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# KUDREMUKH MINING AND ENVIRONMENTAL LAW: A STUDY OF ECOLOGICAL IMPACT AND JUDICIAL INTERVENTION

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*“If you think the economy is more important than the environment, try  
holding your breath while counting your money”*

- Professor Guy McPherson

## ABSTRACT

The Kudremukh mining project represents one of the most significant environmental conflicts in India between economic development and ecological conservation. Located in the ecologically sensitive Western Ghats of Karnataka, the Kudremukh region is rich in magnetite iron ore deposits and is also home to diverse flora and fauna, dense forests, and the origin of important rivers such as the Netravati, Tunga, and Bhadra. Large-scale open-cast mining operations began in the region during the late twentieth century with the establishment of the Kudremukh Iron Ore Company Limited (KIOCL), a public sector undertaking of the Government of India. While the project contributed to economic growth, foreign exchange earnings, and employment opportunities, it also resulted in serious environmental degradation, including deforestation, soil erosion, river pollution, siltation of reservoirs, and loss of biodiversity.

This research paper examines the environmental consequences of mining activities in the Kudremukh region and analyzes the legal framework governing the protection of forests and wildlife in India. It particularly focuses on the landmark judgment of the Supreme Court of India in *K.M. Chinnappa and T.N. Godavarman Thirumulpad v. Union of India and Others (2002)*, which addressed the legality of mining operations within the Kudremukh National Park. The paper explores the constitutional provisions, statutory laws, and environmental principles applied by the Court, including the right to a healthy environment under Article 21, the precautionary principle, sustainable development, and the public trust doctrine.

Through an analysis of the facts, legal issues, and judicial reasoning in the case, the study highlights how the judiciary played a crucial role in balancing

economic interests with environmental protection. The Supreme Court ultimately directed the phased closure of mining operations and emphasized ecological restoration of the affected area. The Kudremukh case thus stands as an important example of judicial intervention in environmental governance and demonstrates the growing importance of environmental law in protecting fragile ecosystems in India.

## **Introduction**

Kudremukh is a prominent iron ore rich region located near Kalasa in Mudigere Taluk of Chikkamagaluru District in the state of Karnataka, India. Geographically, Kudremukh is one of the highest peaks in Karnataka, rising approximately 6214 feet above sea level in the Sahyadri range of the Western Ghats and overlooking the Arabian Sea.

Historically, the region remained remote and relatively unexplored until the early twentieth century. In 1912, geologist Palayanur Sampat Iyengar, working with the Mysore Geological Department, conducted extensive geological surveys in the area. Through his efforts, significant magnetite iron ore deposits were discovered in Kudremukh, Gangrikal, and Kodachadri in the districts of Chikkamagaluru and Shivamogga. At that time, few realized that these discoveries represented one of the largest magnetite iron ore reserves in the world, which later led to the development of major mining operations in the region.

The area became the centre of large-scale iron ore extraction carried out through open-cast mining techniques, which involve blasting rock formations and the mechanical removal of overburden and ore. Although such methods are economically efficient, they have significantly contributed to the degradation of natural resources in the region. Mining activities in Kudremukh have adversely affected land quality, water bodies, forest ecosystems, air quality, and the diverse flora and fauna of the Western Ghats.

## **Ecological Importance of the Kudremukh Region**

The natural grasslands and rain-fed ecosystems around Kudremukh were once a true ecological treasure. The region was covered with dense forests and supported a wide variety of plant and animal life. Many rare and endangered species protected under the Wildlife Protection Act, 1972 were found here, along with numerous medicinal plants that added to the ecological richness of the area.

Because of its environmental importance, the region was declared Kudremukh National Park in 1987. Today, it is considered one of the largest protected areas of grasslands and wet evergreen forests in South India. The area is also extremely important from a water-resource perspective, as three major rivers originate from the Kudremukh hills: the Netravati River, the Tunga River, and the Bhadra River. These rivers play a crucial role in supporting agriculture and meeting the daily water needs of people living in Karnataka and parts of Andhra Pradesh.

### **Beginning of Mining Activities and Industrial Development**

The future of this important ecosystem began to change with the start of large-scale mining activities.

