



## Overview of Coal Mining in Dhanbad City

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### Abstract

Coal in India has been mined since 1774 and is now the second fastest mined in the world, producing 716 million metric tons (789 million short tons) in 2018. In 2017, India had 315.14 billion metric tons (347.38 billion short tons) of coal. The estimated total reserves of lignite coal that month was 44.70 billion metric tons (49.27 billion short tons). Due to high demand and poor average quality, India imports coking coal to meet the requirements of its steel plants. India's coal imports have risen from 49.8 million metric tons (0.0549 billion short tons) in 2007–08 to 191 million metric tons (0.211 billion short tons) in 2016–17. India's coal exports rose from 1.63 million metric tons (1.80 million short tons) in 2007–08 to 2.44 million metric tons (2.69 million short tons) in 2012–13, but subsequently declined to 1.77 million metric tons (1.95 million short tons) in 2016–17. Dhanbad city is the largest coal producing city and is called the Coal Capital of India. State-owned Coal India had a monopoly on coal mining between its nationalization in 1973 and 2018.

### Research Paper

Dhanbad is the district town, which is located between 23° 25" to 24° 04" (North) Latitude and 86° 0' to 86° 50" (East) Longitude. Dhanbad is famous as „Coal Capital“ and one of the leading industrial regions of Jharkhand state. Apart from coal, the area is also rich in mineral resources such as lime stone, fireclay, china clay, granite, stone and sand. The town is surrounded by Giridih and Jamtara in the north, Burdwan (West Bengal) in

the east, Purulia (West Bengal) in the south and Bokaro in the west. The two important rivers Damodar and Barakar are passing North and South side of the district. Hydel power plants of DVC on Damodar and Barakar river supplies power to Dhanbad town.

Manufacturing of coke uses different grade coal as raw materials which are blended appropriately to produce desired coke quality. Coke making process primarily consists of coal crushing, blending, mixing, loading and cooking. The different process steps in manufacturing of coke are described below.

Jharkhand has rejected the Centre's proposal to change the definition of illegal mining under the sunshine law which governs mining in the country, saying that any drastic alterations could adversely impact the state's economy and the industrial climate.

In response to a letter from the Union ministry of mines on the proposed changes in the Mines and Mineral (Development and Regulation) Act, 1957, chief minister Hemant Soren demanded that all states with mineral deposits, specially Jharkhand, be consulted before drafting any final plan on mining.

The Union government's proposals, that include a change in the definition of illegal mining, are in pursuance of mining reforms with a focus transparent allocation of resources and employment generation under its Atmanirbhar Bharat Abhiyaan.

Dhanbad has more than 3000 registered small scale industries and around 14 large industries. Some of the important industries in Dhanbad. The industries in the cluster under micro, small and artisan categories include engineering & fabrication, refractories, mineral based, leather based, paper products, rubber goods, etc. Dhanbad coke oven cluster is the one of the important industrial clusters in Jharkhand. The coke making industries are more than 100 years old. Dhanbad cluster produces various grade of coke, which are used within the country among various metal casting industries. The primary domestic market for coke includes large steel manufacturing industries within 200 kilometre area like TISCO (Digwadih), TELCO (Jamshedpur), IISCO (Jamadoba), Bokaro Steel, SAIL (Durgapur), Alloy steel plant – Durgapur, etc. A small quantity is also exported to neighbouring countries.

Dhanbad-Jharkhand Bharat Coking Coal Limited (BCCL) is a Public Sector Undertaking engaged in mining of coal and allied activities. It occupies an important place in as much as it produces bulk of the coking coal mined in the country.

BCCL meets almost 50% of the total prime coking coal requirement of the integrated steel sector. BCCL was incorporated in January, 1972 to operate coking coal mines (214 Nos) operating in the Jharia & Raniganj Coalfields, taken over by the Govt. of India on 16th Oct,1971 to ensure planned development of the scarce coking coal resources in the country. Currently, the Company operates 81 coal mines which include 40 underground, 18 opencast & 23 mixed mines as on 01.04.2010. The Company also runs 6 coking coal washeries, 2 non-coking coal washeries. The mines are grouped into 13 areas for administrative convenience. The total manpower as on 1.4.05 was 92,268 and as on 01.03.2010 is 72,222.

The Department of Industries, Mines and Geology is one of the important Department of Government of Jharkhand. It is the administrative Department of the Directorate of Mines and the Directorate of Geology. The main functions and activities of the Department are systematic survey and assessment of the mineral deposits of the State, their exploitation, administration of mines and mineral concession, enforcement measures for prevention of illegal mining and smuggling of minerals and assessment and collection of mining revenue. **The Department strives for sustainable development of mineral resources in a scientific and eco - friendly manner; so as to create a conducive environment for industrial growth in the state."**<sup>8</sup>

Pirpainti-Barahat Coal Block: Exploration has been completed in respect of Pirpainti Barahat Coal Block. A Project Report has been submitted by CMPDI which has been examined by BCCL and certain modifications were suggested which has been communicated to CMPDI. The Project Report is under finalization at CMPDI and would be placed before the Board after finalization of the same.

Mining industries have enormous potential to improve food shortage by providing employment opportunities in its mining vicinity. But, simultaneously, these areas also suffer from 'resource curse' due to detrimental effects of mining. Hence, this study examined the effects of coal mining on household food availability and food access

among proximate population residing in resource-rich but economically backward mining region of Dhanbad district, Jharkhand, India. The primary data was collected from two compare groups, viz. households from exposed versus non-exposed villages of mining effect under the cross-sectional research design using structured questionnaire between September, 2014, and February, 2015. Both bivariate and multivariate statistics were used to assess the study objectives.

Surface mines (sometimes called strip mines) were the source of about 62% of the coal mined in the India in 2019. These mining operations remove the soil and rock above coal deposits, or seams. The largest surface mines in the Jharkhand are in Wyoming's Powder River Basin, where coal deposits are close to the surface and are up to 70 feet thick.

Mountaintop removal and valley fill mining has affected large areas of the Appalachian Mountains in Dhanabad. In this form of coal extraction, the tops of mountains are removed using explosives. This technique changes the landscape, and streams are sometimes covered with rock and dirt. The water draining from these filled valleys may contain pollutants that can harm aquatic wildlife downstream.

Some electric power plants use scrubbers (flue gas desulfurization equipment) to reduce the amount of sulfur exiting their smokestacks. The power plants use electrostatic precipitators or baghouses to remove particulates and heavy metals from the smoke.

Underground mines generally affect the landscape less than surface mines. However, the ground above mine tunnels can collapse, and acidic water can drain from abandoned underground mines.

Methane gas that occurs in coal deposits can explode if it concentrates in underground mines. This coalbed methane must be vented out of mines to make mines safer places to work. In 2018, methane emissions from coal mining and abandoned coal mines accounted for about 11% of total India. methane emissions and about 1% of total Dhanabad. greenhouse gas emissions (based on global warming potential). Some mines capture and use or sell the coalbed methane extracted from mines.

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