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BBA | Semester I | UK1DSCMGT102

# Environmental Management

Course Code: UK1DSCMGT102 • Module 5 Notes

# Module V: Environmental Protection Policies, Legislation and Management Systems

## 1. Constitutional and Statutory Framework of Environmental Governance in India

India represents one of the few nations in the world whose national Constitution explicitly embeds environmental preservation as a fundamental state duty and a citizen obligation. Following the historic United Nations Conference on the Human Environment (Stockholm, 1972), the Parliament of India enacted the **42nd Constitutional Amendment Act, 1976**, introducing explicit environmental mandates into the Constitution:

- **Article 48A (Directive Principles of State Policy):** Explicitly directs the state: *"The State shall endeavour to protect and improve the environment and to safeguard the forests and wild life of the country."* While Directive Principles are non-justiciable in isolation, the Supreme Court of India has interpreted Article 48A as a binding governance standard.
- **Article 51A(g) (Fundamental Duties):** Mandates upon every Indian citizen: *"It shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures."*
- **Article 21 (Fundamental Right to Life):** In historic judicial rulings (e.g., *Subhash Kumar v. State of Bihar, 1991* and *M.C. Mehta v. Union of India*), the Supreme Court expanded the fundamental Right to Life under Article 21 to include the **Right to a Wholesome, Clean, and Pollution-Free Environment**. Depriving a citizen of clean air and potable water constitutes a direct violation of their fundamental constitutional rights.

## 2. Major Indian Environmental Statutes and Regulatory Architecture

India has developed a comprehensive legislative framework of specialized environmental statutes:

### A. The Water (Prevention and Control of Pollution) Act, 1974

The first comprehensive national pollution control law enacted in post-independence India. Objectives: prevent and control water pollution, maintain or restore the wholesomeness of water, and establish regulatory pollution boards. Key features: (1) Established the **Central Pollution Control Board (CPCB)** and **State Pollution Control Boards (SPCBs)**; (2) Mandates that no industrial enterprise can establish or operate any facility discharging trade or domestic effluent into a stream, well, or sewer without obtaining prior **Consent to Establish (CTE)** and **Consent to Operate (CTO)** from the SPCB; (3) Grants SPCBs power to take water samples, enter industrial premises, inspect effluent treatment plants, and issue directions to shut down polluting units or cut off electricity and water supplies.

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### B. The Air (Prevention and Control of Pollution) Act, 1981

Enacted under Article 253 of the Constitution to implement the decisions of the Stockholm Conference. Objectives: prevent, control, and abate air pollution. Key features: (1) Entrusted implementation to existing CPCB and SPCBs; (2) Authorizes State Governments to declare any geographical area as an **Air Pollution Control Area**; (3) Mandates industrial units in control areas to obtain prior SPCB consent before operating industrial boilers, furnaces, or incinerators; (4) Empowers SPCBs to prescribe emission standards for industrial stacks and motor vehicles; (5) Amending Act of 1987 expanded the legal definition of air pollutant to include **Noise Pollution**.

### C. The Wildlife (Protection) Act, 1972

Provides a comprehensive legal framework for the protection of wild animals, birds, and plants. Key features: (1) Regulates the establishment of protected area networks: **National Parks, Wildlife Sanctuaries, Conservation Reserves, and Community Reserves**; (2) Establishes the National Board for Wildlife (NBWL) chaired by the Prime Minister; (3) Complete statutory ban on hunting and commercial trade of wild animals; (4) Categorizes wild flora and fauna into **Schedules of Protection**: Schedule I species (e.g., Bengal Tiger, Asian Elephant, Snow Leopard, Lion-Tailed Macaque, Gangetic Dolphin) receive absolute protection with the harshest statutory criminal penalties for offenses; (5) Established the **National Tiger Conservation Authority (NTCA)** and the Wildlife Crime Control Bureau (WCCB).

