tamil Nadu Cement	**0.79**	**-**
Alangulam, Virudhnagar, Tamil Nadu	0.29	-
Ariyalur, Ariyalur, Tamil Nadu	0.5	-
Tata Chemicals Limited	**0.5**	**0.5**
Tata Chemicals Cement Division, Mithapur, Gujarat	0.5	0.5
The K.C.P. Ltd	**2.68**	**2.16**
Macherla, Guntur, Andhra Pradesh	0.82	0.64
Muktyala, Krishna, Andhra Pradesh	1.86	1.52

(Contd.)

Table-1 (Contd.)

Company/ Plant Name	Capacity	Production
Topcem	**0.66**	-
Gauripur, Kamrup, Assam	0.66	-
Udaipur Cement	**1.24**	**0.87**
Udaipur Cement, Udaipur, Rajasthan	1.24	0.87
UltraTech Cement Ltd	**82.88**	**33.27**
Aditya, Chittorgarh, Rajasthan	8	4.13
Aligarh (G), Aligarh, Uttar Pradesh	1.3	-
Anantapur, Anantpur, Andhra Pradesh	9.0	3.2
Arakkonam (G), Vellore, Tamil Nadu	1.1	-
Awarpur, Chandrapur, Maharashtra	3.6	2.51
Bhatinda (G), Bhatinda, Punjab	1.75	-
Dadri (G), G B Nagar, Uttar Pradesh	1.3	-
Dankuni, Hooghly, West Bengal	1.6	-
Ginigera (G), Koppal, Karnataka	1.3	-
Gujarat Cement Works, Amreli, Gujarat	6.4	5.24
Hirmi, Raipur, Chhattisgarh	2.75	2.37
Hotgi, Solapur, Maharashtra	4	2.41
Jafrabad, Amreli, Gujarat	1.45	1.17
Jhajjar (G), Jhajjar, Haryana	1.6	-
Jharsuguda (G), Jharsuguda, Odisha	2.6	-
Kotputli, Jaipur, Rajasthan	4	2.90
Magdalla (G), Surat, Gujarat	0.75	0.77
Nagpur, Nagpur, Maharashtra	2	-
Panipat(G), Panipat, Haryana	1.3	-
Patliputra, Patna, Bihar	1.9	-
Rajashree, Gulbarga, Karnataka	6.1	-
Ratnagiri (G), Ratnagiri, Maharashtra	0.48	-
Rawan, Raipur, Chhattisgarh	2.5	2.00
Reddipalayam, Ariyalur, Tamil Nadu	1.4	1.25
Sewagram, Kachchh, Gujarat	2.4	2.25
Vikram, Neemuch, Madhya Pradesh	4.5	3.07
Wanakbori (G), Kheda, Gujarat	2.4	-
WBCW (G), Burdwan, West Bengal	1.4	-
Bara Allahabad, Uttar Pradesh	4	-
UltraTech Cement Ltd (erstwhile Jaypee Group)	**18.04**	**2.76**
Ayodhya (G), Ambedkar Nagar, Uttar Pradesh	1	-
Baga, Solan, Himachal Pradesh	2.54	0.57
Bagheri (G & B), Solan, Himachal Pradesh	2	-
Balaji Cement, Krishna, Andhra Pradesh	5	1.84
Bela, Rewa, Madhya Pradesh	2.6	-

(Contd.)

Table-1 (Contd.)

Company/ Plant Name	Capacity	Production
Dalla, Sonebhadra, Uttar Pradesh	0.5	0.35
Roorkee (G), Haridwar, Uttrakhand	1.1	-
Sidhi, Sidhi, Madhya Pradesh	2.3	-
Sikandrabad, Bulandsahar, Uttar Pradesh	1	-
Vadraj Cement	**6**	**-**
Mora, Surat, Gujarat	6	-
Vijay Cements	**0.08**	**0.04**
Vijay Cements, Trichy, Tamil Nadu	0.08	0.04
Vinay Cement	**1**	**0.97**
Vinay Cement	1	0.97
Dima Hasao,Umrangshu,Assam		
Wonder Cement	**8**	**5.33**
Wonder Cement, Chittorgarh, Rajasthan	8	5.33
Zuari Cement Ltd	**7.3**	**3.23**
Chennai (G), Chennai, Tamil Nadu	0.9	-
Sitapuram, Nalgonda, Telangana	1.4	1.04
Solapur, Solapur, Maharashtra	1.2	-
Yeraguntla, Kadapa, Andhra Pradesh	3.8	2.19
Grand Total	**532.16**	**212.34**