In 1966, the National Mineral Development Corporation (NMDC), a Government of India enterprise, acquired the Kudremukh mining area. The area covered nearly 6 km in length and about 800 meters in width.

In 1968, NMDC started an 18-month exploration and testing program. This program included pilot plant testing with an American company and a consortium of three Japanese companies. Based on these tests, a feasibility report was prepared. The report suggested that about 7.5 million metric tonnes of iron ore could be produced from the region.

The report also recommended transporting the ore in slurry form through pipelines to the nearby port of Mangalore. From there, the iron ore concentrate was planned to be shipped to Japan. However, in 1974, the Japanese consortium withdrew from the project.

After this, the Government of India started discussions with the Government of Iran. Iran agreed to provide a loan of about 630 million US dollars for the project. Under this agreement, Iran would buy the entire iron ore concentrate mined from Kudremukh. This purchase was to continue for 20 years, at an average rate of 7.5 million tonnes per year.

This agreement was finalized in 1976. The first shipment of ore was planned for August 1980. The entire project had to be completed within four years, which was a major challenge.

### **Establishment of Kudremukh Iron Ore Company Limited (KIOCL)**

In April 1976, the Kudremukh Iron Ore Company Limited (KIOCL) was established. It was

set up as a public sector undertaking under the Union Ministry of Steel and Mines.

A Canadian consulting company named Metchem was later appointed as the main consultant. The company was responsible for planning, designing, engineering, and supervising the construction of the project. It also assisted in the operation of the plant during the first three years under the supervision of KIOCL.

Along with Metchem, several Indian companies were involved in the detailed engineering work. During this period, the corporate office in Bangalore became a centre of major activity as the mining project developed.

### **Infrastructure Development and Mining Operations**

The mining process at Kudremukh generated a large amount of waste material known as tailings. These tailings were pumped to an earthen dam built across the Lakya River for storage. The final iron ore concentrate was pumped to a height of about 35 meters into a 67-kilometer-long slurry pipeline that carried it to the port city of Mangalore. At the port, the slurry was filtered and stored before shipment. The processed material was then moved through large conveyor belts to ship loaders for loading onto vessels.

Since the entire project had to be completed within four years, transportation infrastructure had to be improved quickly. The existing road to the port was 172 kilometers long and not suitable for carrying heavy mining equipment and materials. Therefore, a decision was taken to construct a new and wider highway that reduced the distance to about 110 kilometers between Kudremukh and Mangalore. This task was given to the Karnataka Public Works Department.

Part of the road passed through the Pagati forest, where the Border Roads Organisation assisted in construction. They built an 18-kilometer stretch of road in the Mallur Ghat section, along with several small bridges. By February 1978, the highway construction was completed.

### **Environmental Impact of Mining Activities**

Kudremukh is one of the highest rainfall regions in India. It receives nearly 7,000 millimeters of rainfall every year. Because of such heavy rainfall, soil erosion in the area has become extremely severe. The rivers originating from this region play an important role in agriculture. Water from these rivers irrigates more than one lakh hectares of cropland.

However, large amounts of silt from mining activities have started entering the reservoirs. This heavy siltation reduces the storage capacity and lifespan of the reservoirs. In the long run, this can seriously affect irrigation and food production in the region.

Another major issue has been the transportation of iron ore slurry through pipelines to Mangalore. Several times in the past few years, these pipelines have broken and polluted the nearby mountain streams. In the year 2000 alone, the pipeline broke twice and spilled nearly 4,000 tonnes of concentrated iron ore. Even eight kilometers downstream, the effects of this pollution could still be seen months later.

### **Impact on Local Communities and Agriculture**

The impact of pollution was strongly felt by nearby villages. Santpagoda village, located on the banks of the Bhadra River, experienced serious environmental damage. Laboratory tests showed that the river water contained nearly 68% iron ore particles. This caused serious degradation of agricultural land. Farmers reported that when they dug their fields, pieces of iron ore often appeared in the soil.

Because of this contamination, agricultural productivity dropped sharply. Crop production reduced from 1,600 kilograms per hectare to nearly 400 kilograms per hectare. Despite all this environmental damage, there were still plans to open a new mining area three times larger than the existing mining site, which raised serious concerns about further environmental destruction.