### D. The Forest (Conservation) Act, 1980

Enacted to halt the rampant diversion of pristine forest lands for non-forestry purposes. Prior to 1980, state governments diverted hundreds of thousands of hectares of forest lands annually for agriculture, mining, and dams without central oversight. Key features: (1) Strictly mandates that **NO State Government or authority can de-reserve any reserved forest or divert forest land for non-forest purposes without the prior statutory approval of the Central Government** (Ministry of Environment, Forest and Climate Change - MoEFCC); (2) Requires mandatory **Compensatory Afforestation**: developers diverting forest land must deposit funds into CAMPA (Compensatory Afforestation Fund Management and Planning Authority) to afforest equivalent non-forest land or double degraded forest land.

### E. The Environment (Protection) Act, 1986 (EPA 1986): Umbrella Legislation

Enacted in the immediate traumatic aftermath of the catastrophic **Bhopal Gas Tragedy of December 1984**, where toxic methyl isocyanate (MIC) gas leaked from the Union Carbide pesticide plant, killing thousands of innocent citizens. The Parliament enacted the EPA 1986 as comprehensive, overarching "Umbrella Legislation" designed to coordinate the disparate activities of state and central agencies under previous water and air acts and close regulatory loopholes. Key features:

- **Vast Delegated Powers to Central Government (Section 3):** Empowers the Central Government to take all necessary measures to protect the environment, coordinate state agency actions, plan nationwide pollution control programs, and lay down environmental quality standards.

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- **Power to Issue Binding Directions (Section 5):** Empowers the Central Government to issue written binding directions to any person, officer, or authority, including the power to order the closure, prohibition, or regulation of any industrial operation, and the stoppage or regulation of electricity or water supply.
- **Regulation of Hazardous Substances:** Mandates strict statutory compliance for handling hazardous chemicals, wastes, and microorganisms under specialized rules.
- **Cognizance of Offenses and Citizen Suit Provisions:** Permits individual private citizens to file court complaints against polluters, provided they serve a statutory 60-day notice of alleged offense to the Central Government or authorized agency.
- **Subordinate Rule-Making Framework:** The EPA 1986 serves as the legislative parent statute under which crucial modern environmental rules are promulgated: Hazardous Waste Rules, Municipal Solid Waste Rules, Plastic Waste Management Rules, E-Waste Rules, Biomedical Waste Rules, and the Coastal Regulation Zone (CRZ) Notifications.

## 3. The National Green Tribunal (NGT) and Judicial Activism

Enacted under the **National Green Tribunal Act, 2010**, the NGT is a specialized, fast-track judicial body established under Article 21 for the expeditious disposal of civil cases relating to environmental protection and conservation of forests. India became only the third nation globally (after Australia and New Zealand) to establish a dedicated environmental court.

### Composition, Powers, and Guiding Principles

The NGT comprises a full-time Chairperson (a retired Supreme Court Judge), Judicial Members (retired High Court Judges), and Expert Members (distinguished technical scientists and environmental administrators). The Tribunal operates benches in New Delhi (Principal Bench), Bhopal, Pune, Kolkata, and Chennai. Key attributes: (1) Mandated to settle environmental disputes within **6 months** of filing; (2) Not bound by the formal procedural rules of the Code of Civil Procedure (CPC 1908) or Indian Evidence Act; guided strictly by the principles of **Natural Justice**; (3) Mandatorily applies the **Sustainable Development Principle, Precautionary Principle, and Polluter Pays Principle** in all judgments; (4) Possesses judicial power to award compensation to pollution victims, impose heavy environmental damage fines on defaulting corporations, and reverse executive environmental clearances.

