CHAPTER XII

VARIOUS INSTITUTIONS PROMOTING BUSINESS, RESEARCH & DEVELOPMENT IN CEMENT INDUSTRY.

INTRODUCTION:

Cement has played and continues to play a very vital role in the economy of all nations. The per capita consumption of cement is an important index by which a country's progress is gauged. The use of cement has become so inseparably connected to the social, economic and industrial fabric of a country that it is difficult to imagine a world without this essential commodity. As a result, in the year 1996 the world production of cement has crossed 1457.00 Million Tonnes per annum, China leading with an annual production of more than 430 Million Tonnes, followed by Japan, USA and India 97, 77 and 73 Million Tonnes respectively. There are at least 8 countries with annual production of more than 25 million tonnes. Between 1980 and 1996 the average per capita consumption in the world has gone up from 203 kg. to 251 kg. (In India this figure has gone from 30 kgs to 78 Kgs for the same period). This growth of cement
industry has been possible due to the matching technological innovations in the manufacture and use of cement. Research and Development has played a major role in this.

Indian Cement Industry has witnessed phenomenal growth in the 1980s. Today India is the 4th largest cement producing country in the world and by the turn of the century, the capacity would be well over 100 million tonnes. Despite these efforts, the per capita cement consumption in India, however, remains at a meagre 78 kgs which is among the lowest in the world. The growth rate, however, reflects the latent potential for expansion of cement capacity for the next few decades.

Besides setting up new capacities, the cement industry has modernized its existing capacity to nearly state of art and today more than 80% capacity is accounted by the modern dry process plant capacity. Significant contribution from mini plant sector, based on vertical shaft kiln technology developed by NCB and perfected by Indian technical man-power cannot be ignored. The single kiln unit capacities are increasing with kilns of 4500 TPD capacity becoming the order of the day.
India also makes varieties of cement, including some of the special cements, such as Oil Well Cement, Railway Sleeper Cement and Jet Set Cement. Indian Cement industry consists of varieties of processes, plant & machinery and uses wide varieties of raw materials and fuels. This obviously offers technologists with a large varieties of problems faced by the plants demanding specific solutions. The above character of the cement industry set out a perfect stage for the role to be played by Research & Development activity to support the industry. India, fortunately, has kept pace in this area and in fact realised the need for extensive R&D support much before the explosion of capacity expansion by setting up and apex national R&D institute called "CEMENT RESEARCH INSTITUTE (renamed as National Council for Cement and Building Materials in 1985)" in 1962, which became fully operative in early 1970s and in fact was ahead of industry's demands. Besides this apex institution, the private sector had recognised the need and two well established R&D Centres were in existence before 1970s, (ACC, CRS, Thane and Dalmia Institute of Scientific and Industrial Research (DISIR) at Rajgangpur, Orissa State). In addition to
this, the R&D efforts mainly in the area of product development, on building materials including cement, were carried out at National Institutions like Central Building Research Institute (CBRI) and organisations like N.B.O., Educational Institutions, however, were not very active in this area before 1980, but have started contributing since then.

(a) CEMENT MANUFACTURER'S ASSOCIATION, BOMBAY.

The Cement industry in India dates back to 1914 when the first unit was established in Porbander (Gujarat) with a production of just 1,000 tonnes a year. The industry now ranks fifth among cement producing countries. The USA, USSR, Japan and China are only ahead of India.

As the growth of the cement industry was slow for about one-and-a-half decades after independence, a need was felt to have a representative body of the cement manufacturers to foster the growth and health of the
industry. The Cement Manufacturers’s Association (CMA), was set up in 1961 with 17 member companies. It is a unique body in as much as it has both the private and public sector cement units as its members.

A significant role has been played by the CMA in assisting the government in formulating policies which have brought about unprecedented growth of the cement industry.

CMA’s well-reasoned dialogues have resulted in government announcing in 1977 that retention prices would be fixed so as to ensure 12 per cement post tax return on net worth. Later, the Association’s well-documented representations made the government introduce partial decontrol in 1982, and thereafter, lifted all price and distribution controls from March, 1989.