### **Waste Disposal and Ecological Risks**

The iron ore found in Kudremukh has a very low concentration of about 30%. After extraction, only this small portion is useful while the remaining 70% becomes waste material, which is known as tailings. In 1979, this waste mud was dumped into the Lakya Valley. Over the years, the valley, which is nearly 100 meters deep, has accumulated more than 150 million tonnes of mining waste. Today, it is almost completely filled with this mud to the brim.

If mining had continued, there were serious concerns that the Kachigarhole Valley, an important rainwater catchment area, would face the same fate as Lakya Valley. Because of this, the Lakya Dam was often described as a potential environmental disaster waiting to happen. In 1994, a serious crack even developed in the dam, which raised further safety concerns.

## **Scientific Studies and Environmental Concerns**

In 2000, the Karnataka government requested the Indian Institute of Science (IISc) to conduct a study on the impact of mining on the flora and fauna of the Kudremukh region. The report released in January 2001 clearly stated that continuing mining in Kudremukh would cause severe environmental damage and would be a grave mistake.

Experts also pointed out that iron ore is widely available in other parts of India, and therefore mining in such an ecologically fragile region was unnecessary.

## **Legal Battle and Public Interest Litigation**

The environmental concerns eventually led to legal intervention. The writ petition (civil) No. 202 of 1995 was filed before the Supreme Court of India in the matter of K.M. Chinnappa and T.N. Godavarman Thirumulpad v. Union of India and Others. The case was decided by the Supreme Court of India on 30 October 2002 by a Bench consisting of Chief Justice Y.K. Sabharwal and Justice Arijit Pasayat.

## **Facts**

- Kudremukh Iron Ore Company Ltd (KIOCL), a Government of India undertaking, had a mining lease in the Kudremukh region of the Western Ghats, an area later notified as Kudremukh National Park under Section 35(1) of the Wildlife (Protection) Act, 1972.
- I.A. No. 670 of 2001 was filed in W.P. (C) No. 202 of 1995 by K.M. Chinnappa (trustee, Wildlife First) as an offshoot of I.A. 548, complaining that despite earlier Supreme Court orders dated 12.12.1996 and 14.02.2000, mining was continuing in the National Park in violation of forest and wildlife laws.
- The applicant sought directions to: (a) withdraw the “temporary working permission” granted by MoEF; (b) stop pollution of Bhadra river from open-cast mining; (c) take action for illegal encroachment and forest destruction; and (d) stop laying of a new slurry pipeline inside the National Park.
- On 10.05.2001 the Supreme Court issued notice and called upon the Union of India to explain how mining was allowed in an area notified as a National Park despite the

Court's order of 12.12.1996.

- The matter was referred to the Central Empowered Committee (CEC) constituted under Section 3 of the Environment (Protection) Act, 1986, which recommended that KIOCL be allowed to wind up operations within five years from 25.07.1999 (the lease-expiry date) or until exhaustion of oxidised weathered secondary ore in the already broken-up area, subject to stringent conditions: eco-restoration plan at KIOCL's cost, funding and supervision by MoEF, Rs. 25 crore compensatory payment, monitoring committee, and transfer of infrastructure to the Forest Department at book value.
- One member, Valmik Thapar, dissented, urging that all mining should stop immediately and the five-year period should be treated purely as a restoration and winding-up phase with full ecological rehabilitation at the company's cost.
- KIOCL contended- (i) under Rule 24B of the Mineral Concession Rules, 1960, it had a right to renewal for 20 years; (ii) draft notification under Section 35(1) (1987) and final notification under Section 35(4) (16.06.2001) allegedly excluded the mining area; (iii) about 900 hectares of land were outside the notified area; (iv) a 1982 municipal notification under Section 349 of the Karnataka Municipalities Act took the land out of "forest" category; and (v) it had foreign exchange-earning contracts and large reserves, and was environmentally responsible and award-winning.
- The State of Karnataka initially supported a 20-year renewal but later took the stand that a five-year period from 24.10.2001 would be adequate.
- The Amicus Curiae opposed KIOCL's stand, highlighted lack of Environment Impact Assessment (EIA), inconsistent positions of State and Centre, and relied on prior Supreme Court orders, including the Godavarman order dated 14.11.2000 ("no de-reservation of forests/sanctuaries/national parks shall be effected").