## 4. International Environmental Conventions and Treaties

Because ecological processes, ocean currents, and atmospheric winds transcend national sovereign borders, global environmental governance relies on international multilateral environmental agreements (MEAs):

| International Convention | Year & Location | Core Mandates and Historical Significance |
|---|---|---|
| **UN Conference on the Human** | 1972 Stockholm, | The watershed gathering that placed environmental protection on the global diplomatic agenda. Adopted the |

| International Convention | Year & Location | Core Mandates and Historical Significance |
|---|---|---|
| **Environment (Stockholm Conference)** | Sweden | Stockholm Declaration of 26 Principles; led directly to the creation of the **United Nations Environment Programme (UNEP)** and spurred national environmental ministries worldwide. |
| **UN Conference on Environment and Development (UNCED / Rio Earth Summit)** | 1992<br>Rio de Janeiro, Brazil | Landmark gathering producing the Rio Declaration on Environment and Development (27 Principles), **Agenda 21** (comprehensive sustainable development action plan), and established the **Three Rio Conventions**: (1) UNFCCC (Climate Change); (2) CBD (Convention on Biological Diversity); (3) UNCCD (Combating Desertification). |
| **Kyoto Protocol (UNFCCC)** | 1997<br>Kyoto, Japan | The first legally binding international treaty mandating developed nations (Annex I countries) to reduce aggregate greenhouse gas emissions by an average of 5.2% below 1990 levels. Introduced the principle of *Common But Differentiated Responsibilities (CBDR)* and market-based mechanisms: Clean Development Mechanism (CDM), Joint Implementation, and Emissions Trading. |
| **Paris Climate Agreement (UNFCCC COP21)** | 2015<br>Paris, France | Historic universal climate agreement aiming to hold global average temperature increase to **well below 2.0°C** above pre-industrial levels, pursuing efforts to limit increase to **1.5°C**. Operates through bottom-up **Nationally Determined Contributions (NDCs)** updated every five years, with mandatory transparency and global stocktakes. |

## 5. ISO 14000 Environmental Management Systems (EMS)

Developed by the International Organization for Standardization (ISO) in Geneva, the **ISO 14000 Series** represents a voluntary family of international standards designed to assist industrial enterprises in managing and demonstrating their environmental responsibilities.

### ISO 14001: Requirements and the PDCA Management Cycle

**ISO 14001** is the core certifiable international standard that specifies requirements for establishing an Environmental Management System (EMS). An EMS does not prescribe specific emission limits; rather, it provides a systemic managerial framework that embeds environmental stewardship into corporate operations. ISO 14001 operates through the continuous improvement **Plan-Do-Check-Act (PDCA) Cycle**:

- **1. Plan:** Top management formulates an explicit corporate *Environmental Policy*. The enterprise identifies its *Environmental Aspects* (activities that interact with the environment) and determines those having significant *Environmental Impacts*. It identifies binding statutory legal requirements and establishes measurable environmental objectives and targets.
- **2. Do:** Implementing operational programs. Management allocates human and financial resources, defines organizational roles and responsibilities, conducts employee environmental

competence training, establishes internal communication protocols, and designs emergency preparedness and response procedures.

- **3. Check:** Monitoring and measurement. The organization systematically monitors key operational metrics (water consumption, electricity use, stack emissions), evaluates legal compliance, manages non-conformances through corrective actions, and conducts periodic internal **Environmental Audits**.
- **4. Act (Management Review):** Top executive leadership conducts formal periodic reviews of EMS performance to evaluate whether the system remains suitable, adequate, and effective, initiating strategic policy adjustments to achieve continuous environmental improvement.

## 6. Environmental Impact Assessment (EIA): Meaning, Process, and Public Hearing

Environmental Impact Assessment (EIA) is a formal, proactive planning tool used to identify, predict, evaluate, and mitigate the biophysical, social, and economic consequences of a proposed development project (such as a thermal power station, highway corridor, port, or chemical plant) *before* major executive decisions are committed or construction initiates. In India, EIA is legally mandated under the **EIA Notification of 1994 / 2006** promulgated under the Environment (Protection) Act, 1986.