The CMA is a registered body under the Societies Registration Act and has its registered office in New Delhi and an office in Bombay.
The main objectives of the CMA are:

- To promote the interests of its members in relation to commerce and industry in India, particularly those connected with cement.
- Liaise with trade and industrial organisations in India and abroad.
- To encourage friendly cooperation and cordial relations among cement producers.
- To collect, collate and disseminate statistical and technical information on the cement industry.
- To provide support to the industry by analysing and reviewing government policies.
- To study the problems faced by the cement industry and individual manufacturers and make representations to the government and other authorities urging timely action.
- To encourage research and technical advancement of the industry.
To promote the image and goodwill of the industry among the consumers and the public at large.

At present the CMA has 51 companies as its members, accounting for about 92 per cent of the total installed capacity of the cement industry.

The CMA has been alive to the need for upgrading cement technology and modernising the industry. In the first year of its inception, it established a research body in collaboration with CSIR. This was the Cement Research Institute (CRI) set up in 1962, now called the National Council for Cement and Building Materials, (NCB). It has a well equipped laboratory and a campus of its own at Ballabgarh in Haryana.

The CMA organises workshop/seminars on different subjects of importance to the cement industry. To commemorate the silver jubilee of the association, it, among other activities, organised seminars on packaging, housing, modernisation, pollution control and manpower development during the years 1986 and 1987.
The phenomenal growth of the cement industry following the introduction of partial decontrol in 1987 onwards a situation where supply far outstripped demand, adversely affecting the finances of cement companies. As a result, market development has assumed great importance. The CMA has initiated and adopted various methodologies to propagate the use of cement in thrust areas like cement concrete roads, canal lining, precast/prefab construction, etc, and achieved some success. For this, it has organised workshops and seminars in different parts of the country which have been attended by a large number of civil engineers, etc.

The 1980s witnessed certain basic changes in the world trading pattern of cement. Conditions could be created for cement/clinker exports from India to East Asia, Middle East, Bangladesh, Sri Lanka, etc. The CMA set up an "Export Cell" to receive cement import enquiries from different countries and disseminate the information to its members.

The CMA brings out a fortnightly Cement News Digest bulletin and a quarterly journal Cement.
CMA COMMITTEES / GROUPS

CMA STEERING COMMITTEE
Shri N.S. Sekhsaria : Chairman
President, CMA and
Managing Director
Gujarat Ambuja Cement Ltd.

Shri A.L. Kapur : Co-Chairman
Vice-President CMA
and Executive Director & CEO
Birla Corp. Ltd.

CMA COMMITTEE-APEX MARKETING EXPORTS
Shri H.F. Kedia : Chairman
Vice President
Raymond Ltd.- Cement Divn.

Shri A.R. Shenoy : Co-Chairman
Director (Mktg.)
The A.C.C. Ltd.

Shri T.S. Raghupathy : Co-Chairman
Vice President (Mktg.)
India Cements Ltd.

ZONAL MARKETING & EXPORTS COMMITTEES
Northern Zone
Chairman : Co-Chairman : Co-Chairman
Smt. Vinita Singhania : Shri C.P. Jajoo : Shri M.L. Gupta
Director : Sr. Exe. President : Sr. Vice President
Eastern Zone

Acting Chairman
Shri. S.P. Sinha
Chairman-Cum-M.D.
Kalyanpur Cement Ltd.

Co-Chairman
Shri. A.P. Singh
Sr. Vice President
The ACC Limited

Co-Chairman
Shri. Bhupesh Kapur
General Manager
Larsen & Toubro

Western Zone

Chairman
Shri I.K. Agarwal
Managing Director
Gujarat Sidhee Cement Limited

Co-Chairman
Shri. R.J. Kampani
Advisor
Gujarat Ambuja Cements Limited

Co-Chairman
Shri. R. Doraiswamy
Jt. G.M. (Cmt. Mktg.)
Larsen & Toubro Ltd

Southern Zone

Chairman
Shri. N.K.F. Raju
Managing Director
Raasi Cement Ltd.

Co-Chairman
Shri R. Natarajan
President
Madras Cements Ltd.