### **Legal Issues**

1. Whether KIOCL had a legal right to renewal of the mining lease for 20 years in the Kudremukh National Park area in view of Rule 24B of the Mineral Concession Rules, 1960, and the Forest (Conservation) Act, 1980 (FCA).

2. Whether mining activities in Kudremukh National Park could continue without prior approval under Section 2 of the FCA and in the face of Supreme Court orders restraining de-reservation and diversion of forest/national park land.
3. Whether exclusion of the mining area from the final notification under Section 35(4) of the Wildlife (Protection) Act was valid in view of the Court's order in W.P. 337/2000 prohibiting de-reservation of forests, sanctuaries and national parks.
4. How to balance the principles of sustainable development and precautionary principle with economic considerations such as foreign exchange earnings, employment, and existing contracts ("dollar friendly" vs eco friendly).
5. Whether, in law, renewal of a mining lease in forest land is automatic or a vested right, or subject to fresh scrutiny and Central Government approval under FCA Section 2.

### **Constitutional Provisions**

- Article 21: Right to life includes the right to a healthy environment, ecological balance, and sanitation; environmental protection is integral to a dignified life.
- Article 48-A: State shall endeavour to protect and improve the environment and to safeguard forests and wildlife.
- Article 51-A(g): Fundamental duty of every citizen to protect and improve the natural environment and have compassion for living creatures.

### **Statutes and Rules**

- Wildlife (Protection) Act, 1972
  - Section 35(1): Power to declare National Parks. Kudremukh was so declared.
  - Section 35(4)–(5): Procedure for final notification; de-reservation etc. The Court's 14.11.2000 order in W.P. 337/2000 barred de-reservation pending further orders.
- Forest (Conservation) Act, 1980

- Section 2(ii): Non obstante clause: no State Government or authority shall order use of forest land for non-forest purpose without prior approval of Central Government.
- Sections 3–4 and Forest (Conservation) Rules, 1981 (Rules 4, 5, 6): constitution and functioning of the Advisory Committee; procedure for proposals and Central approval.
- Mines and Minerals (Development and Regulation) Act, 1957 & Mineral Concession Rules, 1960
  - Rule 24B: deals with lease renewal periods; KIOCL relied on it to claim entitlement to 20-year renewal.
- Environment (Protection) Act, 1986
  - Section 3: power to constitute authorities (including the CEC) and issue directions; used to constitute CEC which examined Kudremukh.
- Karnataka Municipalities Act, 1964
  - Section 349: Notification relied on by KIOCL to argue that the area was no longer “forest land”; rejected by the Court in light of FCA Section 2 and Godavarman line of cases.

## **Court’s Reasoning**

### **(1) Priority of FCA over mining rules and municipal notifications**

- Section 2 of the FCA begins with a strong non obstante clause overriding any other law in force, including mineral rules and municipal notifications; therefore, no mining in forest land can continue or be renewed without prior Central Government approval.
- The Central Government had not approved any diversion of forest land for non-forest purpose; hence Rule 24B of the Mineral Concession Rules could not confer an automatic or overriding right to renewal.

- The Karnataka Municipalities Act notification of 1982 could not “de-forest” the land for FCA purposes; in any case, the Kudremukh area was reserved forest since 1960 and later notified as National Park.

## **(2) Renewal is not a vested right**

- Citing *Ambica Quarry Works, Rural Litigation and S. Nageswaramma*, the Court held that even renewal amounts to fresh use of forest land and attracts FCA Section 2; compliance is a condition precedent whether it is first grant or renewal.
- Therefore, KIOCL’s argument of an accrued legal right to renewal for 20 years was rejected; renewal remained subject to statutory and environmental scrutiny and Central approval.

## **(3) Illegality of de-reservation / exclusion after Court’s order**

- In *W.P. 337/2000*, the Supreme Court had ordered that “pending further orders, no de-reservation of forests/sanctuaries/national parks shall be effected.”
- Exclusion of KIOCL’s land from the final notification under Section 35(4) while mining was going on was held to be contrary to this order; such exclusion was “not in order” to that extent.