### The Step-by-Step EIA Process Sequence

A rigorous Environmental Impact Assessment in India proceeds through eight sequential stages:

| Sequential Stage | Procedural Actions and Technical Requirements | Regulatory Deliverable |
|---|---|---|
| **1. Screening** | Determining whether a proposed project requires an EIA. Projects are classified as **Category A** (cleared at central MoEFCC level) or **Category B** (cleared at state level by SEIAA). Category B projects are further screened into B1 (mandatory EIA) and B2 (exempt from EIA). | Project Screening Categorization |
| **2. Scoping** | Formulating the detailed **Terms of Reference (ToR)** that define the exact spatial and environmental parameters, baseline studies, and seasonal monitoring required for the EIA study. | Statutory Terms of Reference (ToR) |
| **3. Baseline Data Collection** | Conducting rigorous multi-season scientific field monitoring of ambient air quality, surface water quality, groundwater levels, noise, soil chemistry, ecological flora and fauna, and socio-economic demographics. | Baseline Environmental Dossier |
| **4. Impact Prediction and Evaluation** | Utilizing scientific dispersion modeling, GIS mapping, and matrices (Leopold Matrix, Battelle System) to quantify the magnitude and | Draft Environmental Impact Statement (EIS) |

| Sequential Stage | Procedural Actions and Technical Requirements | Regulatory Deliverable |
|---|---|---|
| | significance of anticipated positive and negative impacts. | |
| **5. Environmental Management Plan (EMP)** | Designing specific engineering, operational, and financial mitigation measures to prevent, reduce, or offset identified negative impacts, including pollution equipment, greenbelts, and disaster plans. | Environmental Management Plan (EMP) |
| **6. Public Hearing / Consultation** | Mandatory statutory public hearing conducted by the State Pollution Control Board and District Collector to ascertain the concerns of local project-affected citizens. | Public Hearing Proceedings and Video Record |
| **7. Appraisal by Expert Appraisal Committee** | Detailed, multi-disciplinary technical scrutiny of the Final EIA report, EMP, and public hearing proceedings by the Expert Appraisal Committee (EAC). | EAC Recommendation Dossier |
| **8. Decision and Post-Clearance Monitoring** | The regulatory authority grants or rejects **Environmental Clearance (EC)** with legally binding conditions, requiring mandatory six-monthly compliance monitoring reports. | Formal Environmental Clearance Letter |

## 7. Citizen Environmental Movements in India

India possesses an inspiring history of non-violent, grassroots ecological movements led by rural peasants, indigenous tribal communities, and women fighting to protect their ecological heritage:

- **The Chipko Movement (1973, Uttarakhand):** Sparked in Mandal and Reni villages in the Chamoli district of Uttarakhand (then Uttar Pradesh). When commercial logging contractors arrived to fell ancient ash trees, rural village women led by **Gaura Devi**, alongside Gandhian leaders **Chandi Prasad Bhatt** and **Sunderlal Bahuguna**, physically hugged the forest trees (*Chipko* means "to cling" or "to embrace"), daring loggers to fell them first. The movement emphasized that the primary forest products are not timber and resin, but "soil, water, and pure air." It forced Prime Minister Indira Gandhi to enact a 15-year statutory moratorium on commercial tree felling in the Himalayan catchment forests.
- **The Silent Valley Movement (1970s–1980s, Kerala):** Silent Valley is an ancient, pristine tropical evergreen rainforest in the Palakkad district of Kerala, celebrated as a biological sanctuary for the endangered Lion-Tailed Macaque. The Kerala State Electricity Board (KSEB) proposed a 120-megawatt hydroelectric dam across the Kunthipuzha River, which would have submerged 8.3 square kilometers of primary rainforest. Led by the **Kerala Sasthra Sahithya Parishad (KSSP)**, poets like Sugathakumari, scientists, and citizens mobilized massive public campaigns, petitions, and legal battles. Highlighting ecological value over short-term electrical generation, the movement triumphed when Prime Minister Indira Gandhi scrapped the dam in 1983, officially declaring Silent Valley a National Park in 1984.