Central Zone

Chairman
Shri Manoj Gaur
Director (Incharge)
Jaypee Rewa Cement

Co-Chairman
Shri C.S. Jain
Sr. V.P. (Mktg.)
Maihar Cement Satna.
CMA HIGH POWER - COMMITTEE

Shri N.S. Sekhsaria : Chairman
President, CMA and
Managing Director
Gujarat Ambuja Cement Ltd

Shri. A. L. Kapur : Alternate Chairman
Vice-President, CMA
and Exe. Director & CEO
Birla Corp. Ltd.

CMA COMMITTEE - EXCISE DUTY/FINANCE/LEGAL MATTERS

Shri. Y. H. Dalミa : Chairman
President
Dalmia Cement (B) Ltd.

CMA COMMITTEE - COAL & INFRASTRUCTURE

Shri. D. K. Sett : Chairman
Sr. Vice President
The ACC Limited

Shri. P. Vijayan : Co-Chairman
Sr. Vice President
Gujarat Ambuja Cements Ltd

CMA TECHNICAL COMMITTEE

Dr. A. K. Chatterjee : Chairman
Wholetime Director
The ACC Limited

Shri J. P. Desai : Co-Chairman
V.P. (Technical Services)
Gujarat Ambuja Cements Ltd

CMA GROUP - CEMENT PACKAGING

Shri. A. B. Sharma : Chairman
President (Mktg.)
Dalmia Cement (B) Ltd.
MEMBERS OF CEMENT MANUFACTURER’S ASSOCIATION.

1. The Andhra Cement Co., Ltd.  
   Chandralok, 2nd Floor  
   111, Sarojini Devi Road  
   SECYBDERAVAD 500 003

2. J.K. Udaipur Udyog Ltd.  
   Shripati Nagar,  
   CFA - 319021  
   Dist. Udaipur, RAJASTHAN

3. The Associated Cement Co., Ltd.,  
   "Cement House"  
   121, Maharshi Karve Road  
   MUMBAI - 400 020

4. The Jaipur Udyog Ltd.  
   P.O. Sahunagar.  
   Sawaimadhopur 322 022  
   (W.Rly.), RAJASTHAN.

5. Birla Corp. Ltd.  
   Birla Building  
   9/1, R.N. Mukherjee Road,  
   CALCUTTA-700 001

   (A J&K Govt. Undertaking)  
   Nawa-ISubh Building,  
   Zero Bridg,  
   Post Box No.149,  
   Srinagar 190001  
   KASHMIR.

7. Cement Corp. of (I) Ltd.  
   (A Govt. of India Ent.)  
   Core-a5, Scope Complex,  
   7, Lodhi Road,  
   NEW DELHI 110 003

8. Jaypee Rewa Cement  
   (A Div. of Jaiprakash Industries Ltd.)  
   5, Park Road,  
   Hazratganj  
   Lucknow 226011  
   UTTAR PRADESH.

9. Century Cement  
   (Prop. The Century Text & Inds. Ltd.)  
   Century Bhawan,  
   Dr. Annie Besant Road,  
   MUMBAUY - 400 025.