** Survey of Cement Industry and Directory 2017 and Annual Return in Form 'M' (Erstwhile Form 'O')*

Table –2 : Capacity, Production and Growth in Cement Industry, 2013-14 to 2017-18

(In million tonnes)

	Capacity growth			Production growth		
Year	Annual capacity	Growth	% Growth	Production	Growth	Growth%
2013-14	350.00	25.06	7.71	256.04	20.93	8.90
2014-15	356.00	6.00	1.71	276.93	20.89	8.15
2015-16	479.35*	123.35	34.65	283.45	6.52	2.35
2016-17	502.03*	22.68	4.73	279.97	(-)3.48	(-)1.22
2017-18#	532.16	30.13	6.00	297.71	17.74	6.34

Source: *DIPP, Annual Reports*

** Survey of Cement Industry and Directory 2017 and Annual Return in Form 'M' (Erstwhile Form 'O')*

 # Cement Outlook, CMA India

A large number of mega plants with capacity of one million tonne and above, possessing the latest technological features like roller process, vertical roller mills, process control equipment and efficient pollution control devices have emerged in different parts of the country. The induction of advanced technology has helped the Industry immensely to conserve energy & fuel and thereby save the raw materials substantially.

India is producing different varieties of cements like Ordinary Portland Cement (OPC), Portland Pozzolana Cement (PPC), Portland Blast Furnace Slag Cement (PBFSC), Oil-well Cement, Rapid Hardening Portland Cement, Sulphate Resistant Portland Cement (SRPC) and White Cement. BIS covers two types of PPC, viz. IS 1489 (Part1): 1991 (Reaffirmed 2009) Flyash-based and IS 1489 (Part 2):1991 (Reaffirmed 2009) Calcined clay-based. PPC is suitable for all general construction, particularly, for marine & hydraulic construction and other mass concrete structures. Portland Slag Cement (PSC)-IS 455:1989 (Reaffirmed 2009) is particularly useful for marine works. BIS specifies three grades of OPC – (i) IS 269:1989 (Reaffirmed 2008), i.e., 33 grade suitable for all general constructions, particularly for masonry and plastering works (ii) IS 8112:1989 (Reaffirmed 2009), i.e., 43 grade is particularly suitable for high strength concrete work, and (iii) IS 12269:1987 (Reaffirmed 2008), i.e., 53 grade suitable for specialised work, such as, precast concrete, prestressed concrete, long span structures/bridges, tall structures, etc. All these varieties of cement are produced strictly conforming to the BIS specifications for maintaining high quality. The Cement Quality Control Order dated 12 February 2003 issued under the BIS Act ensures quality of cement produced and sold in the market.

Power, coal and freight constitute about 15-20% each of the total production cost of cement while capital cost (interest and depreciation) forms 20-30 per cent. Although the industry is largely under Private Sector, Government controls more than 40% of the cost. Power, coal and freight costs are all regulated by Government bodies, such as, State Electricity Boards, Coal Monopolies and the Railways.

Operating Cost

The cement capacity in the country is mostly concentrated near the main raw material source, i.e., limestone. Other important raw material is coal (0.25 tonnes required per tonne of cement). Many cement plants are situated near the coal belts in eastern Madhya Pradesh, primarily due to two reasons, namely, (i) less freight cost incurred to transport coal, and (ii) inability of domestic coal producers to fulfil supply-requirements of cement plants due to fall in production and prioritised supply to power plants. However, limestone reserves have been the primary consideration in choosing the location of plants. Presence of clusters of capacity and high transportation cost make the cement market regional in nature with the producers supplying cement to areas around the location of the plant.

Power is a major parameter that influences the operating cost. Grid power purchased from SEBs is costlier than captive power from coal-based plants by more than 25-30 per cent. Where conditions are favourable, setting up captive wind power farms has become a realistic option for cement plants.