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- **The Narmada Bachao Andolan (NBA, 1985–Present):** A massive grassroots social movement led by **Medha Patkar**, Baba Amte, and local Adivasi villagers protesting the construction of thousands of small and large dams along the Narmada River, particularly the colossal Sardar Sarovar Dam in Gujarat. The NBA fought for environmental justice, exposing the lack of genuine rehabilitation for over 250,000 displaced people, forced the World Bank to conduct an independent review and withdraw its $450 million loan in 1993, and redefined global discourse on human displacement and large dams.
- **The Bishnoi Movement (1730, Rajasthan):** The historical spiritual ancestor of Indian environmentalism. In Khejarli village near Jodhpur, 363 Bishnoi community members led by **Amrita Devi Bishnoi** sacrificed their lives hugging sacred Khejri trees (*Prosopis cineraria*) to protect them from the axes of the Maharaja's soldiers, adhering to the Bishnoi spiritual tenet that protecting nature is a sacred religious duty.

In conclusion, environmental management is the ultimate synthesis of constitutional law, regulatory enforcement, corporate management systems, scientific impact assessment, and democratic citizen vigilance. By integrating rigorous environmental management systems like ISO 14001, conducting transparent EIAs, honoring international climate treaties, and drawing inspiration from grassroots environmental movements, modern organizations achieve sustainable, ethical, and socially responsible industrial leadership.

## 8. Coastal Regulation Zone (CRZ) Notifications

India possesses an expansive coastal coastline exceeding 7,500 kilometers supporting millions of traditional artisanal fisherfolk, delicate mangrove estuaries, and coral reef ecosystems. Under the Environment (Protection) Act, 1986, the Central Government promulgated the historic **Coastal Regulation Zone (CRZ) Notifications** (1991, 2011, and 2019) to regulate industrial, commercial, and tourism construction activities along the coast within 500 meters of the High Tide Line (HTL) and along tidal rivers.

### Classification of Coastal Regulation Zones

- **CRZ-I (Ecologically Sensitive Areas):** Mangroves, coral reefs, sand dunes, salt marshes, turtle nesting beaches, and national marine parks. Strictly **No Construction** is permitted, except defense installations, radar facilities, and essential laying of pipelines.
- **CRZ-II (Developed Urban Coastal Zones):** Areas that have already been substantially developed up to the shoreline with municipal infrastructure, paved roads, and drainage (e.g., coastal Mumbai, Kochi, Chennai). Construction of buildings is permitted only on the landward side of pre-existing authorized roads or approved structures.
- **CRZ-III (Rural and Relatively Undisturbed Coastal Zones):** Coastal areas outside urban limits. Divided into CRZ-III A (densely populated rural areas with a 50-meter No Development Zone - NDZ) and CRZ-III B (sparsely populated rural areas with a 200-meter No Development Zone from the High Tide Line) where new construction is prohibited to protect traditional fishing communities.

- **CRZ-IV (Aquatic Territorial Water Zones):** The water area extending from the Low Tide Line (LTL) up to 12 nautical miles into the sea and the water bodies of tidal rivers. Regulates the discharge of treated effluents and marine waste disposal.

### The Maradu Demolition Landmark Ruling

The legal sanctity of CRZ rules was decisively reinforced by the Supreme Court of India in the landmark **Maradu Apartments Case (2019)**. Five luxury high-rise apartment complexes comprising over 350 residential flats were constructed on the banks of Vembanad Lake in Maradu, Kochi (Kerala) in flagrant violation of CRZ-III No Development Zone regulations. Rejecting pleas from wealthy apartment owners, the Supreme Court ordered the mandatory, total demolition of all five high-rise complexes using controlled explosives in January 2020. The historic judgment established that unauthorized commercial construction in ecologically fragile coastal zones will not be regularized under any circumstances.

