INTERNATIONAL SEMINAR–CUM-EXHIBITION ON COST EFFECTIVENESS IN CEMENT MANUFACTURE AND CONSTRUCTION: TECHNOLOGICAL AND MANAGEMENT OPTIONS, MUMBAI (INDIA) 11-12 JANUARY 2005

PARTICIPATING COUNTRIES: 9 (INCLUDING 4 MEMBER COUNTRIES OF THE CENTRE)

NUMBER OF PARTICIPANTS: ~370 (INCLUDING 5 FROM MEMBER COUNTRIES OF THE CENTRE)

Construction industry is a major global consumer of material and energy resources. However, the continuous increase in population in developing countries besides the excessive deforestation has led to severe scarcity of natural resources. The management of industrial wastes to enhance quality, productivity and cost-effectiveness is one of the main concerns for all the industries. It is also very important to improve the utilization of materials, energy and environmental resources and several energy efficient technologies have been developed over the years to deal with these problems. In this scenario, the role of energy conservative measures in reducing costs incurred in cement manufacture has assumed a great significance.

While the excise duty and other taxes on cement are spiraling on one hand, the cost of several important inputs like fuel, power and freight are also increasing progressively each year. The industry has virtually no control over most of these administered cost elements in manufacture. With demand recession in cement over the years, even a nominal annual capacity growth is jettisoned by falling price in the market. Export under such circumstances is one viable alternative. However, majority of plants (>75%) being landlocked; export offers limited scope for the industry as a whole.

Recognizing the significance of the very wide canvas of activities being carried out by the Centre for Science and Technology of Non-Aligned and Other Developing Countries (NAM S&T Centre), and Cement Manufacturers' Association (CMA) of India being the apex body with almost 55 cement companies as its member having 126 cement plants, the NAM S&T Centre with the approval of its Governing Council organised an international seminar and exhibition on 'Cost Effectiveness in Cement Manufacture and Construction - Technological and Management Options' at Mumbai, India during 11-12 January 2005 in association with the Cement Manufacturer's Association of India. The main purpose of the event was to acquaint the technologists and users with the recent developments in technology up-gradation especially for cement industry.

More than 370 senior experts and technologists involved in various aspects of cement technologies attended the 2-days seminar held in hotel Leela Kempinsky Sahar of Mumbai. These included Mr. Phuntsho Gyeltshen, Executive Engineer in the Department of Urban Development and Engineering Services, Ministry of Works and Human Settlement and Mr. Thinley Norbu, Architect in the Architect and Planning Cell, City Corporation, Phuentsholing of Bhutan; Prof. Dr. Magdi Fouad Abadir from the Chemical Engineering Department, Faculty of Engineering in the University of Cairo, Egypt; Mr. Mohammad Ahmed Al-Sayed-Omar from Kuwait Cement Company; Engr. Mohamed Yaser Al Saka, Manager of Studies Department in the General Organization for Cement and Building Materials (GOCBM), Mezzeh, Damascus in Syria; and Mr. Chozi Vincent Lungu, Lecturer in the Department of Metallurgy and Mineral Processing, School of Mines, University of Zambia in Lusaka besides the representatives of several industries in France (Lafarge), Germany (KHD Humboldt Wedag AG, Verein Deutscher Zementwerke e.V., IKN GmbH, Pfeiffer AG, Loesche and Polysius AG), Japan (Kawasaki Heavy Industries Ltd) and Switzerland (Factor AG, Zurich) as well as a large number of Indian specialists. The nominees of Iran, Mauritius and Pakistan were however not able to attend the event. In the exhibition the 20 select stallholders from leading cement companies showcased their products and technologies; machinery manufacturers, modern pollution control devices, modernized packaging and bulk supply mechanisms, power generation industries, publishing houses etc.

The seminar was spread over six technical sessions and was inaugurated by Mr. Chhagan Bhujbal and Mr. Anil Deshmukh, Ministers of Public Works Department of the Government of Maharashtra in India. Mr. Dhanendra Kumar, Secretary to the Government of India in the Union Ministry of Shipping, Road Transport and Highways delivered the inaugural speech of the Union Minister of India Mr. T. R. Baalu in his absence. The speech highlighted the vital role of cement industry in resource support to the geared up activities of the National Highway Authority of India (NHAI) and the Ministry in interlinking cities and towns, and of the Ministry of Rural Development for assured and sustained rural connectivity. It recounted past experience with concrete roads as an advantage for ensuring sustainable connectivity. Brief presentations were also made during the inaugural session by Mr. N. Srinivasan, President CMA, Mr. E. N. Murty, Secretary General CMA, Prof. Arun P. Kulshreshtha, Director, NAM S&T Centre and Dr. S. Raina, Director General, National Council of Building Materials.