Coal Distribution

Coal being a low value, bulk product with regional concentration of deposits entails freight costs that constitute a substantial part in the production cost of cement. Though, rail is the predominant form of transport, road transport is commonly used by plants located close to pitheads. The Government in its notification to the Cement Industry has permitted cement plants to operate their own captive coal mines. Many cement plants have expressed interest in taking up coal blocks on lease and operating the mines for coal. As proposed by the Government, cement is one of the core sectors for which captive mining blocks would be allocated.

As per Cement Manufacturers Association's Annual Report 2015-16, inadequate availability of coal to cement industry is a major constrain. The supply of linked coal during 2002-03 was about 69% of total consumption, this has come down to about 23% during the year 2015-16, mainly due to the diversion of coal to the power sector.

Power Availability

The Industry's average energy consumption is estimated to be about 725 kcal/kg clinker thermal energy and 80 kWh/t cement electrical energy. The best thermal and electrical energy consumption presently achieved by the Indian Cement Industry is about 667 kcal/kg clinker and 67 kWh/t cement which are comparable to the best reported figures of 660 kcal/kg clinker and 65 kWh/t cement in a developed country like Japan. Since the controls were lifted, aggregate power requirements have grown rapidly with rising cement capacity without commensurate growth in power generating capacity in the country. To offset the power crisis situation, many cement plants have set-up installations for captive power generation. Further, as part of reform process in Coal Sector, the Government has also permitted 100% FDI in captive coal blocks in Cement Sector along with Power and Steel Sectors to facilitate and augment power availability.

Freight Costs

Logistics in the Cement Sector affect freight costs to a large extent. The basic raw materials for manufacturing cement, such as, limestone and coal are low value high bulk material and, as a result, entail huge freight cost which form the single largest cost component, usually accounting for 33% of the variable costs. During 1990s, the most significant developments were the emergence of big plants and formations of clusters of cement plants. These clusters, typically located far away from the major consumption centres meant that cement has to be transported over very long distances. The Indian Railways transported 112.96 million tonnes cement in 2017-18, an increase from 103.20 million tonnes of cement transported in 2016-17, as a part of revenue earning freight traffic. Alternatively, the cost-conscious manufacturers have attempted to use sea route for transportation as sea route is cost-effective and could benefit coast-based manufacturers. Some cement plants have set-up dedicated jetties for promoting bulk transportation and export.

Cost Control

Cement producers of the country have continuously attempted to lower the cost by various methods like:

- improved efficiency by increasing usage of captive power;
- locating units closer to the market place;
- increasing production of blended cement;
- availing of various State incentives like sales tax exemption; power tariff; exemption/ concession (Himachal Pradesh and Tamil Nadu);
- conversion from wet to dry process, wherever possible, depending on quality of limestone; and
- enhanced capacities to achieve economy of scale. (Expansion is the preferred route as setting up new plant costs thrice the cost of expansion).

Environment

Ministry of Environment and Forests has notified the emission standards for cement plants in 1987, which were subsequently revised in February, 2006. In India, the permissible stack dust emissions from various sources for existing cement plants is 1.50 mg/Nm and 100 mg/Nm for plants located in critically polluted areas. However, the limit for new plants in our country is 50 mg/Nm which is at par with some of the developed countries. All large plants do have in place necessary air pollution control equipment to control dust emissions. Thermal power stations use bituminous or sub-bituminous coal and produce large volumes of fly ash. Fly ash is a fine powder recovered from gases created by coal-fired electric power generation. These micron sized earth elements consist primarily of silica, alumina and iron. When mixed with lime and water, the fly ash forms a cementitious compound with properties very similar to portland cement. The research outcomes so far have established that low grade / dolomitic limestone upto 15-20% can be used in the manufacture of cement conforming to 43 grade OPC. Fly ash upto 45% can be used in high volume fly ash cement thereby enhancing the fly ash utilisation. The research outcome pursued under Swatchchta Action Plan established that poor quality fly ash can be used upto 40% by activating it through mechanical and chemical routes resulting in additional fly ash utilisation of about 15 million tonnes annually over and above the current quantum of fly ash utlisation limit of 35% , thus cleaning the country in big way.