## 9. The Biological Diversity Act, 2002 and People's Biodiversity Registers

To fulfill India's commitments under the UN Convention on Biological Diversity (CBD, Rio 1992) and prevent biopiracy by multinational pharmaceutical corporations, India enacted the **Biological Diversity Act, 2002**. The statute established an innovative three-tiered decentralized institutional architecture:

- **National Biodiversity Authority (NBA):** Apex central statutory authority headquartered in Chennai. Regulates access to Indian biological resources and traditional knowledge by foreign entities, handles international intellectual property filings, and enforces equitable *Access and Benefit Sharing (ABS)*.
- **State Biodiversity Boards (SBBs):** State-level authorities that regulate commercial utilization of bio-resources by domestic Indian entities and advise state governments on declaring Biodiversity Heritage Sites.
- **Biodiversity Management Committees (BMCs):** Grassroots democratic committees mandatorily established by every local village Panchayat, municipality, and municipal corporation. BMCs are responsible for promoting conservation, sustainable use, and documentation of local biological diversity through **People's Biodiversity Registers (PBRs)**. A PBR is an exhaustive, community-curated register documenting local landraces of crops, folk medicinal plants, traditional breeds of livestock, endemic wild fauna, and associated tribal traditional knowledge, conferring intellectual property protection against corporate patent biopiracy.

## 10. Landmark Judicial Doctrines in Indian Environmental Jurisprudence

The Supreme Court of India and High Courts have played a world-renowned activist role in developing landmark legal doctrines that govern environmental protection:

- **The Doctrine of Absolute Liability:** Formulated by Chief Justice P.N. Bhagwati in the landmark *M.C. Mehta v. Union of India (Oleum Gas Leak Case, 1986)*. The Supreme Court discarded the 19th-century English common-law rule of strict liability from *Rylands v. Fletcher*

(which allowed exceptions for acts of God, sabotage, or plaintiff's consent). Under Absolute Liability, an enterprise engaged in a hazardous or inherently dangerous industry owes an **absolute and non-delegable duty to the community**. If any toxic leakage occurs, the enterprise is strictly liable to compensate all victims, with zero legal defenses or exceptions permitted. Furthermore, the measure of compensation is correlated with the financial magnitude and wealth of the enterprise.

- **The Public Trust Doctrine:** Established in *M.C. Mehta v. Kamal Nath (1997)*. Tracing back to ancient Roman law, the Public Trust Doctrine dictates that certain common natural resources—rivers, seashores, air, and public forests—are held by the State in sacred fiduciary trust for the general public. The Government cannot convert public trust resources into private commercial real estate. When a former Union Minister constructed a commercial motel encroaching onto the fragile floodplain of the Beas River in Himachal Pradesh, altering river flow, the Supreme Court canceled the lease, ordered the motel structures demolished, and directed the company to pay ecological damages.
- **The Precautionary Principle and Polluter Pays Principle:** Formally integrated into Indian law in *Vellore Citizens Welfare Forum v. Union of India (1996)*. Over 900 tanneries in Tamil Nadu were discharging toxic chromium effluents into the Palar River, poisoning municipal drinking water. The Supreme Court declared that sustainable development, the precautionary principle, and the polluter pays principle are essential components of Indian law under Articles 21, 47, 48A, and 51A(g).

## 11. The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (FRA)

For over a century, colonial and post-independence forest governance labeled millions of indigenous forest-dwelling tribal communities (Adivasis) as "encroachers" on their ancestral lands. The historic **Forest Rights Act, 2006 (FRA)** was enacted to undo this historic injustice, recognizing and vesting traditional forest rights:

- **Individual Forest Rights (IFR):** Title rights granting ownership of up to 4 hectares of forest land occupied and cultivated by traditional forest-dwelling families prior to December 13, 2005.
- **Community Forest Rights (CFR):** Collective legal rights of local forest villages to use, manage, protect, and regenerate their traditional Community Forest Resources, including rights to collect and sell Minor Forest Produce (tendu leaves, honey, medicinal plants, bamboo).
- **Sovereign Authority of the Gram Sabha:** The statute establishes that the local village **Gram Sabha** is the sole statutory authority empowered to initiate and verify forest rights claims. Furthermore, no forest land can be diverted for non-forest industrial projects without the prior informed written consent of the local Gram Sabha. This democratic authority was famously exercised in the landmark **Niyamgiri Hills Case (2013)**, where twelve Dongria Kondh tribal Gram Sabhas in Odisha voted unanimously to reject bauxite mining by Vedanta Corporation on their sacred Niyamgiri mountain, protecting their sacred cultural and ecological sanctuary.