10. Kalyanpur Cements Ltd.  
    2&3 Clive Row  
    CALCUTTA - 700 001
<table>
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<tr>
<th>No.</th>
<th>Company Name</th>
<th>Address</th>
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<tr>
<td>11.</td>
<td>Chettinad Cement Corpn. Ltd.</td>
<td>Rani Seethai Hall Bldg., 603 Anna Salai, CHENNAI - 600006</td>
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<tr>
<td>12.</td>
<td>Kanoria Inds. Ltd.</td>
<td>Air India Building, 14th Floor, Nariman Point, MUMBAI - 400021</td>
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<td>13.</td>
<td>Dalmia Cement (Bharat) Ltd.</td>
<td>Dalmiapuram 621551, Dist. Tiruchirapally, TAMIL NADU</td>
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<tr>
<td>14.</td>
<td>The K.C.P. Ltd.</td>
<td>Ramakrishna Building 2, Dr. P.V. Cherian Crescent, Off Commander-in-Chief Road, CHENNAI - 600105</td>
</tr>
<tr>
<td>15.</td>
<td>Damodar Cement &amp; Slag Ltd.</td>
<td>Madhukunda, P.O. Sunuri, Dist. Purulia, West Bengal - 723121</td>
</tr>
<tr>
<td>16.</td>
<td>Kesoram Cement</td>
<td>9/1, R.N. Mukherjee Road, CALCUTTA - 700 001</td>
</tr>
<tr>
<td>17.</td>
<td>Gujrat Ambuja Cement Ltd.</td>
<td>Ambuja Nagar, P.O. Vadnagar, Dist. Amreli 363715 GUJARAT.</td>
</tr>
<tr>
<td>18.</td>
<td>Gujrat Sidhee Cement Ltd.</td>
<td>Siddhigram, Off Veraval Kodinar Road, Veraval 362276 Dist. Junagarh, GUJARAT.</td>
</tr>
<tr>
<td>20.</td>
<td>HMP Cements Ltd.</td>
<td>&quot;Fairlie House&quot;, 4, Fairlie Place CALCUTTA 700001</td>
</tr>
<tr>
<td>22.</td>
<td>The India Cements Ltd.</td>
<td>Dhun Bldg. 827 Anna Salai, CHENNAI - 600 002</td>
</tr>
<tr>
<td>23.</td>
<td>Madras Cements Ltd.</td>
<td>Ramamandiram Rajapalayam 626117 TAMIL NADU</td>
</tr>
</tbody>
</table>
24. IDCOL Cement Ltd.  
   (A.Subsidiary of I.D.C. of Orissa Ltd.)  
   Cement Nagar,  
   P.O.Bardol-768038  
   Dist.Bargarh, ORISSA.  

25. Maihar Cement  
   (Prop.Centry Textiles & Inds. Ltd.)  
   Century Bhawan,  
   Dr.Annie Besant Road,  
   MUMBAI -400 025.  

26. J.K.Cement Works  
   (A.Divn.of J.K.Synthetics Ltd.)  
   Kamla Tower, Kanpur  

27. Malabar Cement  
   (A.Govt.of Kerala Undertaking)  
   Walayar P.O.  
   Pin.678624  
   Palghat Dist. KERALA.  

28. Mangalam Cement Ltd.  
   Adiyanagar,  
   Morak 326517,  
   Dist.Kota RAJASTHAN  

29. Saurashtra Cement Ltd.  
   Near Railway Station  
   P.O.Ranavav 360 560  
   GUJRAT.  

30. Manikgarh Cement  
   (Prop.The Centry Text. & Inds.Ltd.)  
   Centry Bhawan,  
   Dr.Annie Besant Road  
   MUMBAI - 400 025  

31. Shree Cement Ltdg.  
   Near Vill.Andheri-Deori,  
   Beawar Masuda Road,  
   Beawar 305901  
   RAJASTHAN.  

32. MawmluhCherra Cement Ltd  
   (A.Govt.of Meghalaya Undertaking)  
   Taxation Building  
   (Near Raj Bhawan)  
   Shillong 793001  
   MEGHALAYA.  

33. Shree Digvijay Cement Ltd  
   P.O.Digvijaygram  
   Pin 361140  
   Via Jamnagar  
   GUJRAT  

34. Modi Cement Ltd.  
   Modigram,  
   Baloda Bazar 493331,  
   Dist.Rajpur, M.P.  

35. Shriram Cement Works  
   (A.Divn.of DCM Shriram Consolidated ltd.)  
   Kanchenjunga Building,  
   18,Barakhamba road,  
   New Delhi 110 001.
36. Mysore Cements Ltd.  
4th Floor, Tower B/1  
Golden Enclave,  
Airport Road,  
BANGALORE 500 017

Diamond Cement  
(prop. Mysore Cements Ltd)  
4th Floor, Tower B/1,  
Golden Enclave,  
Airport Road,  
BANGALORE - 500017

