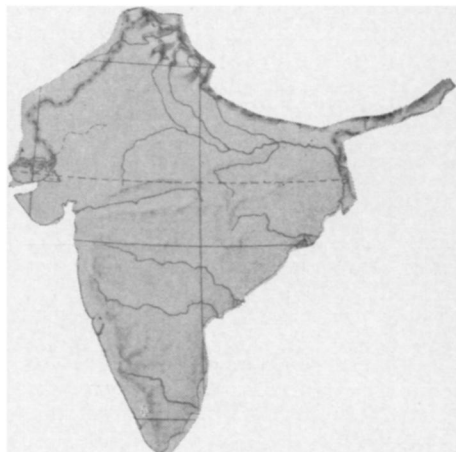


## LETTER FROM BOMBAY



# Giant iron mine

**India's long-awaited Bailadila Project should bring in some needed foreign exchange**

by S. K. Ghaswala

India, already a leading producer of iron ore, is adding to its output with the opening of a mine that has made geologists' mouths water since the 19th century.

The mine is the National Mineral Development Corporation Limited's gigantic Bailadila Project, located in a rich but hitherto backward part of the country in the Bastar District of Madhya Pradesh, in south-central India. The name Bailadila, which in local language means "hump of an ox," was given to a stretch of hills about 32 kilometers long and 4 kilometers wide. These hills represent one of the biggest concentrations of high-grade iron ore anywhere in the world.

Rising to a height of nearly 1,260 meters, the range of hills has 14 distinct outcrops of iron. Estimates place the amount of hematite iron ore in the range at a total of about three billion tons.

These high-grade iron ore deposits were known to geologists at the close of the last century, but nothing could be done to exploit them until now because of the remoteness of the area. It is difficult to reach from the sites of consumption of iron ore—such as the country's giant Tata Iron and Steel Works at Jamshedpur—or from the nation's closest seaports. But now, after four years of development, the mammoth project has become a reality. For the first 15 years of operation, the total output of the mine will be exported to resource-hungry Japan, giving a healthy boost to India's shaky balance-of-payments situation.

The Bailadila Project is unique in many respects. Apart from constituting one of the largest mechanized iron-ore mines in the world, it has the longest conveyor transport system, extending over 5.6 kilometers from the crushing plant to the wagon-loading plant. For the first time in the history of Indian mining, steel-cord belts have been used for the transport of ore from the crushing plant to the screening plant, and then to the main stockpile.

The plant has been designed to produce 100 percent wet screened ore with elaborate arrangements for recovery of industrial water.

Indians are pleased to point out that, except for a small team of technicians who assisted in the erection of the crushing plant purchased from Japan, the entire job of designing and constructing the project was performed by Indian engineers and workers. During

the construction period nearly 7,000 persons were employed at the giant project.

On the other hand, the Bailadila Project represents a cooperative international venture on a giant scale, as far as supplying equipment is concerned. The crushing, screening and wagon-loading plant came from Japan; the blast-hole drills, 30-ton dumpers and bulldozers are from the U.S.; the biggest excavators and shovels are from the Soviet Union; the small dumpers were produced in Hungary, and the 15-ton dumpers are the product of Indo-British collaboration.

The ore mine and the plant have a capacity of 5.5 million tons of run-of-mine ore—as it comes from the mine without grading or sorting for size or quality—a year. This is about one percent of the world's output, and would yield 4 million tons of graded and sized ore. The Japanese Steel Mills Association has entered into a contract with the Government of India for the export of the entire 4 million tons of lump ore to Japan for 15 years.

Water requirements for the project are estimated at about 5 million gallons a day, of which 95 percent is raw industrial water. The bulk power supply is received at the substation through 132-kilovolt overhead transmission lines. The connected load of equipment and plant at the mines is 9,000 kilowatts, but the peak load is likely to remain below 3,500 kilowatts.

The project has not been without its financial difficulties. The total capital investment was estimated in 1964 to be \$21 million, with a foreign exchange component of \$6.36 million. As a result of devaluation of the rupee in June 1966, as well as underestimated cost factors, the investment went up, and the project cost has increased to \$31.3 million, with a foreign exchange component of \$10 million. The Japanese Steel Mills Association offered financial assistance of \$21 million on a deferred payment basis for the development of the mine, the railways and other facilities connected with the exploitation of the mine's rich iron deposits.

Although the present output will be going entirely to Japan, it should be possible to develop additional mines in the area, depending on the availability of markets and resources. At full capacity, the project is estimated to earn a foreign exchange equivalent to \$36 million a year.