Industrial wastes, such as, petcoke, tar waste and by-products, such as, red mud from aluminium industries, ferrous and non-ferrous slag from steel & other industries, phospho-chalk & phospho-gypsum from fertilizer industries, lime sludge from paper & sugar industries, carbide sludge from carbide industries, phosphorus furnace slag, etc. are now finding use in the manufacture of cement.

Ready-Mix Concrete

Ready-mix Concrete (RMC) is a relatively nascent market in India accounting for only about 0.5% of the demand. RMC is ready-to-use concrete blend of cement, sand & aggregate and water mixed in convenient proportion. It was first launched in Mumbai a few years ago and is gaining ground in other metros in India. RMC is a corollary to bulk handling and transportation of cement. It has several advantages. It is produced under controlled conditions and hence has consistency in quality and it can be directly powered in the required form which would not only save time but also would improve the quality of construction.

POLICY

The Export & Import Policy 2015-20, incorporated in the FTP for cement is free. The import of cement includes portland cement, white cement, aluminous cement, slag cement, super sulphate cement and similar hydraulic cements, whether or not coloured or in the form of clinkers, under ITC (HS) Code 2523 is free.

Development Council for Cement Industry

Development Council for Cement Industry has been set-up under Section 6 of the Industrial (Development & Regulation) Act,1951. The activity of the Council is funded through the cess collected from Cement Manufacturers in terms of the Cement Cess Rules,1993. The Cement Council promotes development of the cement industry by funding development projects in areas of base level activities of National Council for Cement & Building Materials and R&D, improving productivity by reducing cost, optimum utilisation of raw materials, modernisation of cement plants, improvement of environment, standardisation and quality control progress, bulk supply and distribution of cement, training and upgradation of skill in cement industry.

WORLD REVIEW

The cement production in 2017 was estimated at 4,050 million tonnes. China (2,300 million tonnes) was the largest producer in the world, contributing about 57% to the world output, followed by India (290 million tonnes) 7%, USA (87 million tonnes) 2%,Turkey (81 million tonnes) 2%, Vietnam (79 million tonnes) 2%, Korea, Rep. of (57 million tonnes) 1%, Russia (55 million tonnes) 1%, Japan (55 million tonnes) 1%, Brazil (53 million tonnes) 1% and Saudi Arabia (47 million tonnes) 1%, (Table-3).

FOREIGN TRADE

Exports

Export of cement (total) decreased marginally to 6.65 million tonnes in 2017-18 from 6.85 million tonnes in 2016-17. In 2017-18, exports of portland grey cement were 2.28 million tonnes and those of cement clinker 4.08 million tonnes in the total cement exports. Exports of portland white cement and other cements were 23,630 tonnes and 2,72,206 tonnes, respectively. Exports of cement in 2017-18 were mainly to Sri Lanka & Nepal (45% each), Maldives and Mozambique (2% each) Yemen (1%) (Tables - 4 to 8).

Imports

Cement imports in 2017-18 increased substantially to 2.62 million tonnes from 2.04 million tonnes in 2016-17. In 2017-18, imports of portland grey cement were 13.90 lakh tonnes, those of cement clinker 8.49 lakh tonnes, other cements 3.06 lakh tonnes and portland white cement about 72 thousand tonnes and the main suppliers in 2017-18 were Pakistan (49%), Bangladesh (14%), Japan (11%), Vietnam (9%), Iran (8%), and UAE (3%) (Tables- 9 to 13).

Table – 3 : World Production of Cement[e] (By Principal Countries)

(In '000 tonnes)

Country	2015	2016	2017
World Total (rounded)	**4100000**	**4100000**	**4050000**
Brazil	65300	57000	53000
China	2350000	2400000	2320000
Egypt	55000	55000	53000
India	300000	280000	290000
Indonesia	58000	63000	65000
Iran	58600	55000	54000
Japan	54800	53300	55200
Korea, Rep. of	51700	57000	56500
Russia	62100	56000	54700
Saudi Arabia	61900	62000	47100
Turkey	71400	75400	80600
USA*	84300	85000	86600
Vietnam	67400	77300	78800
Other countries	760000	724000	756000

Source: Mineral Commodity Summaries, 2018 & 2019, USGS.