## **(4) EIA and lack of due diligence**

- Karnataka’s letter dated 06.07.1999 sought only temporary working permission for two years, expressly stating that proper Environment Impact Assessment (EIA) and studies on impact on flora and fauna by reputed institutes (NEERI, Wildlife Institute of India) were yet to be conducted; renewal was to be decided thereafter.
- It was an “accepted fact” that no EIA reports had been obtained; thus, there was in reality no EIA before State or Centre when considering renewal.
- This undermined KIOCL’s claim of environment-friendly operations and highlighted serious procedural and substantive lapses by State and Central authorities.

## **(5) Public trust doctrine, Article 21 and environmental principles**

- Reinforcing *M.C. Mehta v. Kamal Nath*, the Court stressed that the State is trustee of natural resources and must protect them for present and future generations; resources meant for public use cannot be converted to private, commercial use unless strictly justified in good faith for public good.
- The Court treated hygienic environment as an integral facet of the right to life under Article 21; environmental protection has become a matter of grave concern for human existence,
- It explicitly recognized two guiding principles of environmental law in India: sustainable development and the precautionary principle; these must guide exercise of discretion under FCA and other statutes.
- By invoking *Vishaka*, the Court held that in absence of inconsistency, international environmental conventions (e.g., CBD) can inform the interpretation of domestic law.

#### **(6) Balancing development and environment**

- The Court accepted that no development is possible without some adverse environmental effect and that projects of public utility cannot always be abandoned; but a balance must be struck between public interest in development and environmental protection.
- Comparative hardship analysis: when a commercial venture benefits a large section of people, some hardship to a smaller group may be tolerated, but not at the cost of irreplaceable ecological resources.
- The core question was framed rhetorically as whether the approach should be “dollar friendly” or “eco friendly”; the Court clearly leaned towards long-term ecological protection over short-term economic gains.

#### **(7) Deference to statutory expert bodies (CEC and Forest Advisory Committee)**

- The CEC, a statutory body under the Environment (Protection) Act, recommended a five-year winding-up period from 25.07.1999; the Forest Advisory Committee under FCA recommended allowing mining only till 2005 for exhaustion of weathered

secondary ore in already broken-up area.

- The Court saw “no reason to vary” the majority view of the CEC and took note of the Forest Advisory Committee’s time-frame; it accorded weight to these expert, statutory assessments.

#### **(8) Criticism of State and Central Government conduct**

- The Court noted “with concern” that State and Central Governments kept changing their stand on the permissible period of mining, justifying each somersault retrospectively; it said they must not “change colour like a Chameleon.”
- It emphasised that due application of mind was imperative before taking positions that affect such a sensitive ecological area.

#### **Final Decision of the Court**

- The Supreme Court accepted the time-frame recommended by the Forest Advisory Committee under the FCA: mining by KIOCL would be allowed only till the end of 2005, by which time the weathered secondary ore in the already broken-up area should be exhausted.
- This permission was strictly conditional upon compliance with the ecological and other conditions recommended by the CEC (rehabilitation and eco-restoration, financial contributions, monitoring, etc.).
- The modalities for implementation were left to be worked out jointly by MoEF, the State of Karnataka and KIOCL, under the supervision, guidance and monitoring of the CEC.
- The question of compulsory transfer of buildings and infrastructure to the Forest Department at book value was left open for reconsideration by the CEC on an appropriate motion by the State.
- Ongoing proceedings against KIOCL for alleged violations of various statutes were directed to be decided by the respective forums/courts uninfluenced by any observations in this judgment.

- The interlocutory application (I.A. 670 of 2001) was disposed of accordingly, thus fixing a judicially controlled, finite timetable for cessation of mining in Kudremukh National Park and restoration of the area.

## **Conclusion**

The Kudremukh mining case represents one of the most important environmental judgments in India. It highlights the conflict between economic development and environmental conservation in ecologically sensitive regions.

Through this judgment, the Supreme Court reaffirmed that environmental protection is an essential component of the right to life under Article 21. The decision also strengthened the application of the precautionary principle, sustainable development, and the public trust doctrine in Indian environmental jurisprudence.

The closure of mining operations in Kudremukh marked a significant step towards preserving the fragile ecosystem of the Western Ghats and ensuring that natural resources are protected for future generations.