37. Sone Valley Portland Cement Co. Ltd.,  
Shahi Bhawan,  
2nd Floor,  
Exhibition Road,  
PATNA - 800 001

38. Sri Vishnu Cement Ltd.  
6-3-883/1, P.B. No.1535  
Panjagutta,  
HYDERABAD 500482 (HP)

39. Narmada Cement Co. Ltd.  
2-C, Phoenix Mills Compound,  
462, Senapati Bapat Marg  
Lower Parel,  
MUMBAI - 400013

40. The Tata Iron & Steel Co., Ltd.,  
Bombay House,  
24, Homi Modi Street,  
Fort,  
MUMBAI 400 023

41. Orient Cement  
(Prop. Orient Paper and Inds. Ltd.)  
Braijrajnagar, ORISSA

42. Tamil Nadu Cements Corpn. Ltd.,  
(A. Govt. of Tamil Nadu Undertaking)  
L.L.A. Buildings, 2nd Floor,  
735, Ana Salai  
CHENNAI - 600 002

43. OCL India Ltd.  
Rajgangpur 770017  
Dist. Sundergarh,  
ORISSA

44. The Travancore Cement Ltd. (A. Govt. of Kerala Undertaking)  
Nattakom,  
Kottayam 686013  
KERALA
45. Panyam Cements & Min Ind. Ltd.  
Cement Nagar-518206  
Bugganipalle  
Cement Nagar RS,  
Dist. Kurnool  
ANDHRA PRADESH

46. The U.P. State Cement Corpn. Ltd.  
(A. U. P. Govt. Undertaking)  
CHURK 231 206  
Dist. Sonebhandra  
UTTAR PRADESH

47. Priyadarshini Cement Ltd.  
6-3-1092&1093, 2nd Floor  
Shanti Sikhar Complex  
Raj Bhavan Road,  
Somajiguda  
Hyderabad 500 482  
ANDHRA PRADESH

48. Vikram Cement  
(Prop. Gasim Ind. Ltd.)  
Birlagram  
Nagda - 456331  
MADHYA PRADESH

49. Raasi Cement Ltd.  
Minerva House, 5th Floor  
94, Sarojini Devi Road,  
Secunderabad 500 003  
ANDHRA PRADESH

50. Zuari Cement  
(A. Divn. of Zuari Agro Chemicals Ltd.)  
Jai Kisan Bhawan  
Zuari Nagar,  
60A 400 725

51. Rajashree Cement  
(A. Divn. of Indian Rayon & Inds. Ltd.)  
Junagadh-Veraval Road  
Veraval 362 265, GUJRAT

52. DLF Cements Ltd.  
DLF Centre,  
1E, Jhandewalan Extn.  
NEW DELHI - 110 055

53. Raymond Limited,  
(Cement Division)  
Plot No. No. 156-H,  
No. 2 Village Zadgon,  
Ratnagiri 415 612  
MAHARASHTRA

54. Prism Cement Ltd.  
305, Laxmi Niwas Apt.  
Opp. Green Park Hotel  
Ameerpet,  
HYDERABAD-500 016

55. Rohtas Industries Ltd.  
Dalmianagar 821305  
BIHAR
(b) NATIONAL COUNCIL FOR CEMENT AND BUILDING MATERIALS
NEW DELHI.

INTRODUCTION

Cement Research Institute of India (CRI), which set up in 1962 as a co-operative R&D venture of the industry and the Government through CSIR and Cement Manufacturers' Association (CMA) was redesignated as National Council for Cement and Building Materials in February, 1985 so as to make the institute broad based by damaging the other building materials under the purview of Research. The activities of the Council are based on the following objectives:

Carry out applied research to meet both immediate and long-term needs of industry;

Act as a catalyst in introduction of new technologies, modernisation and healthy growth of industry;

Promote collaborative research programmes with cement plants, sister research organisations and other
promotionsl bodies connected with or having relevance to cement and building materials;

Provide specialised scientific and technical services to industry, eg. testing, quality control, calibration, trouble-shooting, productivity, energy conservation, pollution control and maintenance;

Provide inputs for formulation, revision and updating of standards;

Encourage and popularise use of industrial, agricultural and other wastes in industry for environmental control;

provide training facilities for human resource generation and development for the industry;

Organise Workshops, Seminars and interaction meetings on national and international level;

Establish links and pursue collaborative research and exchange programmes with similar research organisations in other countries.
SERVICES PROVIDED;

Towards fulfilment of these objectives, NCB has so far completed more than 900 technology generation and transfer projects including 702 projects and assignments sponsored by industries. The beneficiaries of NCB's technical and consultancy services cover the entire spectrum of cement and allied building materials industries in the country, different Central and State Government Undertakings, Government Departments and various reputed organisations in India and abroad. A profile of beneficiaries of NCB's technical services is given at the end of this article.

