installed. It H proposed to refer the matter to a Commit ee set up by Government on 24-6-1970 to advise Government on all aspects of t te istallation of statues of freedom flgh :rs in Delhi. On receipt of the recomm ndation of the Committee, the matter w 11 be processed further.

## REPORT OF STUDY TEAM ON IRON ORE

511. SHRI R. P. KHAITAN: Will the Minister of PETROLEUM AND CHE-MICALS AND MINES AND METALS be pleased to refer to the reply to Starred Question No. 203 given in the Rajya Sabha on the 5th M y, 1970 and state:

(a) whether Government have received the comments of the National Mineral Development Corporation on the report of the study team which visited cetrain iron ore producing countries;

- (b) if so, the details thereof; and
- (c) the reaction of Government to these proposals?

THE MINISTER OF STATE IN THE MINISTRY OF PETROLEUM AND CHEMICALS AND MINES AND METALS (SHRI NITI RAJ SINGH CHAUDHARY): (a) to (c). Yes, Sir. A statement giving the required information, is attached.

STATEMENT

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## Important recommendations of the Study Team on Iron Ore

- 1. More technical officers should be sent abroad to study the latest mining, transportation and loading techniques and operations in foreign countries, particularly in Canada and Brazil to acquire experience and exchange of information.
- 2. Setting up of a well equipped Research and Development Laboratory.

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 Mining, pading, transportation and shipment to be under one centralised management for achieving optimum efficiency in the iron ore export programme as prevailing in Brazil.

 The detailed prospecting and exploration should be taken by the exploiting Agency, G.S.I. being left free to concentrate on basic geological works. Action taken in pursuance thereof

- 1. The National Mineral Development Corporation has already sent 2 mining Engineers to Brazil for 6 months for study of the working of the mines, railways and ports there.
- A Research Laboratory has already been set up by the NMDC at Faridabad which is being equipped. This will be developed as a fulfledged Laboratory for beneficiation and treatment of iron ore with pilot plant facilities.
- 3. In so far as India is concerned the mining organisations are responsible for the production of ore, the Railways for transportation where it is carried by Rail and the port for loading into ships; these are under different authorities and the exports are canalised through the Minerals & Metals Trading Corpn. However, these activities are coordinated by a high-level Committee.
- 4. The matter was considered and it is intended to set up a separate self-contained Unit within the G.S.I. for carrying out detailed mineral exploration work. The unit would enjoy maximum autonomy possible and would be assisted by a high level Technical Committee. The detailed investigations would be carried out by the Unit at the instance of exploiting agencies interested in the exploitation of the deposits.



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## Important recommendations of the Study Team on Iron Ore

## Action taken in pursuance thereof

- Modernising the mining operations and development of modern deep sea ports with bulk handling facilities.
- Unit trains with a capacity of about 12,000 tonnes of ore should be introduced as early as possible for transport of ore from mine to port.
- Adoption of drilling and blasting techniques as applied in countries like Brazil, in India so that blasting of ore for a whole week could be done on a single day.
- 8. Development of iron ore deposits which are individually very large but which occur within the same area, should be taken up on an integrated basis and common facilities such as Township, Railways Yard, Hospital, School, Recreation facilities etc., should be provided. By doing so economies of scale can be derived as in Brazil and Canada.
- Mining operations in India should keep in mind flexible processing arrangements so as to produce various types of ores to meet the varying demand of buyers, as is being done in in Brazil which has ore deposits similar to India's.
- Optimum use of machine and equipment by efficient maintenance by trained personnel, well planned maintenance schedules and adequate maintenance facilities.
- Delegation of authority both at mine and plant for carrying out their duties and responsibilities.
- Use of instrumentation and remote control operations for the overall efficiency for the complex wherever possible.
- Improvement in conditions of living and service and providing educational, social education and welfare amenities
- Study depth for improvement of management-labour relations and taking suitable steps in creating job satisfaction and motivation among employees.

- The National Mineral Development Corporation Limited are modernising their mines by use of large capacity dumpers etc. The Vizag Outer Harbour construction has also been taken up with this object in view.
- The Railways are already conducting studies for increasing iron ore trains between Bailadila and Vizag section.
- This will depend on the availability
  of the right type of drills and explosives
  in the country. However, a beginning
  has been made in the experimentation
  of slurry explosives which are being
  developed by the indigenous manufacturers.
- This recommendation is being kept in view while planning the development of new mining projects.
- This is being kept in view by the National Mineral Development Corporation Limited both in operating mines and the mines under development.
- The National Mineral Development Corporation Limited has appointed a Consultant to plan this.
- The National Mineral Development Corporation Limited is taking steps to do the needful.
- This is being attended to, to the extent possible and desirable.
- The National Mineral Development Corporation Limited, has been devoting much attention to these aspects inspite of financial difficulties.
- 14. An Industrial Engineering Personnel Cell has been created and suitable action is taken from time to time to create job satisfaction and motivation among employees.