



DAILY CURRENT AFFAIRS 03-06-2024

GS-1

1. What grade of coal does India produce?

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What grade of coal does India produce?

Syllabus: GS-1: Indian Geography – Mineral resources – coal.

Context:

- **The Adani Group** found itself at the centre of yet another controversy, with the **Organized Crime and Corruption Reporting Project (OCCRP)** alleging that the group passed off low-quality coal as far more expensive cleaner fuel in transactions with an Indian state power utility.

What is 'high grade' and 'low grade' coal?

High-grade vs. low-grade coal:

- *High-grade coal has more carbon and fewer impurities.*
- *Low-grade coal has less carbon and more impurities.*

Gross Calorific Value (GCV):

- *Measures the amount of heat or energy produced by burning coal.*
- *Higher GCV indicates higher quality or grade of coal.*

Grades of coal:

- *There are 17 grades, from grade 1 (top quality) to the lowest grade.*
- *Grade 1 coal produces over 7,000 kcal per kilogram.*
- *The lowest grade produces between 2,200-2,500 kcal per kilogram.*

Coal composition:

- *Coal is a mixture of carbon, ash, moisture, and other impurities.*
- *Higher carbon content means higher quality.*

Uses of coal:

Coking coal:

- *Used to produce coke for steel making.*
- *Needs minimal ash content.*

Non-coking coal:

- *Used to generate heat for boilers and turbines in power plants.*
- *Can have higher ash content.*

Characteristics of Indian Coal:

- *High ash content: Over 40%.*

- *Low calorific value (GCV): Average 3,500-4,000 kcal/kg.*

Comparison to imported coal:

- *Imported coal has +6,000 kcal/kg GCV.*
- *Imported coal has less than 10% ash content.*

Impact of high ash content:

- *Higher particulate matter emissions.*
- *Increased nitrogen and **sulfur dioxide emissions.***

Government regulations:

- *Since 1954, coal prices have been controlled to discourage the use of high-grade coking coal for power generation.*
- *To balance coal production, power needs, and pollution, the government promotes using imported coal with lower ash and moisture content.*

Recommendations:

- *The **Central Electricity Authority (CEA)** in 2012 recommended blending 10-15% imported coal with domestic coal in power plants.*
- *Indian power boilers are designed to **handle low-quality Indian coal.***

What is Clean Coal:

- *Coal with increased carbon content and reduced ash content.*

Methods to Clean Coal:

Coal Washing:

- *On-site plants reduce **ash and moisture.***
- *Methods include using blowers or a "bath" to remove ash.*
- *Expensive and increases the cost of power.*

Coal Gasification:

- *Converts coal into gas instead of burning it directly.*
- *Uses an **Integrated Gasification Combined Cycle (IGCC)** system.*

Process:

- *Steam and hot pressurized air/oxygen react with coal. This breaks carbon molecules apart. **Produces syngas** (carbon monoxide, hydrogen, CO₂, water vapor).*
- *Syngas is cleaned and burned in a gas turbine to produce electricity.*
- *IGCC plants produce both steam and syngas, increasing efficiency.*

What is the future of coal in India?

Current Coal Production:

- *In 2023-24, India produced **997 million tonnes** of coal.*
- ***This is an 11% increase** from the previous year.*
- *Majority produced by **state-owned Coal India Ltd** and its subsidiaries.*
- *As of March 2024, 261 million tonnes produced, including **58 million tonnes of coking coal**.*

Coal's Role in Energy:

- *Coal remains a **crucial part of India's energy sector**.*
- *Despite commitments to reduce reliance on fossil fuels, coal is still dominant.*

Shift Towards Renewable Energy:

- *In the first quarter of 2024, **71.5% of the new 13.6 GW** power generation capacity was from renewable sources.*
- *Coal's share in total power capacity **dropped below 50% for the first time** since the 1960s.*

Future Trends:

- *Increasing focus on renewable energy.*
- *Potential decline in coal's dominance as renewable energy capacity grows.*

Practice Question

Q. Discuss the implications of India's rising coal production amidst increasing renewable energy capacity, analyzing its impact on energy transition and environmental commitments. (10 marks, 150 words).

Nelson Mandela Health Award

Syllabus: GS-2: Health Sector.

Context:

- *NIMHANS bags WHO's Nelson Mandela Award for Health Promotion for 2024.*

Validation of legacy:

- *NIMHANS director Pratima Murthy received the award at the **77th World Health Assembly in Geneva.***

50-Year Celebration:

- *NIMHANS is celebrating **its 50th anniversary.***
- *It is also marking the 70th anniversary of its precursor, the **All India Institute of Mental Health (AIIMH).***

Significance of the Award:

- *The award comes at a special time, highlighting the institute's rich legacy.*
- *It underscores NIMHANS' continuous evolution and contributions to mental health and neurosciences.*

WHO's Nelson Mandela Award for Health Promotion:

- *The **Nelson Mandela Award for Health Promotion** is a prestigious recognition presented by the **World Health Organization (WHO).***

Purpose:

- *It aims to **honor individuals or organizations** that have made outstanding contributions to health promotion and the prevention and control of noncommunicable diseases (NCDs).*
- *Named in **honour of Nelson Mandela**, the iconic leader and advocate for human rights, the award embodies his commitment to promoting health equity and social justice.*

Criteria for Selection:

- *The award is bestowed upon individuals or organizations that have demonstrated **exceptional leadership, creativity, and commitment to health promotion initiatives.***
- *The initiatives should address key health challenges, especially those related to NCDs, such as **cancer, diabetes, cardiovascular diseases, and mental health.***