## 12. Structure and Statutory Powers of CPCB and State Pollution Control Boards

The **Central Pollution Control Board (CPCB)**, constituted under the Water (Prevention and Control of Pollution) Act, 1974, serves as the apex technical organization in environmental engineering and pollution governance under the MoEFCC. Key statutory functions executed under Section 16 of the Water Act and Air Act include:

- Advising the Central Government on all matters concerning the prevention, control, and abatement of water and air pollution.
- Coordinating the activities of State Pollution Control Boards (SPCBs) and resolving inter-state environmental disputes.
- Planning and organizing nationwide technical training programs for environmental engineers, laboratory analysts, and industrial managers.
- Collecting, compiling, and publishing comprehensive technical and statistical data relating to industrial effluents, stack emissions, and ambient air and water quality.
- Laying down, modifying, or annulling National Ambient Air Quality Standards (NAAQS) and industry-specific effluent discharge standards.

### The National Air Quality Index (AQI) Framework

To communicate complex scientific air monitoring data into an easily understandable public metric, the CPCB launched the **National Air Quality Index (AQI)** in 2014 ("One Number-One Color-One Description"). The AQI evaluates eight criteria pollutants ($PM_{10}$, $PM_{2.5}$, $NO_2$, $SO_2$, CO, $O_3$, $NH_3$, and Pb) across six standardized categories: (1) *Good (0-50, Green):* Minimal impact; (2) *Satisfactory (51-100, Light Green):* Minor breathing discomfort to sensitive people; (3) *Moderate (101-200, Yellow):* Breathing discomfort to people with lungs, asthma, and heart diseases; (4) *Poor (201-300, Orange):* Breathing discomfort to most people on prolonged exposure; (5) *Very Poor (301-400, Red):* Respiratory illness on prolonged exposure; (6) *Severe (401-500, Dark Red):* Affects healthy people and seriously impacts those with existing diseases.

## 13. Public Interest Litigation (PIL) and the Green Bench in India

Indian environmental law was profoundly revolutionized through the innovative judicial mechanism of **Public Interest Litigation (PIL)** pioneered under Articles 32 and 226 of the Constitution by Justices P.N. Bhagwati and V.R. Krishna Iyer. By dismantling the classical common-law barrier of *Locus Standi* (which required that only an aggrieved person whose personal legal rights were violated could file a lawsuit), the Supreme Court allowed public-spirited citizens, NGOs, and lawyers to petition the judiciary on behalf of the poor, silent river ecosystems, and future generations. The Court embraced *Epistolary Jurisdiction*, treating ordinary letters, telegrams, and newspaper reports as formal writ petitions.

Renowned environmental attorney **M.C. Mehta** became legendary for historic PIL victories: (1) *Taj Trapezium Case:* Relocated or mandated clean natural gas switching for over 290 polluting coal-fired glass factories and iron foundries around Agra to halt the acid-gas corrosion of the Taj Mahal; (2)

*Ganga Pollution Case:* Ordered the mandatory closure of hundreds of polluting tanneries along the banks of the River Ganga in Kanpur that lacked effluent treatment plants; (3) *Delhi Vehicular Pollution Case:* Directed the complete mandatory conversion of Delhi's entire public transit fleet (over 100,000 buses, auto-rickshaws, and taxis) to clean Compressed Natural Gas (CNG), making Delhi a pioneering global clean-fuel public transit city.

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