*e: Estimated. * : Includes Puerto Rico*

Table – 4 : Exports of Cement : Total (By Countries)

Country	2016-17		2017-18	
	Qty (t)	Value (`'000)	Qty (t)	Value (`'000)
All Countries	**6850808**	**20017686**	**6655649**	**23035015**
Nepal	2496779	7045766	3006126	12201714
Sri Lanka	3593889	11007357	3111051	9204449
Maldives	103576	468008	103187	445584
Mozambique	66132	124453	125561	255299
Yemen Republic	299385	562979	88000	188742
Bhutan	9861	26390	49159	188468
Madagascar	50980	161679	57234	176193
Angola	41	502	55000	81557
Reunion	6307	26431	17276	67580
Seychelles	12069	47372	17516	62128
Other countries	211789	546749	25539	163301

Table – 5 : Exports of Cement (Portland Grey) (By Countries)

Country	2016-17		2017-18	
	Qty (t)	Value (`'000)	Qty (t)	Value (`'000)
All Countries	**2563122**	**8623370**	**2275580**	**7377548**
Sri Lanka	2328095	7711440	2042434	6475898
Maldives	94661	420317	93566	398262
Nepal	63183	228974	43564	179352
Madagascar	50400	158514	57176	175544
Seychelles	12068	47358	17513	62109
Bhutan	146	668	10540	36830
Reunion	6307	26431	8876	35290
Comoros	580	4494	1480	12452
Tanzania	6160	19741	252	864
Kenya	220	891	100	616
Other countries	1302	4542	79	331

Table – 6 : Exports of Cement (Portland White) (By Countries)

Country	2016-17		2017-18	
	Qty (t)	Value (`'000)	Qty (t)	Value (`'000)
All Countries	**33181**	**253062**	**23630**	**200758**
Nepal	21965	143852	16736	134558
Nigeria	2923	32716	2486	26928
Qatar	34	512	1911	13562
Djibouti	460	5450	432	4793
Oman	5286	43655	560	4438
Congo, Dem. Rep.	117	1907	203	2564
Uganda	322	3414	219	2235
Bhutan	76	606	361	2199
Congo, Peop. Rep.	112	1829	112	1782
Malawi	204	2641	147	1737
Other countries	1682	16480	463	5962

Table – 7 : Exports of Cement Clinker (By Countries)

Country	2016-17		2017-18	
	Qty (t)	Value (`'000)	Qty (t)	Value (`'000)
All Countries	**3988561**	**10182227**	**4084233**	**14516369**
Nepal	2340606	6426511	2903095	11712445
Sri Lanka	1084037	2688294	860244	2094697
Mozambique	66050	123515	125500	254716
Yemen Republic	299385	562979	88000	188742
Bhutan	8715	20355	37500	144363
Angola	-	-	55000	81557
Bangladesh	-	-	14850	39058
Egypt	-	-	40	579
Pakistan	-	-	++	181
Germany	14	101	++	18
Other countries	189754	360472	4	13

Table – 8 : Exports of Cement (Others) (By Countries)

Country	2016-17		2017-18	
	Qty (t)	Value (`'000)	Qty (t)	Value (`'000)
All Countries	**265944**	**959027**	**272206**	**940340**
Sri Lanka	181746	607532	208372	633788
Nepal	71025	246429	42731	175359
Maldives	8892	47207	9568	46120
Reunion	-	-	8400	32290
UAE	84	2603	200	8265
Iran	271	12543	149	6923
Malaysia	14	468	157	6015
Germany	422	7360	320	5145
Bhutan	924	4761	758	5076
Egypt	70	3238	110	4962
Other countries	2496	26886	1441	16397

Table – 9 : Imports of Cement:Total (By Countries)

Country	2016-17		2017-18	
	Qty (t)	Value (`'000)	Qty (t)	Value (`'000)
All Countries	**2037600**	**8531912**	**2617597**	**10408733**
Pakistan	1455550	5620702	1278862	5046866
Bangladesh	226596	1048497	376052	1714467
Japan	141505	336676	294376	843383
Vietnam	++	42	256912	751133
Iran	47775	140293	210686	510439
UAE	102199	553225	87323	508457
China	25927	444870	8679	393335
Thailand	18000	51283	55000	151397
Indonesia	2	211	30817	91947
Netherlands	1775	84142	1647	71375
Other countries	18271	251971	17243	325934

Table – 10 : Imports of Cement (Portland Grey) (By Countries)

