

INAUGURAL ADDRESS **MR. KEDAR PANDEY** Chief Minister Bihar,

Dr. Altekar, distinguished guests, ladies and gentlemen,

It is indeed a great privilege to be present on the occasion of the Inauguration of this international symposium on "Science and technology of sponge iron and its conversion to steel". The technology that is going to be discussed here is not only new approach to steel making in India but also in many parts of the world. A few scientists and technologists in the world have working knowledge of these processes. You will therefore appreciate and understand my own unfamiliarity with this subject. In spite of this, I very gladly accepted the invitation due to my own deep interest in the growth of new industries, which are so vital for bringing a socio-economic revolution, a call given by our beloved Prime Minister. As a Minister of Industries in Bihar, a few years ago, I had to go deeper into the infra-structure of basic industries in this state which comprised mostly of iron and steel and other associated engineering industries viz. HEC, UCIL, NCDC. To all these, now the giant Bokaro Complex, has been recently added and I always had a strong feeling that all the existing big

industries like TISCO, TELCO etc. need be allowed to expand to their fullest capacity for maximum output and in its due course give rise to various ancillary industries and thus raise the per capita income, the only solution to economic progress.

Coming to the subject of the symposium, as you all know, steel industry forms the back-bone of modern civilisation. The progressive rapid increase in world steel production, gradual depletion of the reserves of coking coal coupled with rising trend in its price, the contemporary trend of increase in the unit size of a blast furnace for economising cost of production and the inescapable dependence of blast furnace on metallurgical coke have focussed the necessity of developing alternative processes of winning iron without adopting traditional and efficient iron smelting in blast furnace. In India, as you know good grade iron ore deposits are widely dispersed and abundantly available and on the contrary scanty reserves of metallurgical coal are localised in a small geographic region in Bihar, while non-coking coals and lignite are abundantly available. However, due to high ash content in coke high alu-



A view of the delegates at the Inaugural Session.

mina of iron ore with adverse alumina silica ratio and high insolubles in limestone, the coke rate per ton of pig iron produced in India is higher than in other countries. Such a raw material situation put us in a condition that either we should improve our technology tolerating all these types of raw materials or develop alternative processes where the raw materials can be utilised and yet produce economically iron and steel. It is in this context that this symposium will provide an international forum of top ranking scientists, metallurgists and executives from public and private organisations in India and experts in the field from overseas countries such as UK, USA, Norway, Egypt, Hungary, France, Iran, Japan, Korea, Federal Republic of Germany etc. to exchange views and examine inter-related problems to indicate the contemporary status of direct reduction and suitability of adaptation of an alternative route for steel making, which will be of great importance to India for the selection of an appropriate technology for increasing the output of steel.

I am aware that since its very inception, the NML has been carrying out extensive investigations on washing, beneficiation and reducibility characteristics of iron ores and on the production of high basicity sinters from iron ore fines and blue dust. These facilities have been offered to various public and private sector enterprises such as HSL, Bokaro, TISCO, NMDC etc. and recently, NML has also been assigned the raw material evaluation for the proposed new steel plants at Vizag, Salem and Hospet. I am glad to know that these facilities of NML have been used for ores from other countries also such as UAR.

The NML has developed considerable expertise for technical consultancy services by offering process flow-sheets, plant lay-out, preparing feasibility reports, selecting suitable equipments and developing suitable process know-how for mineral industry. This expertise has been used in setting up of the different industries like 500 tpd fluor-spar beneficiation plant of Gujarat Mineral Development Corpn., copper ore treatment plant at Rakha for Hindustan Copper Ltd., beneficiation and sintering plant at Barsua for Rourkela Steel Plant etc.

Detailed feasibility reports have also been prepared for utilising non-standard raw materials for the production of foundry grade pig iron for various sponsoring state Govt. agencies. Recently, successful trials have also been conducted on tonnage scale for production of sponge iron

which can be directly charged into electric furnace for steel making.

I am further glad to learn that the NML have been actively engaged in development of suitable direct reduction technology based on Indian raw materials and successful trials have been conducted on production of sponge iron on tonnage scale and I gather that this sponge iron so produced directly from iron ores will form the feed stock for small scale steel plants.

I am pleased to find that by his own personal initiative and approach, Dr. Altekar, with his band of enthusiastic scientists, has succeeded in establishing a new rapport with industry and has harnessed the immense potentialities of this Laboratory to obtain some far reaching solutions to the various technological problems in metallurgical field and has thus brought the country nearer to the goal of self-reliance in metallurgical know-how.

The NML is now going to set up a 25-50 tonnes per day sponge iron demonstration-cum-testing unit at the 100 acres plot of land in Adityapur Complex, which has been recently sanctioned by the Bihar Government. The expansion programme of NML will also have a multi-purpose hydro-cum-electro-metallurgical plant and other such units so essentially needed for carrying out pilot plant trials for systematic growth of ferrous and non-ferrous metallurgical industries in India. I am sure all these new facilities which are going to be commissioned shortly at the Adityapur Complex will not only have far reaching significance for the growth of new mineral base industries all over India but will be of direct immense potentiality for utilising vast mineral resources of Bihar State, being one of the richest mineral bearing state in India.

It is with this very fervent hope that I looked forward to be with you all here and I am indeed happy for the opportunity to be present at this august gathering of many learned friends from different parts of the world and I am sure the deliberations of this symposium will give the best opportunity to exchange views and examine inter-related problems to indicate the contemporary status of direct reduction and suitability of adaptation of an alternative route for steelmaking, which will be of benefit to India for the selection of an appropriate technology for increasing the output of steel.

With these few words, I have great pleasure in Inaugurating this Symposium.