SUPPORTIVE ORGANISATION STRUCTURE

The host of technological support and consultancy services to individual cement plants and other agencies are provided through the network of four NCB Units. The Corporate Office at New Delhi provides direction and
synergy to the programmes and policies; the Units at Ballabgarh (Haryana), Hyderabad (Andhra Pradesh) and Patna (Bihar) provide linkages for rendering technical services to the industry. The NCB Units at Ballabgarh and Hyderabad are uniquely equipped with efficient infrastructure, new generation sophisticated equipments, diagnostic facilities and wide-ranging multi-disciplinary expertise in varied fields. The Organisational Structure provide flexible approach and rational utilisation of expertise in execution of multi-disciplinary programmes and assignments.

Of the different industrial support services rendered by NCB to the cement industry, worth mentioning are site selection for greenfield projects, detailed geological prospecting, computerised nine planing, productivity enhancement, process optimisation and related trouble shooting, evaluation of mechanical condition of kiln, alignment of kiln, condition monitoring, environmental audit, testing, quality control and quality improvement, improvements in performance and durability of construction and training of manpower which even the international organisational organisations have been
availing. Nearly 80 Cement plants have availed of its Productivity Enhancement Services, 90 cement plants of energy audit services, 65 plants of maintenance services and 24 plants of pollution control services. NCB has been called upon by a number of users to investigate durability problems in housing, industrial structures and hydraulic structures. Every year NCB tests about 7000 samples of cement, pozzolana, lime, cement grade limestone, concrete, aggregates, water, admixtures, etc, carries out calibration of more than 600 equipment/apparatus and organises 40-50 training courses for the benefit of cementry industry. NCB has been playing a significant role in Human Resource Development for Cement Industry in India and developing countries. So far 845 Training Programmes have been held on divergent topics with participation of more than 10,400 personnel from various organisations. These technical services are being further strengthened every year through networking to widen their reach to the industry and society efficiently.
STATUS OF R&D IN THE CEMENT INDUSTRY

In the last three decades, the Indian cement industry has built-up a modest but active infrastructure for carrying out its developmental activities. There are at least 9 in-house R&D units in the Indian cement industry which are recognised by the DSIR. The National Council for Cement and Building Materials, superior thermal characteristics of natural gas and its ease of handling, it is supposed that its use by cement industry will help in reducing overall manufacturing costs by energy conservation.

Besides this apex institution, the private sector had recognised the need and two well established R&D Centres were in existence before 1970s; {ACC, CRS, Thane and Dalmia Institute of Scientific and Industrial Research (DISIR) at Rajgangpur, Orissa State}. In addition to this, the R&D efforts mainly in the area of product development, on building materials including cement, were carried out at National Institutions like Central Building Research Institute (CBRI) and organizations like N.B.O., Educational Institutions,
however, were not very active in this area before 1980, but have started contributing since then.

Although India is stated to be the second largest country in terms of its scientific and technical man-power, it employs only 45 scientists / engineers / technicians per 1000 of population which is 1/20th of Jaipur Infrastructure - Road/Bridge/Dam, etc. are the weakest spot in growing Indian-economy and cement is the key input to this area. Besides quantities, quality and speed are to be the key words for R&D support for the industry and nation. It brings out a case for tremendous push up for R&D in general, and more specifically for the cement industry and the health of the cement industry today is such that it can afford to support a higher input to R&D for its benefit. Needless to say that inputs to R&D generally bring manifold returns to the industry & nation and sustain the development on long term basis.