Recognition and Impact:

- *Recipients of the award gain global recognition for their contributions to public health.*
- *The award also serves to inspire others and catalyze further efforts towards promoting health and well-being worldwide.*

Red flag exercise

Syllabus: GS-2; International Relations

Context

- *India joins U.S.'s Red Flag air and RIMPAC naval exercises*

About the news

- **Indian Air Force (IAF) and Indian Navy are taking part in two mega multinational war games hosted by their U.S. counterparts.**
- *The IAF has deployed Rafale fighter jets for the two-week multinational air exercise Red Flag which commenced in Alaska on May 30 2024.*
- *On the other hand, the Indian Navy is deploying the indigenous stealth frigate INS Shivalik for Ex RIMPAC (Rim of the Pacific) scheduled to be held in Hawaii from June 25 to August 2 2024.*

Aim

- *Aimed to integrate aircrew in a **multinational environment**, Ex Red Flag is a two-week advanced aerial combat training exercise.*
- *Red Flag-Alaska is designed to provide realistic training in a simulated combat environment.*
- *Approximately 3100 service members are expected to fly, maintain and support more than 100 aircraft from 4 nations scheduled to participate in Red Flag-Alaska 24-2.*

Largest naval exercise and Its Significance

- *Indian Navy said that INS Shivalik, mission deployed to the South China Sea and Pacific Ocean, departed Singapore on May 30 2024 for onward passage to Yokosuka, Japan to participate in Japan-India maritime exercise JIMEX-24 scheduled to be held mid-June and then onward to RIMPAC-24.*
- *This deployment is aimed at **enhancing the degree of interoperability with the JMSDF, US Navy and other partner navies participating in RIMPAC 24.***
- *This year's participants in RIMPAC include forces from Australia, Belgium, Brazil, Brunei, Canada, Chile, Colombia, Denmark, Ecuador, France, Germany, India, Indonesia, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Peru, the Republic of Korea, the Republic of the Philippines, Singapore, Sri Lanka, Thailand, Tonga, U.K. and the U.S.*

Mutual funds

Syllabus: GS-3; Capital Market

Context

- Markets regulator **Securities and Exchange Board of India (SEBI)** recently floated a consultation paper proposing a framework for facilitating investments by domestic **mutual funds (MFs)** in their overseas counterparts, or **unit trusts (UTs)** that invest a certain portion of their assets in Indian securities.

About

- A mutual fund is a **pool of money** managed by a professional Fund Manager.
- It is a trust that **collects money from a number of investors who share a common investment objective and invests the same in equities, bonds, money market instruments and/or other securities.**

What is the purpose of the proposed framework?

- Within the proposed framework, the markets regulator also intends to place essential safeguards which would keep the Indian instruments “true to their label” and enable **investors to take desired exposure in overseas securities.**
- It is essential to note that, if the fund has significant exposure to Indian securities, the purpose of making an overseas investment is defeated.
- An indirect investment through an (indirect) overseas investing instrument is not cost-effective for an end-investor in comparison to a direct investment made in Indian securities — thus, fulfilling no purpose.

What happens when overseas instruments breach the limit?

- If the overseas instrument breaches the 20% limit, **the Indian mutual fund scheme which is investing in the overseas fund would slip into a 6-month observance period.**
- This period is to be utilised by the overseas fund to rebalance its portfolio adhering to the cap. During this time, the domestic mutual fund cannot undertake any fresh investment in the overseas MF/UT.
- Further investment in the overseas instrument would be allowed only when the exposure drops below the limit.
- If the portfolio is not rebalanced within the observation period, the Indian mutual fund must liquidate its investment in the overseas instrument within 6 months. It would not be permitted to accept any fresh subscriptions to the scheme (for the investment type to the overseas fund/UT/indices), launch any new scheme or levy any exit load (that is, the fee for redeeming the mutual fund before a specific date) on its investors exiting the scheme.

Himalayan Serow

Syllabus: GS-3; Environment and Ecology

Context

- *In a significant development for Assam Forest Department, rare Himalayan Serow has been recorded for the first time in Assam's Nameri National Park.*



About

- *The Himalayan serow (*Capricornis sumatraensis thar*), also known as **the thar** is a subspecies of the mainland serow native to the Himalayas.*
- *It was previously considered its own species, as **Capricornis thar**.*
- *It is the official **state animal of the Indian state of Mizoram**.*

Conservation Status

- *IUCN Red List: **Vulnerable***
- *CITES: **Appendix I***
- *The Wildlife Protection Act, 1972: **Schedule I***

Nameri National Park

- *Nameri National Park is a national park in the foothills of the eastern Himalayas in the Sonitpur District of **Assam**, India, about 35 km from Tezpur. Nameri is about 9 km from Chariduar, the nearest village.*
- *Nameri shares its northern boundary with the **Pakhui Wildlife Sanctuary of Arunachal Pradesh**.*
- *Together they constitute an area of over 1,000 km² (390 sq mi), of which Nameri has a total area of 212 km² (82 sq mi).*
- *Nameri National Park was declared as Tiger Reserve in the year 1999-2000, and is the second Tiger reserve of Assam after Manas Tiger Reserve.*
- *It has two core areas: Nameri National Park and Sonai- Rupai Wildlife (Satellite Core of the Nameri Tiger Reserve).*
- *The **river Jia-Bhoroli** is the lifeline of Nameri, which flows along the southern boundary of the park from northwest to southeast.*
- *In the east, the **river Bor-Dikorai** is a tributary of river **Jia-Bhoroli**, flowing along the southern boundary from northeast to southwest.*