Country	2016-17		2017-18	
	Qty (t)	Value (`'000)	Qty (t)	Value (`'000)
All Countries	**1552088**	**6057382**	**1390222**	**5528577**
Pakistan	1452086	5592097	1272542	4993235
Bangladesh	90265	424702	77695	362939
UAE	6083	26391	38045	159024
Germany	-	++	513	6669
Bhutan	3526	13734	1427	6646
USA	-	-	++	60
China	-	-	++	4
Afghanistan	70	268	-	-
Pitcairn IS	58	190	-	-

Table – 11 : Imports of Cement (Portland White) (By Countries)

Country	2016-17		2017-18	
	Qty (t)	Value (`'000)	Qty (t)	Value (`'000)
All Countries	**11413**	**97394**	**72149**	**321795**
Japan	-	-	48675	136115
UAE	7634	65420	13732	105676
Pakistan	3044	26777	5821	51955
Iran	673	4654	2897	19871
Egypt	-	-	958	7173
Saudi Arabia	-	-	22	589
Spain	58	526	26	262
Singapore	-	-	17	145
UK	-	-	1	9
Belgium	4	15	-	-
USA	++	2	-	-

Table – 12 : Imports of Cement Clinker (By Countries)

Country	2016-17		2017-18	
	Qty (t)	Value (`'000)	Qty (t)	Value (`'000)
All Countries	**324813**	**1125636**	**849321**	**2537022**
Vietnam	-	-	256911	750289
Japan	141504	336404	245700	706725
Iran	47102	135639	207789	490568
UAE	88482	461325	35546	243757
Thailand	18000	51234	55000	151397
Indonesia	-	-	30815	91770
Bangladesh	-	-	8710	39072
Egypt	762	5798	4418	30226
Malaysia	10764	79199	2392	16405
France	-	-	971	9503
Other countries	18199	56037	1069	7310

Table – 13 : Imports of Cement (Others)
(By Countries)

Country	2016-17		2017-18	
	Qty (t)	Value (`'000)	Qty (t)	Value (`'000)
All Countries	**149286**	**1251500**	**305905**	**2021339**
Bangladesh	136331	623795	289647	1312456
China	7734	388878	8159	387967
Netherlands	1775	84142	1647	71375
Croatia	1113	39035	1890	63930
Chinese Taipei/Taiwan	160	53941	204	57803
France	594	33047	953	50566
UK	25	1806	798	49429
Bhutan	-	-	2163	10445
Germany	1088	18804	366	9295
USA	10	2632	39	2710
Other countries	456	5420	39	5363

FUTURE OUTLOOK

The primacy of Cement Industry would continue as cement remains paramount for the development of infrastructure all over the world and no other material would possibly substitute it in the near future. Infrastructure and industrial activity, real estate business and investment in core sectors mainly drive the demand for cement. Some emerging areas for cement demand are concrete roads, concrete canal lining and rural construction (housing). Over 65% demand for cement arises from Construction Sector.

The Government of India has been laying a massive emphasis on infrastructure development, with 100 smart cities, modernisation of 500 cities, affordable housing for all by 2022, cement concreting of national highways, provision of sanitation facilities, etc. all in the pipeline for development over the course of the next years. These all lead to future growth of Indian Cement Industry.

The country is self-sufficient in terms of cement production. Most of the cement plants in India are operated by state-of-the-art technology and with advanced production facilities. The liberalisation policies for Cement Industry enabled achievement of strong growth in the Cement Sector. The Cement Industry has presently ushered in modifications and upgradation in technology, particularly in the energy conservation front.

The Working Group on Cement Industry for the 12th Five-Year Plan period has projected a demand growth at the rate of 10.75% per annum during the plan period at an expected 9% GDP growth rate. The Working Group expects that the installed capacity requirement would be 1,035.3 million tonnes by 2027.

Reviewing the technology status of the Indian Cement Industry, the Working Group has observed that although the modern cement plants have incorporated the latest technology, yet there is scope for further improvement in the areas of in-pit crushing and conveying, pipe conveyors, co-processing of waste derived/hazardous combustible wastes as fuel, neurofuzzy expert system, cogeneration of power, multi chamber/dome silos, bulk transport of cement, pelletising and shrink wrapping for packing & despatch.