The support of R&D in the growth of the cement industry in India, or in improving the technological levels, specially for cost reduction, conservation of energy and
raw materials consumption, environmental improvement, quality improvement is of paramount importance. Simultaneously newer applications of cement have to be given due importance to remove the imbalances created by fast growth of cement production and poor offtake. In today's fast progressing world, no industrial system can grow without R&D support. Any attempt to reduce the expenditure on R&D for the reason of economy can be counter-productive in the long run. While we can be proud of the achievements in R&D in certain areas and technological support provided by R&D institutions, particularly NCB (earlier Cement Research Institute), in order that the desired results are obtained, research has to be properly focused and mission-oriented, taking into account what the industry is going to be like. There are number of areas which need special attention, particularly with respect to development of technologies and equipment design. The industry has to be kept abreast with the technological developments being made elsewhere in the world. While there is no difficulty in even importing the technology best-suited for the country, indigenous research and development is absolutely necessary. It is required to ensure ready
adaptation of the imported technology on the one hand, and on the other, address to the problems of the industry which are specific to local conditions, and for which ready made solutions cannot be imported. In general, the research efforts could be directed towards a three pronged approach:

i) Technological developments in the process of cement manufacture and the related plant and machinery and systems design; This has been the area where least progress has been made and dependence on foreign technology is still strong.

ii) Operational improvements to ensure cost reduction, productivity enhancement, environmental protection and quality improvement;

iii) R&D to ensure proper utilisation of cement in constructions and propagate its use for newer applications.

Another area where significant thrust towards R&D support has to be given is to promote the marketing of
cement. This has happened in other countries like United States, Japan and Canada where extensive R&D support was provided to promote use of cement. Portland Cement Association, carried out an intensive marketing drive combined with a massive promotional campaign for using cement for roads, canal linings, prefab/precast elements for housing and so on. The result was that the consumption of cement went up by leaps and bounds and the industry's future was assured.

In the late 60s the British Cement Association and in the 80s's the Cement and Concrete Association of Australia also reacted in a similar manner to tackle their cement surplus situation and succeeded handsomely in increasing cement demand.

By better coordination among cement producers and R&D institutions, reduction can be brought about in cost of production, cost of investment in the new technologies and new hi-tech equipments, cost of power, fuel, excise duty, sales tax, etc, where statutory regulations have a role to play and cost of producing at individual plants. Of these, coordination between the producers
can pay rich dividends. This can be brought about if, instead of individual plants going in for R&D, import is done at the industry level with the support of Apex R&D Organisations.

The sustained technological growth of the Indian cement industry would not have been possible without the R&D base that is available, both at the national as well as at the enterprise levels. In addition to basic and applied research, industrial R&D embraces problem solving, trouble shooting and other related technological support services both to the existing as well as green-fed projects to the efficient plants as well as those which are not so efficient and to large as well as small ones.
INTRODUCTION

Gunny Traders Association is one of the Premier Trade Organisation of Calcutta with membership encompassing Jute Mills, Exporters, Dealers and brokers of Jute Goods. The Association was formed in November 1925 having its Regd. Office at 5. Dr. Rajendra Prasad Sarani, post Box 573, Calcutta - 700 001 and now a 72 years Old Trade Association having brilliant heritage of promoting and regulating the trade in Jute Goods in the Country. under the steadfast guidance of this Association its members representing the major cross section of Jute Goods Trade played a splendid role in raising the Jute Industry of preindependence India to the pinnacle of glory. The unique marketing network formed and novel trading mechanism evolved proved highly conducive to the efficient performance of the mills. Under the monitoring umbrella of this association the functionaries of the Gunny Trade not only took away the risks of market fluctuations and unsold stocks but also
facilitated timely in-flow of adequate funds to the mills by resorting to forward trading. In order to bring about equity, uniformity and consistency in usages this Association was formed and ran with a bit of national sentiment under the bold and pioneering leadership of stalwarts like Sir Chhajuram Choudhury, Padma Vibhushan Shri Ghanshyamda Birla and others.

FUNCTIONS OF THE ASSOCIATION

The major functions rendered by the Association at present could be enumerated as follows :-

1. Monitoring the performance of the members traders and brokers to maintain high moral standard and discipline in the Trade of Jute Goods.

2. Serving as a coordinating body to facilitate contact / identification of potential seller / supplier with the prospective buyer and the vice versa.

3. Mediation between buyers / sellers including overseas buyers to amicably resolve trade disputes like
outstanding brokerage, complaints of quality, outstanding STD Forms and delay in payment etc.