The technical sessions covered the most concurrent and emerging issues for cement industry and its rational application in construction. These were Alternate and Hazardous Waste Derived Fuel Use and Waste Heat based Co- generation; State of Art Grinding, Pyro-processing and Maintenance System; Retrofitting for Cost-Effective Plant Modernization; Modernization of Emission Control: ESP's and Bag House Performance Improvement, Environmental Protection, Environmental Vision of Cement Industry; Bulk Supply, Ready Mix Concrete and Concrete Roads; Reduction of Greenhouse Gases; Blended Cement & Cement Based New Generation Binders; CDM, Sustainable Development and Carbon Trading.

The Seminar evoked spontaneous and overwhelming response from a wide spectrum of working and executive level personnel, stakeholders and interest groups in cement, power, petrochemical industries, machinery manufacturers, consultants, construction companies and construction chemical agencies, pollution control and environmental protection organizations, research institutions and eminent publishers of cement and construction related Journals. An Expert Review Committee selected 48 papers (out of the 70 submitted earlier) on the basis of merit for presentation in the above sessions and the compiled proceedings in two volumes were circulated to the participants during the seminar. The 5 Keynote deliberations were held by world-renowned experts from France, Germany, Japan and India and dealt upon topics closer to the heart of cement industry personnel in energy-efficient, environment-friendly and cost effective modernization in cement manufacture and its application. Mr. Dominique Bernard, Lafarge, Paris deliberated on Latest Technology for Waste Disposal in Cement Kilns; Dr. Martin Schneider, Director, Research Institute for Cement Industry in Germany, Dusseldorf on Waste derived Fuels for Cement Production – Experiences in EU Countries; Mr. H Nagasako of Kawasaki Heavy Industries, Japan on Waste Heat Recovery System for Cement Plants in India; Dr A K Chatterjee, Ex-Director, ACC Ltd., India on New Generation, Lower Cost Waste based Cement Derivatives; and Dr. R K Sethi, Director, Ministry of Environment and Forests, Government of India and Member CDM-Board of United Nations Framework Convention on Climate Change (UNFCC) on CDM –DNA and Host Country Approval Process. In the penultimate session Dr. Sethi explained the mandatory and procedural steps for enrolment in Carbon Trading, transactions procedures and the mechanism of host country approval process. This helped a large number of applicant cement companies in India for carbon trading in their policy planning and in organisation of procedural formalities.

In the Concluding Session 4 Authors and 3 Exhibitors adjudged best in order of merit by the 7-member "Expert Jury Committee" were awarded the Certificates of Merit and Plaques. The papers adjudged best in their content, present value and future impact potential and also in terms of level of excellence in their presentation were (i) Waste Heat Recovery System of Cement Plant by H. Nagasako, M/s Kawasaki Heavy Industries, Japan; (ii) Performance of KARANIA Oil as Bio-diesel by P. P. Dharmadhikari, V. J. Anantharamn, J. P. Jain, P. S. Pawan Kumar and T. K. Somandhan, Associated Cement Companies (ACC) Ltd., India; (iii) Future 2 Million Tonnes Cement Plant by Tanmay Maitra and Ashim Bhattacharya, Birla Corporation Ltd, India; and (iv) Economic Aspects of Concrete Pavements in Cities of India by M. Y. Sabnis, Ex-Chief Engineer, MCGM, Mumbai, India. The three stalls adjudged best in terms of the value addition and future potentials of their display were National Thermal Power Corporation Ltd (NTPC) for attractive display of promotion of fly ash use in

cement and construction; IKN GmbH, Germany for convincing display of highly energy-efficient new generation pendulum coolers for cement kiln; and (iii) Gebr Pfeiffer AG, Germany for performance-supported display of new generation Roller Mills adapted for energy-efficient, high slag-content cement grinding.