5. Maintaining list of approved Jute Mills for the information/guidance of the members in trade/buyers (including overseas customers) based on periodic independent appraisal of the quality attainment and commercial performance, made by the Association.


7. Advising the members in matters of common business interest or problems.

8. Representing to Government and other agencies focussing their attention on the problems and difficulties hindering the functions of the trade and seeing remedial measures.
9. Collecting and disseminating various important information statistics to members (Traders as well as Mills) and certifying / authenticating certain information / documents for the benefit of Traders / Mills and immediate circulation to Members.

The Gunny Trade is confident to live up to the task and to work most conscientiously to improve the capability to support and supplement the revival programmes of the mills for attaining global standard. Gunny Trade is seized with the onerous responsibilities lying ahead.

The Gunny Trade look forward to receive adequate support and cooperation from every buyer consumer, dealer, broker and manufacturer.
INDIAN CONCRETE INSTITUTE - MADRAS

A PROFESSIONAL BODY FOR CONCRETE TECHNOLOGISTS.

The decision to establish the Indian Concrete Institute was taken at the 1982 international seminar on modernisation of concrete construction to fill this void. The institute has been registered in September, 1982 as a society with headquarters at Madras and has been in service to the industry and professionals for over year.

- To promote growth of concrete construction and its sub-specialisations.
- To disseminate information and to arrange to train personnel for the needs of changing concepts in the technology.
- To collaborate with national and international agencies in creating better understanding of concrete construction technology.
# To identify R&D problems of practical relevance to concrete construction technology.

# To arrange periodical seminars and exhibitions on the subject.

# To institute and distribute awards for outstanding achievements in concrete construction; and to arrange annual lecture series on selected topics of relevance to concrete construction.

The institute has already registered around 3300 members as of in September, 1990. Individuals and organisations working in the field of concrete and interested in the advancement of construction technology, in the use of materials, equipment, process designs, concrete products, construction, teaching or research, are the members of the institute.

Local Centres: Eight local centres are already in operation at Ahmedabad, Bangalore, Calcutta, Hyderabad, Madras, New Delhi, Roorkee and Bombay. Ad-hoc committees have been set up at Nagpur and Patna.
Activities: During the last years, the institute conducted several seminars and training programmes on the topic of concrete construction practices. Publications and video films of ICI are available on sale to the profession.

Awards for excellence instituted by ICI were also given away. The ICI Bulletin now covers news of the institute and has technical papers in each of the quarterly issues.

ICI operates an industry advisory for problem solving in design, construction, manufacture and repairs.

It has established relationship with similar bodies in other countries. Large organisations can avail of in-house training programmes arranged by ICI at the projects.

A total of over 2,800 engineers and supervisors have attended DICI seminars/training programmes so far.
Government of India, through Department of Science and Technology gives financial support for specific programmes of the institute.

Management: The Institute is managed by a governing council consisting of the president, four vice-presidents, secretary general, treasurer, elected members and ex-officio members decided by the council.

Local centres, similarly have elected managing committees. Eminent professionals held the position of president, and vice-presidents in the past. These include Dr. M. Ramaiah, Dr. T. N. Subba Rao, Mr. M. Mahendra Raj, Mr. P. C. Bhasin, Dr. R. N. Vakil.
GOVERNING COUNCIL.

President
Banerjee S.P.

Secretary General
Zacharia George

Council Members
Banker S.N.
(Gujarat Centre)

Vice-Presidents
Gupta S.

Treasurer
Subrahmanyam B.V.

Jain L.K.

Kapoor Y.P.

Kaushik S.K.

Lejar R.C. (New Delhi Centre)

Sundaram R.

Mahendra Raj M.
(Past President)

Merani N.V.
(Maharashtra Centre)

Narendra D. Patel
Parameswaran V.S.

Raghavendra Rao K.
Ramakrishna A.

Ramprakash N.
(Karnataka Centre)

Sankaranarayanan S.P
Santhakumar A.R.
(Tamil Nadu Centre)

Sitaramaiah D.
Subba Rao T.N.
(Past President)

Subramanian N.
Trikha D.N.
(U.P. Centre)